

Second-Party Opinion

City of Vancouver Sustainability Bond Framework



Evaluation Summary

Sustainalytics is of the opinion that the City of Vancouver Sustainability Bond Framework is credible, impactful and aligns with the Sustainability Bond Guidelines 2018. This assessment is based on the following:



USE OF PROCEEDS The eligible categories for the use of proceeds – Renewable Energy, Energy Efficiency, Green Buildings, Clean Transport, Pollution Prevention and Control, Sustainable Water and Wastewater Management, Environmentally Sustainable Management of Living Natural Resources, Climate Change Adaptation, Affordable Housing, Access to affordable basic infrastructure, and Access to essential services – are aligned with those recognized by the Green Bond Principles and/or the Social Bond Principles. Sustainalytics considers that the eligible categories will lead to positive environmental or social impacts and advance the UN Sustainable Development Goals, specifically SDGs 6, 7, 10, 11, 12, 13, and 15.



PROJECT EVALUATION / SELECTION The City of Vancouver’s Finance, Risk and Supply Chain Management Department (FRS), in consultation with other relevant departments, will be responsible for project evaluation and selection. Projects will be selected as per the requirements of the Framework and relevant policies of the City, as well as after assessing social and environmental risks of projects. Sustainalytics considers the project selection process to be in line with market practice



MANAGEMENT OF PROCEEDS City of Vancouver’s FRS department will be responsible for managing and tracking proceeds raised under the Sustainability Bond Framework. Unallocated proceeds will be temporarily held in the account of the City and invested in cash or liquid fixed income instruments in accordance with the Vancouver Charter. This is in line with market practice.



REPORTING City of Vancouver will, on an annual basis until full allocation, provide a summary of eligible projects and where feasible report on allocation of proceeds and impact metrics. Impact metrics will include indicators such as – GHG emissions reduced, energy saved per year, kilometers of bike lanes installed, area of natural asset conserved, and number of purpose-built market rental housing units constructed. Sustainalytics views City of Vancouver’s allocation and impact reporting as aligned with market practice.

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Report Sections

Introduction.....	2
Sustainalytics’ Opinion	4
Appendices	12

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Introduction

City of Vancouver (“Vancouver”, or the “City”) is a coastal seaport city located in the province of British Columbia, Canada. As per the latest census, in 2016 Vancouver had a population of 631,486 people, with estimates that its population will grow to 765,000 by 2041.¹ The City of Vancouver is the densest city in Canada and has the lowest greenhouse gas emissions per capita of any major city in North America. The City has committed itself to ambitious environmental goals, including reducing total community greenhouse gas emissions by 50% by 2030 and to generate 100% of its energy from renewable sources before 2050.

The City has developed the City of Vancouver Sustainability Bond Framework (the “Framework”) under which it intends to issue multiple green, social, or sustainability bonds and use the proceeds to finance or refinance, in whole or in part, existing and future projects that support its environmental and social goals of transitioning to a low-carbon, climate smart and socially inclusive society. The Framework defines eligibility criteria in 11 areas:

1. Renewable Energy
2. Energy Efficiency
3. Green Buildings
4. Clean Transportation
5. Pollution Prevention and Control
6. Sustainable Water and Wastewater Management
7. Environmentally Sustainable Management of Living Natural Resources
8. Climate Change Adaptation
9. Affordable Housing
10. Access to affordable basic infrastructure
11. Access to essential services

This Framework builds upon the City’s 2018 Green Bond Framework; the eligible green categories from this previous document have been slightly modified with the addition of a new criterion for Climate Change Adaptation and three new entries under social categories.

The City engaged Sustainalytics to review the City of Vancouver Sustainability Bond Framework, dated June, 2020 and provide a second-party opinion on the Framework’s environmental and social credentials and its alignment with the Sustainability Bond Guidelines 2018 (SBG).² This Framework has been published in a separate document.³

Scope of work and limitations of Sustainalytics Second-Party Opinion

Sustainalytics’ Second-Party Opinion reflects Sustainalytics’ independent⁴ opinion on the alignment of the reviewed Framework with the current market standards and the extent to which the eligible 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 2018, Social Bond Principles 2020, and Sustainability Bond Guidelines 2018, as administered by ICMA;
- The credibility and anticipated positive impacts of the use of proceeds;
- The alignment of the issuer’s sustainability strategy and performance and sustainability risk management in relation to the use of proceeds.

For the use of proceeds assessment, Sustainalytics relied on its internal taxonomy, version 1.4, which is informed by market practice and Sustainalytics’ expertise as an ESG research provider.

¹ City of Vancouver, Housing Characteristics Fact Sheet, 2017, at: <https://vancouver.ca/files/cov/housing-characteristics-fact-sheet.pdf>

² The Sustainability Bond Guidelines are administered by the International Capital Market Association and are available at <https://www.icmagroup.org/green-social-and-sustainability-bonds/sustainability-bond-guidelines-sbg/>

³ The City of Vancouver Sustainability Bond Framework is available on City of Vancouver’s website at: <https://vancouver.ca/your-government/investor-relations.aspx>

⁴ 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.

City of Vancouver Sustainability Bond Framework

As part of this engagement, Sustainalytics held conversations with various members of the City'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 City representatives have confirmed (1) they understand it is the sole responsibility of City of Vancouver 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 City of Vancouver.

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.

In addition, the Second-Party Opinion opines on the intended 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 City has made available to Sustainalytics for the purpose of this SPO.

Sustainalytics' Opinion

Section 1: Sustainalytics' Opinion on the City of Vancouver Sustainability Bond Framework

Sustainalytics is of the opinion that the City of Vancouver Sustainability Bond Framework is credible, impactful and aligns with the four core components of the Green Bond Principles 2018 (GBP) and Social Bond Principles 2020 (SBP). Sustainalytics highlights the following elements of the Framework:

- Use of Proceeds:
 - The eligible categories of Renewable Energy, Energy Efficiency, Green Buildings, Clean Transport, Pollution Prevention and Control, Sustainable Water and Wastewater Management, Environmentally Sustainable Management of Living Natural Resources, Climate Change Adaptation, Affordable Housing, Access to affordable basic infrastructure, and Access to essential services, are aligned with those recognized by the GBP and SBP.
 - Under the environmental categories the City plans to use proceeds raised under this framework to finance:
 - Development of renewable energy projects, specifically solar power, neighbourhood-scale energy systems that use renewable energy sources to provide heat and hot water, as well as use of renewable fuels such as hydrogen, biomethane or other biofuels.
 - Sustainalytics views positively that neighbourhood energy systems will be powered by renewable energy. Although most district energy systems provide some energy efficiency benefits regardless of fuel source, the use of renewable power sources for these systems is compliant with a long-term low carbon transition.
 - Sustainalytics views positively that the City is committed to sourcing biofuel feedstock from locally sourced waste biomass, which will contribute towards reducing the demand for landfills and cutting GHG emissions.
 - The Framework specifies that biomethane may be obtained from landfill biogas recapture. Sustainalytics considers the capture of biogas from decommissioned landfills to be aligned with market practice, and notes that, while the City has not specified the facilities from which it may source the biogas, its intention is primarily to finance systems that make use of biomethane. The use of proceeds to finance the installation of landfill gas capture equipment at an operating landfill would be considered a limitation to the Framework.
 - Construction of new buildings or retrofitted existing buildings that meet regional, national or international third-party environmental certifications such as LEED (Gold and Platinum level), Passive House Standards (EnerPhit), Living Building Challenge, or any other similar recognized standards. Sustainalytics views these certifications as credible, and the levels selected as impactful. See Appendix 1 for further description of the referenced building standards.
 - Infrastructure that supports electric and hybrid public transit, electric vehicle uptake, and active transportation modes such as cycling and walking.
 - The City has confirmed that it has policies in place to restrict hybrid fleet vehicles to plug-in hybrids only, which Sustainalytics considers to generally meet market expectations.⁵
 - Infrastructure for EV charging and dedicated to active transport is considered to be aligned with market practice.
 - Infrastructure that promotes wastewater treatment, including storm water management and combined sewer separation, as well infrastructure for clean water and water efficiency. Sustainalytics views positively the intent of these initiatives, and in particular highlights the environmental benefits of sewer separation in the local context.

⁵ Taking guidance from the Climate Bonds Initiative, Sustainalytics views a threshold of 75g CO₂ per passenger kilometre to be aligned with a credible trajectory to decarbonization.

City of Vancouver Sustainability Bond Framework

- Initiatives promoting the expansion of wood, organics, and demolition waste recycling, as well as value-add products from waste. Sustainalytics views positively these categories and emphasizes the importance of the waste hierarchy.
 - Initiatives and programs that preserve biological diversity and natural habitats, such as forests, marshes, creeks, coastal ecosystem. It will also promote initiatives that restore or preserve biological diversity in urban areas such as parks, green rooftops, and other green spaces.
 - Initiatives aimed at adapting the City's infrastructure to the effects of climate change, including investments in redesigning, retrofitting, and upgrading buildings and infrastructure, climate risk information and planning through information support systems, and procurement, restoration and conservation of natural areas and urban forests. Sustainalytics is of the opinion that this use of proceeds category is aligned with market expectations, based on the City's commitment to inform these expenditures with credible studies and projections.
- Under the social categories, City of Vancouver will finance, where appropriate:⁶
 - Construction of affordable housing under the Housing Vancouver Strategy,⁷ a 10-year plan focused on creating the right supply of housing in the city to address speculative demand, protect existing affordable housing for the future, and ensure support for vulnerable residents. Sustainalytics views positively the Framework's alignment with the City's affordable housing strategy to reduce inequities in the long-term.
 - Investments in affordable basic infrastructure and access to essential services. Projects in this category may include accessibility improvements to streets and sidewalks, childcare facilities, parks, community, civic and recreational infrastructure, facilities and programs, and other community services. Sustainalytics considers these services, when provided to vulnerable groups, to be aligned with market practice.
 - Sustainalytics notes positively that City of Vancouver has identified target populations for many of its social projects as recommended by the SBP. While not all projects and programs have a defined a target population, Sustainalytics recognizes that advancing widely accessible public systems offered in the city will increase social benefits to both disadvantaged groups and the general public.
- Project Evaluation and Selection:
 - City of Vancouver's Finance, Risk and Supply Chain Management Department (FRS) in consultation with other relevant departments such as the Engineering Services; Planning, Urban Design, and Sustainability; and Real Estate Facilities Management, will be responsible for evaluating and selecting projects.
 - Projects will be selected by FRS based on the prerequisites mentioned in the Framework, analysis of relevant City policies as well as assessment of the social and environmental risks of projects.
 - Based on the City's clear delegation of responsibility for project evaluation and selection with cross-departmental representation, Sustainalytics considers this process to be in line with market practice.
- Management of Proceeds:
 - The FRS will be responsible for managing the proceeds raised under the Sustainability Bond Framework.
 - Net proceeds will be deposited and recorded on an aggregate basis. Unallocated proceeds will be temporarily held in the account of the City and invested in cash or liquid fixed income instruments in accordance with the Vancouver Charter.
 - Pending allocation, the City will provide disclosures on upcoming projects to which the funds have been earmarked, including reporting on the progress of ongoing and upcoming green/ social/ sustainability projects.
 - Based on the reporting commitments noted, as well as the City's overall regulatory structures, Sustainalytics considers the City's process to track and manage proceeds to be in line with market practice.
- Reporting:

⁶ The City has noted that, in most cases, these project types are financed through other sources of funding, such as developer contributions.

⁷ City of Vancouver, Housing Vancouver Strategy accessed June 2020 at: <https://council.vancouver.ca/20171128/documents/rr1appendixa.pdf>

City of Vancouver Sustainability Bond Framework

- The City will on an annual basis, until full allocation, provide a summary of eligible projects and, where feasible, report on allocation of proceeds and impact metrics. The reports will be available publicly on the Investor Relations webpage.⁸
- The City's impact metrics will consist of key performance indicators such as – GHG emissions reduced or avoided, energy saved per year, kilometers of bike lanes installed, area of natural asset conserved, number of purpose-built market rental housing units constructed. The City will make impact metrics available at the project level, where feasible, and will supplement this data with city-wide indicators when project-specific reporting is not possible.
- Based on the City's commitment to publicly make available information pertaining to allocation of proceeds and impact metrics, Sustainalytics considers the reporting process to be in line with market practice.

Alignment with Sustainability Bond Guidelines 2018

Sustainalytics has determined that the City of Vancouver Sustainability Bond Framework aligns to the Sustainability Bond Guidelines (2018), and to the four core components of the Green Bond Principles (2018) and Social Bond Principles (2020). For detailed information please refer to Appendix 2: Sustainability Bond/ Sustainability Bond Programme External Review Form.

Section 2: Sustainability Strategy of the City of Vancouver

Contribution of Framework to City of Vancouver's sustainability goals

Sustainalytics is of the opinion that the City of Vancouver has ambitious environmental as well as social plans, strategies, and governance structures, based on the following:

Environmental plans and targets:^{9,10}

- In 2019, the City declared a Climate Emergency and is currently developing a Climate Emergency Response under which it plans to accelerate climate action, including building on past plans and achievements, to reduce carbon pollution, improve energy efficiency, and transition to renewable energy.¹¹ This comes subsequent to the City's Greenest City 2020 Action Plan and includes recommendations and measurable targets which directly relate and support the Framework's use of proceeds categories, some of which include: -
 - Climate and renewables: The City has set a target of being carbon neutral by 2050 and meeting 100% of energy needs from renewable sources by 2050. Vancouver also has a Climate Change Adaptation Strategy under which it seeks to prepare the city, its residents, and infrastructure for the impacts of a changing global climate such as an increased frequency of extreme weather events and anticipated sea level rise.¹²
 - Green Buildings: Vancouver has set a target to reduce emissions from new buildings and construction by 40% from the 2018 baseline by 2030.
 - Green Transportation: The City sets targets focused on reducing emissions from vehicles while continuing to enable citizens to take green modes of transport. Accordingly, by 2030, the City sets a target to ensure that 50% of all vehicle miles in Vancouver are by zero emission vehicles as well as to enable citizens to make at least two-thirds of all trips by foot, bike and public transit by 2030.
 - In addition to this the existing Greenest City Action plan, Vancouver has targets focused on reducing wastage and clean water:
 - Zero waste 2040: The City plans to reduce total solid waste going to the landfill or incinerator by 50% from 2008 levels by 2020 and by 2018 achieved 28 percent of the target reduction.

⁸ Project summary, allocation and impact report will be available at: <https://vancouver.ca/your-government/investor-relations.aspx>

⁹ City of Vancouver, Greenest City: 2020 Action Plan (Part 2), 2015 at: <https://vancouver.ca/files/cov/greenest-city-2020-action-plan-2015-2020.pdf>

¹⁰ City of Vancouver, Greenest City: 2020 Action Plan (2018-2019 implementation update, 2019, at: <https://vancouver.ca/files/cov/greenest-city-action-plan-implementation-update-2018-2019.pdf>

¹¹ City of Vancouver, Climate Emergency Response, (accessed April 2020), at: <https://vancouver.ca/green-vancouver/climate-emergency-response.aspx>

¹² City of Vancouver, Climate Change Adaptation Strategy, (accessed April 2020), at: <https://vancouver.ca/files/cov/Vancouver-Climate-Change-Adaptation-Strategy-2012-11-07.pdf>

City of Vancouver Sustainability Bond Framework

- Clean water: The City plans to reduce per-capita water consumption by 33% from 2006 levels and by 2018 managed to reduce consumption to 456 liters/person/day from 583 L/person/day (in 2006), thereby achieving a 22% reduction by 2018.

Social plans and targets:

- Housing: The Housing Vancouver strategy focuses on a 10-year housing strategy to build more affordable housing, limit cost inflation of land and housing prices, preserving existing affordable rental housing and providing housing and support for its most vulnerable residents. The City plans to build 72,000 new homes over the next 10 years of which, 50% of the houses will be for households earning lower than \$80,000 per year and 12,000 homes will be constructed specifically to meet the needs of low-income residents.¹³
- Building community: The City plans to work with community groups and other agencies to address critical social issues which include – ensuring equity, diversity and inclusion of all residents, ensuring availability of affordable childcare as well as care and assistance for disadvantaged seniors.¹⁴
- Healthy Vancouver: Vancouver's Healthy City strategy focuses on three areas – healthy people, healthy communities, and healthy environment. The Healthy City Strategy is comprised of 13 long term goals including – ensuring that all Vancouver residents are attached to a family doctor by 2025, aiming to have all residents live within 5 minutes walk of a park or other green space by 2020, and ensuring that at least 85% of Vancouver's children are developmentally ready for school when they enter kindergarten.¹⁵
- Resilient Vancouver: Under its resilient building program, the City has collaborated with 100 Resilient Cities, Natural Resources Canada and the University of British Columbia, to advance seismic risk reduction for Vancouver's buildings.¹⁶ It also has a Resilient Neighbourhood program under which it seeks to build neighbourhood capacity to collectively plan and prepare for, respond to, and recover from emergencies.¹⁷

Sustainalytics is of the opinion that the City of Vancouver Sustainability Bond Framework is aligned with its overall sustainability strategy and initiatives and will further the City's action on its key environmental as well as social priorities.

Well positioned to address common environmental and social risks associated with the projects

Sustainalytics recognizes that the projects financed by the proceeds from issuances under this framework may lead to certain environmental risks such as noise and air pollution, water use and discharge as well as social risks such as worker health and safety, local community approval and stakeholder participation.

The City's approach to managing these environmental and social risks includes a combination of regulation and internal processes. For example, the City is subject to provincial¹⁸ and federal¹⁹ regulations relating to environmental protection, including the need to complete environmental assessments for larger projects. Further, the City itself has by-laws relating to the recycling and disposal of construction waste, and the management of solid waste and wastewater. Regarding worker health and safety, the City complies with its Occupational Health and Safety Policy which is aimed at protecting the health and safety of its employees and workers.²⁰

In addition, all projects undertaken by the City of Vancouver must comply with municipal and provincial regulations, including the following:

- The BC Human Rights Code – This provincial code guarantees equal rights and opportunities without discrimination in various areas such as tenancy, employment, and services.²¹

¹³ City of Vancouver, Housing Vancouver Strategy, (accessed April 2020), at: <https://vancouver.ca/people-programs/housing-vancouver-strategy.aspx>

¹⁴ City of Vancouver, Building livable, sustainable, and inclusive communities, (accessed April 2020), at: <https://vancouver.ca/people-programs/building-community.aspx>

¹⁵ City of Vancouver, A Healthy City for All, Healthy City Strategy Four Year Action Plan, September 2015, at: <https://vancouver.ca/files/cov/Healthy-City-Strategy-Phase-2-Action-Plan-2015-2018.pdf>

¹⁶ City of Vancouver, Resilient buildings, (Accessed on April 2020), at: <https://vancouver.ca/people-programs/resilient-buildings.aspx>

¹⁷ City of Vancouver, Resilient Neighbourhoods Program, (Accessed on April 2020), at: <https://vancouver.ca/people-programs/resilient-neighbourhoods-program.aspx#toolkit>

¹⁸ Relevant legislation includes the Environmental Management Act, the Greenhouse Gas Reductions Targets Act, the Environmental Assessment Act, the Significant Projects Streamlining Act, the Fish Protection Act, the Heritage Conservation Act, and the Drinking Water Protection Act.

¹⁹ Relevant legislation includes the Canadian Environmental Protection Act, The Canadian Environmental Assessment Act, the Fisheries Act, the Navigable Waters Protection Act, the Species at Risk Act, and the Migratory Birds Convention Act.

²⁰ City of Vancouver, Occupational health and Safety Policy, accessed in June 2020 at: <https://policy.vancouver.ca/ADMIN021.pdf>

²¹ BC Laws, Human Rights Code, accessed in June 2020 at: http://www.bclaws.ca/civix/document/id/complete/statreg/00_96210_01#section3

City of Vancouver Sustainability Bond Framework

- Vancouver Charter – This provincial statute contains the set of rules that govern how the City operates, what bylaws City Council can create, and how budgets are set.²²

Based on these policies, standards and assessments, Sustainalytics is of the opinion that the City of Vancouver has in place sufficient measures to manage and mitigate environmental and social risks commonly associated with the eligible categories.

Section 3: Impact of Use of Proceeds

All eleven use of proceeds categories are aligned with those recognized by GBP 2018 or SBP 2020. Sustainalytics has focused on five categories detailed below where the impact is specifically relevant in the local context.

Building climate resilience in Vancouver

Canada's climate has and will continue to warm in the future, driven by human influence. Both past and future trends of warming in Canada are about double the magnitude of the global average.²³ As a result, Vancouver can expect warmer springs that will lead to 15% longer growing seasons, faster melting of snow with a ~70% decrease in frost days, and summers with 20% less rain. These extreme weather shifts can lead to more heat waves which means increased health risks for vulnerable populations as well as water supply restrictions due to drier summers. Further, the coastal city is exposed to an elevated flood risk from rising sea levels and stormy weather which brings in another host of problems such as shrinkage of habitat for fish and birds while causing severe economic losses to humanity.²⁴ In this context, Vancouver declared a Climate Emergency in 2019 and is currently developing the Climate Emergency Action Plan to build on its past action focused on mitigating the impact of climate change.²⁵ Accordingly, Sustainalytics believes that the use of bond proceeds to finance green projects aimed at improving positive environmental impact and reducing carbon footprint will help advance the City's agenda to combat climate change.

The importance of green buildings and the built environment

Buildings are the single largest source of emissions in Vancouver, contributing 59% percent of the City's total.²⁶ The majority of these emissions relate to building heating needs, which is most commonly fueled by natural gas, as well as water heating. 38% of building energy used in the typical residential home relates to natural gas-fired space heating. The City of Vancouver's strategy to reduce emissions from buildings involves targeting both the building envelope (e.g. roof, walls, windows, doors) to reduce energy needs, as well as the mechanical systems (e.g. furnace, hot water tank, space heaters) to use energy more efficiently or shift to less-emitting sources. The City's Zero Emissions Building Plan²⁷ aims to take an incremental "stepping down" approach by setting incrementally more stringent energy use standards in concert with the expansion of district energy systems.

In addition to setting a target for zero-emissions new buildings, the City's Energy Retrofit Strategy for existing buildings²⁸ lays out the steps the City intends to take to retrofit existing buildings to perform comparable to new construction. Actions under these strategies include mandating energy efficiency improvements and providing incentives and support mechanisms for modest retrofits. As part of this initiative, the City is also encouraging conversion of gas heating systems to electric heat pumps. Sustainalytics is of the opinion that the use of proceeds related to energy efficiency and existing buildings will have a positive environmental impact and support the achievement of the Renewable City Strategy and the Energy Retrofit Strategy.

²² BC Laws, Vancouver Charter accessed in June 2020 at: http://www.bclaws.ca/civix/document/id/complete/statreg/vanch_00

²³ Government of Canada, Canada's Climate Change Report 2019 accessed in June 2020 at:

https://changingclimate.ca/site/assets/uploads/sites/2/2019/04/CCCR_FULLREPORT-EN-FINAL.pdf

²⁴ City of Vancouver website accessed in June 2020 at: <https://vancouver.ca/images/cov/icons/climate-change-infographics.pdf>

²⁵ Please refer Section 2.1: Sustainability Strategy of the City of Vancouver for more details

²⁶ City of Vancouver, Renewable buildings, (accessed on April 2020), at: <https://vancouver.ca/green-vancouver/renewable-buildings.aspx>

²⁷ City of Vancouver, "Policy Report Development and Building" dated July 2016, accessed in June 2020 at:

<http://council.vancouver.ca/20160712/documents/rr2.pdf>

²⁸ City of Vancouver, Energy Retrofit Strategy for Existing Buildings, June 2014, at: <http://vancouver.ca/files/cov/Energy-Retrofit-Strategy-for-Buildings-Presentation-for-Council-June-2014.pdf>

Importance of clean transportation to achieving climate-related goals

Fossil fuel-powered vehicles account for approximately 37% of the City of Vancouver's total emissions.²⁹ Furthermore, as of 2018, passenger vehicle use represented 47% of all transportation within the City.³⁰ The City has set out a strategic plan, Transportation 2040, which aims to shift towards renewably powered vehicles in order to meet air quality and greenhouse gas emissions goals. This strategy re-affirms the targets that the City has set to ensure that at least 50% of vehicle-miles in Vancouver are by zero emission vehicles.

Vancouver has already achieved its interim target for 2020 on sustainable transport by enabling its residents to take more than half of the trips (53%) in the city by walking & rolling, cycling, or transit³¹ and is on its way to increase this number to at least two-thirds by 2030. Sustainalytics views positively the City's commitments to expanding clean transportation, including active transportation and public transit, as such projects are in line with the City's overall environmental goals and will further contribute to local, provincial, and national greenhouse gas reduction targets.

Advancing socioeconomic justice in Vancouver

Canada's most populous cities – Toronto, Montreal, Vancouver, and Calgary – have reported higher increases in income inequality compared to the rest of the country, with Vancouver's increase being almost two-and-a-half times the national average.³² The prices of basic necessities such as food and housing are rising at a faster rate than incomes as evidenced by the increase in the living wage (i.e. minimum wage required by a family to support a bare bones budget) by approximately 25% in the past decade³³ compared to median income, which has risen by only 11.2% (slower than the provincial average).³⁴ Research suggests that inequality and poverty negatively affects the entire community through lower economic growth and efficiency and erosion of social cohesion.

Delivering social and economic justice to its people has been a key area of focus for the City. The City itself has adopted living wage for its staff becoming Canada's largest living-wage employer³⁵ and has designed and executed a variety of programs that are aimed at addressing these inequalities including those targeted at affordable housing, improving access to basic services, public health as well as building stronger and more inclusive communities.³⁶ In this context, Sustainalytics believes that extending support to these initiatives, including childcare, community services, parks & amenities, and other programmes, will help deliver social benefits to its residents.

Importance of affordable housing in Vancouver

In recent years Vancouver has seen a steep increase in housing prices. Over the period of 2006 to 2016, the average prices of detached homes in Vancouver have gone up in value by 159%, attached homes up by 81%, and apartments have gone up by 61%.³⁷ This rapid increase in house prices, which has outpaced rise in local income, has created a housing affordability crisis. The impact of this crisis is especially acute among the City's most vulnerable populations. As of 2019, homelessness in the city had risen to its highest levels since 2005, with seniors, Indigenous households, lone-parent households, and youth at a greater risk of homelessness.³⁸ Therefore, the City's plan to create more affordable housing with special consideration to the vulnerable population will help ease the housing affordability crisis that it currently faces. Under the

²⁹ City of Vancouver, Renewable transportation, (Accessed on April 2020), at: <https://vancouver.ca/green-vancouver/renewable-transportation.aspx>

³⁰ 42% of trips made by the vehicle driver, and an additional 4.9% by vehicle passengers, at: <https://vancouver.ca/files/cov/2018-transportation-panel-survey.pdf>

³¹ City of Vancouver, Walk + bike + roll: getting around the Vancouver way, accessed in June 2020 at: <https://vancouver.ca/streets-transportation/walk-bike-and-transit.aspx>

³² CPA Canada, Income inequality in Canada: The urban gap, Accessed in June 2020 at: <https://www.cpacanada.ca/en/the-cpa-profession/about-cpa-canada/key-activities/public-policy-government-relations/economic-policy-research/income-inequality-canada>

³³ Canadian Centre for Policy Alternatives, Working for a Living Wage report dated April 2018, accessed in June 2020 at:

https://www.policyalternatives.ca/sites/default/files/uploads/publications/BC%20Office/2018/04/BC_LivingWage2018_final.pdf

³⁴ Vancouver Sun report, "Growth across the Board in BC income and households" dated September 2017, accessed in June 2020 at:

<https://vancouver.sun.com/news/local-news/growth-across-the-board-in-b-c-income-and-households-stats-can>

³⁵ CTV News, Vancouver adopts \$20.64 hourly 'living wage' for city staff, published June 2017 at: <https://bc.ctvnews.ca/vancouver-adopts-20-64-hourly-living-wage-for-city-staff-1.3450058#:~:text=Mayor%20Gregor%20Robertson%20says%20he's,change%20has%20just%20been%20adopted.>

³⁶ City of Vancouver website, People and Programs, accessed in June 2020 at: <https://vancouver.ca/people-programs.aspx>

³⁷ Global News, One chart shows how unprecedented Vancouver's real estate situation is, August 2016, at: <https://globalnews.ca/news/2531266/one-chart-shows-how-unprecedented-vancouver-real-estate-situation-is/>

³⁸ Homelessness Services Association of BC, Vancouver Homelessness Count 2019 accessed in June 2020 at: <https://vancouver.ca/files/cov/vancouver-homeless-count-2019-final-report.pdf>

City of Vancouver Sustainability Bond Framework

Housing Vancouver Strategy, the City not only plans to shift toward rental, social, and supportive housing, but also tries to promote diversity of incomes, backgrounds, and household types across the city.³⁹ The proceeds raised under this Framework will help support the City's plan to create more child care spaces and fund integrated child care and learning programs.⁴⁰

Alignment with/contribution to SDGs

The Sustainable Development Goals (SDGs) were set in September 2015 and form an agenda for achieving sustainable development by the year 2030. This sustainability bond advances the following SDG goals 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 Energy	7.3 By 2030, double the global rate of improvement in energy efficiency.
Green Buildings	11. Sustainable Cities and Communities	11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.
Clean Transport	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.
Pollution Prevention and Control	12. Responsible Consumption and Production	12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse
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
Environmentally Sustainable Management of Living Natural Resources	11. Sustainable Cities and Communities 15. Life on Land	11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries 15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.
Climate Change Adaptation	13. Climate Action	13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
Affordable Housing	11. Sustainable Cities and Communities	11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums
Access to affordable basic infrastructure	10. Reduced inequalities	10.3 Ensure equal opportunity and reduce inequalities of outcome, including by

³⁹ City of Vancouver, Housing Vancouver Strategy, (Accessed on April 2020), at: <https://council.vancouver.ca/20171128/documents/rr1appendixa.pdf>

⁴⁰ City of Vancouver, A Healthy City for All, Healthy City Strategy Four Year Action Plan, September 2015, at: <https://vancouver.ca/files/cov/Healthy-City-Strategy-Phase-2-Action-Plan-2015-2018.pdf>

City of Vancouver Sustainability Bond Framework

		eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard
Access to essential services	11. Sustainable Cities and Communities	11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities

Conclusion




The City has developed the City of Vancouver Sustainability Bond Framework under which it will issue green, social, or sustainability bonds and use the proceeds to finance projects that support its environmental and social goals of transitioning to a low-carbon, climate smart and socially inclusive society. Sustainalytics considers that the projects funded by the sustainability bond proceeds will provide positive environmental impacts by reducing emissions, supporting resource efficiency and creating positive social impact by promoting inclusive equitable growth of the City.

The City of Vancouver Sustainability 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 City of Vancouver Sustainability Bond Framework is aligned with the overall sustainability strategy of the municipality and that the use of proceeds categories will contribute to the advancement of the UN Sustainable Development Goals 6, 7, 10, 11, 12, 13 and 15). Additionally, Sustainalytics is of the opinion that Vancouver has sufficient measures to identify, manage and mitigate environmental and social risks commonly associated with the eligible projects funded by the use of proceeds.

Based on the above, Sustainalytics is confident that City of Vancouver is well-positioned to issue sustainability bonds and that that the City of Vancouver Sustainability Bond Framework is robust, transparent, and in alignment with the Sustainability Bond Guidelines, and the four core components of the Green Bond Principles (2018) and Social Bond Principles (2020).

Appendices

Appendix 1: Overview and Comparison of Real Estate Certification Schemes

	LEED	Passive House	Living Building Challenge
Background	Leadership in Energy and Environmental Design (LEED) is a US Certification System for residential and commercial buildings used worldwide. LEED was developed by the non-profit U.S. Green Building Council (USGBC) and covers the design, construction, maintenance and operation of buildings.	Passive House (also known by its German name, Passivhaus) is a certification scheme for very low energy buildings, first developed in Germany and administered by the non-profit Passive House Institute and implemented in Canada by the Canadian Passive House Institute (CanPHI).	The Living Building Challenge is an international green building certification program and sustainable design framework run by the International Living Future Institute, a US non-profit organization seeking to tackle climate change by pushing for a built urban environment free of fossil fuels.
Certification levels	Certified Silver Gold Platinum	Certified EnerPHit (retrofits only)	Living Building Certification Petal Certification Net Zero Energy Building Certification
Areas of assessment: environmental performance of the building	<ul style="list-style-type: none"> Energy and atmosphere Sustainable Sites Location and Transportation Materials and resources Water efficiency Indoor environmental quality Innovation in Design Regional Priority 	<ul style="list-style-type: none"> Space Heat/Cooling Demand Building Airtightness Total Primary Energy Demand 	<ul style="list-style-type: none"> Place Water Energy Health and Happiness Materials Equity Beauty
Requirements	<p>Prerequisites (independent of level of certification) and credits with associated points. These points are then added together to obtain the LEED level of certification</p> <p>There are several different rating systems within LEED. Each rating system is designed to apply to a specific sector (e.g. New Construction, Major Renovation, Core and Shell Development, Schools-/Retail-/Healthcare New Construction and Major Renovations, Existing Buildings: Operation</p>	<p>Threshold requirements in three areas: space heat demand, building pressurization test result, and total primary energy demand, calculated per unit of usable floor area (metres square).</p> <p>For building retrofits, EnerPHit certification can be achieved by demonstrating the maximum space heating demand (at a less stringent level than full certification), or by utilizing components certified by the PHI.</p>	<p>The Living Building Challenge is organized into seven performance areas called Petals. Each Petal is further sub-divided into Imperatives, which address specific issues through detailed requirements.</p> <p>All Imperatives assigned to a Typology are mandatory.</p> <p>Living Building Challenge certification requires actual, rather than anticipated, performance demonstrated over twelve consecutive months.</p>
Performance display			

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

Section 1. Basic Information

Issuer name:	City of Vancouver
Sustainability Bond ISIN or Issuer Sustainability Bond Framework Name, if applicable: <i>[specify as appropriate]</i>	City of Vancouver Sustainability Bond Framework
Review provider's name:	Sustainalytics
Completion date of this form:	July 24, 2020
Publication date of review publication: <i>[where appropriate, specify if it is an update and add reference to earlier relevant review]</i>	Updates Sustainalytics 2018 SPO

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 GBPs and SBPs:

- | | |
|--|--|
| <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 –Renewable Energy, Energy Efficiency, Green Buildings, Clean Transport, Pollution Prevention and Control, Sustainable Water and Wastewater Management, Environmentally Sustainable Management of Living Natural Resources, Climate Change Adaptation, Affordable Housing, Access to affordable basic infrastructure, and Access to essential services – are aligned with those recognized by the Green Bond Principles and/or the Social Bond Principles. Sustainalytics considers that the eligible categories will lead to positive environmental or social impacts and advance the UN Sustainable Development Goals, specifically SDGs 6, 7, 10, 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 checked="" 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 GBPs | <input type="checkbox"/> Other <i>(please specify)</i> : |

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

Use of proceeds categories as per SBP:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Affordable basic infrastructure | <input checked="" type="checkbox"/> Access to essential services |
| <input checked="" type="checkbox"/> Affordable housing | <input type="checkbox"/> Employment generation (through SME financing and microfinance) |
| <input type="checkbox"/> Food security | <input checked="" type="checkbox"/> Socioeconomic advancement and empowerment |

City of Vancouver Sustainability Bond Framework

- Unknown at issuance but currently expected to conform with SBP categories, or other eligible areas not yet stated in SBPs
 Other (please specify):

If applicable please specify the social taxonomy, if other than SBPs:

2. PROCESS FOR PROJECT EVALUATION AND SELECTION

Overall comment on section (if applicable):

The Finance, Risk, and Supply Chain Management department (FRS), in consultation with other relevant departments, will select projects that are aligned with the requirements of the Framework and the relevant policies of the City. Sustainalytics views this to be aligned with market practice.

Evaluation and selection

- | | |
|---|---|
| <input checked="" type="checkbox"/> Credentials on the issuer's social and green objectives | <input checked="" type="checkbox"/> Documented process to determine that projects fit within defined categories |
| <input checked="" type="checkbox"/> Defined and transparent criteria for projects eligible for Sustainability Bond proceeds | <input checked="" type="checkbox"/> Documented process to identify and manage potential ESG risks associated with the project |
| <input checked="" 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 type="checkbox"/> Evaluation / Selection criteria subject to external advice or verification | <input checked="" type="checkbox"/> In-house assessment |
| <input type="checkbox"/> Other (please specify): | |

3. MANAGEMENT OF PROCEEDS

Overall comment on section (*if applicable*):

The FRS department will be responsible for managing and tracking proceeds raised under the Sustainability Bond Framework. Proceeds will be directly applied to projects that are already underway and unallocated proceeds will be temporarily held in the account of the City and invested in cash or liquid fixed income instruments in accordance with the Vancouver Charter. This is in line with market practice.

Tracking of proceeds:

- Sustainability Bond proceeds segregated or tracked by the issuer in an appropriate manner

City of Vancouver Sustainability Bond Framework

- Disclosure of intended types of temporary investment instruments for unallocated proceeds
- Other (*please specify*):

Additional disclosure:

- Allocations to future investments only
- Allocations to both existing and future investments
- Allocation to individual disbursements
- Allocation to a portfolio of disbursements
- Disclosure of portfolio balance of unallocated proceeds
- Other (*please specify*):

4. REPORTING

Overall comment on section (if applicable):

City of Vancouver will, on an annual basis until full allocation, provide a summary of eligible projects and where feasible report on allocation of proceeds and impact metrics. Impact metrics will include indicators such as – GHG emission reduced, energy saved per year, kilometer of bike lanes installed, area of natural asset conserved, and number of purpose-built market rental housing units constructed. Sustainalytics views City of Vancouver's allocation and impact reporting as aligned with market practice.

Use of proceeds reporting:

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

Information reported:

- Allocated amounts
- Sustainability Bond financed share of total investment
- Other (*please specify*):

Frequency:

- Annual
- Semi-annual
- Other (*please specify*):

Impact reporting:

- Project-by-project
- On a project portfolio basis

City of Vancouver Sustainability Bond Framework

- | | |
|--|---|
| <input type="checkbox"/> Linkage to individual bond(s) | <input checked="" type="checkbox"/> Other (please specify): Qualitative commentaries and quantitative key performance indicators on project specific level (if reasonably practicable) or on a City wide basis as appropriate |
|--|---|

Frequency:

- | | |
|--|--------------------------------------|
| <input checked="" type="checkbox"/> Annual | <input type="checkbox"/> Semi-annual |
| <input type="checkbox"/> Other (please specify): | |

Information reported (expected or ex-post):

- | | |
|---|---|
| <input checked="" type="checkbox"/> GHG Emissions / Savings | <input checked="" type="checkbox"/> Energy Savings |
| <input type="checkbox"/> Decrease in water use | <input type="checkbox"/> Number of beneficiaries |
| <input type="checkbox"/> Target populations | <input checked="" type="checkbox"/> Other ESG indicators (please specify): kms of bike lanes installed, number of purpose-built market rental housing units constructed |

Means of Disclosure

- | | |
|---|---|
| <input checked="" type="checkbox"/> Information published in financial report | <input type="checkbox"/> Information published in sustainability report |
| <input type="checkbox"/> Information published in ad hoc documents | <input checked="" type="checkbox"/> Other (please specify): Reported separately on the City's Investor Relations page |
| <input type="checkbox"/> Reporting reviewed (if yes, please specify which parts of the reporting are subject to external review): | |

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.)

<https://vancouver.ca/your-government/investor-relations.aspx>

SPECIFY OTHER EXTERNAL REVIEWS AVAILABLE, IF APPROPRIATE

Type(s) of Review provided:

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

Review provider(s):

Date of publication:

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

- i. **Second Party Opinion:** An institution with sustainability expertise that is independent from the issuer may provide a Second Party Opinion. The institution should be independent from the issuer's adviser for its Sustainability 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 Principles. In particular, it can include an assessment of the issuer's overarching objectives, strategy, policy, and/or processes relating to sustainability and an evaluation of the environmental and social 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 sustainability criteria. Verification may focus on alignment with internal or external standards or claims made by the issuer. Also, evaluation of the environmentally or socially 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 Sustainability Bond proceeds, statement of environmental or social impact or alignment of reporting with the Principles may also be termed verification.
- iii. **Certification:** An issuer can have its Sustainability Bond or associated Sustainability Bond framework or Use of Proceeds certified against a recognised external sustainability 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, Social and Sustainability Bond Scoring/Rating:** An issuer can have its Sustainability Bond, associated Sustainability 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 and/or social performance data, process relative to the Principles, or another benchmark, such as a 2-degree climate change scenario. Such scoring/rating is distinct from credit ratings, which may nonetheless reflect material sustainability risks.

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Sustainalytics

Sustainalytics is a leading independent ESG and corporate governance research, ratings and analytics firm that supports investors around the world with the development and implementation of responsible investment strategies. With 13 offices globally, the firm partners with institutional investors who integrate ESG information and assessments into their investment processes. Spanning 30 countries, the world's leading issuers, from multinational corporations to financial institutions to governments, turn to Sustainalytics for second-party opinions on green and sustainable bond frameworks. Sustainalytics has been certified by the Climate Bonds Standard Board as a verifier organization, and supports various stakeholders in the development and verification of their frameworks. In 2015, Global Capital awarded Sustainalytics "Best SRI or Green Bond Research or Ratings Firm" and in 2018 and 2019, named Sustainalytics the "Most Impressive Second Party Opinion Provider. The firm was recognized as the "Largest External Reviewer" by the Climate Bonds Initiative as well as Environmental Finance in 2018, and in 2019 was named the "Largest Approved Verifier for Certified Climate Bonds" by the Climate Bonds Initiative. In addition, Sustainalytics received a Special Mention Sustainable Finance Award in 2018 from The Research Institute for Environmental Finance Japan and the Minister of the Environment Award in the Japan Green Contributor category of the Japan Green Bond Awards in 2019.

For more information, visit www.sustainalytics.com

Or contact us info@sustainalytics.com

