

CITY OF OTTAWA GREEN DEBENTURE

SECOND OPINION BY SUSTAINALYTICS

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TABLE OF CONTENTS

1. Introduction	3
2. Sustainalytics' Opinion	4
Section 1: Sustainalytics' Opinion on the City of Ottawa's Green Debenture Framework	4
Section 2: Assessment of the City of Ottawa's Environmental Mandate	5
Section 3: Impact of Use of Proceeds	7
Conclusion	11
APPENDICES	12
SUSTAINALYTICS	19

1. INTRODUCTION

The City of Ottawa (the “City”) is the National Capital of Canada, and with a population of 970,000 it is the fourth largest city in Canada and second largest in the Province of Ontario.¹ The City is committed to advancing “a more sustainable, resilient, and liveable future,”² as well as promoting environmentally sustainable development.

The City of Ottawa has developed a Green Debenture Framework under which it intends to issue Green Debentures that will fund environmentally beneficial projects in the City of Ottawa. The Green Debenture Framework has been published by the City as a separate document on its website.³

The net proceeds of each Green Debenture issued under the Framework will be used to finance, in whole or in part, capital projects that promote environmental sustainability across the City in an effort to mitigate and adapt to the effects of climate change, reduce greenhouse gas (GHG) emissions, and promote the transition to a low-carbon economy. The Framework outlines eight categories of eligibility for Eligible Projects:

- 1) Renewable Energy;
- 2) Energy Efficiency;
- 3) Pollution Prevention and Control;
- 4) Clean Transportation;
- 5) Sustainable Water Management;
- 6) Sustainable Management of Natural Resources;
- 7) Climate Change Adaptation and Resilience; and
- 8) Green Buildings.

The City has engaged Sustainalytics to provide a second opinion on its framework and the framework’s environmental credentials. As part of this engagement, Sustainalytics held conversations with various members of the City’s management team to understand the sustainability impact of their processes and planned use of proceeds, as well as the management of proceeds and reporting aspects of the City of Ottawa’s Green Debenture Framework. Sustainalytics also reviewed relevant public documents and non-public information. Following this engagement between the City and Sustainalytics, some elements of the Green Debenture Framework were clarified to ensure an alignment with the level of disclosure expected by ICMA’s Green Bond Principles, 2017.

This document contains Sustainalytics’ opinion on the City of Ottawa’s Green Debenture Framework and should be read in conjunction with that framework.

¹ City of Ottawa Statistics: <https://ottawa.ca/en/city-hall/get-know-your-city/statistics-and-economic-profile/statistics>

² A Plan for Sustainability and Resilience: http://ottawa.ca/calendar/ottawa/citycouncil/ec/2012/02-21/03-Documents%20-%20-%20CoF_Sust%20Plan_FINAL%5B1%5D.pdf

³ <http://ottawa.ca/en/business/doing-business-city/investor-relations>

2. SUSTAINALYTICS' OPINION

Section 1: Sustainalytics' Opinion on the City of Ottawa's Green Debenture Framework

- The City of Ottawa's Green Debenture Framework includes eligibility criteria, such as renewable energy, energy efficiency, pollution prevention and control, clean transportation, sustainable water management, sustainable management of natural resources, climate adaptation and resilience, and green buildings. All eligibility criteria for the Use of Proceeds are recognized by the Green Bond Principles 2017 as project categories with environmental benefits.
- Sustainalytics is of the view that the City of Ottawa has a clear and transparent process for project evaluation and selection, which is led by its Corporate Services Department (CSD). The City will adopt a collaborative approach and consult with external expert stakeholders including with Planning, Infrastructure, and Economic Development, Legal and other departments as needed. The CSD will verify the eligibility of all projects with the Planning, Infrastructure and Economic Development Department, and eligible projects will comply with all applicable laws, regulations and policies. For each Green Debenture, the City will draft a by-law which includes the eligible projects to be financed, and which will be available on the City's website⁴.
- Impacts of the proceeds from Green Debentures issued under the City's Green Debenture Framework are expected to contribute to:
 - i. Achieving the City of Ottawa's environmental targets, including to decrease per capital emissions by 20% (from 5.8 to 4.6 equivalent tonnes of carbon dioxide) between 2012 and 2024; and to reduce per capital electricity consumption by 6% by 2020;
 - ii. Achieving provincial and national level GHG emission targets, including the Province of Ontario's commitment to reduce GHG emissions by 15% by 2020, 37% by 2030, and 80% by 2050 (below 1990 levels); and Canada's commitment to a 30% reduction in GHG emissions below 2005 levels by 2030;
 - iii. Achieving its strategic objectives related to the environment and sustainable transportation, as outlined in the City of Ottawa's 2015-2018 Strategic Plan⁵; and
 - iv. Achieving the **UN Sustainable Development Goals**, especially goals 6, 7, 9, 11, 12, 15.
- Sustainalytics notes that the City will conduct internal compliance reviews prior to the first anniversary of each Green Debenture issuance. The Corporate Service Department will review each Green Debenture to ensure its compliance with the Green Debenture Framework, and the Treasurer will provide a report of the review.

⁴ <http://ottawa.ca/en/business/doing-business-city/investor-relations>

⁵ City of Ottawa 2015-2018 Strategic Plan: http://documents.ottawa.ca/sites/documents.ottawa.ca/files/documents/2015_2018_strategic_plan_en.pdf

- Sustainalytics notes that the City plans to refine and enhance its Green Debenture Framework and the Eligibility Criteria as and when additional details of proposed projects become available.
- In order to ensure impacts are meaningful, Sustainalytics recommends that the City of Ottawa specify a minimum performance improvement threshold for projects for eligibility criteria such as energy efficiency and sustainable water management, and that it strive to meet these thresholds for improvements on projects financed with debenture proceeds. Sustainalytics recognizes that market best practice with respect to energy efficiency is to invest in technologies that ensure a minimum of 20-30% energy efficiency performance improvements. With respect to sustainable water management, Sustainalytics recommends that the City select projects that have clear environmental impacts, such as pollution control and water efficiency, and that go beyond business-as-usual requirements or meeting regulations.
- With respect to its Green Building eligibility criteria, Sustainalytics encourages the City of Ottawa to align with market practices by ensuring projects meet at least a LEED Silver standard, or aim for market best practice of obtaining a LEED Gold or Platinum standard, or an equivalent standard contained in other national, regional, or international recognized third-party certifications.

Alignment with Green Bond Principles 2017

Sustainalytics has determined that the City's Green Debenture Framework aligns to the four pillars of the Green Bond Principles 2017. For detailed information please refer to Appendix B: Green Bond/Green Bond Programme External Review Form.

Section 2: Assessment of the City of Ottawa's Environmental Mandate

Contribution of the City of Ottawa's Green Debenture Framework to its environmental mandate and commitments.

Sustainalytics has reviewed the City's environmental mandate and commitments, including its Environmental Strategy 2020 and its 2015-2018 Strategic Plan. Sustainalytics is of the view that the City is committed to promoting environmentally sustainable development, while also reducing its impact on climate change. Specifically, the strength of the City's environmental mandate is derived from its (1) clear environmental strategy including environmental commitments; (2) its action plan, which includes environmental objectives and associated targets that align with the aim of the Green Debenture Framework; and (3) a regional resilience plan that addresses environmental sustainability alongside social and economic sustainability, where the Green Debenture eligibility criteria align with several goals outlined in the plan.

In the City of Ottawa's Environmental Strategy 2020,⁶ the City recognizes the importance of protecting and preserving the environment, and the role of municipalities in addressing climate change. Notably, the City's Environmental Strategy is underpinned by four goals: (1) a green city, which is one that is environmentally responsible; (2) development in harmony with environment, where the use of developed

⁶ Ottawa 2020 Environmental Strategy: http://documents.ottawa.ca/sites/documents.ottawa.ca/files/documents/enviro_strategy_en.pdf.

spaces is maximized such that existing greenspaces and subwatersheds are maintained and disturbances are minimized; (3) focusing on walking, cycling and transit, shifting away from car-oriented transportation networks; and (4) ensuring clean air, water, and soils. The City also demonstrates its commitment to climate action and emissions reductions as a member of the Partners for Climate Protection program (PCP)⁷ where it has achieved all five milestones of the partnership, at the community and corporate level, including creating a GHG inventory, setting reduction targets, developing a local action plan, implementing the action plan, and monitoring and reporting on progress.

The City's commitment to transition to a low-carbon economy is also reflected in its 2015-2018 Strategic Plan.⁸ Two of the City's seven Strategic Priorities for 2015-2018 reflect its commitment to environmental sustainability, addressing climate change and the transition to a low-carbon economy:

- *Transportation and Mobility:* The City aims to address current and future transportation needs of its residents, including building an environmentally sustainable light-rail transit system; promoting and providing infrastructure that supports safe mobility including cycling and walking, and ensuring the safety, accessibility, reliability and affordability of public transit, among other objectives.
- *Sustainable Environmental Services:* The City aims to provide sustainable environmental services that support the protection of the City's natural assets, within the context of planned growth. Its strategic objectives in this area include implementing projects that protect property, land, air and water, such as increasing forest coverage, managing stormwater, and assessing water quality, among other projects.

Sustainalytics views positively that the City of Ottawa, in partnership with the City of Gatineau and the National Capital Commission, have developed three comprehensive plans outlining strategies, objectives, and targets to ensure that the region achieves a “sustainable, resilient and liveable future”: The Sustainability and Resilience Plan,⁹ The Energy and Emissions Plan,¹⁰ and The Risk Prevention and Mitigation Plan.¹¹ Notably, in the overarching Sustainability and Resilience Plan a long-term vision and goals that address all aspects of sustainability – environmental, social and economic – are outlined. Sustainalytics views that the credibility of the City of Ottawa's Green Debenture Framework is enhanced by the alignment of the Frameworks eligibility criteria to six of the ten resilience goals (See Appendix A for a complete list of resilience goals):

1. Energy: energy is used efficiently and supplied from green, renewable sources;
2. Biodiversity and ecosystem health: ecosystems are healthy, protected, and support biodiversity;

⁷Partners for Climate Protection: <https://fcm.ca/home/programs/partners-for-climate-protection/milestone-framework.htm>

⁸ City of Ottawa 2015-2018 Strategic Plan: http://documents.ottawa.ca/sites/documents.ottawa.ca/files/documents/2015_2018_strategic_plan_en.pdf

⁹ A Plan for Sustainability and Resilience: http://ottawa.ca/calendar/ottawa/citycouncil/ec/2012/02-21/03-Documents%203%20-%20CoF_Sust%20Plan_FINAL%5B1%5D.pdf

¹⁰ A Plan for Energy and Emissions: http://ottawa.ca/calendar/ottawa/citycouncil/ec/2012/02-21/03-Documents%204%20-%20CoF_Energy%20Plan_FINAL%5B1%5D.pdf

¹¹ A Plan for Risk Prevention and Mitigation: http://ottawa.ca/calendar/ottawa/citycouncil/ec/2012/02-21/03-Documents%205%20-%20Ottawa_Risk%20Plan_FINAL%5B1%5D.pdf

3. Connectivity and mobility: walking, cycling, and transit are resident's first choice for transportation;
4. Water and wastewater: water resources are cherished, conserved and protected;
5. Materials and solid waste: waste is reduced toward zero; and,
6. Climate change: the region adapts to climate change.¹²

Overall, Sustainalytics is of the view that the City of Ottawa is well-positioned to issue Green Debentures and that such issuances under its Green Debenture Framework will align with, and positively contribute to the City of Ottawa's environmental mandate and commitment to resilience.

The City is well positioned to address common environmental and social risks associated with projects
Sustainalytics recognizes that there are environmental and social risks associated with infrastructure projects, such as the disruption of ecosystems and biodiversity loss; air, noise, or water pollution control; and the need for community approval, among others. The City of Ottawa has laws, regulations and policies to address these risks (for example, the Ontario Human Rights Code¹³, the Municipal Act, 2001¹⁴, the Safe Drinking Water Act (2002)¹⁵, and the Ontario Drinking Water Quality Standards¹⁶) and will ensure that all projects funded comply with such laws, regulations, and policies.

Section 3: Impact of Use of Proceeds

All of the eligibility criteria defined in the City of Ottawa's Green Debenture Framework are recognized as having beneficial environmental impacts by the Green Bond Principles, 2017. Sustainalytics highlights below some key potential impacts of projects that meet the eligibility criteria of the Framework.

Advancing the transition to a low-carbon economy and contributing to the achievement of climate-related targets, through renewable energy, energy efficiency, and sustainable management of natural resources projects.

The City of Ottawa's Air Quality and Climate Change Management Plan,¹⁷ outlines the necessity for the City to achieve broad-scale improvements in energy efficiency and GHG emissions reduction. The City identifies both the mitigation of climate change (through reducing energy demand, fossil fuel dependence and GHG emissions) as well as, climate change adaptation (including improving infrastructure resiliency and reducing risks to structures) within the goals of its plan. Though the City reported in 2014 that its per capita emissions dropped by 20% between 2004 and 2012, it has set a new target of further reducing per capita emissions by an additional 20% between 2012 and 2024 (from 5.8 to 4.6 equivalent tonnes of carbon dioxide per person). In addition, it targets reducing per capita electricity consumption by 6% by 2020. Finally, Sustainalytics views favourably that the City recognizes the importance of sustainably

¹² A Plan for Sustainability and Resilience: http://ottawa.ca/calendar/ottawa/citycouncil/ec/2012/02-21/03-Document%203%20-%20CoF_Sust%20Plan_FINAL%5B1%5D.pdf

¹³ <https://www.ontario.ca/laws/statute/90h19>

¹⁴ Municipal Act 2001: <https://www.ontario.ca/laws/statute/01m25#BK111>

¹⁵ Safe Drinking Water Act, 2002: <https://www.ontario.ca/laws/statute/02s32>

¹⁶ Ontario Drinking Water Quality Standards: <https://www.ontario.ca/laws/regulation/030169>

¹⁷ Air Quality and Climate Change Management Plan <http://app05.ottawa.ca/sirepub/cache/2/eviyv1ibbn3c1son0hnyvk0i/19338210192017100238283.PDF>

managing its existing natural resources as part of a transition to a low-carbon economy: it is targeting no net loss of natural carbon storage areas (such as forest and wetlands) between 2012 and 2024.

The City of Ottawa's climate-related targets align with the ambitions and commitments outlined by both the Province of Ontario and the Federal Government of Canada. At the Provincial level, Ontario has both medium and long-term GHG emission reduction targets. In the long term, the aim is to reduce GHG emissions to 80% below 1990 levels by 2050, while its medium-term targets include 15% below 1990 levels by 2020 and 37% below 1990 levels by 2030.¹⁸ Nationally, Canada has committed to reduce its GHG emissions by 30% below 2005 levels by 2030.¹⁹ Sustainalytics is of the view that the City's investment in renewable energy, energy efficiency, and the sustainable management of natural resources projects will contribute local, provincial and national level climate-related targets, supporting a transition to a low-carbon economy.

The importance of clean transportation and the impact of transitioning to a cleaner transport system.

Among the major economic sectors in Canada, the transportation sector is the second highest emitter of GHG emissions, accounting for an estimated 23% of emissions (2014).²⁰ Meanwhile, the province of Ontario estimates that transportation is the highest-emitting sector in the province, accounting for 35% of total emissions (2013) of which 70% is due to automobiles and trucks.²¹ As reflected in national and provincial level commitments, moving toward a low-carbon economy necessitates transitioning to a cleaner transportation system. This includes shifting to lower-emitting modes of transport, expanding public transportation systems, and increasing the availability of zero-emissions vehicles.^{22 23}

In line with provincial and national commitments, the City of Ottawa recognizes the need to shift to a cleaner transportation system, where protecting the environment is a key element that underpins its transportation vision.²⁴ An environmentally sustainable transit system is also one of seven strategic priorities in the City's 2015-2018 Strategic Plan.²⁵ Aligned with national and provincial findings, transportation, especially due to a reliance on private vehicles for commuting, accounts for a significant portion of emissions in the City, estimated at 40% in 2012.²⁶ The City has already taken significant steps to improve its transport system by investing in major public transit projects that are expected to have positive environmental impacts. For example, the City is currently expanding its light-rail transit (LRT) system, adding an additional 30 km, which is expected to result in 70% of City residents within 5 km of accessing the LRT. Anticipated social and environmental benefits include a decrease in road congestion of approximately one sixth of total vehicle kilometres travelled by 2031; an estimated fuel savings of 50

¹⁸ Ontario's Climate Strategy: <https://dr6j45jk9xcmk.cloudfront.net/documents/4928/climate-change-strategy-en.pdf>

¹⁹ Canada's 2017 Nationally Determined Contribution Submission to the United Nations Framework Convention on Climate Change:

<http://www4.unfccc.int/ndcregistry/PublishedDocuments/Canada%20First/Canada%20First%20NDC-Revised%20submission%202017-05-11.pdf>

²⁰ Pan-Canadian Framework on Clean Growth and Climate Change: <https://www.canada.ca/content/dam/themes/environment/documents/weather1/20170125-en.pdf>

²¹ Ontario's Five-Year Climate Change Action Plan: http://www.applications.ene.gov.on.ca/ccap/products/CCAP_ENGLISH.pdf

²² Ontario's Five-Year Climate Change Action Plan: http://www.applications.ene.gov.on.ca/ccap/products/CCAP_ENGLISH.pdf

²³ Pan-Canadian Framework on Clean Growth and Climate Change: <https://www.canada.ca/content/dam/themes/environment/documents/weather1/20170125-en.pdf>

²⁴ Ottawa: Transportation Master Plan: http://documents.ottawa.ca/sites/documents.ottawa.ca/files/documents/tmp_en.pdf

²⁵ City of Ottawa 2015-2018 Strategic Plan: http://documents.ottawa.ca/sites/documents.ottawa.ca/files/documents/2015_2018_strategic_plan_en.pdf

²⁶ Air Quality and Climate Change Management Plan: <http://app05.ottawa.ca/sirepub/cache/2/eviyv1ibbn3c1son0hnyvk0i/19338210192017100238283.PDF>

million litres, and, by 2048, a reduction in GHG emissions by over 110 thousand tonnes and of critical air contaminants (CACs) by over 3,000 tonnes²⁷.

The City of Ottawa has indicated to Sustainalytics that it intends to finance a clean transportation project, specifically its LRT project, with the City's first Green Debenture. Sustainalytics is of the view that investments in clean transportation projects, including public transit projects like its current LRT project, are aligned with its overall environmental mandate, as well as provincial and national commitments to transition to a cleaner transport system, and will positively contribute to local, national and provincial GHG reduction targets.

The importance of climate change adaptation and resilience projects

Sustainalytics believes the City's investment in projects related to the redesigning, retrofitting and upgrading of infrastructure and buildings to build resilience for extreme weather events will support the City in adapting to climate change and its impact. The City of Ottawa is facing a rising annual mean temperature, and according to the Province of Ontario's 'middle of the road' predictions the average temperature across the province will increase between 2.5-3.7 degree Celsius by 2050 (baseline 1990). In Ottawa, these changes in climate are expected to cause increased frequency, duration and intensity of precipitation including snow, rain and ice storms; increased variability and intensity of temperature including heat waves and cold snaps; and, changes in wind direction and speed. The City anticipates significant impact to infrastructure such as severe storms damaging power infrastructure, as well as roads, bridges and buildings; heavy rain fall causing flooding that exceeds the current capacity of municipal infrastructure; more extreme variability in temperatures which may damage paved surfaces and transportation infrastructure; and increased droughts causing damage to building foundations.²⁸

Alignment with and contribution to the UN Sustainable Development Goals

Agreed to by heads of states in September 2015, the United Nations' Sustainable Development Goals (SDGs) provide a broad and comprehensive vision for a sustainable society, and outline priorities and an agenda for achieving sustainable development by 2030. The use of proceeds of the City's Green Debenture Framework align with and 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 Energy	7.3 By 2030, double the global rate of improvement in energy efficiency
	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

²⁷ Stage 2 Ottawa LRT: Business Case: http://www.stage2lrt.ca/wp-content/uploads/2015/09/Doc_7_Business_Case.pdf

²⁸ Managing Risks Through Adaptation: <http://app05.ottawa.ca/sirepub/cache/2/p5u2vvmijqqbhollvc3fg4c/1933941020201702533739.PDF>

		industrial processes, with all countries taking action in accordance with their respective capabilities.
Pollution Prevention and Control	6. Clean Water and Sanitation 11. Sustainable Cities and Communities 12. Responsible Consumption & Production	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 11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management 12.5 - By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.
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 Management	6. Clean Water and Sanitation	6.1 - By 2030, achieve universal and equitable access to safe and affordable drinking water for all. 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.
Sustainable Management of Natural Resources	15. Life on Land	15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements. 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 and Resilience	9. Industry, Innovation and Infrastructures 11. Sustainable Cities and Communities	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

		11.5 By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations
Green Buildings	7. Affordable and Clean Energy 11. Sustainable Cities and Communities	7.3 By 2030, double the global rate of improvement in energy efficiency 11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

Refer to: <https://sustainabledevelopment.un.org/?menu=1300>

Conclusion

The City of Ottawa, through its Green Debenture Framework, aims to invest in projects that promote environmentally sustainable development and the transition to a low-carbon economy, and that mitigate and adapt to the effects of climate change. The Framework identifies eight eligible categories to which bond proceeds may be directed: (1) renewable energy; (2) energy efficiency; (3) pollution prevention and control; (4) clean transportation; (5) sustainable water management; (6) sustainable management of natural resources; (7) climate change adaptation and resilience; and (8) green buildings. Sustainalytics is of the view that the Framework is aligned with and will have a positive impact on the City of Ottawa’s environmental and resilience mandate and commitments. It is also aligned with and will advance sustainable development priorities including six of the UN Sustainable Development Goals.

Furthermore, the City of Ottawa’s Green Debenture Framework is aligned with the four pillars of the Green Bond Principles 2017 (see Appendix B), which addresses use of proceeds, process for project evaluation and selection, management of proceeds, and reporting. Based on the above considerations, Sustainalytics is of the view that the City of Ottawa’s Green Debenture Framework is robust and credible.

APPENDICES

Appendix A: Overview of the Ten Goals Outlined in the Plan for Sustainability and Resilience in Canada's Capital Region



Source: http://ottawa.ca/calendar/ottawa/citycouncil/ec/2012/02-21/03-Documents%20-%20CoF_Sust%20Plan_FINAL%5B1%5D.pdf

Appendix B: Green Bond/Green Bond Programme External Review Form

Green Bond / Green Bond Programme External Review Form

Section 1. Basic Information

Issuer name: The City of Ottawa

Green Bond ISIN or Issuer Green Bond Framework Name, if applicable: City of Ottawa Green Debenture Framework

Review provider's name: Sustainalytics

Completion date of this form: 10-26-2017

Section 2. Review overview

SCOPE OF REVIEW

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

- | | |
|--|--|
| <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>): | |

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

Please refer to Green Bond Framework (posted in a separate document) and Second Opinion Document above.

Section 3. Detailed review

1. USE OF PROCEEDS

Overall comment on section (if applicable): The City of Ottawa, through its Green Debenture Framework, aims to invest in projects that promote environmental sustainability development and the transition to a low-carbon economy, and mitigate and adapt to the effects of climate change. The Framework identifies eight eligible categories to which bond proceeds may be directed: (1) renewable energy; (2) energy efficiency; (3) pollution prevention and control; (4) clean transportation; (5) sustainable water management; (6) sustainable management of natural resources; (7) climate change adaptation and resilience; and (8) green buildings. Sustainalytics is of the view that these eligibility criteria align with and will have a positive impact on the City of Ottawa's environmental and resilience mandate and commitments, and is aligned with and will advance sustainable development priorities including six of the UN Sustainable Development Goals.

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"/> Sustainable management of living natural resources |
| <input type="checkbox"/> Terrestrial and aquatic biodiversity conservation | <input checked="" type="checkbox"/> Clean transportation |
| <input checked="" type="checkbox"/> Sustainable water management | <input checked="" type="checkbox"/> Climate change adaptation |
| <input type="checkbox"/> Eco-efficient products, production technologies and processes | <input checked="" type="checkbox"/> Other (<i>please specify</i>): 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 | |

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

2. PROCESS FOR PROJECT EVALUATION AND SELECTION

Overall comment on section (if applicable): Sustainalytics is of the view that the City of Ottawa has a clear and transparent process for project evaluation and selection, which is led by its Corporate Services Department (CSD). The City will adopt a collaborative approach and consult with other external expert stakeholders including with Planning, Infrastructure, and Economic Development, Legal and other departments as needed. The CSD will verify the eligibility of all projects with the Planning, Infrastructure and Economic Development Department, and eligible projects will comply with all

applicable laws, regulations and policies. For each Green Debenture, the City will draft a by-law which includes the eligible projects to be financed, and which will be available on the City's website.

Evaluation and selection

- | | |
|--|---|
| <input checked="" type="checkbox"/> Defined and transparent criteria for projects eligible for Green Bond proceeds | <input checked="" type="checkbox"/> Documented process to determine that projects fit within defined categories |
| <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 type="checkbox"/> Evaluation / Selection criteria subject to external advice or verification | <input checked="" type="checkbox"/> In-house assessment |
| <input type="checkbox"/> Other (<i>please specify</i>): | |

3. MANAGEMENT OF PROCEEDS

Overall comment on section (if applicable): The City of Ottawa will apply the proceeds of a Green Debenture directly to a project to repay the bridge financing of the City. In most cases, the City expects that capital projects will have been developed and substantial completion criteria met. In cases where substantial completion has not been achieved, the City will hold the funds in a City account and invest the holdings with maturities that align with the substantial completion of the projects. Should excess funds exist in cases when substantial completion has been achieved, the City will apply the funds to other projects that meet the eligibility criteria under the Green Debenture Framework. Sustainalytics is of the opinion that this is in line with market practices.

Tracking of proceeds:

- | |
|---|
| <input checked="" type="checkbox"/> Green Bond proceeds segregated or tracked by the issuer in a systematic manner |
| <input checked="" type="checkbox"/> Disclosure of intended types of temporary investment instruments for unallocated proceeds |
| <input type="checkbox"/> Other (<i>please specify</i>): |

Additional disclosure:

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

4. REPORTING

Overall comment on section (if applicable): The City of Ottawa’s Corporate Services Department is responsible for coordinating reporting requirements. The City will report annually on its website both allocation and impact reporting including information on which projects have been funded by a Green Debenture; information on the distribution of unspent debentures; project status report for eligible projects; key performance indicators when possible; and a summary of the City’s green bond developments including existing and future projects. Sustainalytics is of the opinion that the City of Ottawa’s reporting and disclosure is in line with market practices.

Use of proceeds reporting:

- | | |
|--|---|
| <input type="checkbox"/> Project-by-project | <input type="checkbox"/> On a project portfolio basis |
| <input type="checkbox"/> Linkage to individual bond(s) | <input checked="" type="checkbox"/> Other (please specify): The City of Ottawa has indicated that its first Green Debenture may fund is LRT; however, future Green Debentures may include a portfolio of projects. |

Information reported:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Allocated amounts | <input type="checkbox"/> GB financed share of total investment |
| <input type="checkbox"/> Other (please specify): | |

Frequency:

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

Impact reporting:

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

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 checked="" type="checkbox"/> Other ESG indicators (please specify):
amount of energy generated from renewables,
amount of pollutants or emissions reduced,
amount of waste diverted from landfills, | |

number of passenger journeys using green transportation, water saved, area of natural assets conserved, protected or restored, list of eligible buildings receiving third party verified green building certifications.

Means of Disclosure

- | | |
|--|---|
| <input 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 (<i>please specify</i>): information to be published on the City of Ottawa's website. |
| <input type="checkbox"/> Reporting reviewed (<i>if yes, please specify which parts of the reporting are subject to external review</i>): | |

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:

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

Review provider(s):

Date of publication:

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

- (i) Consultant Review: An issuer can seek advice from consultants and/or institutions with recognized expertise in environmental sustainability or other aspects of the issuance of a Green Bond, such as the establishment/review of an issuer's Green Bond framework. "Second opinions" may fall into this category.
- (ii) Verification: An issuer can have its Green Bond, associated Green Bond framework, or underlying assets independently verified by qualified parties, such as auditors. In contrast to certification, verification may focus on alignment with internal standards or claims made by the issuer. Evaluation of the environmentally sustainable features of underlying assets may be termed

verification and may reference external criteria.

- (iii) Certification: An issuer can have its Green Bond or associated Green Bond framework or Use of Proceeds certified against an external green assessment standard. An assessment standard defines criteria, and alignment with such criteria is tested by qualified third parties / certifiers.
- (iv) Rating: An issuer can have its Green Bond or associated Green Bond framework rated by qualified third parties, such as specialized research providers or rating agencies. Green Bond ratings are separate from an issuer's ESG rating as they typically apply to individual securities or Green Bond frameworks / programmes.

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Bond Awards



Named

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Research or Rating Firm



Named

Most Impressive
Second Opinion
Provider