

2019 Ontario Green Bond Newsletter

Tobermory, ON



Fifth Anniversary of Ontario's Green Bonds

LETTER FROM THE CEO

This year marks the fifth anniversary of Ontario's Green Bond Program, as well as the publication of our fifth annual Green Bond Newsletter, providing an opportunity to reflect on the development of the program as well as look into its future.

We are very proud of the Green Bond program and its evolution over the past five years. Green Bonds are a key part of [Ontario's Environment Plan](#) to address Climate Change. Over the years, we have strived to be a leader in our transparency and impact reporting efforts with the publication of an annual newsletter. In April 2019, we were recognized with an Environmental Finance Green Bond of the Year Award in the Local Authority/Municipality category for our \$1.0 billion 2018 Green Bond issue and were specifically praised by the judges for the strength of our impact reporting.

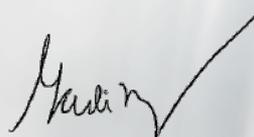
In 2013, Ontario was the first Province in Canada to announce its commitment to issuing Green Bonds. The program was officially launched in October 2014 with an inaugural four-year, \$500 million Canadian dollar bond, with demand surpassing \$2 billion. Although the Province's inaugural Green Bond issue has since matured, its Green Bond program has continued to grow. To date, we have issued six Green bonds for a total of \$4.75 billion, which have funded 19 different projects, with an emphasis on Clean Transportation and Energy Efficiency and Conservation.

Ontario is a benchmark borrower with an issuance program averaging \$35 billion annually since 2010. Although Green Bonds account for a small portion of our annual borrowing program, it is a core component of the Province's funding plans, and complements our regular issues in domestic and foreign currencies. We have a mature Green Bond program and expect Green Bonds to have a continuing role in our borrowing program going forward.

Ontario's Green Bond program has evolved and will continue to evolve to ensure that our processes reflect industry best practices and align with internationally recognized standards, including the Green Bond Principles, maintained by the International Capital Market Association.

Ontario's leadership role in the Canadian dollar Green Bond market has paved the way for other issuers. Over the last few years, there has been a significant increase in issuers in the Canadian dollar Green Bond market, including participation from utilities, pension funds, corporations and all levels of government in Canada.

We look forward to continuing to expand our work in the Green Bond space and collaborating with other Canadian issuers on implementing their own Green Bond programs.



Gadi Mayman
Chief Executive Officer, Ontario Financing Authority

Ontario's Green Bond Features

Ontario's Green Bonds

- Carry the full faith and credit of the Province of Ontario.
- Rank *pari passu* with Ontario's other bonds and are payable without any preference or priority.
- Payments of principal of and interest on the bonds will be a charge on and payable out of the Consolidated Revenue Fund of Ontario.
- An amount equal to the net proceeds of each Green Bond issue is recorded in a designated account in the Province of Ontario's financial records. These designated accounts are used to track the use and allocation of funds to eligible projects.

"Eligible projects" means projects (mainly infrastructure) funded by the Province that have environmental benefits, exclusive of fossil fuel and nuclear energy projects. Eligible projects are located throughout Ontario communities.

Without limitation, projects in the following categories have generally been considered eligible:

- Clean Transportation;
- Energy Efficiency and Conservation;
- Clean Energy and Technology;
- Forestry, Agriculture and Land Management; *and*
- Climate Adaptation and Resilience.

Future Issuance Plans

The Province issued its sixth Green Bond in November 2019. As stated in the *2019 Ontario Economic and Fiscal Review*, the Province may launch another Green Bond before the end of fiscal 2019–20, if market conditions allow.

Alignment with Green Bond Principles

Ontario's Green Bond program aligns with the Green Bond Principles (GBP). Since March 2016, Ontario has been a member of the GBP group, maintained by the International Capital Market Association.

As recommended by the GBP, the Province of Ontario reports annually on the use of proceeds and impact statistics for the projects that received Green Bond funding.

Alignment with UN Sustainable Development Goals

Ontario's Green Bond proceeds fund project categories which support the United Nations Sustainable Development Goals.

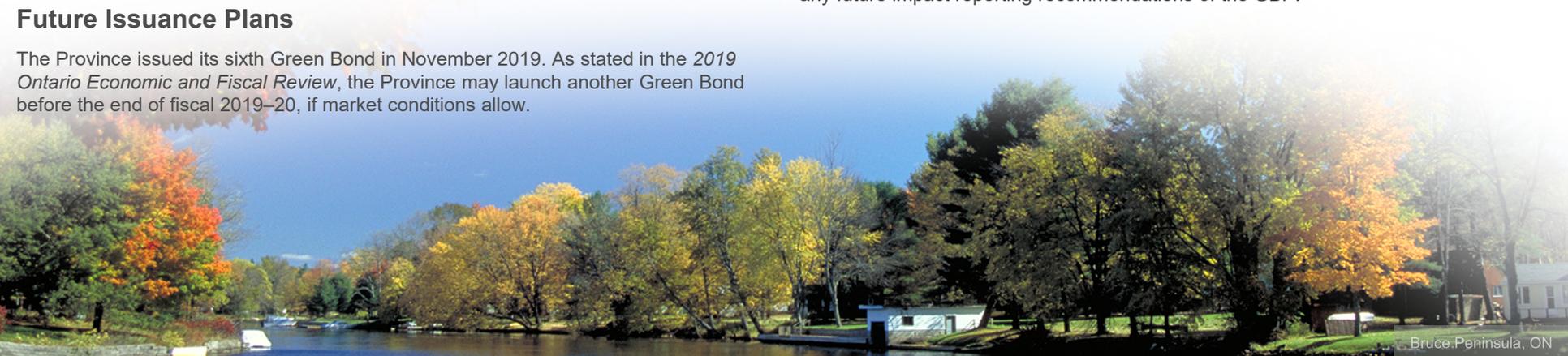
Assurances

The Center for International Climate and Environmental Research — Oslo (CICERO) provided a second opinion on [Ontario's Green Bond Framework](#).

Each fiscal year, the Auditor General of Ontario provides an [assurance audit](#) on the use of Green Bond proceeds.

Impact Reporting

Ontario uses widely recognized core indicators for its projects and expects to adopt any future impact reporting recommendations of the GBP.



Bruce Peninsula, ON

Ontario's Green Bond Issues

- A total of 19 projects have received funding or will receive funding from Ontario's six Green Bond issues, with funding allocated towards Clean Transportation and Energy Efficiency and Conservation projects.
- All bonds were issued in Global Canadian dollar format, and were listed on the Luxembourg Stock Exchange Euro MTF and Luxembourg Green Exchange.
- Issues were available through Ontario's current dealer group for placement with Canadian and international institutional investors. All issues were also made available to retail investors through Canadian financial institutions. More than 70% of the investors have had Green Mandates or were UN PRI Signatories.
- Ontario's five Green Bond issues have met the standards to be included in the following Green Bond indices: Bloomberg Barclays MSCI Green Bond Index, ICE BofA Merrill Lynch Green Bond Index, S&P Green Bond Index and the Solactive Green Bond Index. Ontario's sixth Green Bond, most recently issued in November 2019, is pending evaluation for inclusion.



Niagara Region, ON

Project Evaluation and Selection

The selection of eligible green projects is done on behalf of the Province by Ontario Financing Authority (OFA) staff with advice from the Province’s Green Bond Advisory Panel (GBAP). The GBAP, which includes staff from the OFA and the Ministry of Environment, Conservation and Parks, along with various ministries and agencies, evaluates and recommends projects for inclusion in Ontario’s Green Bond program.

Since inception of Ontario’s Green Bond program, the Province has worked on refining its project evaluation and selection process:

- **2016:** An Environmental Considerations decision tree was developed, providing additional rigour to the overall project evaluation process.
- **2017:** An updated methodology was established for evaluating LEED rated buildings focusing on the category scores that lead to greater environmental performance.
- **2018:** Ontario Green Bond project reporting began referencing the United Nations Sustainable Development Goals (UNSDGs), as well as Ontario’s Green Bond Framework. Ontario funds eligible Green Bond projects within Framework categories which primarily support the UNSDGs listed below.
- **2019:** The Province realigned its Green Bond program to support the government’s plan, *Preserving and Protecting our Environment for Future Generations: A Made-in-Ontario Environment Plan*.

Ontario Framework Category	Project Examples	UNSDGs
Clean Transportation	Funding of public transit projects	 
Energy Efficiency and Conservation	Public sector building efficiency improvements	    

Use and Management of Proceeds Overview

Green Bond Proceeds

Disbursements by Project Category

1st Green Bond (2014) — \$500 million:

✓ Fully Disbursed



\$499M Clean Transportation

2nd Green Bond (2016) — \$750 million:

✓ Fully Disbursed



\$662M Clean Transportation



\$85M Energy Efficiency and Conservation

3rd Green Bond (2017) — \$800 million:

✓ Fully Disbursed



\$606M Clean Transportation



\$188M Energy Efficiency and Conservation

4th Green Bond (2018) — \$1 billion:

✓ Fully Disbursed



\$501M Clean Transportation



\$495M Energy Efficiency and Conservation

5th Green Bond (2019) — \$950 million:

✓ Fully Disbursed*



\$571M Clean Transportation



\$390M Energy Efficiency and Conservation

6th Green Bond (2019) — \$750 million:

To be Disbursed



\$778M Clean Transportation

Clean Transportation Projects	Green Bond Allocation					
	1 st	2 nd	3 rd	4 th	5 th	6 th
Eglinton Crosstown Light Rail Transit (LRT)	✓	✓	✓	✓	✓	✓
GO Expansion (formerly Regional Express Rail)		✓	✓		✓	✓
York Viva Bus Rapid Transit		✓	✓	✓		
Hurontario LRT			✓	✓		
Finch West LRT			✓	✓		
Hamilton LRT			✓			
Energy Efficiency and Conservation Projects	1 st	2 nd	3 rd	4 th	5 th	6 th
Mackenzie Health — Mackenzie Vaughan Hospital					✓	
Centre for Addiction and Mental Health — Phase 1C Redevelopment					✓	
William Osler Health System — Etobicoke General Hospital Phase 1 Patient Tower Project					✓	
Whitby Rail Maintenance Facility				✓		
Joseph Brant Hospital — Redevelopment Project Phase 1				✓		
ErinoakKids Centre for Treatment and Development			✓			
Seneca College King Campus Expansion				✓		
St. Joseph's Healthcare Hamilton — West 5 th Campus		✓	✓			
St. Joseph's Healthcare London (Parkwood) and St. Thomas		✓	✓			
Waypoint Centre for Mental Health		✓	✓			
Woodstock General Hospital			✓			
Centre for Addiction and Mental Health — Phase 1B		✓	✓			
Sheridan College Hazel McCallion Campus Expansion		✓				

* Includes funds disbursed from April 1 – November 30, 2019 which will be audited and included in the Auditor General of Ontario's Green Bond assurance audit for 2019–20.

Funding Allocation and Disbursements

- Each fiscal year, an assurance audit by the Auditor General (AG) of Ontario verifies the amounts allocated for selected projects and the balance of proceeds remaining.
- From the inception of the Green Bond program to March 31, 2019, \$3,851.9 million had been disbursed. This includes \$495.4 million from the fourth Green Bond and \$815.8 million from the fifth Green Bond which were disbursed during fiscal 2018–19.
- From April 1 to November 30, 2019, \$145.6 million have been disbursed, bringing the total disbursements under the Ontario Green Bond program to \$3,997.5 million. These post-March 31st, 2019 amounts will be included in the AG's assurance audit of the use of Green Bond proceeds next fiscal year.



Funding Allocation and Disbursements

During fiscal 2018–19, the Province disbursed Green Bond proceeds to eight projects:

Clean Transportation

Project Name	Total Project Cost (\$ millions)	Allocated Funding from Green Bond Program (\$ millions)	Funds Disbursed since Inception of the Green Bond Program as of March 31, 2019 (\$ millions)
Eglinton Crosstown LRT	5,300 (2010\$)	2,574.7	2,074.7
GO Expansion	13,500 (2014\$)	770.2	491.8

Energy Efficiency and Conservation

Project Name	Total Project Cost* (\$ millions)	Allocated Funding from Green Bond Program (\$ millions)	Funds Disbursed since Inception of the Green Bond Program as of March 31, 2019 (\$ millions)
Mackenzie Health — Mackenzie Vaughan Hospital	1,300	220.0	99.4
Centre for Addiction and Mental Health — Phase 1C Redevelopment	685	100.0	75.0
William Osler Health System — Etobicoke General Hospital Phase 1 Patient Tower Project	330	70.0	70.0
Whitby Rail Maintenance Facility	859.2	300.0	300.0
Joseph Brant Hospital — Redevelopment Project Phase 1	353.6	145.0	145.0
Seneca College King Campus Expansion	70.9	50.4	50.4

Note: As recommended by the GBP, the Province of Ontario reports annually on the use of proceeds and impact reporting statistics, for the projects that received Green Bond funding until full allocation.

* Represents contract value (the payment(s) to be made by the Sponsor for an Alternative Financing and Procurement project, as defined in the Project Agreement and prior to taking into account inflation).

Impact Reporting – Clean Transportation

Project Name	Expected Completion Date	Project Description	Estimated Greenhouse Gas (GHG) Reductions (CO ₂ [or equivalent] tonnes / year)*	Equivalent Passenger Vehicles Off the Road (vehicles / year)	Other Environmental Benefits
Eglinton Crosstown LRT	2022	The Eglinton Crosstown will expand transit in Toronto through the building of a 19-kilometre LRT line across Eglinton Avenue, with a 10-kilometre central underground portion, and 25 stations and stops. The Eglinton Crosstown will link to 54 bus routes, three subway stations, UP Express and three GO Transit lines.	11,000 (starting 2030)	2,558 (starting 2030)	<ul style="list-style-type: none"> Improving access to public transit and new mobility options such as the Eglinton Crosstown will contribute to decreasing GHG emissions and Criteria Air Contaminants (CACs), manage traffic congestion, and encourage mode shift from auto trips to transit trips. The transition from diesel buses to electric light rail vehicles will also contribute to decreasing GHG emissions. All 25 stations and stops are aiming to achieve the Toronto Green Standard Tier 1. Eglinton Crosstown maintenance and storage facility is aiming to achieve LEED Silver certification.
GO Expansion	GO rail service enhancements to be incrementally introduced over the life of the program.	The GO Expansion program will provide two-way, all-day service every 15 minutes over core segments of the GO Transit rail network.	480,000 (starting 2030)	111,628 (starting 2030)	<ul style="list-style-type: none"> The GO Expansion will shift GO from a largely commuter system to a comprehensive regional rapid transit option, thereby contributing to mode shift and decreasing GHG emissions and CACs. Proposed new GO stations and facilities will be minimum LEED Silver, and are targeting LEED Gold certification. Expanding and electrifying the rail network will provide a more environmentally friendly alternative to the existing diesel trains.



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** Source:* Metrolinx Business Case Analyses. In May 2020, the estimated GHG reduction for the Eglinton Crosstown LRT was revised to 11,000 CO₂ tonnes / year starting in 2030 as it was reported erroneously in the Eglinton Crosstown Rapid Transit Benefits Case Update (June 2012). This revised figure is consistent with the order of magnitude of GHG emissions reductions of similar rapid transit projects. The GO Expansion Full Business Case estimates emission reductions of 13,500,000 tonnes of CO₂ by 2055 from reductions in auto use and the switch from diesel to electric locomotives, which is equivalent to about 480,000 tonnes per year, commencing in 2030.

Impact Reporting – Energy Efficiency and Conservation

Project Name	Expected Completion Date	Project Description	Estimated Energy Savings (kWh / year)	Estimated GHG Reductions (CO ₂ [or equivalent] tonnes / year)	Equivalent Passenger Vehicles Off the Road (vehicles / year)	Estimated Water Savings (litres / year)	Equivalent Water Usage per Household (Ontario households / year)	Other Environmental Benefits
Mackenzie Health — Mackenzie Vaughan Hospital	2020	A 1.2 million square feet hospital including: a state-of-the-art emergency department, modern surgical services and operating rooms, advanced diagnostic imaging, and specialized ambulatory clinics.	46,000,558	6,027	1,402	9,359,131	49	Targeting LEED Silver certification
Centre for Addiction and Mental Health — Phase 1C Redevelopment	2020	A new 655,000 square feet space inpatient and outpatient clinical services for people with complex mental illness including: emergency care and therapeutic supports, research and educational facilities, and information and resource facilities.	3,107,241	1,679	390	8,004,181	42	Targeting LEED Gold certification
William Osler Health System — Etobicoke General Hospital Phase 1 Patient Tower Project	2019	A new four-storey tower, adding approximately 250,000 square feet to accommodate: a larger state-of-the-art emergency department, an Intensive Care Unit /Critical Care Unit nearly four times larger than the current space, a maternal newborn unit with birthing suites and a specialized Level II nursery, an ambulatory procedures unit featuring procedure/operating rooms, pre and post-op preparation and recovery areas, and dedicated clinic spaces including a respiratory clinic, and support services.	5,804,127	824	192	–	–	Targeting LEED Silver certification
Whitby Rail Maintenance Facility	2018	A new 500,000 square feet facility supports planned service expansions, as well as providing maintenance, repair, and additional storage for GO trains.	16,190,769	2,093	487	2,138,233	11	Targeting LEED Gold certification
Joseph Brant Hospital — Redevelopment Project Phase 1	2018	The project includes construction of a new South Tower on the existing site of Joseph Brant Hospital; renovations to existing departments impacted by the expansion; a new power plant; and a new parking garage.	23,360,557	4,357	1,013	–	–	LEED Silver Certified
Seneca College King Campus Expansion	2018	A new 200,000 square feet expansion in Seneca's King City campus to accommodate an additional 1,500 students.	4,609,000	569	132	4,429,796	23	Targeting LEED Gold certification

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The Ontario Financing Authority is an agency of the Province of Ontario and is responsible for provincial borrowing and debt management activities.

Contact Us

Investor Relations
One Dundas Street West, Suite 1400
Toronto, Ontario M7A 1Y7
Canada

Ontario Financing Authority
www.ofina.on.ca
investor@ofina.on.ca

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