



Ontario's Green Bonds

LETTER FROM THE CEO

The year 2021 was an important milestone for Ontario's Green Bond program. With the issuance of our tenth Green Bond, we broke through the \$10 billion threshold in cumulative issuance since 2014. I am proud that Ontario has been at the forefront of the development of Canadian dollar Green Bonds, and we plan to continue being a leader in this market.

Ontario's ten Green Bonds have funded 27 projects across three categories in [Ontario's Green Bond Framework](#). Our Green Bonds continue to meet strong demand from large institutional investors in Canada and around the world. Our tenth and most recent Green Bond was issued on July 29, 2021. It was our largest Green Bond to date at \$2.75 billion, and the largest ever single offering of a Canadian dollar Green Bond. It provided funding for eight projects in the Clean Transportation, Energy Efficiency and Conservation, and Climate Adaptation and Resilience framework categories.

As a leader in the Green Bond space, Ontario's expertise has been called upon to participate in multiple Green Bond and ESG panels during 2021, including the RBC Sustainable Debt Symposium, The Great White North comes to the Nordics Conference, Bloomberg Fixed Income Conference, Great Lakes Leadership Summit Panel Webinar, and the Investment Industry Association of Canada ESG & Transition Bonds Conference.

In keeping with the evolution of the Green Bond market, Ontario plans to update its Green Bond Framework in the near future. The update will include better alignment of its categories with the Green Bond Principles (GBP), as well as the possible expansion from green to sustainable to allow for a greater breadth of potential bond offerings in the future.

Ontario remains committed to the Canadian dollar Green Bond market and plans for Green Bonds to have a significant role in our borrowing program going forward. Over the past few years, Green Bonds had accounted for approximately four per cent of the Province's borrowing program each year. Looking ahead, and given the Province's project pipeline, there may be an ability to increase the amount of Green Bond issuance on an annual basis. As of the *2021 Ontario Economic Outlook and Fiscal Review*, planned infrastructure investments over the next ten years total \$148.1 billion, including \$17.2 billion in fiscal year 2021–22, and many of these projects fit within the categories of our Green Bond Framework.

Ontario strives to be a leader in its transparency and impact reporting efforts with the publication of our annual newsletter. We continue to provide timely and tangible information on the projects that receive Green Bond funding and expect to adopt any future impact reporting recommendations of the GBP.

Green Bonds are an important tool to help Ontario finance public transit initiatives, extreme weather-resistant infrastructure, as well as energy efficiency and conservation projects. As always, I would like to thank investors for their continued support of our borrowing program.



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.

Ontario's Green Bond Framework

"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.

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. In 2021, Ontario became a member of the GBP Impact Reporting Working Group.

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

Alignment with United Nations Sustainable Development Goals

Ontario's Green Bond proceeds fund project categories which support many of 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.

Ontario's Green Bond Issues

\$10.75

Total Issuance
(\$Billions)

10

Green Bond
Issues

Ontario is the
largest and most
frequent issuer of
Canadian dollar
Green Bonds



FORMAT

Domestic Medium Term Note



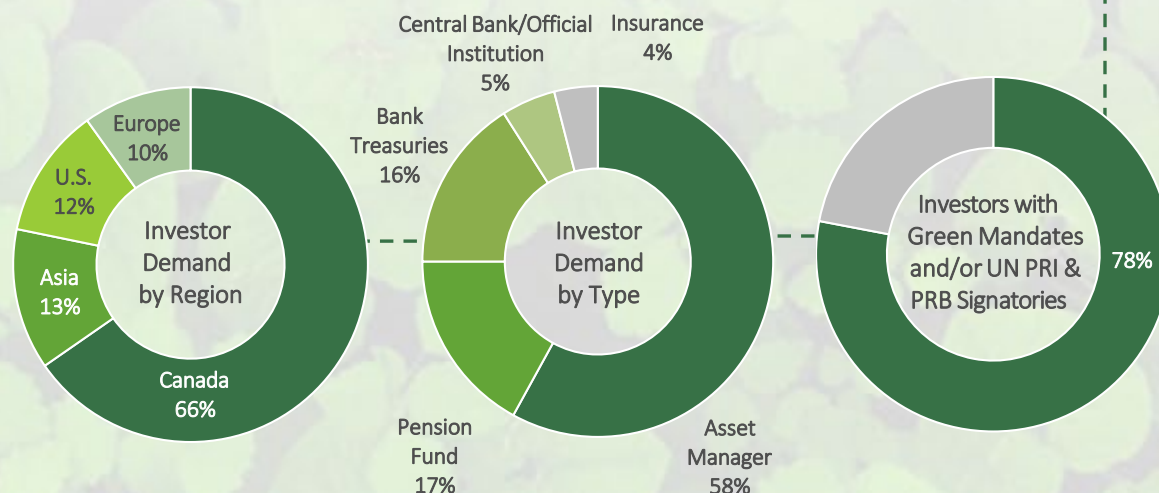
Global Canadian Dollar



LISTINGS

Luxembourg Stock Exchange
Euro MTF

Luxembourg Green Exchange



Note: Numbers may not add due to rounding.

Inclusion in Green Bond Indices

Bloomberg MSCI
Green Bond Index

ICE BofA Merrill Lynch
Green Bond Index

S&P
Green Bond Index

Solactive
Green Bond Index

All Green Bond 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.

Future Issuance Plans

Ontario remains committed to the Green Bond market. Subject to market conditions, Ontario plans to continue to issue multiple Green Bonds each fiscal year, including in 2021-22.

Project Evaluation and Selection

The selection of eligible green projects is done on behalf of the Province by the Ontario Financing Authority (OFA) with advice from the Province's Green Bond Advisory Panel (GBAP). The GBAP, which includes staff from various ministries and agencies including the Ministry of Environment, Conservation and Parks, 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.
- **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*.
- **2020:** The program funded its first project in the Climate Adaptation and Resilience framework category.
- **2021:** The Province has plans to update the Framework in the near future. The update will include better alignment of Framework categories with the GBP through standardized wording, as well as the possible expansion from green to sustainable to allow for a greater breadth of potential bond offerings in the future.

Ontario Framework Category		United Nations Sustainable Development Goals						
Clean Transportation	Funding of public transit projects	Ontario funds eligible Green Bond projects within Framework Categories which primarily support the following UNSDGs:						
Energy Efficiency and Conservation	Public sector building efficiency improvements	3 GOOD HEALTH AND WELL-BEING	7 AFFORDABLE AND CLEAN ENERGY	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	11 SUSTAINABLE CITIES AND COMMUNITIES	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	13 CLIMATE ACTION	15 LIFE ON LAND
Climate Adaptation and Resilience	Flood protection and storm water management	EU Taxonomy						
		Ontario funds Green Bond projects that contribute to environmental objectives set out in the EU Taxonomy, primarily in Climate Change Mitigation and Climate Change Adaptation.						

Use and Management of Proceeds Overview

Clean Transportation Projects	Green Bond Allocation									
	1	2	3	4	5	6	7	8	9	10
Eglinton Crosstown Light Rail Transit (LRT)	✓	✓	✓	✓	✓	✓	✓		✓	✓
GO Expansion (formerly Regional Express Rail)		✓	✓		✓	✓	✓	✓	✓	✓
York Viva Bus Rapid Transit		✓	✓	✓						
Finch West LRT			✓	✓			✓	✓	✓	✓
Hurontario LRT			✓	✓					✓	✓
Ontario Line Subway									✓	✓
Hamilton LRT ¹			✓							
Energy Efficiency and Conservation Projects	1	2	3	4	5	6	7	8	9	10
Macdonald Block Reconstruction									✓	✓
Michael Garron Hospital									✓	
West Park Healthcare Centre									✓	
Centre for Addiction and Mental Health — Phase 1C Redevelopment					✓		✓			
Cortellucci Vaughan Hospital (formerly Mackenzie Vaughan Hospital)					✓		✓	✓		
New Toronto Courthouse							✓			✓
Brockville General Hospital							✓			
Groves Memorial Community Hospital							✓			
William Osler Health System — Etobicoke General Hospital Phase 1 Patient Tower Project					✓					
Whitby Rail Maintenance Facility				✓						
Seneca College King Campus Expansion				✓						
Joseph Brant Hospital — Redevelopment Project Phase 1				✓						
St. Joseph's Healthcare Hamilton — West 5 th Campus		✓	✓							
St. Joseph's Healthcare London (Parkwood) and St. Thomas		✓	✓							
Waypoint Centre for Mental Health		✓	✓							
Centre for Addiction and Mental Health — Phase 1B		✓	✓							
ErinoakKids Centre for Treatment and Development			✓							
Woodstock General Hospital			✓							
Sheridan College Hazel McCallion Campus Expansion		✓								
Climate Adaptation and Resilience Project	1	2	3	4	5	6	7	8	9	10
Port Lands Flood Protection							✓	✓	✓	✓

1: Province announced the cancellation of the procurement for the Hamilton LRT project as of December 16, 2019.

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.

Post-March 31, 2021 amounts will be included in the AG's assurance audit of the use of Green Bond proceeds next fiscal year.

27

Projects
across three
project categories¹

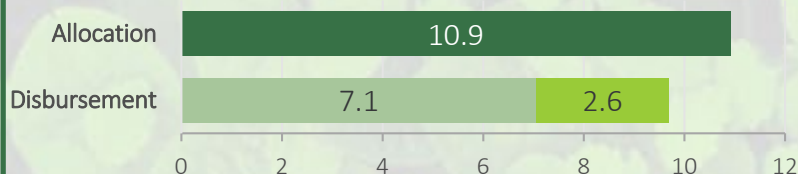
9.7

Total Funds
Disbursed²
(\$ Billions)

89

Total Funds
Disbursed²
(Per Cent)

ALLOCATIONS & DISBURSEMENTS (\$ Billions)



- Allocated Funding since Inception of the Green Bond Program
- Funds Disbursed from Inception to March 31, 2021
- Funds Disbursed from April 1, 2021 - November 30, 2021



Energy Efficiency & Conservation

19 Projects

\$2.3 Billion

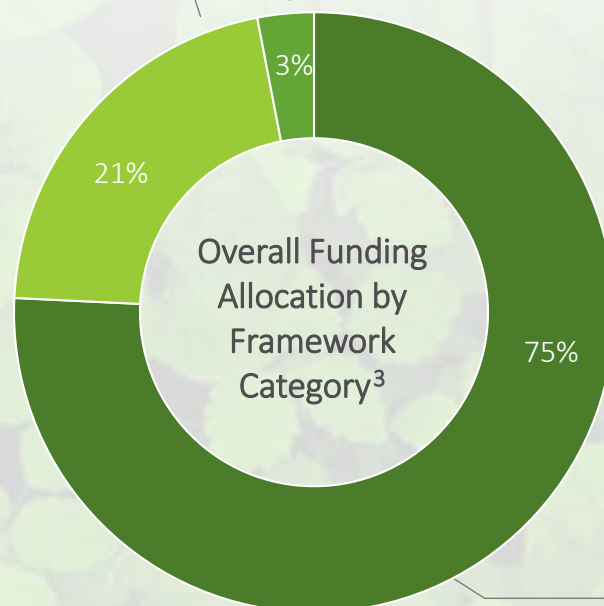


Climate Adaptation & Resilience



1 Project

\$0.4 Billion



Clean Transportation



7 Projects

\$8.2 Billion



1: Figures include the Hamilton LRT project. The Province announced the cancellation of the procurement for the Hamilton LRT project as of December 16, 2019.

2: As of November 30, 2021.

3: Numbers may not add due to rounding.

Funding Allocation and Disbursements

During fiscal 2020–21, the Province allocated and disbursed Green Bond proceeds to thirteen projects:

Project Name	Total Project Cost ¹ (\$ millions)	Allocated Funding from Green Bond Program (\$ millions)	Funds Disbursed since Inception of the Green Bond Program as of March 31, 2021 (\$ millions)
Clean Transportation			
Eglinton Crosstown LRT	5,300 (2010\$)	3,594.7	2,894.7
GO Expansion	13,500 (2014\$)	2,634.1	1,452.7
Finch West LRT	1,200 (2010\$)	747.7	448.8
Hurontario LRT	1,400 (2014\$)	541.0	166.0
Ontario Line Subway	10,900 (2020\$)	442.2	71.6
Energy Efficiency and Conservation			
Cortellucci Vaughan Hospital	1,300.0	461.0	461.0
Macdonald Block Reconstruction	1,536.0	360.0	58.6
New Toronto Courthouse	956.4	172.1	24.2
Michael Garron Hospital	411.0	150.0	0.0
Centre for Addiction and Mental Health – Phase 1C Redevelopment	685.0	140.0	140.0
West Park Healthcare Centre	1,200.0	75.0	0.0
Brockville General Hospital	131.2	40.0	40.0
Climate Adaptation and Resilience			
Port Lands Flood Protection	1,250	375.4	116.4

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.

1: For Clean Transportation projects, this is referring to the base capital construction costs. For Energy Efficiency & Conservation projects, the "Total Project Cost" represents contract value (the payment(s) to be made by the Sponsor for a P3 project, as defined in the Project Agreement and prior to taking into account inflation).

Clean Transportation – Electrification

Electrification

is a major focus in Ontario's mass transit system buildout

Through investments in Ontario's priority subway projects, the GO Rail Expansion Program, and light rail transit projects across the Province, Ontario is delivering an integrated transit network that will support the development of sustainable communities and travel patterns.

Electric rail technology will be used across all new subway and light rail projects currently in delivery. In addition, electrification of the GO rail network is a key component of the Province's commitment to transform the GO Transit rail network into a comprehensive, all-day rapid transit network.

Electric vehicles will provide faster journey times and support lower operating costs per kilometer, delivering safe, fast and reliable service while reducing localized emissions and noise impacts.

In 2020, 93 per cent of Ontario's electricity came from non-emitting sources.

Impact Reporting – Clean Transportation

Project	Expected Completion	Project Description	Estimated Greenhouse Gas (GHG) Reductions (CO2 [or equivalent] tonnes / yr)	Equivalent Passenger Vehicles Off the Road (vehicles / yr)	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. It 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"> • Reductions in auto usage and the switch from diesel buses to electric light rail vehicles (LRVs) contributes to decreasing greenhouse gas (GHG) emissions and Criteria Air Contaminants (CACs) • LRT vehicles are electrically powered and produce near zero emissions • Maintenance and storage facility main building targeting LEED Silver certification
Finch West LRT	2023	The Finch West LRT will expand transit in Toronto through the building of an 11-kilometre LRT line along the Finch West Corridor.	17,000 (starting 2030)	3,953 (starting 2030)	<ul style="list-style-type: none"> • Reductions in auto usage and the switch from diesel buses to electric LRVs contributes to decreasing GHG emissions and CACs, manages traffic congestion, and encourages mode shift from auto trips to transit trips. • Maintenance and storage facility will meet LEED Silver certification.
Hurontario LRT	2024	The Hurontario LRT will be a new 18-kilometre LRT line with 19 stops, connecting the cities of Mississauga and southern Brampton.	4,000 (starting 2030)	930 (starting 2030)	<ul style="list-style-type: none"> • Reductions in auto usage and the switch from diesel buses to electric LRVs contributes to decreasing GHG emissions and CACs, manages traffic congestion, and encourages mode shift from auto trips to transit trips. • New stations and facilities will aim to meet LEED Silver certification.
Ontario Line Subway	2030	A new 15.6-kilometre rapid transit line in Toronto that will connect Exhibition/ Ontario Place through downtown Toronto to the Ontario Science Centre. The project will include 15 stations.	14,000 (starting 2030)	3,256 (starting 2030)	<ul style="list-style-type: none"> • Reductions in auto usage and the switch from diesel buses to electric rail vehicles contributes to decreasing GHG emissions and CACs, manages traffic congestion, and encourages mode shift from auto trips to transit trips.

Source: Metrolinx Business Case Analyses.

Impact Reporting – GO Expansion



GO Expansion

will transform the existing GO Rail network into a comprehensive, all-day rapid transit network by providing two-way, all-day service every 15 minutes over core segments of the GO Transit rail network. Work is already underway across the network to help support the delivery of GO Rail Expansion and to prepare the network for future works.

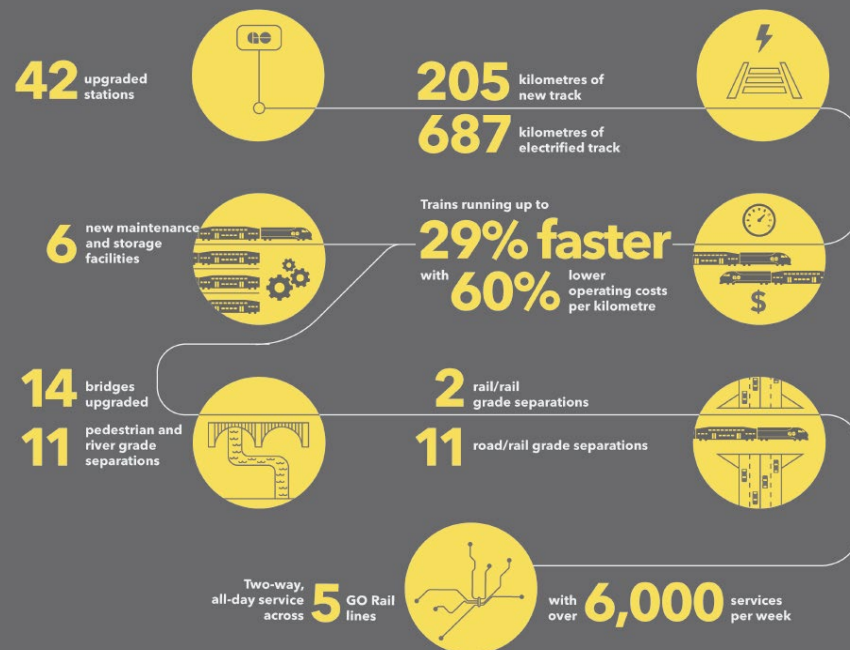
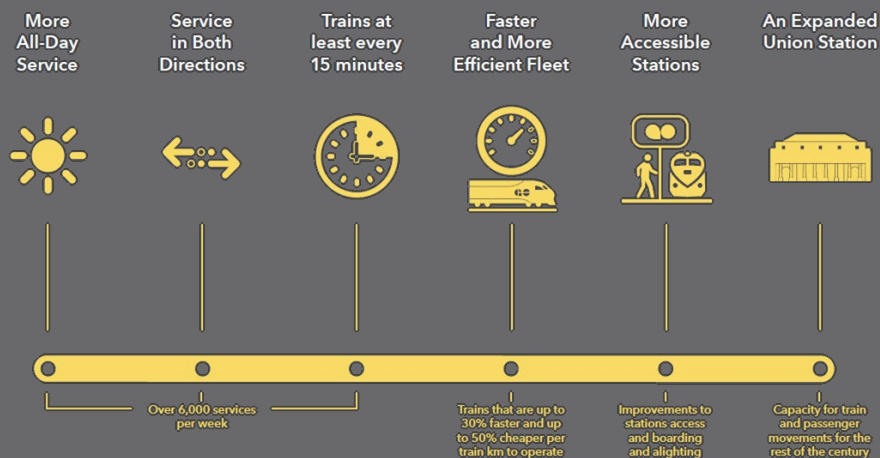
The Province is moving forward with critical procurements to support the delivery of enhanced GO rail services, including the On-Corridor Works project (currently in-market). Among other components, the scope of the On-Corridor Works project includes works, such as electrification infrastructure, signaling and new fleet.

GO Expansion will provide a number of benefits, including providing new transportation choices that can accommodate significant population growth, as well as reducing congestion, GHG emissions, CACs and other pollutants that impact human health and contribute to climate change.

Impact Reporting – GO Expansion

Expected Completion	Estimated Greenhouse Gas (GHG) Reductions (CO ₂ [or equivalent] tonnes / yr)	Equivalent Passenger Vehicles Off the Road (vehicles / yr)	Other Environmental Benefits
GO rail service enhancements to be incrementally introduced over the life of the program.	480,000 (starting 2030) ¹	111,628 (starting 2030)	<ul style="list-style-type: none"> GO Expansion will shift the GO Rail network from a largely commuter system to a comprehensive regional rapid transit option, thereby contributing to mode shift and decreasing GHG emissions and CACs. New facilities will be minimum LEED Silver and are targeting LEED Gold certification where possible.

The GO Expansion program will provide a range of improvements across the GTHA:



Source: Metrolinx.

1: 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 rail vehicles, which is equivalent to about 480,000 tonnes per year, commencing in 2030.

Impact Reporting – Energy Efficiency and Conservation

Project	Expected Completion	Project Description	Estimated Energy Savings (kWh / yr)	Estimated GHG Reductions (CO2 [or equivalent] tonnes / yr)	Equivalent Passenger Vehicles Off the Road (vehicles / yr)	Estimated Water Savings (litres / yr)	Equivalent Water Usage per Household (Ontario households / yr)	Other Environmental Benefits
Macdonald Block Reconstruction	2024	The administrative hub of Ontario government operations has a total gross building area of approximately 1.7 million sq. ft., including four office towers, podium, and underground parking. The reconstruction project will update all core building systems, including electrical, water, cooling and heating.	25,067,940	5,464	1,271	28,534,719	150	Targeting LEED Silver certification
New Toronto Courthouse	2022	A new 17-storey, 780,000 sq. ft. courthouse that will include 63 courtrooms, 10 conference settlement rooms, a barrier-free environment, video conferencing for witnesses and in-custodies to appear from remote locations, and closed-circuit television to enable vulnerable witnesses to appear before the court from a remote testimony suite.	4,615,567	475	111	3,968,717	21	Targeting LEED Silver certification
Michael Garron Hospital	2023	The project includes a new eight-storey patient care tower and three-storey connection, as well as renovation work to the existing hospital in Toronto. The project will add up to approximately 550,000 sq. ft. to the existing hospital.	12,349,413	2,197	511	4,418,232	23	Targeting LEED Silver certification
Centre for Addiction and Mental Health — Phase 1C Redevelopment	2020	A new 655,000 sq. ft. space with 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.	8,445,522	617	144	7,938,810	42	LEED Gold Certified

Impact Reporting – Energy Efficiency and Conservation

Project	Expected Completion	Project Description	Estimated Energy Savings (kWh / yr)	Estimated GHG Reductions (CO2 [or equivalent] tonnes / yr)	Equivalent Passenger Vehicles Off the Road (vehicles / yr)	Estimated Water Savings (litres / yr)	Equivalent Water Usage per Household (Ontario households / yr)	Other Environmental Benefits
West Park Healthcare Centre	2023	A new 730,000 sq. ft. hospital to replace the existing facility, located in Toronto. The project includes up to 314 beds and will provide increased capacity for outpatient care such as geriatric clinics, a day hospital, and satellite hemodialysis.	22,754,095	3,778	879	5,543,763	29	Targeting LEED Silver certification
Brockville General Hospital	2020	A new four-storey addition of about 175,000 sq. ft., as well as 20,000 sq. ft. of renovations. Opened in October 2020, it includes increased inpatient beds in the Complex Continuing Care, Palliative Care, and Rehabilitation departments, and an expanded Acute Mental Health and Addictions Program.	Designed and built to LEED Silver standards					



Impact Reporting – Cortellucci Vaughan Hospital

Cortellucci Vaughan Hospital

is the first hospital to be built in the City of Vaughan, and the first net new hospital to be built in Ontario in more than 30 years.

Its 1.2 million sq. ft. space includes a state-of-the-art emergency department, modern surgical services and operating rooms, advanced diagnostic imaging, and specialized ambulatory clinics.

It is also the first smart hospital in Canada, featuring fully integrated smart technology systems and medical devices that can speak directly to one another to maximize information exchange and enable improved patient care.

To provide relief for the capacity challenges being faced across the province as a result of the COVID-19 pandemic, the hospital opened its critical care (ICU) and medicine beds in February 2021. The hospital fully opened on June 6, 2021.

Specialized Services:

Inpatient Integrated
Stroke Care

Inpatient
Mental
Health Care

Obstetrics

Pediatrics

Core Services:

Critical Care

Emergency Care

Medicine

Surgery



Expected Completion	Estimated Energy Savings (kWh / yr)	Estimated GHG Reductions (CO2 [or equivalent] tonnes / yr)	Equivalent Passenger Vehicles Off the Road (vehicles / yr)	Estimated Water Savings (litres / yr)	Equivalent Water Usage per Household (Ontario households / yr)	Other Environmental Benefits
2020	46,000,558	6,027	1,402	9,359,131	49	LEED Silver Certified

Impact Reporting – Port Lands Flood Protection

Port Lands Flood Protection

is the first project that received Green Bond funding in the Climate Adaptation & Resilience category.

It is a \$1.25 billion project for flood protecting southeastern portions of downtown Toronto that are at risk of flooding under a provincially defined Regulatory Storm event. There are four major components to the project: parks, roads and municipal infrastructure, bridges, and earthworks/flood protection.

The project involves excavating a new river valley that has the capacity to handle large volumes of flood water and creating a naturalized mouth for the Don River in the Port Lands. The project also includes structures to control water flow and manage sediment and debris, transit infrastructure to support future development, new parks, and aquatic habitat.

Expected Completion	Climate Adaptation and Resilience Benefits	Other Environmental Benefits	Economic Impacts
2024	<ul style="list-style-type: none"> 240 hectares of land protected from flooding 11 hectares of new coastal wetland 5 hectares of terrestrial habitat to strengthen biodiversity and help clean water 	<ul style="list-style-type: none"> 30 hectares of naturalized greenspace 11 hectares of parkland More than 1000 metres of a new river channel 1,000,000 plants installed 	<ul style="list-style-type: none"> \$5.1 billion in value to the Canadian economy 51,900 full-time years of employment \$1.9 billion in government revenues



2021 Ontario Green Bond Newsletter

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

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