



Screat Lakes Impact Investment Platform: Encouraging Environmental Sustainability Alongside Economic Growth

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Great Lakes Impact Investment Platform Project Team









> The Challenge of Climate Change



Billion-Dollar Weather and Climate Disasters in 2020 in the U.S.



U.S. 2020 Billion-Dollar Weather and Climate Disasters

Disaster Events in 2020 Shattering previous

annual record of 16 events occurring in 2011 & 2017

Source: NOAA – U.S. Billion Dollar Weather and Climate Disasters (2021)



Midwest and Ohio Valley

> Climate Risks in Midwest

Shorter duration, more intense rainfall



Recent release (2019) of NOAA's Bulletin 75 shows a **1 inch increase in 100-year rain** (from 7.5 inches to 8.5 inches) => 15 billion gallons



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> Infrastructure Finance/Funding Gap



Cumulative SRF Assistance Agreements



Source: Natural Resources Defense Council, 2018 Presentation at Great Lakes Adaption Forum





> Emergence of Green Bonds



> Value of Green Bonds Per Year



Year	Cumulative Issuances of Green Bonds (US \$1,000)
2021 (YTD)	317,688
2020	208,921
2019	203,797
2018	108,654
2017	98,337
2016	38,052
2015	14,693
2014	11,650
2013	944
2012	456
2011	7
2009	3
2008	3
TOTAL	\$1,003,204



Harnessing impact investing to foster the long-term, sustainable management of our region's waters.

Projects and strategies intended to deliver:

- Demonstrable impact and revitalize the region's waters;
- Aimed to generate competitive, market-based financial returns.



Environmental, Social and Governance (ESG) Goals

- **20% reduction** of nutrient inputs to sensitive watersheds
- **10% increase** in energy efficiency
- 10-15% reduction in emissions resulting from less energy use, sustainable forestry and nutrient management











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> What is an Environmental Impact Bond (EIB)?

- An EIB operates like a traditional municipal bond, except it also includes a third-party evaluation of project outcomes that enhance impact reporting to investors, and may trigger terms or effective rates on the bond based on projects' success
- An EIB can offer advantages for high impact projects by:
 - Accessing a growing base of ESG and impact investors
 - Cost savings due to aggregation



> Buffalo Environmental Impact Bond (EIB):

The Largest Such Issuance in the Country

- Led by Buffalo Sewer Authority (BSA)
- \$54 M
- Newer sources of funding
- 1.87 times oversubscribed among ESG-centered buyers
- Multiple times in wider market
- Implementation of GI projects in NYSDEC-defined environmental justice areas
- Cost of private finance can be offset by savings from aggregated volume related savings



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Ontario Financing Authority

GREAT LAKES ST. LAWRENCE GOVERNORS AND PREMIERS LEADERSHIP SUMMIT



PROVINCE OF ONTARIO

- The Ontario Financing Authority is the agency of the Province of Ontario that manages the Province's debt, investments and borrowing program.
- Ontario is Canada's largest province and comprises about 40% of Canada's GDP and population.



10- YEAR ONTARIO INFRASTRUCTURE SPENDING PLAN

ONTARIO'S BORROWING PROGRAM

• Borrowing requirements are substantial and the borrowing program is highly diversified.

(\$ Billions)	2021–22 Current Outlook ¹
Deficit/(Surplus)	32.4
Investment in Capital Assets	11.8
Non-Cash Adjustments	(9.5)
Loans to Infrastructure Ontario	0.2
Other Net Loans/Investments	1.1
Debt Maturities/ Redemptions	25.0
Total Funding Requirement	61.1
Decrease/(Increase) in Short-Term Borrowing	(6.0)
Increase/(Decrease) in Cash and Cash Equivalents	4.0
Pre-borrowing for 2021–22	(6.1)
Total Long-Term Public Borrowing	53.0

¹The Current Outlook reflects additional pre-borrowing completed between the release of the 2021 Budget and fiscal year end. *Note:* Numbers may not add due to rounding. *Source:* Ontario Financing Authority.





- In 2014, Ontario was the first Province in Canada to issue a Green Bond.
- Ontario's Environment Plan¹, released in 2018, was updated in November 2020 and the Green Bond program continues to be included as an initiative to address Climate Change.
- Ontario is currently the largest and most frequent issuer of Canadian dollar Green Bonds:



• 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.

- Ontario has the scale and type of projects to support its Green Bond program
- Ontario's Green Bond Framework outlines the types of projects that can be used to finance Green Bonds with clean transportation, energy efficiency and conservation and climate adaptation and resilience being the project categories used so far
- The Green Bond program has allowed Ontario to access a relatively new and rapidly growing sector of the bond market. It also provides diversification of the borrowing program as often Green Bonds have a different demand profile relative to non-green bonds
- The Green Bond program provides access to new investors who did not previously buy Ontario bonds or Canadian dollar Ontario Bonds
- The Green Bond program generates cost savings relative to Ontario's regular domestic bonds, and showcases Ontario projects which have environmental benefits and Ontario environmental policies (more and more investors are interested in borrowers' ESG credentials)
- The Great Lakes Impact Investment Platform has kindly allowed us to profile three projects used for our last Green Bond:
 - Cortellucci Vaughan Hospital
 - New Toronto Courthouse
 - Portlands Flood Protection Project



ISSUANCE PROCESS



- Reach out to Ontario ministries and agencies on viable projects with environmental benefits
- Select projects with input from the Ministry of Environment, Conservation and Parks through the Green Bond Advisory Panel and obtain OFA approval
- Determine the features for the Green Bond issue such as:
 - Currency (so far Canadian dollars)
 - Tenor, Size aspirations (often give a minimum size)
 - Costing aspirations (usually in the context of the Ontario bond curve)
 - Syndicate Structure
- Once the timing is right, the Province moves to launch and price (generally takes longer than with a domestic bond as we allow more marketing time, especially for international investors)



- Green Bonds represent a small portion of Ontario's borrowing program, averaging around four per cent over the last few years. However, due to the need to meet the requirements of Ontario's Green Bond Framework and to adhere to the Green Bond Principles, the time and resources required to issue a Green Bond are much more intensive relative to Ontario's other bond issues.
- Additional reporting such as the tracking of funds allocated to projects (verified by assurance audit by Auditor General of Ontario) and impact reporting of environmental benefits of all the selected projects. Additional information on Ontario's reporting can be found in the annual <u>Green Bond Newsletter</u>.
- Ongoing information requests from investors and media continue to grow as ESG investing becomes more popular.
- For oversubscribed bond issues, allocation to investors can be challenging as Ontario wants to encourage all investments in our Green Bonds while still acknowledging that some investors have greener credentials.



LESSONS LEARNED

- Although a smaller part of the overall borrowing program, green bonds have been beneficial as they provide both diversification and reputational benefits that go beyond their limited role as a financing instrument. They currently also provide cost savings relative to Ontario's other borrowings.
- Ontario is fortunate and unique in having a strong pipeline of large projects with environmental benefits to support its Green Bond program. This assures the long-term viability of the program.
- Following Green Bond best practices and staying abreast of market developments utilizes a lot of resources, and may require even more resources as ESG bonds become more popular going forward.
- ESG investing will likely continue to grow strongly going forward. Nearly all investors are incorporating ESG policies into their investment practices and which can be seen in the ever-increasing demand for Ontario green bonds.



APPENDIX



CORTELLUCCI VAUGHAN HOSPITAL

Project Description

- 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.
- It is 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.





Project Description

- A new 17-storey, 780,000 square feet Toronto
 courthouse that will include 63 courtrooms, 10
 conference settlement rooms, a fully barrier-free
 environment, extensive video conferencing for
 witnesses and in-custodies to appear from remote
 locations, closed-circuit television to enable
 vulnerable witnesses to appear before the court
 from a remote testimony suite, and courtroom
 video/audio systems to allow counsel to display
 digital and video evidence recorded in various
 formats.
- The project will also feature the first Indigenous Learning Centre in an Ontario courthouse and a 4storey fully glazed Atrium visually opening up to the immediate Toronto community.
- In preparing the site for construction of the courthouse, Infrastructure Ontario undertook a complex archaeological excavation that uncovered thousands of artifacts from when the site was part of St. John's Ward, one of Toronto's earliest immigrant settlements.

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)	LEED Certification
4,615,567	475	111	3,968,717	21	Targeting LEED Silver Certification

PORT LANDS FLOOD PROTECTION

Project Description

- 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. Expected completion is in 2024.
- 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.

Climate Adaptation and Resilience Benefits

- 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

Other Environmental Benefits

- 30 hectares of naturalized greenspace
- 11 hectares of parkland
- More than 1000 metres of a new river channel
- 1,000,000 plants installed

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MAKING AN IMPACT THROUGH PUBLIC-PRIVATE PARTNERSHIP

Sustainability and Resiliency Finance through Property Tax Assessments



Michele Pitale, M.D. Counterpointe Sustainable Real Estate



Commercial Property Assessed Clean Energy (C-PACE)

- C-PACE financing is enabled by state legislature
- Property owners can finance improvements through a voluntary property tax
- All PACE enabled states permit energy improvements
- Water conservation, resiliency, and other eligible improvements vary by state

TAXING AUTHORITY	MILLAGE PATE	ACCECCED VALUE	NUMBER OF STREET, STRE		
	MILLAGE NATE	ASSESSED VALUE	EXEMPTION AMOUNT	TAXABLE AMOUNT	TAXES LEVIED
COUNTY	6.6165	3.089.785	0	3.089.785	20.443.56
PUBLIC SCHOOLS	0.0100	0,007,100	U	5,007,105	20,110.00
BY LOCAL BOARD	2.2100	3.111.134	0	3,111,134	6.875.61
BY STATE LAW	4.6660	3,111,134	0	3,111,134	14,516.55
PENSACOLA	4.2895	3,089,785	0	3,089,785	13,253.63
WATER MANAGEMENT	0.0366	3,089,785	0	3,089,785	113.09
M.S.T.U. LIBRARY	0.3590	3,089,785	0	3,089,785	1,109.23
	TOTAL MILLAGE	18.1776	AD VALC	REM TAXES	\$56,311.6
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CASE STUDY

PACE: Broad Array of Eligible Improvements



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RENEWABLE ENERGY Solar, Wind, Geothermal, Biomass

Limited

WATER CONSERVATION Faucets, Showers, Astroturf, Recycling, Equipment ENERGY EFFICIENCY Lighting, HVAC, CHP, Elevators, Controls, Equipment



RESILIENCY Structure hardening: Seismic, Flood, Fire, Wind; Stormwater

BUILDING ENVELOPE Doors, Windows, Cool Roof, Green Roof

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HEALTH, SAFETY AND SOCIAL BENEFIT Asbestos, Lead, Wildlife Paths, Parking Garages, Gas Lines

Using PACE Financing for Mandated Measures

PACE Financing can finance a variety of mandates concerning commercial properties

National

- Phaseout of HCFBs : R-22 compliance
- USP <797> and <800>
- Green Roofs

California

- Seismic Retrofits
- Title 24

Florida

Emergency Environmental Control for Assisted Living Facilities and Nursing

Homes



C-PACE Financing

Advantages

100% Financing, Fixed Rate, Long Term

- 5-30 years, limited by estimated useful life of financed equipment
- Finance all costs and all related work
 - Design, permits, inspections, financing costs, engineering, prepaid service contracts and commissioning
- No money out of pocket for owner or contractor

Self-amortizing, Off-balance Sheet, Pass-through

No balloon payment and no acceleration clauses May be considered an operating expense¹ May pass through to tenants under NNN or GML

Based on Property's Financials

No credit impact and not dependent upon the owner's credit No personal guarantees, non-recourse No financial covenants Transferrable –does not need to be prepaid upon sale



Net Cash Flow Positive from 1st Day

Project costs \$500,000 and estimated to save \$60,000/yr

	Capital outlay 1 st year	Est. Utility Savings	Net Cash Flow 1 st yr
Capital Expense	\$500,000	\$60,000	\$ -440,000
PACE 10 yr term	\$ 70,775	\$60,000	\$ -17,750
PACE 15 yr term	\$ 60,000	\$60,000	\$ 0
PACE 20 yr term	\$ 50,000	\$60,000	\$ 10,000
PACE 25 yr term	\$ 45,000	\$60,000	\$ 15,000

Term limited by EUL of equipment

Kirkbride Center | Pennsylvania

ESG Low-Cost Capital

The Challenge:

The Kirkbride Center was designed and constructed based on theories in which environment, light, and air circulation are crucial for a person's wellbeing. The HVAC systems for the six buildings were outdated and not providing the optimal healing conditions for Kirkbride's patients.

The Solution:

\$4.33 million C-PACE financing for the renovation of its HVAC Systems.

The Result:

Tenants of The Kirkbride Center benefitted from the improved environment resulting from the renovated HVAC system.

As par of the PACE financing, the owner created a Diversity and Inclusion plan to illustrate this project benefitted not just their property, but the Philadelphia community.



Millenium | Minnesota

Most efficient equipment in New Construction

The Challenge:

Staying within budget and installing the most efficient equipment in new construction 227-unit multifamily project in Edina, **Minnesota**.

The Solution:

The developer took advantage of \$5.5 million C-PACE to upgrade several measures to increase energy efficiency and to reduce future operating costs including building envelope (wall, roofing and window), LED lighting, high-efficiency HVAC, low flow fixtures and high-efficiency DHW.

The Result:

This PACE project is estimated to reduce annual electricity consumption by 3,150.07 MWhs, which is projected to save almost \$250,000 annually with annual reduction in GHG emissions of approximately 2,538.28 tCO2e per year.

"The low-cost capital allows us to invest in infrastructure that will reduce our carbon footprint and, more tangibly, everyone's utility bills without a compromise to the luxury experience we are creating at Millennium Sixty Six."

- Lane Critchfield, Managing Director, Dakota Pacific Real Estate



GHG 2,538.28 tCO2 annual reduction

Orla Belen Buildings | Michigan

Tax credits and Incentives in Capital Stack



Project: Deep Retrofit

Financing: PACE/HTC/Senior Debt/ Economic Dev. Loan Transaction: \$247,829 Property: Mixed Use

Located in downtown **Lansing** just north of the Michigan State Capitol Building, the Orla Belen project is a deep retrofit of two historic two-story mixed use building to include retail, office and residential space. The initial capital stack includes historic tax credits, tax increment financing, a mortgage construction loan, and 20 year PACE financing.

Commercial Kitchens | Illinois

PACE with New Market Tax Credits



\$4.6 Million C-PACE \$13 Million projected savings

The Challenge:

Owner sought additional funds to leverage a NMTC loan to purchase a former and to convert a former manufacturing building into a multitenant commercial kitchen in Northwest Chicago. The commercial kitchen spaces required extensive HVAC equipment and owner sought to install highly efficient equipment.

The Solution:

The source loan was increased by the amount of PACE financing and provided the funds required to leverage NMTC to complete the project with highly efficient water fixtures, lighting and HVAC equipment.

The Result:

A multi-tenant commercial kitchen in an underserved neighborhood is creating jobs in energy efficient property.

Commongrounds Cooperative | Michigan

Sustainable New Construction

The Challenge:

Rural area in Northern Michigan with lack of affordable housing and a new developer seeking to find capital to build mixed use building sustainably while keeping costs down.

The Solution:

Construction financed through Brownfield TIF, additional TIF, CDFI loan, MEDC grant and a private construction loan of \$8MM enabled in part by a USDA guaranty and the PACE financing of \$1.85MM.

The Result:

This complex capital stack combining multiple economic development fund sources with private capital is creating construction jobs and providing housing with sustainable construction.

PACE financed upgrades include multiple high efficiency (HE) energy and water upgrades, a green roof an HE boiler system for snow melting, and a solar PV system.



\$1.85 Million 25 Year Fixed Rate Green Roof, HE systems and Solar

10

Letts Industries Building | Michigan

Social Responsibility Yields Cash Flows

The Challenge:

Detroit stormwater grant incentivized owner to explore installing a green roof on his building, but facility was undergoing major renovation which utilized allocated capital budget. The green roof would reduce operating costs but was more expensive than traditional roof replacement.

The Solution:

\$1MM in PACE financing to make this capital-intensive project immediately cash flow positive with no capital expenditure.

The Result:

Owner kept the incentives for the new roof and passed-through some of the annual installment cost to tenants.

The Benefits:

Tenants benefit from anticipated utility costs that are lower than their portion annual payment of the PACE assessment installment, thereby reducing their annual operating expenses.



First C-PACE financed green roof

Light Industrial | Illinois

Meeting Corporate Sustainability Goals

The Challenge:

Energy procurement department of a global meat processing public company in **Illinois** sought a method to reduce energy costs by installing a solar farm without using CapEx

The Solution:

\$4.5 million of C-PACE financing for 2.63 MW solar farm with 7,200 solar panels estimated to generate 3,802,586 kWh

The Result:

- 2,555.41 tCO2e anticipated reduction of greenhouse gas emissions for this facility
- Project financed without using owner capital or debt instrument
- Utility savings accrue for 6 months before 1st payment
- \$5.8 million in lifetime utility savings (25 year)
- Owner keeps all rebates and incentives, approximately \$5 million
 - SREC of \$2.3 million (Illinois)
 - ITC of 26% plus utility rebates and 100% federal depreciation



PACE benefits all Stakeholders





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