



2023 Ontario Teachers' Finance Trust

# Green Bond Report

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The Ontario Teachers' Pension Plan Board (Ontario Teachers' or OTPP) guarantees the bonds issued by Ontario Teachers' Finance Trust (OTFT) and manages \$247.2 billion in net assets as of December 31, 2022. Ontario Teachers' invests for, and administers the pensions of, more than 336,000 active and retired Ontario teachers.

Responsible investing is embedded in Ontario Teachers' strategy and throughout the organization.

Ontario Teachers' believes strong environmental, social and governance (ESG) practices enable it to make good investments today, while also having a positive impact on future generations. As a long-term and global investor, Ontario Teachers' is an active steward and engaged owner of businesses – not only to earn returns, but to help shape a better future for the teachers we serve, the businesses we back, and the world we live in.

Refer to Ontario Teachers' [Sustainable Investing webpage](#), where you can find further information about its ESG practices and latest responsible investing and climate change reports.

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# Our 2023 Green Bond Report

OTFT, a wholly owned subsidiary of Ontario Teachers', is an established global issuer with outstanding bonds in U.S. dollars, Euros, Pounds Sterling and Canadian dollars. OTFT's green bond issuance allows us to access capital to support the much-needed investments to transition towards a sustainable future.

Ontario Teachers' Green Bond Framework describes four key elements of our green bond issuance:

- i) what assets the proceeds will be used for;
- ii) how the assets will be selected;
- iii) how the proceeds will be managed; and
- iv) how we will report back to bond investors.

The framework is aligned with the International Capital Market Association (ICMA) Green Bond Principles and is summarized on the next page. The framework was independently reviewed by CICERO Shades of Green, now part of S&P Global, which provides an external opinion on the quality of the framework and the governance around how assets are selected.

The framework received a "CICERO Dark Green" shading, indicating strong alignment with a low-carbon future, as well as a governance score of "Excellent," demonstrating the robustness of the governance structure Ontario Teachers' has put in place.



**CAD\$2.87  
billion**  
total issued

**Rated**

**Aa1**  
Moody's

**AA+**  
S&P

**AAA**  
DBRS

## Green Bond Framework

### Use of proceeds

#### Eligible Green Assets include the following types of investments:

- Renewable Energy
- Clean Transportation
- Energy Efficiency
- Green Buildings
- Circular Economy
- Water and Wastewater Management
- Natural Resources and Land Use
- Pollution Prevention and Control
- Climate Change Adaptation

### Asset selection and evaluation

#### An internal Green Bond Council regularly assesses Eligible Green Assets with consideration given to:

- Eligibility criteria
- EU Taxonomy, UN Global Compact Principles, OECD Guidelines for Multinational Enterprises

### Management of proceeds

#### We intend to continue maintaining Eligible Green Assets that are at least equal to net outstanding green bond issuances:

- We track Eligible Green Assets through our Green Bond Register
- In the event of unallocated proceeds, funds will be used where feasible in accordance with OTFT's normal liquidity activities

### Reporting

#### Allocation and impact reporting on the portfolio of Eligible Green Assets are provided annually:

- Allocation reporting includes:
  - Assets by ICMA Green Bond Principle category
  - Assets by geography where practical
  - Select case studies on assets that are being financed
- Impact reporting includes qualitative and quantitative environmental or societal performance indicators
- Reporting is externally reviewed

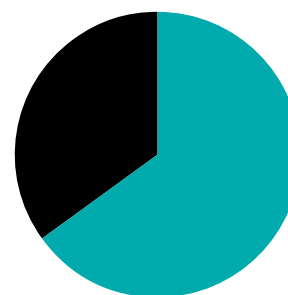


# Green Bond Issuance and Register

## Issuance Details

OTFT's inaugural green bond was issued in November 2020, followed by a second issuance in November 2021, both in Euros (EUR). In November 2022, OTFT issued its first green bond in Canadian dollars (CAD). All issuances are detailed in the table below. All amounts are in Canadian dollars unless otherwise stated. Foreign currency amounts were converted to Canadian dollars using the exchange rate as of the transaction date.

Eligible Green Assets have been fully allocated to cover the net proceeds of outstanding green bonds.



Green Bond Issuances by Currency

■ EUR	65%
■ CAD	35%

Issuance Date	Maturity Date	Format	Issuance Currency	Outstanding Size (local currency)	Outstanding Size (CAD equivalent)
November 25, 2020	November 25, 2030	Reg S	EUR	€750,000,000	\$1,162,125,000
November 24, 2021	November 24, 2051	Reg S	EUR	€500,000,000	\$709,625,000
November 16, 2022	June 02, 2032	Reg S & 144A	CAD	\$1,000,000,000	\$1,000,000,000
<b>Total amount outstanding</b>					<b>\$2,871,750,000</b>



## Green Bond Register

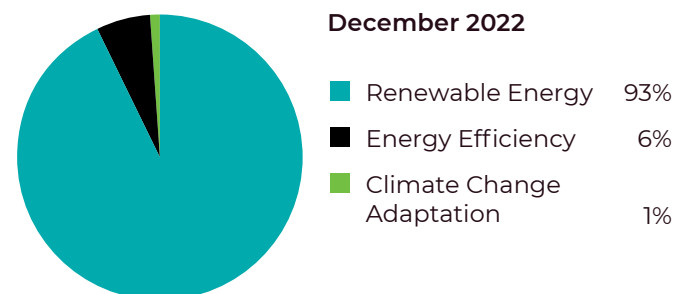
Below we report on the use of proceeds of OTFT's green bond issuances and allocation to the portfolio of outstanding Eligible Green Assets within the Green Bond Register. The Green Bond Council is responsible for approving the Eligible Green Assets included in the Green Bond Register.

For the year ended December 31, 2022, subsequent to the release of Ontario Teachers' annual report, assets previously classified as "Natural Resources and Land Use," although still aligned with the criteria of the Green Bond Framework, were removed from the Green Bond Register.

A portfolio approach is used since Ontario Teachers' and OTFT's intention is to maintain, directly or indirectly, an aggregate amount of Eligible Green Assets that is at least equal to the aggregate net proceeds of all green bond issuances that are currently outstanding. This is in line with the guidance provided by ICMA.

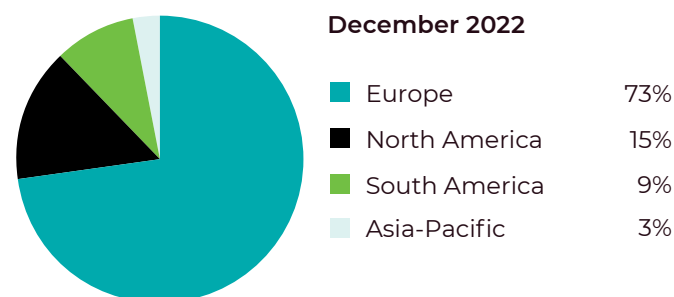
### ELIGIBLE ASSETS BY ICMA CATEGORY

Asset Category	December 2022	December 2021
Renewable Energy	93%	86%
Energy Efficiency	6%	11%
Natural Resources and Land Use	0%	1%
Climate Change Adaptation	1%	2%
Total Eligible Assets (\$ millions)	<b>\$6,940.3</b>	\$4,026.8



### ELIGIBLE ASSETS BY GEOGRAPHIC REGION

Geographic Region	December 2022	December 2021
Europe	73%	66%
North America	15%	16%
South America	9%	16%
Asia-Pacific	3%	2%
Total Eligible Assets (\$ millions)	<b>\$6,940.3</b>	\$4,026.8



# Impact Reporting

On the next page, we report on the positive impacts provided by our Eligible Green Assets. The portfolio as of December 31, 2022 had impacts in three main categories: i) renewable energy generation and transmission; ii) energy efficiency; and iii) climate change adaptation.

Our Eligible Green Assets provide environmental and societal benefits. The benefits of these assets are wide ranging, including: reducing emissions and greenhouse gases (GHG) in the atmosphere, enabling transition to net zero through carbon footprint reduction, increasing energy efficiency, saving costs and developing resiliency to climate impacts.

In addition to positive impact metrics, the Green Bond Council reviewed potentially detrimental environmental and societal impacts and respective mitigants of each investment composing the portfolio. The EU Taxonomy “Do No Significant Harm” was used as a main criterion. No issues were found.

We make efforts to align our impact reporting with market practices and leveraged ICMA resources to identify relevant impact metrics for each category. We allocate impact metrics according to proceeds as a percentage of each asset’s enterprise value<sup>1</sup>. We believe this to be a leading and conservative approach – considering financing across the capital structure prevents double counting of impact in case our partners or assets themselves issue green bonds.

The table on the next page includes the proportionate share of impact based on proceeds as of December 31, 2022. We have also pro-rated impacts attributable to green bond investors.

Lastly, we specify which impacts are ex-post, or “after the fact” and based on actual measurements or estimations, and ex-ante, which uses estimates to gauge future performance.

All metrics were independently reviewed by CICERO.

<sup>1</sup> Enterprise value = market cap of equity + book value of debt. Cash is not deducted.





## Impact Metrics by Category and Ownership<sup>1</sup>

As at December 31, 2022, 41% of impact metrics are attributable to green bond investors.

Most assets in our Green Bond Register were operational during 2022, and for these assets we provide ex-post metrics. Ex-post impact is based on the aggregated metric from the calendar year indicated. Assets that are starting operations in 2023 or beyond have impact metrics reported on an ex-ante basis. Ex-ante impact is based on annual estimates for an average year once the assets become operational. When assets have both ex-ante and ex-post metrics (i.e., a company has both assets in development and in operation), only ex-post metrics are considered.

ICMA Category	Impact Metric	Ante/Post	Impact metrics attributable to:		
			Green Bond Investors (December 31, 2022)	Green Bond Register (December 31, 2022)	Green Bond Register (December 31, 2021)
<b>Renewable Energy</b>	Renewable energy generated and/or transmitted (GWh)	Ex-Post	11,295	27,298	22,926
		Ex-Ante	1,283	3,100	999
	GHG emissions avoided (tCO <sub>2</sub> e)	Ex-Post	311,622	753,117	14,936
		Ex-Ante	734,250	1,774,510	689,162
	Battery usable energy capacity (MWh)	Ex-Post	17	42	95
		Ex-Ante	30	73	–
<b>Energy Efficiency</b>	Energy savings (GWh)	Ex-Post	805	1,946	1,872
	GHG emissions avoided (tCO <sub>2</sub> e)	Ex-Post	231,880	560,400	608,229
<b>Climate Change Adaptation</b>	Water produced and treated (m <sup>3</sup> )	Ex-Post	623,871	1,507,750	655,320
<b>Natural Resources and Land Use</b>	Total surface financed and certified (ha)	Ex-Post	–	–	59,248
	GHG emissions removed and avoided (tCO <sub>2</sub> e)	Ex-Ante	–	–	220,561

<sup>1</sup> Following the portfolio approach, each ICMA category may include various portfolio companies or assets. Each asset has at least one impact metric, but not all assets necessarily report on more than one impact metric.



## Impact Metrics Measurement, Calculation and Commentary

We strive to use the best available sources and methodologies to estimate impact. Detailed below is the methodology, data sources and other information we use when calculating impact metrics. We also provide commentary about year-over-year changes where relevant.

### Impact Metrics Measurement and Calculation Methodology

- **Renewable energy generated and/or transmitted; water produced and treated; and battery usable energy capacity** are directly measured by appropriate equipment at the asset level when ex-post metrics are presented.
- **GHG emissions avoided** are calculated using country- and, when available, state- or provincial-specific emission factors obtained from the Central Electricity Authority of India; the International Energy Agency; the International Institute for Sustainability Analysis and Strategy; U.S. Government Agencies; Taiwan's Bureau of Energy, Ministry of Economic Affairs; and the United Kingdom Department for Business, Energy and Industrial Strategy (BEIS). Values are presented in tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e).
- **Energy savings** were estimated using a study on the end energy reduction through heat cost allocation<sup>1</sup> and by normalizing consumption based on country-specific weather data on a 10-year average.
- Ex-ante metrics are based on engineering and technical estimations, which are based on power generation capacity. Actual performance may vary due to weather, demand and/or operational conditions once the assets become operational.

We note that green bond financing made these projects possible. OTFT and OTPP do not account for the carbon avoidance and/or removals reported on the previous page against their own carbon emissions.

<sup>1</sup> Auswirkungen der verbrauchsabhängigen Abrechnung in Abhängigkeit von der energetischen Gebäudequalität (Effects of consumption-based billing on building energy quality), found [here](#).



## Impact Metrics Analysis

### Renewable Energy

- The increase in ex-post renewable energy generated and/or transmitted is mainly due to:
  - proceeds being used to acquire new Eligible Green Assets in this category (read the Scottish & Southern Electricity Networks case study on [page 11](#) for an example); and
  - a series of renewable power generation assets that were in development during 2021 becoming operational during 2022.
- Directly linked to the increase in renewable energy generation mentioned above, the ex-post GHG emissions avoided also had a substantial increase in relation to the previous year.
- The significant increase in ex-ante renewable energy generated and/or transmitted is mainly due to green bond proceeds being used to acquire new Eligible Green Assets in this category (read the NextEra Energy Partners case study on [page 11](#) for an example). This also resulted in a significant increase in ex-ante GHG emissions avoided.
- Ex-post battery usable energy capacity decreased due to the sale of an Eligible Green Asset in this category. Conversely, we now report ex-ante battery usable energy capacity due to the acquisition of Eligible Green Assets in this category.

### Energy Efficiency

- Energy savings increased, mainly due to the growth and expansion of an existing Eligible Green Asset in this category.

### Climate Change Adaptation

- Water produced and treated was higher than the previous year due to greater need for water desalination.

### Natural Resources and Land Use

- There is no impact metric for 2022 under the Natural Resources and Land Use category due to the removal of the associated assets from the Green Bond Register.





# Green Asset Case Studies

The following are examples of Eligible Green Assets included in our Green Bond Register as of December 31, 2022.



In 2022, Ontario Teachers' signed an agreement with NextEra Energy Partners to support the acquisition of a renewable energy portfolio of approximately 2 gigawatts, comprised of four newly constructed and nine operating wind, solar and energy storage assets across power markets in the U.S. The transaction marks OTPP's second investment with NextEra Energy and NextEra Energy Partners. In 2021, OTPP acquired a 50% direct interest in a portfolio of 13 wind, solar and energy storage assets across the U.S., managed by NextEra. Together, these assets have a generating capacity of approximately 4.5 gigawatts, replacing higher-carbon energy sources and fulfilling the energy needs of a more sustainable future. Read more in NextEra's [2022 ESG Report](#).



In 2022, Ontario Teachers' acquired a 25% stake investment in Scotland-based SSEN Transmission, an electricity transmission network business, one of the fastest growing networks in Europe. SSEN Transmission's network transports electricity generated from renewable resources – including onshore and offshore wind and hydro – from the north of Scotland to areas of demand across the United Kingdom, providing clean, affordable renewable energy to more than 3.8 million homes and businesses. This investment will support the U.K.'s net-zero ambitions, including the delivery of 50 gigawatts of offshore wind capacity by 2030. Learn more about SSE Transmission in its [2022 Sustainability Report](#).



Cubico is one of the world's leading renewable energy infrastructure companies. The company generates renewable energy from solar and wind, adding clean energy to local electricity grids around the globe to reduce the need for more carbon-intensive energy. Since Ontario Teachers' investment in 2015, Cubico has grown from 19 facilities located in seven countries to more than 200 assets in different stages of development in 12 countries globally. In 2021, Cubico added 50 new facilities to grow its operational capacity from 2.8 gigawatts to 3 gigawatts. Cubico's expanding development pipeline allows us to continue deploying capital to grow our green portfolio. Learn more about Cubico's approach to ESG in its [2022 ESG report](#).





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