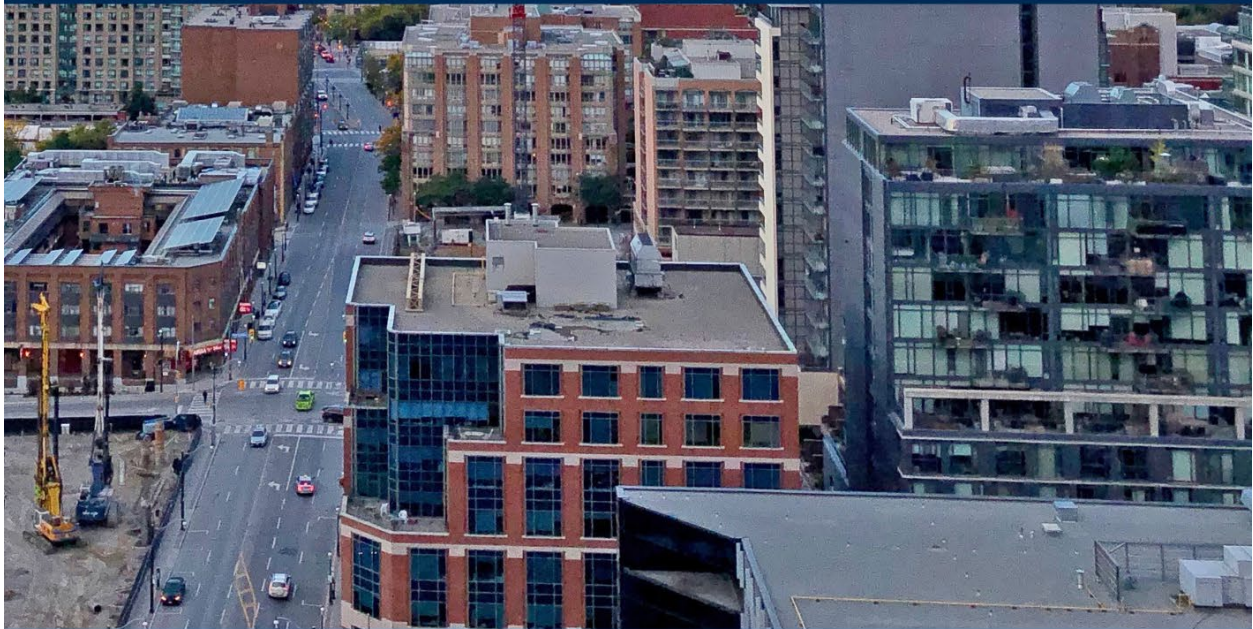




Deep Retrofit Challenge: Applicant Guide



Last Updated: April 18, 2023



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Updates

This Applicant Guide is an evergreen document and may be updated with further details and information throughout the application intake period (August 26 to October 31, 2022). The following is a list of changes, by date, that have been made to this guide since the launch of applications:

August 31, 2022

- In [Section 6.1.2](#): "The potential Deep Retrofit Challenge Incentive amount" has been removed. The Deep Retrofit Challenge incentive amount should not be included in the payback calculation. Refer to Question 21 of the Q&A document found on the Deep Retrofit Challenge [website](#).
- In [Section 6.1.2](#), the following statement was added: "The payback period calculation should be included with the detailed project budget submission for the Application as Attachment 5."
- In [Section 6.8](#), the following statement was added: In addition to the project budget, the Applicant must make evident their payback period calculation with all inputs broken into separate line items and backed by any supporting references or details. Please note that the Deep Retrofit Challenge requires a payback period of 20 years or better. See the Questions and Answers document found on the DRC [website](#) for any questions related to payback period. Refer to [Section 6.1.2](#) for more details on payback period calculation.
- In [Section 6.9](#), the previous reference was removed and the following statement was added: "In this section, list all funding received and applied for in respect to the proposed Deep Retrofit Project."

October 3, 2022

- In [Section 6.1.2](#), a typo was found in the following statement under the subtitle 'Reduction': "The building energy use will be calculated based on source energy." In fact, the building energy use will be calculated based on **site** energy. This has now been corrected.

April 18, 2023

- In Section 6.1.2, "increased building capital value" was replaced with "other revenue streams". The City advised Participants at this point in the program to refrain from using increased building capital value in their business cases.

1. Introduction

This Applicant Guide has been created to provide instructions and guidance to building owners who are preparing to submit an application (Applicants) for the Deep Retrofit Challenge. This Guide provides information on the following:

- Deep Retrofit Challenge program description
- How to determine eligibility
- Overall requirements, procedures, and timelines
- Eligible costs and incentive distribution
- Brief overview of participant obligations (all terms and conditions can be found in the Participant Agreement template available on the City's [website](#))
- Breakdown and interpretation of the Application Form sections

The Deep Retrofit Challenge [website](#) is where you will be able to find all information and resources needed to submit an application, including the:

- Application Form
- Applicant Guide
- Legal Agreement template (to be completed if and when your Application is accepted)
- Questions and Answers document (answers to questions that have been submitted to the City via email or past webinars)

The deadline to submit your Application is Monday, October 31, 2022 by 5 p.m. (Eastern Standard Time).

Applications can be submitted via e-mail to bbp@toronto.ca or mailed to:

Attn: City of Toronto, Better Buildings Partnership
Environment & Energy Division
Metro Hall (C/O Union Station, 2nd Floor East Wing)
55 John Street, Toronto, ON
M5V 3C6

Submitting an Application to participate in the Challenge is not a guarantee of participation. The City through its [Better Buildings Partnership](#) will be evaluating each Application based on the criteria outlined in Section 7 (Evaluation and Selection). Depending on available funding and suitable Applications submitted, up to sixteen (16) Applicants may be accepted and become "Participants" in the Challenge.

If you have any questions about the Deep Retrofit Challenge, please submit your questions to bbp@toronto.ca using your business email account.

Staff will respond to your question within three business days. Staff will post all questions and responses to the Questions and Answers document located on the Deep Retrofit Challenge [website](#). The document will be updated with new questions and answers on a weekly basis.

Questions about the Challenge must be submitted by Friday, **October 21, 2022 at 5 p.m. (Eastern Standard Time)**. After the question period closes, the City will no longer accept or respond to new questions.

2. Definitions

"Applicant" means all of the owners of the Building that are preparing to submit or have submitted a Deep Retrofit Application.

"Building" means the Applicant's building which is eligible to undergo the deep retrofit as a part of the Deep Retrofit Challenge

"Deep Retrofit Design" is a design completed for the Building and submitted by the Participant, as part of the Deep Retrofit Design Report that illustrates the major renovation project required to reduce total energy use intensity (including plug loads) by at least 50% from the Building's pre-renovation baseline.

"Eligible Costs" means any expenditures incurred by the selected participant for their deep retrofit project that are eligible to be claimed from the Incentive within the appropriate Claim Period in accordance with the terms and conditions of the Participant Agreement. For clarification any costs incurred by the Participant before the Participant Agreement is signed by both parties are prohibited as 'Eligible Costs'.

"Incentive" means any monies paid by the City to the selected Participant under the Participant Agreement, which monies shall be paid during the Agreement term and pursuant to the terms of the Participant Agreement.

"Participant" means all of the owners of the Building that have submitted a Deep Retrofit Application that has been accepted by the City to participate in the Deep Retrofit Challenge and has entered into the Participant Agreement.

"Participant Project Manager" means the person designated by the Participant to manage the Deep Retrofit Project as identified in Application Form (Section C- Building Owner Application Representative Information). The Participant Project Manager may be a third-party hired by the Participant, such as a property manager, engineering consultant, or architect, to assemble the Deep Retrofit Application on behalf of the Participant and/or manage the Work under the Agreement.

"Required Retrofit Completion Date" means **January 31, 2025**, the date that the Participant shall have completed all of the Retrofit Work.

"Retrofit" or "Deep Retrofit" means an extensive, holistic overhaul of a building's systems, utilizing best practices with the goal of reducing total energy use intensity and greenhouse gas emissions by a minimum of 50 percent each.

"Retrofit Work" means the Retrofit measures to be performed by the Participant on the Building as outlined in the Deep Retrofit Design.

"Whole-Building Analysis" or "holistic overhaul" means that the Building is considered as a single, integrated system rather than as a collection of standalone systems, such as building envelope, HVAC system, renewable energy system, building operations, etc. The Whole-Building Analysis approach facilitates the identification of synergistic relationships between the Building's component systems. The key to Whole-Building Analysis is the use of an integrated design process which brings all relevant

disciplines together for an initial charrette-based study of the Deep Retrofit design problem as a whole, based on collaboration and shared information.

3. Deep Retrofit Challenge Background

3.1. Deep Retrofit Challenge Funding and Administration

The administration of the Challenge has been designed to ensure that standards of fairness and professional responsibility are upheld. Below is a list of the key actors involved in the design and administration of the Challenge:

Program Funders

Natural Resources Canada, Office of Energy Research and Development

The Government of Canada as represented by Natural Resources Canada has provided a grant of \$5 million to the City of Toronto via the Green Infrastructure Phase II- Energy Efficient Buildings Program. Projects under this Program will accelerate the deployment of very high efficiency homes and buildings in Canada in order to support the development and adoption of the model national net-zero energy ready building codes by 2030 and the energy code requirements for existing buildings by 2025.

City of Toronto, Environment & Climate Division

Toronto's long and robust history of environmental and health protection has made it a leading example of sustainability amongst municipalities. In addition to promoting environmental sustainability, energy efficiency, and conservation within the City's internal operations, the Environment & Climate Division develops and implements environmental, climate and energy policies, projects, and programs, delivering tools and resources to engage Toronto residents and businesses in adopting sustainable lifestyles and business practices; and ensures the City can maintain its global leadership position in environmental stewardship.

In December 2021, City Council adopted a target of net zero GHG emissions by 2040 to anchor Toronto's TransformTO Net Zero Strategy—a strategy led by the Environment and Climate Division. Buildings are the largest source of GHG emissions in Toronto today, generating approximately 57 per cent of total community-wide emissions, mainly from the burning of fossil fuels (natural gas) for heating and hot water. To achieve the emissions reduction trajectory needed to reach net zero emissions by 2040, community-wide GHG emissions from all sources must be cut in half in the next eight years. The Division is responsible for programs that support building owners including the Green Will Initiative and the Better Buildings Partnership, which offers low-interest financing, expertise and support to navigate the retrofit process. Programs to support single-family homeowners include the Home Energy Loan Program and BetterHomesTO.

Program Support and In-Kind Contribution

Technical Advisory Committee

An Advisory Committee was created to provide a critical eye on overarching program design and to ensure the technical feasibility of the program. Advisory panel members include representatives from:

- Passive Buildings Canada
- Passive House Canada
- Sustainable Buildings Canada
- Toronto Atmospheric Fund
- University of Toronto
- City of Toronto

Technical Review Committee

The Technical Review Committee (TRC) is responsible for evaluating all Applications for technical performance, scoring Applications, and selecting 10-16 buildings to participate in the Challenge. Technical Review Committee members will consist of City of Toronto staff with building and energy expertise.

Measurement & Verification Team: City of Toronto

The Measurement & Verification (M&V) Team will be responsible for conducting all M&V processes prior to retrofit commencement and one year post-retrofit. This includes analysis of the building's metered energy usage data based on utility data. The M&V Team will prepare reports summarizing this analysis and comparing actual and predicted energy performance. The City of Toronto will be responsible for undertaking M&V for all selected projects and will use this data to determine project performance.

3.2. Goal

The goal of the Deep Retrofit Challenge is to de-risk investment in deep energy retrofits, build market confidence, encourage voluntary compliance with existing building policies, and inform future energy codes.

3.3. Description

The Deep Retrofit Challenge is a competition style program that will support deep energy retrofit projects that deliver significant greenhouse gas emissions reductions in approximately 10 to 16 buildings. Participating buildings ('Participants') will serve to demonstrate the deep energy retrofits needed to move buildings towards net zero emissions, with the goal of accelerating market adoption. Participants will collaborate and compete to retrofit to the highest performance standards. Incentives will be awarded to selected applicants to help offset the cost of performing a deep retrofit of their buildings. Natural Resources Canada has contributed \$5,000,000 to the Deep Retrofit Challenge.

Retrofits should aim to reach an 80 per cent emissions reduction or greater over current building emissions, in alignment with the City's target to reduce emissions to net zero by 2040. Retrofits must follow a comprehensive whole-building analysis that considers the building as a single, integrated system and how components of the building work together.

Participants will be required to make details of their deep retrofits publicly available, including utility energy use and costs, designs, and project costs, to help drive uptake of similar retrofits. Projects will be featured in case studies and recognized for early transformative action.

Deep Retrofit Challenge Participants will receive a grant equal to 25 per cent of their total project costs up to a maximum of up to \$500,000 (depending on gross floor area) to offset the incremental design and construction costs required to achieve maximized emissions reductions.

3.4. Expected Results

It is expected that the Deep Retrofit Challenge will demonstrate replicable, cost-effective pathways for achieving significant energy and greenhouse gas reductions across several different buildings, de-risking future investment for other building owners and building market confidence.

For each selected retrofit project, the Deep Retrofit Challenge requires a minimum 50 percent reduction in total energy use intensity and greenhouse gas emissions, while further incentivizing Participants to achieve a reduction of 80 percent or more, requiring retrofits to address the whole building and all of its integrated components.

Information from each of the Deep Retrofit Projects, including designs, budgets and performance data will be open-sourced to drive case studies, technical reports and academic research that will help promote

community knowledge of deep retrofits and facilitate the uptake of deep retrofits needed to reach the City's net zero by 2040 target.

4. Scope & Eligibility

4.1. Deep Retrofit Design Requirements

Deep Retrofit Projects must meet all of the following mandatory requirements:

- Minimum greenhouse gas emissions reduction of 50%
- Minimum energy use intensity reduction of 50%
- Maximum payback of 20 years.

4.2. Additional Project Requirements

In addition to the design requirements listed above, the following are additional requirements for the Deep Retrofit Project overall:

- Use a comprehensive whole-building analysis approach to deep retrofits.
- Meet the Project Completion Date and be operational on or before **January 31, 2025**.
- Be a retrofit of an existing building that has been occupied (not vacant) within the 12 months prior to the Application submission.
- Must not have commenced the retrofit and/or construction phase of their Deep Retrofit Project.
- Must be able to demonstrate ability to fund the project.

4.3. Building Eligibility

Buildings must be located within Toronto and be an Ontario Building Code Part 3 building (i.e. greater than 600 square metres or greater than three storeys). Eligible buildings include:

- Multi-unit residential buildings (including condominiums, apartments, etc.)
- Commercial office buildings.
- Mixed-use buildings (residential and commercial, including residential over commercial).

4.4. Multiple Deep Retrofit Applications from one Building Owner

Where multiple Applications have been received from the same building owner(s), and where the City has determined that more than one of the Applications could be selected to participate in the Deep Retrofit Challenge, the City will offer to fund the Application receiving the highest score and will consider funding any of the remaining Applications that are acceptable only after the City has first offered to fund all other acceptable Applications submitted by other building owners for other Buildings or Deep Retrofit Projects and only if Deep Retrofit Challenge funding has not been fully allocated.

4.5. Project Scope

Projects must use a comprehensive whole-building analysis approach, considering how components of the building work together as an integrated system. Eligible measures include:

- Building enclosure improvements such as insulation, high performance windows and air sealing
- Energy recovery (ventilation, drain or equipment)
- Electric heat pumps (ground or air source) for space heating and hot water
- Renewable electricity generation
- Building controls

For a full list of all measures and eligible costs, see Section 4.7 (Eligible Costs) below.

4.6. Claims and Incentive

"Incentive" means any monies paid by the City to the selected Participant under the Participant Agreement, which monies shall be paid during the Agreement term and pursuant to the terms of the Participant Agreement.

The Incentive Limit for each selected deep retrofit project is:

\$200/m² of gross floor area up to a maximum of \$500,000 or 25% of Total Project Cost, whichever is less.

See Table A below to learn about the incentive disbursement amount at the different stages of the Deep Retrofit Project.

Table A- Deep Retrofit Challenge Claims and Incentives

	Design Incentive	Retrofit Incentive		Performance Incentive
Claim Period	Claims for any Eligible Costs incurred between time of application submission and March 31, 2023, must be submitted by no later than March 31, 2023.	Claims for any Eligible Costs incurred between April 1, 2023 and March 31, 2024, must be submitted by no later than March 31, 2024.	Claims for any Eligible Costs incurred between April 1, 2024 and March 31, 2025, must be submitted by no later than March 31, 2025.	Claims for any Eligible Costs incurred, between April 1, 2025 and March 31, 2026, must be submitted by no later than March 31, 2026.
Claim Condition	Participant submits a Deep Retrofit Design Report that meets all requirements and is awarded a Letter of Acceptance by the City.	Participant submits all required Quarterly Progress Reports on time, to the satisfaction of the City.	Participant submits all required Quarterly Progress Reports on time, to the satisfaction of the City, and the Participant meets the Substantial Completion date of January 31, 2025 and	Participant submits a Performance Report that meets all requirements by January 16, 2026 and the City's Measurement and Verification process demonstrates that the Deep Retrofit Project achieved

			submits a Commissioning Report that meets all requirements.	its proposed reduction in total energy use intensity and greenhouse gas emissions.
Incentive Amount	All Eligible Costs within claim period no greater than 10% of Incentive Limit. A 10% holdback will apply to the incentive amount paid by the City to the Participant.	All Eligible Costs within claim period no greater than 40% of Incentive Limit. A 10% holdback will apply to the incentive amount paid by the City to the Participant.	All Eligible Costs within claim period no greater than 40% of Incentive Limit. A 10% holdback will apply to the incentive amount paid by the City to the Participant.	All Eligible Costs within claim period, to a maximum based on the formula outlined under Section 4.6 above, no greater than 10% of Incentive Limit. In addition, the Participant will receive the Total Holdback Amount (10% of Design Incentive and Retrofit Incentive the Participant is eligible to) in accordance with the Holdback provision in Section 4.13 of the Agreement.

NOTES:

- Only one claim for reimbursement of Eligible Costs may be made per Fiscal Year and shall be made at the end of each Fiscal Year.
- All Eligible Costs incurred in a Fiscal Year but not included in the claim will no longer be 'Eligible Costs' in the next claim period.

4.7. Emissions Performance Incentive Limit

The Performance Incentive, as highlighted in Section 4.6 above, is further limited by the emissions reductions achieved by each Deep Retrofit Project per the following table, up to a maximum no greater than 10% of Incentive Limit.

Verified emissions reduction resulting from the Deep Retrofit Project	Additional Performance Incentive Limit
Greater than or equal to 75% reduction	10% of Incentive Limit
Greater than or equal to 60% reduction and less than 75% reduction	6% of Incentive Limit
Greater than or equal to 50% reduction and less than 60% reduction	3% of Incentive Limit
Less than 50% reduction	0% of Incentive Limit (Not Eligible. See Section 4.12 of Agreement)

4.8. Eligible Costs

"Eligible Costs" means any expenditures incurred by the selected participant for their deep retrofit project that are eligible to be claimed from the Incentive within the appropriate Claim Period in accordance with the terms and conditions of the Participant Agreement. For clarification any costs incurred by the Participant before the Participant Agreement is signed by both parties are prohibited as 'Eligible Costs'.

Eligible Costs for Design Incentive:

Eligible Costs for the Design Incentive include costs associated with the Participant's development of the Deep Retrofit Design Report during the applicable Claim Period under Schedule E (Claims and Incentives). These Eligible Costs may include, but are not limited to, the following:

- Calibrated pre-retrofit energy modelling for the Deep Retrofit Design;
- Any testing or studies required to complete the Deep Retrofit Design (e.g. net zero feasibility study, air tightness testing, etc.);
- Calculation and report of estimated embodied carbon impact for the Deep Retrofit Design;
- Engineering required (including design, equipment selection, etc.) for the Deep Retrofit Design; and
- Cost of the Deep Retrofit Design drawings and renderings.

Eligible Costs for Retrofit Incentive:

Eligible Costs for the Retrofit Incentive include costs associated with the Retrofit Work to be completed on the Building as outlined in the Deep Retrofit Design Report during the applicable Claim Period under Schedule E (Claims and Incentives). These Eligible Costs may include, but are not limited to, the following Retrofit Work:

- Building envelope: high performance window/balcony door replacements, window/door caulking, exterior wall cladding, solar air heating systems, insulated roofing, and more;
- Mechanical system: building automation systems, make-up air units, garage exhaust fan & CO controls, heat/energy recovery ventilators, ground source or air source electric heat pumps, cooling system upgrades, and more;
- Renewable energy: solar photovoltaics, geothermal heating and cooling (ground or air source) and more;
- Lighting: LED lighting systems and controls;
- Cost associated to increasing load capacity; and
- Any measure recommended in the ASHRAE Level 2 Energy Audit.

Eligible Costs for Performance Incentive:

Eligible Costs for the Performance Incentive include the costs associated with the Deep Retrofit Project that occurs after the submission of the Commissioning Report and prior to March 31, 2026:

- Calibrated post-retrofit energy modelling for the Deep Retrofit Project;
- Calculation and report of actual embodied carbon impact;
- Training of operations/maintenance staff on maintaining efficiency performance; and

- Re-commissioning necessary to improve the performance outcome (must obtain approval from the City Contract Manager).

Non-Eligible Costs:

For greater clarity and without limiting any of the other terms or conditions of the Agreement, the Participant agrees that the following costs, amongst others, will not be an Eligible Cost:

- (a) Costs associated to building improvements not related to reducing greenhouse gas emissions or total energy use intensity, such as accessibility or safety improvements, security technology, furniture, decorative features, landscaping, pavement, parking infrastructure, etc.;
- (b) donations;
- (c) fines and penalties;
- (d) membership fees;
- (e) land acquisition, leasing land, buildings, other facilities, real estate fees and other related costs;
- (f) cost of constructing a building or expanding the existing building, excluding those construction costs incurred as a part of the 'Eligible Costs' under the Deep Retrofit Project;
- (g) financing charges, legal fees, and loan payments and loan interest payments (including those related to easements (e.g. surveys));
- (h) the value of any goods and services which are received through donations or in-kind;
- (i) employee wages and benefits, overhead costs as well as other direct or indirect operating, maintenance and administrative costs incurred by the Participant for the Deep Retrofit Project, and more specifically costs relating to services delivered directly by permanent employees of the Participant;
- (j) meals, hospitality, or incidental expenses of the Participant or any of its consultants or subcontractors;
- (k) any taxes for which the Participant is eligible for a rebate, and any other costs eligible for a rebate;
- (l) costs already covered by another grant or incentive; and
- (m) any cost that have not been expressly approved in the Agreement or in writing by the City Contract Manager;

4.9. Building Data

As part of the Deep Retrofit Application, applicants will submit the following as attachments which if successfully chosen to be a Participant in the Deep Retrofit Challenge will be included as part of this Agreement, which may be used to inform a case study of the Deep Retrofit Project and may have all or any components of this information available to the public (e.g. Open Data portal, posted online, or through case studies, etc.), excluding any personal information or contact details:

- Feasibility Study or Detailed Engineering Design
- ASHRAE Level 2 Energy Audit Report
- Building Condition Assessment (if available)
- Utility Data such as electricity and natural gas bills (aggregated)

Throughout the Term of the Agreement the Participant will be required to submit the following Building Data, as requested via Reports (see 'Reporting Requirements and Schedule' section below for list of Reports) or independently to the City of Toronto which may be used to inform a case study of the Deep

Retrofit Project and may be made available to the public (e.g. Open Data portal, posted online, or through case studies, etc.), excluding any personal information or contact details:

- Utility data¹ from at minimum 12 months prior to the commencement of the Retrofit Work to the end of the Term of the Agreement.
- A financial business case and costing report that demonstrates the total estimated cost of the Deep Retrofit Project with all eligible costs itemized, along with a demonstration of a calculated payback period of 20 years or better;
- Report of the calibrated pre-retrofit energy model of the Deep Retrofit Project that demonstrates a minimum 50% reduction in total energy use intensity and greenhouse gas emissions preferably using a software program open to the public such as CanQuest or eQuest.
 - A report summarizing pre-retrofit energy model inputs and outputs, and relevant output files and supporting documentation to support the energy model report;
- Report of the calibrated post-retrofit energy model of the Deep Retrofit Project that demonstrates a minimum 50% reduction in total energy use intensity and greenhouse gas emissions preferably using a software program open to the public such as CanQuest or eQuest.
 - A report summarizing post-retrofit energy model inputs and outputs, and relevant output files and supporting documentation to support the energy model report;
- A Gantt chart illustrating the Deep Retrofit Project timeline that meets the Required Retrofit Completion Date, with a built-in contingency period included;
- Risk registers or risk mitigation strategy;
- Schematic drawings and renderings of Deep Retrofit Design that also demonstrates the building's air barrier strategy;
- Airtightness testing results and plan;
- Calculation of projected embodied carbon for major construction materials;
- A final cash flow statement and budget demonstrating actual cost of Deep Retrofit Project and demonstration of a 20 year payback or better;
- A financial report that declares the total incentive amount received by the Participant and demonstrates how the Incentive was used, including the receipt of goods and/or services being funded by the Deep Retrofit Challenge and all other funding sources;
- A final narrative report and/or public report to describe how the Participant contributed to the achievement of the Deep Retrofit Challenge as described in the 'Description of Deep Retrofit Challenge' section, including observations on successes, problems, concerns, and any technical, financial, and environmental lessons learned;
- Copies of any non-proprietary reports requested by the City of Toronto arising from and prepared during the course of the Deep Retrofit Project;
- Rent Roll- A written report that lists all of the current tenants at the Building as well as the:
 - Monthly rent amount for each lease;

¹ Participant must manage all utility meter issues to ensure the City receives complete utility data for the Deep Retrofit Project.

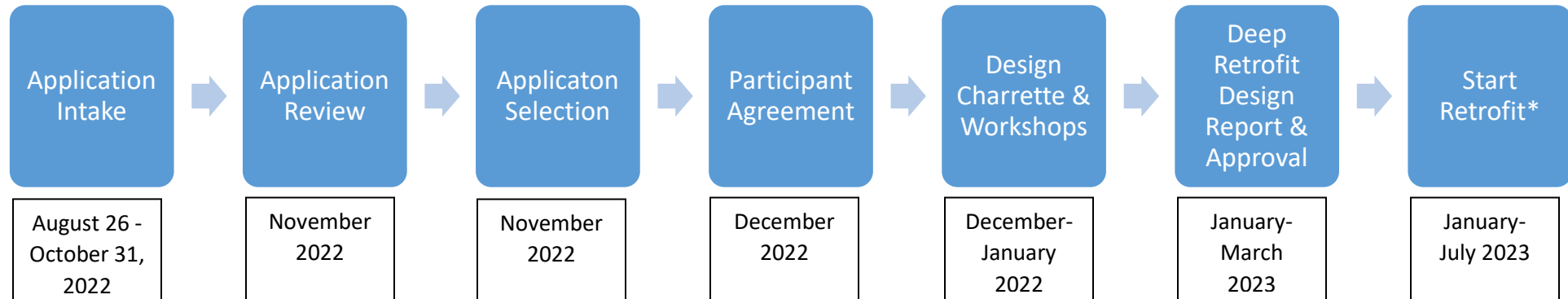
- Unit number for each tenant's space;
- Date that each tenant begins to pay rent under the lease (the rent commencement date); and
- Lease expiration date.
- Any other information required by the Executive Director, acting reasonably.

All data provided to the City will undergo a 'privacy' review to ensure no personal information is shared via the City's Open Data portal.

5. Key Dates

5.1. Application Intake, Review and Selection Timeline

Figure 1 below illustrates the timeline between the launch of the Deep Retrofit Challenge through to participant selection and retrofit commencement.



** The Participant shall begin the Deep Retrofit Project within one hundred and twenty (120) calendar days or such other period the City may allow upon receipt of the Deep Retrofit Design Acceptance Letter set out in Schedule K (Forms) of the Participant Agreement.*

Figure 1- Deep Retrofit Challenge Q3 2022-Q1 2023 Timeline

5.2. Reporting Timelines

Types of Reports required to be submitted by the Participant throughout the Term of the Agreement:

1. Deep Retrofit Design Report (Q4 2022/Q1 2023)
2. Quarterly Progress Reports (see example schedule below)
3. Commissioning Report (by January 31, 2025)
4. Performance Report (by January 16, 2026)

Reports Schedule:

The following is an example of Report deadlines for a Deep Retrofit Project that is expected to complete the Retrofit Work by the Required Retrofit Completion Date (January 31, 2025), however each Participant will receive their Deep Retrofit Project's specific reporting timelines upon being accepted as Participant which will be incorporated into this Schedule as Exhibit 1 based on the Participant's Deep Retrofit Project expected Project Completion Date.

Timeline	Reporting Deadlines	Type of Report	Claim Period
[Time of Application Submission] to September 30, 2022			[Time of Application Submission] to March 31, 2023
October 1, 2022 to December 31, 2022	March 31, 2023	Deep Retrofit Design Report	
January 1, 2023 to March 31, 2023			
April 1, 2023 to June 30, 2023	June 30, 2023	Quarterly Progress Report #1	April 1, 2023 to March 31, 2024
July 1, 2023 to September 30, 2023	October 2, 2023	Quarterly Progress Report #2	
October 1, 2023 to December 31, 2023	January 2, 2024	Quarterly Progress Report #3	
January 1, 2024 to March 31, 2024	March 31, 2024	Quarterly Progress Report #4	
April 1, 2024 to June 30, 2024	July 2, 2024	Quarterly Progress Report #5	April 1, 2024 to March 31, 2025
July 1, 2024 to September 30, 2024	September 30, 2024	Quarterly Progress Report #6	
October 1, 2024 to December 31, 2024	December 31, 2024	Quarterly Progress Report #7	
January 1, 2025 to March 31, 2025	January 31, 2025	Commissioning Report	
April 1, 2025 to January 31, 2026	January 16, 2026	Performance Report	April 1, 2025 to March 31, 2026

1. Deep Retrofit Design Report

Following the completion of the mandatory Deep Retrofit Challenge Design Charrette and training workshops, the Participant will need to provide us the following as part of the Deep Retrofit Design Report, taking into consideration the Deep Retrofit Design Requirements stated in Schedule B (Deep Retrofit Design Requirements):

- ✓ Utility data from at minimum 12 months prior to the commencement of the Retrofit Work until the expiration of the Participant Agreement (March 31, 2031).
- ✓ A financial business case and costing report that demonstrates the total estimated cost of the Deep Retrofit Project with all eligible costs itemized, along with a demonstration of a calculated payback period of 20 years or better;
- ✓ Demonstrate the funding required for the Deep Retrofit Project has been secured;
- ✓ Report of the calibrated pre-retrofit energy model of the Deep Retrofit Project that demonstrates a minimum 50% reduction in total energy use intensity and greenhouse gas emissions preferably using a software program open to the public such as CanQuest or eQuest.
 - A report summarizing pre-retrofit energy model inputs and outputs, and relevant output files and supporting documentation to support the energy model report;
- ✓ Demonstrate a Project timeline that meets the Required Retrofit Completion Date (January 31, 2025), with a built-in contingency period included;
- ✓ All project management documents, including schedules, feasibility studies, risk registers, risk mitigation strategy, and sub-contractor information associated to the management and completion of the Deep Retrofit Project;
- ✓ Schematic drawings and renderings of Deep Retrofit Design that demonstrates a minimum 50% reduction in total energy use intensity and greenhouse gas emissions, as well as the Building's air barrier strategy;
- ✓ Airtightness testing results and plan that shows when and how the building's airtightness will be confirmed;
- ✓ Calculation of projected embodied carbon for major construction materials and process;
- ✓ Documentation for building permits applications or approvals required to undertake the Deep Retrofit Project; and
- ✓ Rent Roll - A written report that lists all of the current tenants at the Building as well as the:
 - Monthly rent amount for each lease.
 - Unit number for each tenant's space.
 - Date that each tenant begins to pay rent under the lease (the rent commencement date).
 - Lease expiration date.

Once the Deep Retrofit Design Report is submitted to the satisfaction of the City, the City will conduct Measurement and Verification and provide the Participant with a signed Deep Retrofit Design Acceptance Letter in the format as outlined in Form 1 of Schedule K (Forms) at which point the Participant can proceed further on the Deep Retrofit Project under the Agreement.

2. Quarterly Progress Reports

The Quarterly Progress Reports for Participants will need to include the following, in a form provided by the City pertaining to the relevant reporting period:

- ✓ Total amount of Eligible Costs incurred during the reporting period including an updated cash flow statement and budget description;
- ✓ Any claim and supporting invoices for Design Incentive or Retrofit Incentive whichever is applicable (It is advised that the Participant choose to submit their claim within the Quarterly Progress Report due at end of Fiscal Year, March 31);
- ✓ Project Timing Status;
- ✓ Project Scope Status;
- ✓ Overall summary of project status and achievements;
- ✓ Operational issues and other barriers/challenges;
- ✓ Photos of Deep Retrofit Project progress
- ✓ A statement verifying that all Eligible Costs claimed for during the reporting period are in accordance with the terms of the Agreement; and
- ✓ Any other information required by the Executive Director, acting reasonably.

The Participant shall submit all required Quarterly Progress Reports certified by the Participant in a form satisfactory to the Executive Director, at their sole discretion.

The Participant further agrees that the City has the right, at all reasonable time and on reasonable notice, to inspect the progress of the Deep Retrofit Project and to require the Participant to submit additional reports and information with respect to the Deep Retrofit Project in the form specified by the City, acting reasonably.

3. Commissioning Report

The Participant shall submit a Commissioning Report, completed to the satisfaction of the City, at the latest on the Required Retrofit Completion Date (January 31, 2025).

The Participant shall provide the City Contract Manager with a Commissioning Report containing the following information to the satisfaction of the Executive Director:

- ✓ Total amount of Eligible Costs incurred to-date including an updated cash flow statement and budget description;
- ✓ Any claim and supporting invoices for Retrofit Incentive;
- ✓ A financial report that declares the total incentive amount received by the Participant and demonstrates how the Incentive was used, including the receipt of goods and/or services being funded by the Deep Retrofit Challenge and all other funding sources, and invoices for the remaining eligible costs;
- ✓ a report on the progress made to implement the Work prior to the Substantial Completion Date including observations on successes, problems, concerns, and any lessons learned;
- ✓ Utility data records to-date;
- ✓ Copies of any non-proprietary reports requested by the City of Toronto arising from and prepared during the course of the Project;
- ✓ Air tightness test results;
- ✓ Supporting evidence that permits are closed and received inspector approval;

- ✓ Photos of Deep Retrofit Project completion;
- ✓ Signed copy of the Statutory Declaration of Substantial Completion as substantially set out in Form 2 of Schedule K (Forms) of the Agreement; and
- ✓ Any other information required by the Executive Director, acting reasonably.

The Participant further agrees that the City has the right, at all reasonable time and on reasonable notice, to inspect the progress of the Deep Retrofit Project and to require the Participant to submit additional reports and information with respect to the Deep Retrofit Project in the form specified by the City, acting reasonably.

4. Performance Report

One year after (i) all of the Retrofit Work under the Deep Retrofit Design Report has been completed or (ii) the Required Retrofit Completion Date (by January 16, 2026), whichever is the earliest, the Participant must provide the following to the City:

- ✓ A final cash flow statement and budget for Total Project Cost demonstrating a 20 year payback or better;
 - Reconciliation of all of the actual costs incurred by the Participant in respect of the Deep Retrofit Project;
 - Reconciliation of all the actual Eligible Costs incurred by the Participant in respect of the Deep Retrofit Project;
- ✓ Any claim and supporting invoices for Performance Incentive;
- ✓ A calibrated post-retrofit energy model report of the Deep Retrofit Project that demonstrates a minimum 50% reduction in total energy use intensity and greenhouse gas emissions preferably using a software program open to the public.
 - a. Relevant output files and supporting documentation to support the energy model report;
 - b. an explanation of any discrepancies between the results and the Expected Results;
- ✓ A report on the observations of the Retrofit Work post-commissioning, problems, concerns, benefits, and any lessons learned;
- ✓ Utility data to-date, with utility data from January 16 to January 31, 2026 delivered to the City by February 2, 2026;
- ✓ Calculation of actual embodied carbon for major construction materials and process;
- ✓ Copies of any non-proprietary reports requested by the City of Toronto arising from and prepared during the course of the Project;
- ✓ Supporting evidence that permits are closed and received inspector approval (if not already provided);
- ✓ Additional Photos of Deep Retrofit Project completion;
- ✓ Rent Roll - A written report that lists all of the current tenants at the Building as well as the:
 - Monthly rent amount for each lease.
 - Unit number for each tenant's space.
 - Date that each tenant begins to pay rent under the lease (the rent commencement date).
 - Lease expiration date; and
- ✓ Any other information required by the Executive Director, acting reasonably.

The Participant further agrees that the City has the right, at all reasonable time and on reasonable notice, to inspect the progress of the Deep Retrofit Project and to require the Participant to submit additional reports and information with respect to the Deep Retrofit Project in the form specified by the City, acting reasonably.

5. Post-Project Annual Reports

On an annual basis after the Performance Report has been submitted and for the remainder of the contract term, the Participant must provide the following to the City:

- ✓ Utility data to-date;
- ✓ Description of any major changes to the Building

6. Application Form

This section of the Applicant Guide breaks down each of the sections in the Application Form to provide further instructions and clarity.

6.1. Section A- Eligibility Checklist

The very first step of the Application process is to complete the Eligibility Checklist in Section A. This checklist goes through the mandatory criteria that must be met by the Building, Deep Retrofit Project proposed, and the obligations required by selected applicants once they are approved to participate.

6.1.1. Building Eligibility Criteria

To be eligible, a building must be located within Toronto and be an Ontario Building Code Part 3 building (i.e. greater than 600 square meters or greater than three storeys).

The following building types are eligible to participate in DRC:

- Multi-unit residential buildings (including condominiums, apartments, etc.)
- Commercial office buildings.
- Mixed-use buildings (residential and commercial, including residential over commercial).

Additional notes:

- Institutional-type buildings (i.e. schools, hospitals, etc.) are not eligible to participate in the Deep Retrofit Challenge.
- Multi-unit residential and commercial office buildings, even if owned by an institution, are eligible to participate.
- City-owned buildings are not eligible to participate in the Deep Retrofit Challenge.
- Heritage buildings may apply but must still comply with heritage-related regulations and processes.
- Group F, Division 2 buildings (industrial-type buildings) and are not eligible to participate in the Deep Retrofit Challenge.
- A daycare facility that is categorized as an Ontario Building Code Part 3 Building (i.e. greater than 600 square metres or greater than three storeys) is eligible to participate in the Deep Retrofit Challenge.
- Basements can be included as part of gross floor area if it utilizes space heating/cooling.
- The Deep Retrofit Challenge is open to applications from arms-length City Agencies, Boards and Corporations should the building and project meet the program requirements.

- Buildings used for manufacturing processing, commercial processing, agricultural processing or industrial processing where the overall environmental conditions within the property are governed mainly by the operations or processes within the Building, are not eligible for the Deep Retrofit Challenge.

6.1.2. Deep Retrofit Project Eligibility Criteria

Reduction

- The minimum 50% reduction in total energy use intensity and greenhouse gas (GHG) emissions pertains to the entire building energy consumption. Energy data aggregated from all utility accounts (and other energy sources) must be used in energy and emissions reduction calculations to assess if the building's retrofits has achieved the Deep Retrofit Challenge's energy reduction requirement.
- Secondary energy must be included (such as purchased steam or chilled water from a district energy system)
- The building energy use will be calculated based on site energy. What's the difference between source and site energy? Learn more [here](#).

Payback Period

Payback should be calculated based on a lifecycle cost analysis, including at minimum:

- Carbon Pricing; based on Federal schedule of \$50/tonne in 2022 escalating by \$15/year to \$170/tonne in 2030.
- Projected Carbon Pricing of \$300/tonne for 2031 and beyond.
- Up to 3% per year escalation of energy costs
- Acceleration of planned capital asset replacements.

Additionally, the lifecycle cost analysis could include:

- Avoided maintenance costs and other non-energy operating costs
- Risk mitigation, including resilience and adaptation (i.e. longer shelter-in-place times during power outages/extreme weather)
- Occupant benefits (improved comfort, health & wellbeing)
- Repurposed space (i.e. mechanical room no longer needed is converted to occupied space)
- Increased rents (not applicable for residential projects)
- Other revenue streams.

The payback period calculation should be included with the detailed project budget submission for the Application as Attachment 5.

Whole-Building Analysis

Whole-Building Analysis means that the Building is considered as a single, integrated system rather than as a collection of standalone systems, such as building envelope, HVAC system, renewable energy system, building operations, etc. The Whole-Building Analysis approach facilitates the identification of synergistic relationships between the Building's component systems. The key to Whole-Building Analysis is the use of an integrated design process which brings all relevant disciplines together for an initial charrette-based study of the Deep Retrofit design problem as a whole, based on collaboration and shared information.

Project Completion Date

All applicants must propose a project that meets the "Required Retrofit Completion Date" of **January 31, 2025**, the date that all Retrofit Work must be completed.

Vacancy

For eligibility purposes, the reasons that the building must have been occupied 12 months prior to retrofit commencement include: 1) the City requires reliable and accurate data for the measurement and verification process, and 2) the incentive is not intended for any redevelopment, change-of-use projects or refurbishment of abandoned buildings. Please reach out to our team if you think your project is in a unique situation and is eligible for an exception.

Retrofit Stage

- Buildings that have already begun the construction (i.e. demolition, removal of existing equipment or building elements, installation of new equipment or systems, etc.) of the Deep Retrofit Project they are seeking funding for through the Challenge are not eligible to participate in the Deep Retrofit Challenge.
- The design and planning for the Applicant's proposed Deep Retrofit Project shall not be finalized prior to Application submission.
- Selected Participants must limit the cost included for the design portion of their Deep Retrofit Project to costs incurred after the Application submission.

6.1.3. Participant Obligations

The following obligations are listed for Applicants' awareness of what is expected if selected to participate in the Challenge. Further information and guidance can be provided to Participants once selected.

Participant Agreement

It is advised that the building owner(s) and their legal team review the Participant Agreement, posted on the Challenge [website](#), to ensure that the signing of this agreement is not a barrier if selected to participate in the Deep Retrofit Challenge. The Participant obligations and acknowledgements can be found in Section 6 of the Participant Agreement. This Agreement will only require a signature by all parties if and when selected.

Energy Models

- There is flexibility in the software that Participants can use to conduct their pre-retrofit energy model, however, there is strong preference for selecting a software that can produce a model that can be made public such as EnergyPlus, EQuest, CAN-QUEST, as this will reduce any future barriers or extensive processing once the retrofit is complete and this information is expected to be posted on the City's Open Data portal.
- During the design stage, models must be produced and submitted in the Deep Retrofit Design Report, including:
 - The current state of the building, including calibration to building energy data.
 - The future performance of the retrofit design.
- Additionally, at the end of the project, the model based on the retrofit design must be calibrated to building energy data for inclusion in the Performance Report.

Design Charrette

All Participants will be required to participate in a Design Charrette and other workshops hosted by the City of Toronto, at no cost, to support Participants with the design and planning of their Deep Retrofit Project.

Open Data

One of the key outcomes of the Deep Retrofit Challenge is to publicize all the information from the participating Buildings, as deep retrofit case studies or blueprints, to help drive uptake of similar retrofits in Toronto. The information will likely be made available at the City's [Open Data](#) portal website. See Section 26 of the Participant Agreement template on the webpage for more details.

Data expected to be released includes, but is not limited to:

- Energy data from utility bills
- Energy models
- Design documents
- Budgets
- Realized performance

Embodied Carbon

- Calculation of projected embodied carbon for major construction materials is only required for the Deep Retrofit Design Report. Further information will be provided to selected participants at that time.
- For context purposes:
 - Embodied emissions are those generated at points in the building's life cycle other than during operation, including from when the building materials or equipment are created (i.e. from mining raw materials, materials processing, transportation, and/or manufacturing), from construction, and during building end of life (i.e. demolition and disposal). Considerations of what materials are used within buildings may not impact the reported emissions for the sector, but can have a significant impact on global GHG emissions. There is increased interest and movement with regards to embodied carbon policy and reporting.
 - One of the most salient points that emerged from studying the measures and combinations of measures required to achieve zero emissions across the city as part of the Net Zero Existing Buildings Strategy is the consideration of embodied impacts in deep retrofit design being an important feature of projects that invest significantly in enclosure upgrades and fuel switching (Section 2.5 of the Net Zero Existing Buildings Strategy).

Rent Increases

- As stated in Section 6.2 (f) and (g) of the Participant Agreement, the Participant:
 - shall not apply for any above guideline rent increase pursuant to the [Residential Tenancies Act](#), as amended, in connection with any portion of the Retrofit Work to the Building funded through the Incentive;

- shall not disable cooling systems or charge tenants a premium for enabling cooling systems in the Building, if a portion of the Retrofit Work under the Deep Retrofit Project includes the Building's cooling system during the Term of the Agreement;

Emission Credits

- As stated in Section 23 of the Participant Agreement:
 - The Participant acknowledges and agrees that the City owns and shall be entitled to retain, register for use, trade and sale, and enjoy all benefits of, all credits and any other rights or benefits resulting from any reduction or displacement in emissions of greenhouse gases or any other pollutants, or that relate to any other environment attributes (together the "Credits") arising out of the Deep Retrofit Project. If through operation of law or any other circumstance title to any Credits arising in the circumstances described herein vests in the Participant then the Participant shall automatically and without formal instrument and for no consideration transfer or otherwise convey such Credits to the City. The Participant agrees that it has no rights to any Credits or the proceeds thereof as a result of the Retrofit Work under the Deep Retrofit Project in accordance with the terms of this Agreement.
 - Notwithstanding the above, the Participant shall be entitled to such Credits as are required for the Participant to apply in the determination of its obligations for the Building to meet LEED certification, other certifications or standards, and obtain grants, financial incentives and/or financing from third party providers for the Deep Retrofit Project.

Quarterly Progress Reports

- See Section 5.2 of the Applicant Guide to learn more about what is expected in the Quarterly Progress Reports.

Building Access

- As stated in Section 6.6 of the Participant Agreement:
 - During the Term of the Agreement, the Participant shall provide the City reasonable access to the Building and any other premise where the Deep Retrofit Project takes place to assess the Deep Retrofit Project's progress or any element of the Deep Retrofit Project, including after each Report has been submitted, subject to providing reasonable notice and in compliance with the Participant's safety requirements for such access.
- Access to the Building will only be used to verify progress of the Deep Retrofit Project or gather data for the program and is not a formal "building inspection".

Pre-Retrofit and Post-Retrofit Data

- In addition to the 12 months of utility data provided with the Application, the City will require utility data from time of Application submission up until the Retrofit commences, also in the form of utility bills.
- The City will also request the Building Owner to sign a Utility Release Form as part of the Participant Agreement (Section K) and continue to provide utility information once the retrofit work is complete for a period of five years.

Replicability

- Participants are expected to undertake a retrofit process that uses readily available technology and practical solutions so that other buildings not participating in the Deep Retrofit Challenge can replicate similar retrofits and achieve emission reductions.

Media Events

- See Section 14 in the Participant Agreement (Announcements, Recognition, and Promotion).

Net Zero Existing Buildings Strategy

- Participants of the Deep Retrofit Challenge are expected to participate in the initial cohort of volunteers for the forthcoming programs stemming from the City's [Net Zero Existing Buildings Strategy](#) actions 1-3, which include:
 1. Annual emissions (and energy) performance reporting, public disclosure and labelling
 2. Greenhouse gas emissions performance targets
 3. Performing energy and emissions audits and tune-ups (at regular intervals)
- As these actions have not yet been formalized into programs, participation is purely voluntary. However, Participants in the Deep Retrofit Challenge will be well suited for (and already performing most of) these actions.
- For example, additional audits and tune-ups after the completion of the Deep Retrofit Challenge can help to maintain energy savings performance over time.

6.2. Section B- Building Owner Information

Please do not insert personal contact information in this section of the Application.

- Please read the instructions provided on the Application Form carefully.
- If you identify a business as an owner, you must identify the **person(s) who has legal authority to commit and bind the business.**
- If the Building is a condominium, the "building owners" can be the representatives legally required to bind the condominium corporation. As the project must be a holistic retrofit, it is expected that the condominium corporation has secured the proper authority to conduct the required scope of the proposed work. All work must be funded from condominium corporation funds (i.e. reserve fund, financing, special assessments).

6.3. Section C- Application Representative Information

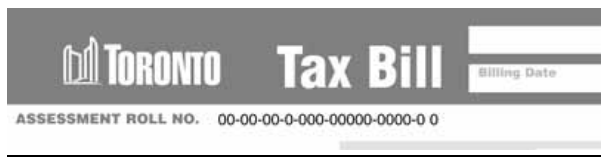
Please do not insert personal contact information in this section of the Application.

The "Building Owner Application Representative" refers to a person designated to manage the Agreement on behalf of the Participant or a third-party hired by the Participant, such as a property manager, engineering consultant, or architect to assemble the Deep Retrofit Application.

The Applicant Representative is not the person who has legal authority to commit and bind the business, as identified in Section B of the Application Form.

6.4. Section D- Building Information

'Building Legal Description' can be found via a title search, it is a written statement of the type of property and type of land it is located on. The Property Assessment Roll Number – this can be found at the top left corner of your property tax bill as pictured:



- Number of units for office buildings is the number of tenants.
- Number of occupants for office buildings will be based on average occupancy.

6.5. Section E- Status of Building's Deep Retrofit Project

Attaching a feasibility study or detailed engineering design is optional, however, completing and submitting an ASHRAE Level 2 energy assessment report (energy audit) is mandatory.

6.6. Section F- Deep Retrofit Project Details

Please read the instructions provided on the Application Form carefully, as well as the Table provided in Attachment 3. The Table provided may not provide sufficient space and it is suggested that the Applicant complete it separately then attach it to the Application. The Table template be found on the Deep Retrofit Challenge [website](#).

6.7. Section G- Deep Retrofit Project- Estimated Reductions

What is a GHG Assessment?

A GHG emissions assessment of an existing building is a quantification exercise that requires looking at the *sources* of GHG emissions affected by the initiative, such as the burning of fossil fuels due to natural gas usage for space and water heating.

Setting a Baseline

A key to understanding the impact of a building's emissions is setting a baseline. The baseline represents the GHG emission impact that would have occurred, or would occur in future, absent the initiative. The appropriate baseline for a deep retrofit initiative of an existing building will be: the current way the building to be retrofitted is operating. By using a baseline, you can understand how the proposed Deep Retrofit Project may impact GHG emissions versus any number of alternative approaches.

GHG Assessment Result

A GHG assessment must arrive at an overall emissions impact estimate represented by a standard metric called carbon dioxide equivalents ("CO₂e"). CO₂e is a unit of measurement that allows for the impact of releasing different GHGs into the atmosphere to be evaluated on a common basis.

A CO₂e value is calculated using Global Warming Potential ("GWP") factors that represent the warming impact of each greenhouse gas type – carbon dioxide, methane or nitrous oxide – which each have a unique atmospheric lifetime and heat-trapping potential.²

The default GWPs used in GHG assessments of City initiatives should be those reported [in Table 2-14 of the Fourth Assessment Report](#) of the Intergovernmental Panel on Climate Change ("IPCC"), since these are used in Environment and Climate Change Canada's annual [National Inventory Report](#) (NIR), which provides emission factors used in the City of Toronto's annual GHG inventory.

² <https://www.canada.ca/en/environment-climate-change/services/climate-change/greenhouse-gas-emissions/quantification-guidance/global-warming-potentials.html>

Emission Factors

An emission factor represents the quantity or rate GHG emissions that are released to the atmosphere as a result of a certain activity, such as burning natural gas or driving a light duty gasoline vehicle. The higher the emission factor value for an activity, the greater the emissions into the atmosphere.

Greenhouse gas intensity shall be calculated based on the following emissions factors (based on 2020 values unless otherwise noted):

Fuel	Emissions Factor (typical units for fuel)	Emissions Factor (g CO₂e / kWh)
Electricity	28 g CO ₂ e / kWh	28
Natural Gas	1,933 g CO ₂ eq. / m ³	182
Diesel	2,704 g CO ₂ eq. / L	253
District Steam (Enwave - 2021)	76.60 g CO ₂ eq. /lbs	219
District Cooling (Enwave - 2021)	22.30 g CO ₂ eq. / ton-hr (refrigeration)	6.34

Standards and Methodologies

Conforming to established standards for GHG assessments is the best way to ensure your assessment produces the most reliable and accurate results possible.

This Guide recommends the standards listed below for GHG emissions assessments. These standards include both *requirements* and *guidance*. A standard's requirements are the minimum steps that must be followed in order to claim a GHG assessment of an initiative has been undertaken in conformance with that standard. No claim of conformity with an established standard should be made until the standard's requirements are identified and satisfied.

- [ISO 14064-2:2019](#) (Greenhouse gases – Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emissions reductions or removal enhancements)
 - Leading global standard that specifies principles and requirements and provides guidance at the project level for the quantification, monitoring and reporting of activities intended to cause GHG emission reductions or removal enhancements.
 - Recommended by Infrastructure Canada for use in their Climate Lens – General Guidance.
- [The Greenhouse Gas Protocol for Project Accounting](#)
 - A comprehensive, policy-neutral accounting standard for quantifying the greenhouse gas benefits of climate change mitigation projects.
 - Recommended as a supplementary resource by Infrastructure Canada in their Climate Lens – General Guidance.
 - The Project Accounting objectives are to:
 - provide a credible and transparent approach for quantifying and reporting GHG reductions from GHG projects;

- enhance the credibility of GHG project accounting through the application of common accounting concepts, procedures, and principles; and provide a platform for harmonization among different project-based GHG initiatives and programs

Sample Layout for GHG Savings

The following is an example of a template that can be included as part of Attachment 4 in the Application to showcase GHG savings for the proposed measures.

Table 1- Example Template for GHG Savings

	Measure	Annual Electricity savings in kwh	GHG savings	Annual Natural Gas Savings m ³	GHG savings
1					
2					
3					

6.8. Section H- Project Budget

The project budget provided as part of Attachment 5 (Detailed Deep Retrofit Project Budget) should include the following information:

- Estimated costs for the proposed Deep Retrofit Project, including a breakdown of eligible and ineligible costs, per fiscal year (April 1-March 31) for the duration of the Deep Retrofit Project.
 - For example, eligible costs include design, management, construction, commissioning, training and monitoring. Further details are found in Section 4.6 (Eligible Costs).
- All current funding sources and contributions for the Deep Retrofit Project (i.e. grants, incentives, financing, etc.).

In addition to the project budget, the Applicant must make evident their payback period calculation with all inputs broken into different line items and backed by any supporting references or details. Please note that the Deep Retrofit Challenge requires a payback period of 20 years or better. See the Questions and Answers document found on the website for any questions related to payback period.

Refer to [Section 6.1.2](#) for more details on payback period calculation.

6.9. Section I- Deep Retrofit Project Financial Details

In this section, list all funding received and applied for in respect to the proposed Deep Retrofit Project.

6.10. Section J- Organization Financial Details

The Applicant must be in good standing with the City, having met the terms and conditions of any previous or current agreement for funding provided by the City. Applicants who are not in good standing will not be accepted into the Deep Retrofit Challenge.

6.11. Section K- Energy Assessment Report

Comprehensive Energy Assessment Reports completed in the past 5 years may be accepted, at the sole discretion of the City, if all of the following items are true:

- No major changes to the building have occurred since the report was completed.
- The report included assessment of savings/measures associated with measures proposed for a deep retrofit.

The Energy Assessment Report must be completed by a certified energy auditor with expertise in building energy efficiency who meets the following criteria:

(i) a professional engineer (“P.Eng.”), a qualified engineering technologist (“CET”), a certified energy manager or a certified measurement and verification professional; with a minimum of three years of experience evaluating energy systems in buildings; or

(ii) an engineer-in-training under the supervision of a P.Eng. or a CET, only if a qualified and experienced person as described in (i) above certifies and signs the energy assessment report; and

(iii) the certified professional that meets (i) or (ii) must be third party to the Program applicant.

Property owners will be responsible for engaging a certified professional to complete the building energy assessment and will assume any associated costs. Property owners may be able to offset these costs through incentives from local utility companies.

In addition to the required elements of the Energy Assessment (energy audit) Report noted above, a comprehensive Energy Assessment Report should include the following:

- A written description of the physical characteristics of the building, as well as its current condition, age and construction type;
- A description of the existing major equipment in the building including lighting, all sources of heating and cooling, their energy consumption and fuel type as well as the manufacturer, model number, physical condition and years of service;
- A description of the building envelope including insulation, windows, doors, etc.;
- A complete breakdown of the building's current energy consumption by end-use type such as lighting, space cooling, space heating, water heating, ventilation, refrigeration and plug loads.
- An analysis of the recommended energy saving and/or water conservation improvements and their resulting net effect on energy/water consumption of other systems in the building.

6.12. Section L- Project Management Plan

Carefully note which information is to be included as Attachment 6 (Project Management Plan) is mandatory and which is optional (if available).

6.13. Section M- Incentives

Participants are allowed to participate in other incentive or grant programs as well as the Deep Retrofit Challenge and stack the incentives, however the City will only cover eligible costs not already funded by other incentives or grants – you cannot double dip to cover the same expense. Challenge participants must disclose other sources of funding to the City.

For example, if a building receives grant funding for its entire retrofit from another source, the building is not eligible to participate in the Deep Retrofit Challenge.

However, if a building receives an incentive from another source to cover a portion of the retrofit costs and at least 25% of the eligible total retrofit cost is still in need of funding, then the Deep Retrofit Challenge incentive can be used to cover the remaining portion.

If a building receives financing via a City of Toronto program, such as the [Energy Retrofit Loan program](#) or [High-Rise Retrofit Improvement Support](#) program then this does not count as a grant and the building is still eligible for the maximum incentive available via the Deep Retrofit Challenge.

6.14. Section N- Attachment Checklist

All attachments are to be included with the Application Form after each 'cover page' (starting on page 13) that includes the Attachment Title. If Attachment 1 is not available, do not check this off and leave the cover page in the Application Form. The Attachments can either be merged with the Application Form via PDF (for online submission) or as a package (for mail submission) or can be sent separately via email so long as the documents are labeled as '[Building Address]-Attachment [#]- [Attachment Title]', for example: '123 Main Street-Attachment 4- Estimated Reductions'.

6.15. Section O- Consent to be contacted for Other City Programs

The following City programs which also support Toronto buildings with low carbon retrofit activity may contact applicants who are not selected to participate in the Deep Retrofit Challenge, as applicants may be eligible to receive other City funding or support:

- [Energy Retrofit Loan](#)
- [Navigation and Support Services](#)
- [High-Rise Retrofit Improvement Support](#)
- [Taking Action on Tower Renewal](#) (Coming Soon)

6.16. Section P- Applicant Acknowledgements & Agreements

Please read this section carefully and check off all provisions stated.

6.17. Section Q- Signature(s) of the Applicant

Please note only the building owner(s) (identified in Section B of the Application Form) can sign the Application Form, and not the Applicant Representatives identified in Section C of the Application Form.

7. Evaluation & Selection

Please be advised that Building Owners planning to submit more than one Application, for different Buildings, may not have all their Applications accepted even if they all score well. See Section 4.4 (Multiple Deep Retrofit Applications from One Building Owner) for more information.

7.1. Scoring System

The following scoring system is to be used as a guide when scoring criteria (i) and (ii) stated in Section 7.3 below:

Points	Score	Description
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5	Excellent	Greenhouse gas emissions or Total Energy Use Intensity reduction is above 80%.
4	Above Average	Greenhouse gas emissions or Total Energy Use Intensity reduction is between 73-80%.
3	Average	Greenhouse gas emissions or Total Energy Use Intensity reduction is between 65-72%.
2	Below Average	Greenhouse gas emissions or Total Energy Use Intensity reduction is between 58-64%.
1	Poor	Greenhouse gas emissions or Total Energy Use Intensity reduction is between 50-57%.
0	Unsatisfactory	Greenhouse gas emissions or Total Energy Use Intensity reduction is below 50%. This does not satisfy the mandatory requirements and will be disqualified.

The following scoring system is to be used as a guide when scoring criteria (iii) to (x) stated in Section 7.3 below:

Points	Score	Description
3	Excellent	Exceeds requirement of the objective/criteria in a very desirable way and distinct added value for the City.
2	Average	Fully meets all the requirements/criteria.
1	Poor	Adequately meets all the requirements or criteria. May be lacking in some areas.
0	Unsatisfactory	Does not satisfy the mandatory requirements or criteria in any manner.

7.2. Stage 1- Mandatory Requirements

The Applicant must comply with the mandatory requirements stated in Sections 4.1 (Deep Retrofit Design Requirements), 4.2 (Additional Project Requirements), and 4.3 (Building Eligibility) and the Building Owners and Building must all be in good standing with the City of Toronto. Applications that do not meet these requirements will not pass to Stage 2 evaluation.

7.3. Stage 2- Technical Evaluation Criteria

The following is a list of the evaluation criteria components and associated weight percentage:

Section A- Proposed Deep Retrofit Project

- i. Greenhouse gas emissions reduction (15% weight):**
 - a. If the project does not meet the 50% minimum reduction requirement, it will score zero points and the application will be disqualified.
 - b. If the project meets a reduction between 50-57%, it will score one point.

- c. If the project meets a reduction between 58-64%, it will score two points.
 - d. If the project meets a reduction of 65-72%, it will score three points.
 - e. If the project meets a reduction of 73-80%, it will score four points.
 - f. If the project meets a reduction of 80% or more, it will score five points.
- ii. **Total energy use intensity reduction (15% weight):**
 - a. If the project does not meet the 50% minimum reduction requirement, it will score zero points and the application will be disqualified.
 - b. If the project meets a reduction between 50-57%, it will score one point.
 - c. If the project meets a reduction between 58-64%, it will score two points.
 - d. If the project meets a reduction of 65-72%, it will score three points.
 - e. If the project meets a reduction of 73-80%, it will score four points.
 - f. If the project meets a reduction of 80% or more, it will score five points.
- iii. **Payback period (10%):**
 - a. If the project does not meet the mandatory requirement of a 20 year payback, it will score zero points and the application will be disqualified.
 - b. If the project meets a 20 year payback using an appropriate calculation and minimum required information is provided, it will score one point.
 - c. If the project meets a 20 year payback using an appropriate calculation and additional detailed information is provided, it will score two points.
 - d. If the project meets a payback period better than 20 years, it will score three points.
- iv. **Whole building analysis approach (10%):**
 - a. If the project does not propose to use a whole building analysis approach, it will score zero points and the application will be disqualified.
 - b. If the project proposes to do a whole building analysis approach but does not target key areas of the building or issues, it will score one point.
 - c. If the project proposes to do a whole building analysis approach and identifies multiple measures, it will score two points.
 - d. If the project proposes to do a whole building analysis approach and identifies all possible measures, it will score three points.
- v. **Project timeline (10%):**
 - a. If the project does not meet the required retrofit completion date of January 31, 2025, it will score zero points and the application will be disqualified.
 - b. If the project plans to meet the required retrofit completion date with no integrated contingency, it will score one point.
 - c. If the project plans to meet the required retrofit completion date with adequate contingency integrated, it will score two points.
 - d. If the project plans to be completed much before the required retrofit completion date with contingency integrated, it will score three points.
- vi. **Risk management plan (5%):**
 - a. If the project does not have a risk management plan, it will score zero points.
 - b. If the project has a risk management plan with a few risks identified and/or inadequate solutions, it will score one point.
 - c. If the project has a risk management plan with all risks identified and adequate solutions, it will score two points.
 - d. If the project has a risk management plan with all risks identified and achievable solutions, it will score three points.

vii. Community benefits (5%):

- a. It is not possible to score zero points for this criteria.
- b. If the project does not include any additional community benefits (e.g. other measures inspired by the City's TransformTO Net Zero Strategy such as active transportation or electric vehicle infrastructure, waste sorting improvements, green workforce development, etc.) beyond the Deep Retrofit Challenge requirements, it will score one point.
- c. If the project includes at least one additional community benefit, it will score two points.
- d. If the project includes more than one additional community benefit, it will score three points.

Section B- Qualifications and Experience

i. Project team qualifications (15%):

- a. If the Applicant does not provide any information about the project team qualifications or experience, zero points will be scored.
- b. If the Applicant's proposed project team includes individuals with no relative designation or certification and/or experience of less than five years in building retrofits and energy improvements, one point will be scored.
- c. If the Applicant's proposed project team includes individuals with a designation or certification in the area of building retrofits (i.e. project management, engineer, architecture, green building standards, etc.) and/or 5-10 years of experience in building retrofits and energy improvements, two points will be scored.
- d. If the Applicant's proposed project team includes individuals with a designation or certification in the area of building retrofits (i.e. project management, engineer, architecture, green building standards, etc.) and/or more than 10 years of experience in building retrofits and energy improvements, three points will be scored.

ii. Project Management Plan (5%):

- a. If the Applicant does not provide a project management plan, zero points will be scored.
- b. If the Applicant provides minimal information on any or all of the following, one point will be scored:
 - o Project milestones and timeline
 - o Scope of work
- c. If the Applicant provides adequate information on all of the following, two points will be scored:
 - o Project Milestones and Timeline
 - o Scope of Work
 - o Work plan
 - o Project implementation and control plan
- d. If the Applicant provides detailed information on all of the following, three points will be scored:
 - o Project Milestones and Timeline
 - o Scope of Work
 - o Work plan
 - o Project implementation and control plan

iii. Supporting Documentation (10%):

- a. If the Applicant does not submit all of the required attachments as part of the Application, zero points will be scored and the application will be disqualified for not meeting minimum requirements.
- b. If the Applicant provides all the required attachments as part of the Application and attachments have minimal information and adequate quality, one point will be scored.
- c. If the Applicant provides all the required attachments as part of the Application and attachments have adequate information and adequate quality, two points will be scored.
- d. If the Applicants provides all the required attachments as part of the Application and attachments have adequate information and adequate quality, and optional attachments such as a feasibility study or detailed engineering design, additional utility data or building condition assessment is provided, three points will be scored.