

Standard Scope of Work: Retrofit Technical Feasibility Studies

To be eligible for funding under Hydro Ottawa's Ottawa Retrofit Accelerator (ORA) Program, a Retrofit technical feasibility study activities must address (or dismiss with justification to the satisfaction of Hydro Ottawa) all of the following scope items. Scope items above and beyond this list may be included, but will not be funded by the ORA program unless explicitly pre-approved. Items not approved are solely the responsibility of the end customer. Hydro Ottawa reserves the right to review and accept or deny Retrofit Technical Feasibility Studies based on our determination of whether scope items have been met.

General Requirements

- Developed by a qualified third party, such as a Professional Engineer (P.Eng), Certified Energy Manager (CEM) or equivalent.
- Meet all requirements (or provide justification for exclusion)
- Detailed project budget with minimum class C cost estimates
- Project management plan
- Capital Planning Table which includes a summary of all recommended inspection, repair, maintenance, and replacement work for each relevant component
- Timeline for implementation of retrofit measures
- Feasibility study:
 - Description of each proposed individual retrofit measure(s) including associated GHG emission reductions and energy savings
 - Equipment details (manufacturer and model)
 - Specification sheets (if available)
 - Drawings
 - Review and identify any architectural and/or structural requirements to complete the intent of work and provide recommendations including but not limited to remediation works to the existing mechanical rooms and roofs, including building envelope
 - Consider other planned facility renewal and identify overlapping opportunities
 - When proposing specific equipment and systems, consider current and upcoming existing building component replacements.
 - One net zero greenhouse gas (GHG) or net zero GHG ready option must be included for each of the building system(s) or component(s) being evaluated
 - Total estimated energy savings
 - Total estimated utility cost savings
 - Total estimated greenhouse gas (GHG) emissions reductions at the building and system level. Must include both scope 1 and scope 2 emissions, may include scope 3 (embodied carbon of new equipment or materials)
 - For electricity greenhouse gas conversion factor reference the IESO
 - For Natural Gas conversion factor reference ?
- Carbon offsets and renewable energy credits may only be applied in line with the Science Based Targets Initiative and must follow the guidance provided by the Ottawa Retrofit Accelerator

- Identify any items of this scope of work that are not relevant for the target building, and provide justification for exclusion to be approved by Hydro Ottawa.
- Other documents, as required.

Eligible systems and focus areas:

The customer may include multiple focus areas in a technical feasibility study.

Eligible Building Systems and focus areas	Eligible Feasibility Studies
Building envelop	Air sealing Exterior wall cladding Insulated overcladding Insulated roofing High efficiency windows Window/balcony door replacements Window/door caulking
Financial Analysis and Business Case	ASHRAE L3 Investor Ready Energy Efficiency (IREE) certification
Mechanical systems	Boilers (high efficiency) Booster pumps Building automation systems or upgrades Building control systems or upgrades Chillers (high efficiency) Cooling system upgrades Dedicated Outdoor Air Systems (DOAS) and zonal delivery Electrification study (must consider on-site renewable energy and storage) Electrical service upgrade Garage exhaust fan & carbon monoxide (CO) controls Heat pumps Heating ventilation and cooling system [HVAC] optimization HVAC Heat/energy recovery ventilators Low power fans and pumps Mixed/series-connected system Near-temp heating/cooling Make-up air units
Other retrofit measures / technologies	Other measures that can provide energy and greenhouse gas reduction benefits may be considered. Approved vendors must seek approval from Hydro Ottawa to include measures not listed.

Renewable energy	Geothermal heating and cooling Energy/battery storage Solar air heating systems Solar hot water Solar panels Solar plus storage Storage
------------------	---

Other Requirements

- Identify relevant funding/financing programs to support implementation of recommended actions. This should look at both measure specific support, and overall support.
- Identify any relevant certification programs (such as BOMA BEST, CaGBC Zero Carbon Building Standards, etc.) for consideration.
- Review existing electrical infrastructure, including service capacity. Consult with Local Distribution Company if necessary.