



# Attach 2-CEIP Program Design-C2021-1418.docx

Program Design Study

November 2021

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# 1 Program Overview

## 1.1 Program Description

The City of Calgary is developing low carbon financing programs to support the improvement of energy performance in buildings and reduce GHG emissions. PACE (property assessed clean energy) is a repayment mechanism used in jurisdictions across North America to facilitate energy efficiency and renewable energy retrofits in commercial and residential buildings.

CEIP, Alberta's version of PACE, is a financing program designed to make residential and non-residential energy efficiency and renewable energy upgrades more accessible. CEIP allows property owners to access flexible, long-term financing through their municipality. Repayment is facilitated through an added charge to the participant's property tax bill.

*Bill 10: An Act to Enable Clean Energy Improvements* was passed June 6, 2018. The Act authorizes municipalities to complete a borrowing to finance projects and recover costs through the municipal property tax system. The attendant regulation (Clean Energy Improvements Regulation) came into force on January 1, 2019. A Ministerial Order was issued on February 11, 2021 designating the Alberta Municipal Services Corporation (AMSC) as the program administrator.

## 1.2 Program Justification

The City of Calgary published the Climate Resilience Strategy and Mitigation and Adaptation Action Plans in 2018. The Mitigation Action Plan identifies five major themes to manage Calgary's energy use and help limit global climate change. Buildings and Energy Systems is one of the themes highlighted as buildings and homes make up almost 65 per cent of greenhouse gas (GHG) emissions in Calgary. One of the actions under this theme is to 'enable innovative financing mechanisms to fund improved energy performance'. Enabling and launching the Clean Energy Improvement Program in Calgary is a first step in moving forward on this action.

In March 2020, in response to the economic challenges and impacts of COVID-19, Calgary's Council approved the creation of an Economic Resilience Task Force (ERTF). The ERTF provided recommendations for four economic recovery programs to attract investment, create jobs, and drive economic growth. One of the four programs included green investments and financing.

A significant portion of the buildings that will exist in Calgary in 2050 have already been built today, therefore, energy performance of the existing building stock will need to improve through increased energy efficiency. Despite the economic benefits, there are other barriers to increasing energy performance in retrofits or new builds. The Green Investment & Financing Program aims to tackle one key barrier – access to capital. The Clean Energy Improvement Program was a financing initiative proposed to the ERTF to be developed and launched in The City to support building retrofits and drive economic growth.

## 1.3 Program Objectives

The objectives of the Clean Energy Improvement Program in Calgary include:

- Offer an innovative financing mechanism to support property owners to go beyond current energy standards and complete retrofits to reduce GHG emissions and generate energy cost savings.
- Generate opportunities for energy efficiency and renewable energy professionals to participate in a City of Calgary program and provide services to Calgary property owners.
- Provide a foundation for low carbon financing in The City of Calgary to drive economic growth and create jobs.

## 1.4 Program Uptake Projections

### 1.4.1 City of Calgary Greenhouse Gas Inventory

The City of Calgary's carbon footprint grew by 18 per cent between 2005 and 2019.<sup>1</sup> Non-residential buildings and residential buildings contribute 65 per cent of the GHG emissions in the City of Calgary. Residential buildings contribute 5.0Mt of the total 18.5Mt of community emissions and increased by 1.0Mt since 2005.

The results of this report highlight the opportunity in the residential sector for GHG emission reductions and energy savings. CEIP can be used as a tool to reduce the energy consumption of the community building stock as well as increase the resiliency of the buildings. CEIP offers a wide range of improvements to reduce both electricity and natural gas consumption in buildings.

For residential buildings, the NRCan Home Energy Evaluation will identify a range of energy savings options for the homeowner and the evaluation report will indicate the opportunities for the greatest energy savings potential. CEIP allows homeowners to finance projects with low to no upfront cost which encourages homeowners to pursue deeper retrofits and realize deeper emissions reductions.

### 1.4.2 Housing Stock Information

The City of Calgary is the largest city in southern Alberta. According to Statistics Canada's 2016 Census Profile, the population of Calgary was nearly 1,250,000 with just under 490,000 private dwellings.<sup>2</sup>

Statistics Canada's 2016 Census Profile also provides insight into the housing stock in the City of Calgary.<sup>3</sup> Most of the private dwellings are single detached homes (56 per cent) with the remaining housing stock (44 per cent) made up of semi-detached houses, row houses, duplexes, or apartments. The majority of the private households are owner occupied (71 per cent). Sixty-eight per cent of the building stock was constructed in 2000 or earlier.

Calgary's housing stock includes a mix of older housing (built before 2000) and newer housing (built 2001 and later). The older housing stock is a strong candidate for CEIP. Older homes

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<sup>1</sup> [Calgary's Climate Program : Climate Resilience Strategy Report 2019](#)

<sup>2</sup> Census Profile, 2016 Census - Calgary, City [Census subdivision], Alberta and Division No. 6, Census division [Census division], Alberta (statcan.gc.ca)

<sup>3</sup> Ibid.

likely require a suite of upgrades; homeowners looking to complete deep retrofits can benefit from the low interest and long repayment term of the Program. The newer housing stock still holds great opportunities for participating in CEIP. Equipment such as furnaces and water heaters typically have a lifespan of 12 to 20 years and opportunities for increased insulation will likely be present in many homes. Homeowners investing in energy efficiency retrofits and renewable energy equipment for old or new housing will not only save money in utility and maintenance costs but will likely increase the value of their home.

### 1.4.3 Projected Project Costs

PACE-type programs have been active in the cities of Toronto and Halifax for the past seven years. The average cost of projects seen through their programs has been used as a proxy to estimate average project costs for Calgary's CEIP program.

Toronto's HELP program (2014-2016) had an average project cost of just over \$16,000 with the majority of upgrades being windows and doors, heating systems, and insulation<sup>4</sup>. Toronto's HELP program has seen consistent increases in project sizes as the program has been in market; in 2018, the reported average project costs increased to \$17,400<sup>5</sup> and in 2019 increased to \$22,000<sup>6</sup>. Halifax's Solar City program (2016-2017) saw an average project cost of just over \$20,000 for solar photovoltaic installations<sup>7</sup>; Halifax also saw an increase in project size over time, with the average project costs increasing to just over \$26,100 in 2019<sup>8</sup>.

Using the data above on project sizes seen in other jurisdictions, it is anticipated that the average project costs in Calgary will be around \$18,000 in the first year rising to just under \$24,000 in year 4.

### 1.4.4 Projected Uptake

The City of Calgary established a maximum of \$15 Million of financing to be allocated to this program through the CEIP Bylaw. Based on the average project sizes determined above it is estimated that approximately 720 participants will finance projects over four years. This represents 0.2% of the eligible residential properties<sup>9</sup> in Calgary.

Projections	Year 1	Year 2	Year 3	Year 4	Total
Average Project Cost	\$18,000	\$19,800	\$21,800	\$24,000	-
Participants Per Year	180	180	180	178	718
Total Financing	\$3.2 Million	\$3.6 Million	\$3.9 Million	\$4.3 Million	\$15.0 Million

4 <https://www.toronto.ca/legdocs/mmis/2017/pe/bgrd/backgroundfile-102272.pdf>

5 <https://www.toronto.ca/legdocs/mmis/2018/pe/bgrd/backgroundfile-114375.pdf>

6 <https://www.toronto.ca/legdocs/mmis/2019/ie/bgrd/backgroundfile-134697.pdf>

7 <https://www.halifax.ca/sites/default/files/documents/city-hall/standing-committees/180201essc111.pdf>

8 <https://www.halifax.ca/sites/default/files/documents/city-hall/standing-committees/191205essc151.pdf>

9 Census Profile, 2016 Census - Calgary, City [Census subdivision], Alberta and Division No. 6, Census division [Census division], Alberta (statcan.gc.ca). Note: eligible properties include single-detached houses, semi-detached, row house, duplex and other single attached houses.

## 1.5 Annual Program Projections

Based on the projected project costs and uptake in the program, the energy savings, GHG emissions, and financing allocations have been projected per year. It is anticipated The City will take full advantage of the available grant funding through the Federation of Canadian Municipalities' (FCM) Community Efficiency Financing initiative (see Section 3.1.2). The FCM grant will be used to cover operating costs for The City and the AMSC, incentives for participants, a loan loss reserve fund, and program marketing.

Program Projections	Year 1	Year 2	Year 3	Year 4	Total
<b>Energy Savings and GHG Emission Reductions<sup>10</sup></b>					
Annual Electric Savings (kWh/year)	782,315	880,104	953,446	1,051,235	3,667,100
Annual Gas Savings (GJ/year)	10,034	11,288	12,229	13,483	47,034
Lifetime Electric Savings (kWh/year)	14,863,980	16,721,978	18,115,476	19,973,473	69,674,906
Lifetime Gas Savings (GJ/year)	190,646	214,476	232,349	256,180	893,652
Annual GHG Reduced (tCO <sub>2</sub> e/year)	1,063	1,195	1,295	1,428	4,981
Lifetime GHG Reduced (tCO <sub>2</sub> e)	20,144	22,662	24,551	27,069	94,426
<b>Projects and Financing</b>					
Projects Financed (#)	180	180	180	178	<b>718</b>
FCM Loan (\$ Million)	\$1.95	\$2.35	\$2.65	\$3.05	<b>\$10.0</b>
City of Calgary Financing Fund (\$ Million)	\$1.25	\$1.25	\$1.25	\$1.25	<b>\$5.0</b>
<b>Total Financing Budget Allocated (\$ Million)</b>	<b>\$3.2</b>	<b>\$3.6</b>	<b>\$3.9</b>	<b>\$4.3</b>	<b>\$15.0</b>
<b>Grant Funding for Operating Costs</b>					
FCM Grant (\$ Million)	\$1.25	\$1.25	\$1.25	\$1.25	<b>\$5.0</b>

## 1.6 Key Performance Indicators

Performance Theme	Performance Area	Description
Environment	Emissions Reductions	Amount of GHG emission reductions
	Energy Savings	Amount of energy saved

<sup>10</sup> The AMSC provided estimates for energy savings and GHG emission reductions based on the estimated program uptake per year. Actual energy savings and GHG emission reductions will vary by type of improvements installed in homes through the program.

Economy	Jobs	Number of jobs generated through total investment
	Contractors	Number of qualified contractors completing improvements
	Cost Effectiveness	Dollars spent for achieving emission reductions and energy savings
Participation	Renovations	Number of clean energy improvements completed through the program
	Investment	Amount of financing invested into clean energy improvements
	Satisfaction	Survey of participant satisfaction with the program

## 2 Program Design

This section outlines the key considerations and context for the design of the CEIP program.

### 2.1 Program Barriers

The table below highlights the barriers the program is intended to address, and the strategies used to do so.

Barrier	Description	Strategy
High upfront cost of improvements	Home retrofits are a costly expense and many property owners do not have the cash on hand to finance the upfront costs.	<ul style="list-style-type: none"> <li>▪ Full project cost (up to \$50,000) can be financed through CEIP.</li> <li>▪ Incidental costs – expenses indirectly related to the improvement but required for successful execution – are eligible for financing (up to 15% of the total project capital cost).</li> </ul>
Lack of knowledge of how and where to engage qualified contractors or lack of contractors to complete the desired project.	Some property owners may lack the knowledge or confidence to engage retrofit contractors.	<ul style="list-style-type: none"> <li>▪ CEIP will have a list of contractors available for participants to use.</li> <li>▪ CEIP will actively engage contractors to ensure there are availability for all eligible improvements.</li> </ul>
Information gaps (e.g., determining which improvements to target).	Results from the Environment Strategy engagement (2021) highlighted that some homeowners are unsure about how to make the best energy savings choices.	<ul style="list-style-type: none"> <li>▪ CEIP requires homeowners to complete an EnerGuide Home Energy Evaluation to identify the best improvement opportunities for their home.</li> </ul>



## 2.2 Program Risks and Mitigation

The following risks and potential mitigation efforts have been identified for the Clean Energy Improvement Program in the City of Calgary.

Risk	Level	Mitigation
Higher or lower than anticipated program uptake	High	<p>This type of program is new to Alberta and program uptake is unknown. Municipalities in eastern Canada have seen moderate to high uptake in their similar programs. The City will closely monitor the uptake in the City of Edmonton and may adjust expectations and projections of uptake as required.</p> <p>If uptake is lower than expected additional marketing efforts may be implemented by The City and the AMSC. The City and the AMSC will implement a system to control intake of applications (e.g., waitlist), to mitigate higher than expected program uptake.</p>
Quality assurance and control issues related to clean energy improvement installations	Medium	<p>Neither The City or the AMSC will recommend specific contractors to participants nor will either party guarantee the quality of the work of the contractors. However, there is reputational risk to The City when contractors are completing work through a City-supported program.</p> <p>Post-retrofit NRCAN evaluations will help The City ensure the upgrades that were submitted and paid for were installed on the property. Additionally, the AMSC has the ability to complete site visits to verify installations were completed.</p> <p>Contractors participating in the program must also sign a Contractor Code of Conduct and are subject to an Escalation Framework. If issues are brought forward, contractors may be removed from the program.</p>
Higher than expected number of default payments	Medium	<p>Across North America, property-tied energy efficiency financing programs have had low rates of defaults. The project team determined eligibility criteria for properties and participants to reduce the risk of defaults through the program (e.g., property tax payment history).</p> <p>There are limitations on the amount of financing a property may receive based on the overall limit of \$50,000 and the annual Clean Energy Improvement Tax amount (e.g., if the property has \$2,000 in annual property taxes the annual Clean Energy Improvement Tax amount cannot be greater than \$2,000).</p>
Material or labour shortages	Low	<p>The COVID-19 pandemic has created supply chain issues in many industries. It is anticipated that these issues will resolve over the next year and if still pose a risk, The City may extend the time frames for project completions to those experiencing delays due to material shortages.</p> <p>The NRCAN Greener Homes program has provided funding for capacity building in Service Organizations across Canada. It is</p>

		anticipated that this funding will help ensure there is adequate capacity for home evaluations for the CEIP program.
Potential mortgage lender concerns	Low	The City, in the application to FCM, will establish a loan loss reserve, to reduce mortgage lender concerns of repayment in default scenarios.  Additionally, the City and the AMSC will develop and provide homeowners with a CEIP information package to share with their mortgage lender when seeking consent to participate in the program.
Lack of coordination and integration with existing offerings	Low	The City of Calgary does not have incentive/financing programs currently in market. Any future programs will be designed to be complementary to CEIP. It is intended that CEIP participants would be able to take advantage of any external programs and incentives available (e.g., NRCan Greener Homes).
Lack of internal staffing capacity and competencies	Low	The City of Calgary has a dedicated Climate Change Mitigation team, as well as large teams within Finance, Tax, and Assessment. Additional technical and administration support from the AMSC will round out the project team for CEIP.
Lack of robust consumer protection measures	Low	The CEIP legislation was developed with strong consumer protection measures including qualified contractor requirements and limits on the amount of financing available. If consumer issues are identified after program launch, guides and materials may be developed for educational purposes or updates to program requirements may be made.

## 2.3 Stakeholder Engagement

### 2.3.1 Calgary Climate Panel

The City has brought together key stakeholders to form the Calgary Climate Panel<sup>11</sup>, to provide strategic advice and support to facilitate the implementation of actions from the Climate Resilience Strategy. While not a formal committee of Council, the Panel is a collaboration between industry, community, and The City. The Climate Panel has a diverse membership including but not limited to environmental education organizations, utilities, universities, and building and contractor associations.

The Climate Panel has been active since 2018 and has been engaged in the climate adaptation and mitigation projects The City has been implementing. Starting in late 2020, the Climate Panel was actively engaged on low carbon financing options for the City of Calgary, including the Clean Energy Improvement Program. The City has provided updates to the Climate Panel

<sup>11</sup> [Calgary Climate Panel](#)

during program development and has received support and advice from the panel during this process.

### 2.3.2 Economic Resilience Task Force

The Economic Resilience Task Force (ERTF) was created in March 2020, in response to the economic challenges and impacts of COVID-19. The ERTF consisted of representatives from The City and from the public and private sector (e.g., universities, government representatives, energy companies, business associations, consulting companies). The ERTF provided recommendations for economic recovery programs targeted at attracting investment, capitalizing on opportunities to create jobs, and driving economic growth.

CEIP was received as a proposal to the ERTF under the focus area of green investments and financing. The ERTF was highly supportive of the development of the program in the city of Calgary. The ERTF has been engaged and updated on the progress of program development.

### 2.3.3 Property Owners and Trade Allies

#### Property Owners

In January 2021, The City of Calgary completed engagement with the public on Calgary's Environment Strategy.<sup>12</sup> Through this engagement The City learned that 'Renovating homes to be more eco-friendly' was one of the top four actions that Calgarians are most inspired to act on to reduce their impact on the environment. Calgarians also identified the barriers to taking action. Some of the barriers identified were the cost required to make improvements, split incentives, and lack of knowledge of what improvements will have the greatest impact. Calgarians identified the types of improvements to their homes they were interested in making which included many that are on the CEIP eligible improvement list (e.g., furnaces, solar PV, windows, insulation).

Property owners, and all citizens of Calgary, were able to provide feedback on the CEIP bylaw at the December 6, 2021 Public Hearing.

#### Trade Allies

The City of Calgary works closely with BILD Calgary, as they are a member on the Calgary Climate Panel. BILD Calgary represents developers, builders, renovators, trades, consultants, service professionals, and manufacturers and suppliers in Calgary and surrounding region (e.g., Cochrane, Okotoks). BILD Calgary advocates for the building industry in the region and is a valuable stakeholder when The City considers program impacts to trade allies in the region. BILD Calgary will continue to be engaged and involved as CEIP is developed and implemented in Calgary.

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<sup>12</sup> [Environment Strategy and Action Plan | Engage \(calgary.ca\)](#)

## 2.4 Equity Considerations

The CEIP legislation sets out some parameters of program design and the AMSC, as program administrator, and The City have set out additional parameters for the program. There are elements of the program that align with considerations around equitable access to the program. These include:

- Eligibility based on property tax payment history and not credit checks
- Up to 100% of the project costs are paid directly to the contractor by the Program (eliminating the need for upfront funds by the participant)
- Low interest rates that some participants may not be able to access from traditional lenders
- Third-party professionals complete EnerGuide home energy evaluations and provide guidance on which improvement will provide energy cost savings (reduces potential sales pressure from contractors)

As the City of Calgary evaluates the program year over year, additional considerations or program parameters may be developed to ensure the program is as equitable as possible.

## 3 Program Details

### 3.1 Financing Strategy

#### 3.1.1 PACE

CEIP is a version of PACE or property assessed clean energy program. PACE programs use a municipality's property tax system to facilitate financing repayment. The City of Calgary will borrow funds from a lending institution or internal funds and use those funds to finance clean energy improvements in residential properties.<sup>13</sup>

The full cost of eligible project costs can be financed through CEIP (i.e., capital costs, incidental costs to a maximum value of 15% of the capital costs, and professional service costs). This means the participant does not have to provide upfront funds, which is a barrier for many property owners.

#### 3.1.2 Source of Funds

The City is planning on applying to FCM's Community Efficiency Financing initiative to access up to \$10 Million loan. This loan is expected to be at a fixed low-interest rate repaid over 15 to 20 years.

For the additional \$5 Million in financing (for a total of \$15 Million in financing), The City may borrow from an external lender or fund the program internally. Internally funding the program through a revolving capital fund (or similar mechanism) may be preferable to engaging a secondary lender as costs of borrowing are reduced, the interest rate can be set to match the FCM offering, and funds can be revolved directly back into the program.

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<sup>13</sup> Non-residential properties are eligible in the legislation; however, Calgary's bylaw only includes residential properties at this time.

## 3.2 Financing Terms

The specific terms of the financing will be outlined in each participants' Clean Energy Improvement Agreement. The terms listed below are the general guiding terms for all Agreements in the program.

### 3.2.1 Maximum Financing Amount

The maximum financing that can be accessed for a single property is limited by two factors: (1) the property owner's current annual property tax payment, and (2) the Program financing limits for properties. The financing limit determined in the CEIP regulation is \$50,000 for residential properties. The lesser of these two limits is the maximum financing amount available for a project.

The annual payment for the Clean Energy Improvement Tax is determined by taking the final project cost (and the program administration fees if applicable) and dividing by the term of the Clean Energy Improvement Tax. The existing annual property tax amount (i.e. the amount of tax most recently imposed on the property) must be greater than or equal to the participant's annual payment towards their Clean Energy Improvement Tax.

### 3.2.2 Interest Rate

The interest rate for CEIP is determined by The City of Calgary and is based on the source of funding accessed by The City. The Clean Energy Improvement Bylaw has a maximum interest rate of 8%. The interest rate will be fixed over the term of the CEIP loan and will be included in the Clean Energy Improvement Agreement between the participant and The City of Calgary. The interest rate will be determined once a lending source is confirmed but is expected to be between 1% and 3%.

### 3.2.3 Term

The maximum term of the Clean Energy Improvement Tax is equal to the effective useful life (EUL) of the improvements completed in the project. The EUL reflects the anticipated lifespan of the improvement in years. The maximum term is equal to the EUL of that improvement.

The participant may select a shorter term upon signing the Clean Energy Improvement Agreement provided the annual payment towards the Clean Energy Improvement Tax does not exceed the existing property tax payment. Property owners can pay the remaining amount on the Clean Energy Improvement Tax at any time.

### 3.2.4 Sale of Property

If the property owner offers their property for sale, they are required to disclose the existence and the contents of the Clean Energy Improvement Agreement to the prospective purchasers of the property and the realtor (if applicable). If the property is sold, the Clean Energy Improvement Agreement must be appended to the contract of sale. If the property is transferred, the Clean Energy Improvement Agreement must be provided to the person the property is transferred to. The property owner and purchaser may negotiate the Clean Energy Improvement Tax be fully paid by the current property owner before the sale of the property.

## 3.3 Incentives

### 3.3.1 Natural Resources Canada Greener Homes Grant

Property owners will be encouraged to take advantage of the Greener Homes Grant program offered by Natural Resources Canada. The Greener Homes program is anticipated to be available over the course of the four years of initial CEIP program delivery. Property owners can access a grant to offset the cost of their EnerGuide Home Energy Evaluation.

If receiving a grant from the Greener Homes program for home improvements, participants may decide to reduce the financing request from The City through CEIP or may choose to still finance the entire eligible cost.

### 3.3.2 City of Calgary Incentives

The City of Calgary does not have an allocated budget for incentives for CEIP. However, through the application to FCM The City will be requesting grant funds to support incentives for participants in the program. These incentives will be allocated to eligible improvements as the majority of the cost of the EnerGuide Home Energy Evaluation will be covered through the Greener Homes Grant program. If the Greener Homes Grant program's funds are exhausted or the program is cancelled, the funds may be reallocated to offsetting the cost of the EnerGuide Home Energy Evaluation for participants.

## 3.4 Loan Loss Reserve

Through the application to FCM, The City will be requesting grant funds to create a loan loss reserve for the program. This loan loss reserve will be used to reduce risk in the program by providing funds to offset costs of defaults through the program. This loan loss reserve will be subject to FCM's Municipal Loss Reserve Policy.

While defaults are not common in PACE-type programs a loan loss reserve will reduce potential concern within City Administration and with other entities like mortgage lenders.

## 3.5 Eligible Clean Energy Improvements

The AMSC will post an eligible clean energy improvements list on the Clean Energy Improvement Program website ([myCEIP.ca](http://myCEIP.ca)) that will list the eligible improvements, their expected energy savings and expected useful life.

A draft list of eligible improvements can be found in Appendix A.

## 3.6 Application of EnerGuide Rating System

To participate in CEIP, participants must have an EnerGuide Home Energy Evaluation completed before they submit their Project Application Form. This allows the property owners to understand the best opportunities for energy savings in their home from a certified third party.

The City and the AMSC will receive the data generated from the pre-retrofit and post-retrofit EnerGuide Home Energy Evaluations from NRCan. This data will help with continuous program design and development by answering questions like:

- What improvements are recommended the most often? Does this vary by housing type or housing age?
- Are participants completing the improvements with the greatest potential for savings? If not, what are they choosing instead?
- What are average GHG and energy savings generated through the program? Are there trends per type/age/size of home?

The EnerGuide data will also provide the energy saving and GHG reduction data required for reporting on program results.

## 4 Program Participation

### 4.1 Eligibility Criteria

There are two types of eligibility for the program, the first being the eligibility of the property and the second being the property owner's or participant's eligibility.

#### 4.1.1 Minimum Property Eligibility

- The property is a privately owned residential property located within the City and is one of the following types of properties:
  - single and semi-detached houses;
  - row houses;
  - townhomes; and
  - residential portions of mix-use buildings and multi-unit residential buildings, provided that such buildings are both under three storeys and have a footprint of 600 meters squared (6,458 feet squared) or less.
- Manufactured homes, mobile homes, non-residential properties, and designated industrial properties are not eligible for The City's Program.
- The property will be deemed ineligible if:
  - there is an existing CEI Agreement in place for the property and the costs of that CEI Agreement have not been placed on the tax roll;
  - the property is going through foreclosure;
  - there are development compliance issues or safety code issues associated with the property;
  - the property does not meet the requirements of the Bylaw, Act, or Regulation.
- The property may be deemed ineligible if:
  - The property is subject to some form of ongoing or anticipated litigation in relation to its ownership;
  - The property is not being used primarily for residential housing purposes.

#### 4.1.2 Minimum Participant Eligibility

- The property owner/participant will be deemed ineligible if:
  - The property owner is in tax arrears on the property;
  - The property owner is in bankruptcy or receivership;
  - The property owner has not confirmed that the property's mortgagors have approved participation in the program;
  - there is a dispute with the property owner about whether the property owner is abiding by the terms of any other grant of financial assistance that the property owner has received from any level of government;
  - the property owner has fallen into tax arrears within the previous five years on the property;
  - the property owner does not meet the requirements of the Bylaw, Act, or Regulation.
- The property owner/participant may be deemed ineligible if:
  - An individual or business entity related to the property owner is in bankruptcy, or receivership;



- the property owner owns any interest in another property that is going through foreclosure;
- the property owner owns any interest in another property that is going through foreclosure;
- the property owner is participating in The City's Property Tax Assistance Program or the Government of Alberta's Seniors Tax Deferral Program.

## 4.2 Participant Roles

The homeowner/participant is responsible for submitting all program forms and supporting documentation to the AMSC and The City. The participant works with their Energy Advisor and their Qualified Contractor to collect all required information for the program.

The participant must enter into the two program agreements, the Clean Energy Improvement Agreement with The City and the Project Agreement with the AMSC and the Qualified Contractor.

Once the project is completed, the participant will be required to repay the Clean Energy Improvement Tax over the term identified in the CEI Agreement.

## 4.3 Consumer Protection Measures

The provincial CEIP legislation includes several consumer protections measures:

- Minimum warranty standards for materials and labour related to the installation of eligible improvement(s).
- Only improvements that increase energy efficiency or increase the use of renewable energy on a property are eligible for financing.
- The program administrator (AMSC) is required to review the terms and conditions of the program financing agreement (Clean Energy Improvement Agreement) with property owners.
- The legislation also sets project financing maximums for residential properties at \$50,000.
- CEIP repayments cannot exceed what a property owner is currently paying in property taxes (i.e., the property owner's property tax bill, with CEIP included, cannot be more than double their current property taxes).
- Under the regulation, CEIP cannot charge an admin charge greater than 5% of the capital cost (equipment, labour) of the project, which will be specified in the program terms and conditions, and the participant must acknowledge it at the time of the project agreement.

Consumer protection measures specific to contractors include:

- The program administrator must establish and publish Qualified Contractor Marketing Guidelines on the program website ([myCEIP.ca](http://myCEIP.ca)) that participating contractors must adhere to. Failure to comply with the Guidelines will result in contractor removal from the program.
- The AMSC requires Qualified Contractors to have \$2 Million in commercial liability insurance, automobile insurance for business, ability to obtain a clearance letter from WCB-Alberta. Professional service providers must have \$1 Million in errors and omissions insurance.

## 5 Program Partners

### 5.1 Program Administrator

The Alberta Municipal Services Corporation was designated through the Clean Energy Improvements Regulation as the provincial program administrator for the Clean Energy Improvement Program.

The legislation and regulation designate specific responsibilities of the program administrator. These responsibilities are detailed in Section 6.1.1.

### 5.2 Lenders

The legislation requires that financing of clean energy improvements is completed by the municipality. The City may partner with lending organizations to borrow funds to finance the improvements.

#### 5.2.1 Federation of Canadian Municipalities (FCM)

The City of Calgary will be applying to FCM's Community Efficiency Financing initiative which is delivered through the Green Municipal Fund and funded by the Government of Canada.

FCM is offering a capital loan combined with a grant. The loan is available up to a maximum of \$10 Million and the grant is available up to 50% of the loan amount (maximum \$5 Million). The City is planning to take advantage of the loan and grant available and will be applying for the full \$10 Million loan and the maximum grant amount available.

### 5.3 Trade Allies

CEIP requires the participation of multiple groups of trade allies. These include NRCan certified Energy Advisors, installation contractors, and professionals (e.g., engineers, architects).

The legislation requires all work related to the installation of a clean energy improvement must be completed by a Qualified Contractor. This means that anyone working on the project must be on the AMSC's list of Qualified Contractors (or an employee of a Qualified Contractor) before completing any work.

Qualified Contractors must adhere to the CEIP Qualified Contractor Terms and Conditions, Code of Conduct and Issue Escalation Framework, and the Marketing Guidelines to remain on the list of Qualified Contractors.

## 6 Program Administration

### 6.1 Roles and Responsibilities

#### 6.1.1 AMSC Roles and Responsibilities

As per the CEIP legislation, the AMSC, as program administrator, has the following responsibilities for the program:

##### Clean Energy Improvements

- Establish and update a list of types of renovations, adaptations or installations for which clean energy improvement agreements may be made and publish the list on their website.
- The list noted above must include the anticipated lifespan of the clean energy improvement, and the estimated energy savings.

##### Qualified Contractors

- Establish and update a list of persons who may provide services relating to clean energy improvements and publish the list on the program administrator's website.
- Establish and publish on their website a code of conduct for qualified contractors, marketing guidelines for qualified contractors, and a policy for when qualified contractors will be removed from the list for failure to comply with the code of conduct or marketing guidelines.
- The code of conduct and marketing guidelines must include the requirements listed in the CEIP Regulation.
- Manage removal of qualified contractors from the list based on the established removal policy.

##### Program Delivery

- Enter into an agreement with the municipality once the municipality has passed a clean energy improvement bylaw. The agreement must include the split of the proportionate administration cost.
- Receive applications from property owners for clean energy improvements.
- Determine if a fee is to be charged to participants and manage the collection of that fee.
- Provide the participant with the Clean Energy Improvement Agreement and obtain the signed acknowledgement that the participant received the information.
- Review the application to ensure it is eligible under the CEIP bylaw, the Act, and the Regulation. If the application is eligible approve the application.
- Provide a copy of the approved application to the participant and The City.
- Review the terms and conditions of the clean energy improvement agreement with all owners of the property and obtain the signed acknowledgement of all owners that they understand the terms and conditions before the clean energy improvement agreement is signed.

- Enter into an agreement with the property owner and the qualified contractor for services relating to the clean energy improvement, once a clean energy improvement agreement is executed by The City and the participant.
- Monitor the progress of the clean energy improvement or to verify the clean energy improvement has been completed by accessing the property in which a clean energy improvement was made to.

#### Monitoring and Reporting

- Monitor the clean energy improvement program for cost savings and emission reductions.
- Prepare and publish a public annual report on or before September 1 and provide a copy to each municipality that has passed a clean energy improvement tax bylaw.

#### 6.1.2 City of Calgary Roles and Responsibilities

As per the CEIP legislation, The City of Calgary has the following responsibilities for the program:

##### Bylaw & Program Development

- Council must pass a clean energy improvement bylaw. The bylaw must include the requirements as outlined in the Act and Regulation.
- Council must hold a public hearing and do the required advertisement period.
- The City must enter into an agreement with the program administrator once a clean energy improvement bylaw was passed. The agreement must include the split of the proportionate administration cost.

##### Program Delivery

- The City must enter into a clean energy improvement agreement before the clean energy improvement is made to that property. The clean energy improvement agreement must include the requirements stated in the Act and Regulation.
- Ensure the project meets the requirements listed in the Regulation and the Bylaw before entering into the clean energy improvement agreement with the participant.

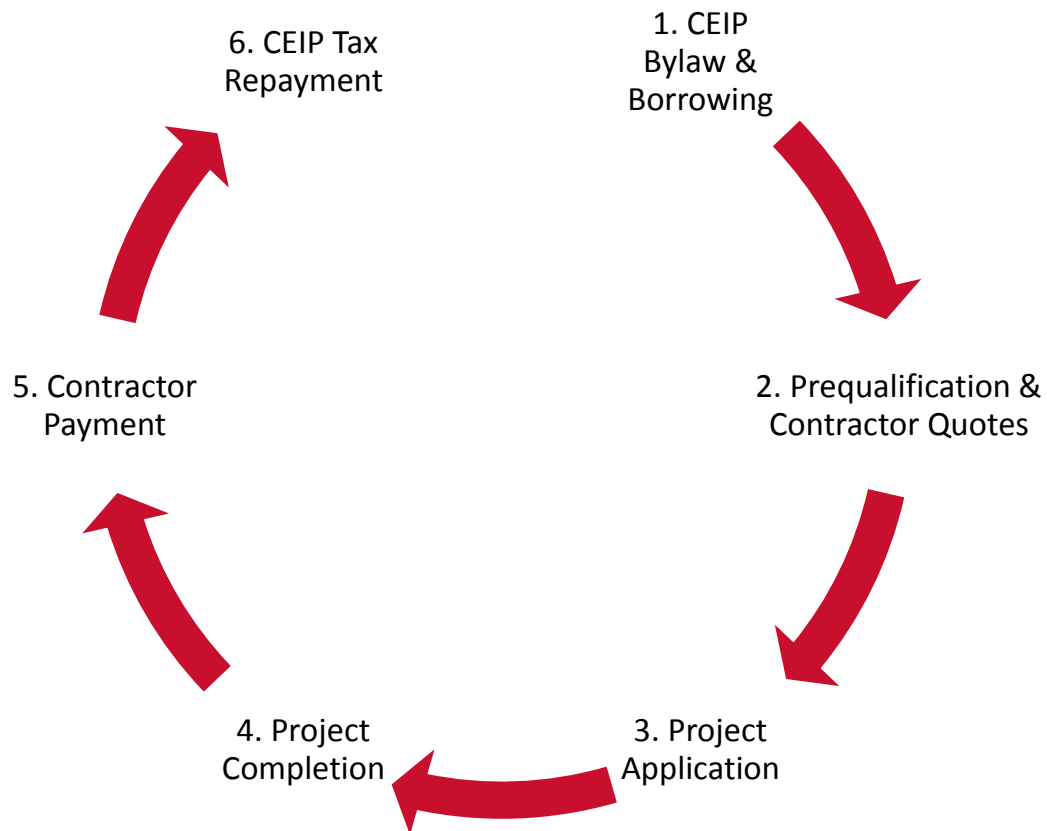
#### 6.1.3 Additional Roles and Responsibilities

In order to facilitate a successful program, additional roles and responsibilities will be negotiated between the AMSC and The City of Calgary. These tasks are not defined in the legislation or assigned to one of the parties. The roles will be outlined in the Master Program Agreement.

- Payment to the qualified contractors for work completed.
- Facilitation of signatures on the Clean Energy Improvement Agreement.
- Title searches to ensure no foreclosures or liens on the property at the Pre-Qualification stage and prior to final contractor payments.
- Marketing and communications tasks for the program.

## 6.2 Program Process

### 6.2.1 Program Process Flow



### 6.2.2 Program Delivery Steps

#### 1. Clean Energy Improvement Bylaw and Borrowing

The City of Calgary can pass a bylaw to establish the program and enable clean energy improvements to be made to properties as well as authorize the borrowing for financing clean energy improvements.

Once the bylaw is passed and the borrowing is secured the program can launch to eligible property owners.

#### 2. Pre-Qualification and Contractor Engagement

To initiate an application to the program, a property owner will submit a pre-qualification form to the AMSC. This initial application will be used by The City and the AMSC to confirm the property

is eligible for the program. Both the AMSC and The City will complete a review of the application and once confirmed as eligible, the property owner will be notified that they may submit a Project Application.

### 3. Project Application

Prior to submitting a Project Application, the property owner will have an EnerGuide Home Energy Evaluation completed on the home by an NRCan certified Energy Advisor. The property owner will use the results of this evaluation to choose eligible clean energy improvements to complete on the property. The property owner will choose one or more contractors from the AMSC's list of Qualified Contractors to obtain a quote and complete the Project Application Form.

The Project Application Form will be submitted to the AMSC and reviewed to ensure all proposed clean energy improvements meet the program eligibility requirements. The maximum financing that can be accessed for a single project is limited by two factors: (1) the property owner's current annual property tax payment, and (2) the program financing limits for residential properties (\$50,000 per property as defined in the legislation).

If approved, the property owner will enter into a Clean Energy Improvement Agreement with The City based on the clean energy improvements and the associated costs submitted in the Project Application Form. The property owner will also enter into a Project Agreement with the AMSC and the Qualified Contractor(s).

### 4. Project Completion

The Qualified Contractor will complete the installation of the clean energy improvement and provide the required documentation to the property owner to submit to the AMSC. The property owner will submit an Upgrade Completion Form to the AMSC confirming the clean energy improvement was installed and the final costs of the improvement. A post retrofit NRCan EnerGuide home evaluation would be required once all approved improvements are installed.

### 5. Contractor Payment

The Qualified Contractor will receive payment for the costs submitted in the Upgrade Completion Form. The property owner is responsible for paying the contractor directly for any costs not eligible and approved in the program.

### 6. Clean Energy Improvement Tax Repayment

The City will place a Clean Energy Improvement Tax as set out in the Clean Energy Improvement Agreement on the property's property tax roll once the payment is made to the Qualified Contractor.

When the property owner receives the next year's property tax notice, the Clean Energy Improvement Tax will be included as a separate line item. The property owner would then repay the Clean Energy Improvement Tax through their normal property tax payment mechanism (e.g., Tax Installment Payment Plan). The property owner may repay the entirety of the Clean Energy Improvement Tax at any time.

The City will collect the repayments and repay the lender as per the terms of the lending agreement.

## 7 Supplementary Documentation

### 7.1 Jurisdictional Scan – Canadian Programs

#### Halifax Solar City Program

- Halifax's program is only solar technologies (electric, hot air, hot water)
- Over 800 projects (2013 – 2020)
- Halifax's Solar City program (2016-2017) saw an average project cost of just over \$20,000 for solar photovoltaic installations increasing to just over \$26,100 in 2019.
- The Solar City program has financed more than \$18 million in solar energy systems since its inception in 2012 and is one of the first PACE programs in Canada to generate demand that outweighs what the current program model can finance.
- Rebates currently available through Efficiency Nova Scotia for solar PV, for up to 25% of the eligible system costs or up to \$6,000.
- Program eligibility:
  - All residential taxes are paid in full as well as any other fees and charges which are invoiced separately through the tax account (i.e. false alarms, unsightly premises, curbside garbage pickup, deferred regional development charge, etc.).
  - Solar pilot program (SLC) and/or LIC (road improvements, sewer and/or water installations) must either be paid in full or are being paid per the annual billing cycle or other authorized payment plan and are up to date.
  - Requires mortgage consent in the agreement but does not require proof.
- Update (July 2021): Halifax recently received \$175K from FCM to complete an evaluation study of the program and develop a plan for expansion of the program in 2021.

#### City of Toronto HELP Program

- Toronto's program offers financing for energy efficiency improvements, solar PV, solar hot water, geothermal, EV charging, and battery storage.
- Over 200 projects (2014 – 2019)
- Toronto's HELP program (2014-2016) had an average project cost of just over \$16,000 with the majority of upgrades being windows and doors, heating systems, and insulation. The program has seen consistent increases in project sizes as the program has been in market; in 2018, the reported average project costs increased to \$17,400, and in 2019 increased to \$22,000.
- Program eligibility:
  - All of the property owners on title consent to participate in the program
  - Property tax and utility payments to the City are in good standing
  - Participant obtains written consent from their mortgage lender (if applicable)

- Rebates currently available through the Province of Ontario, City of Toronto, and Enbridge, for water heaters, insulation, windows, and range from \$50 to \$1,500.
- Update (March 2021): Clean Foundation recently received approval through FCM's program for \$9.7M in a loan and \$4.9M in a grant for their Clean Energy Financing Programs.

### Clean Foundation – Clean Energy Financing Program (Nova Scotia)

- Regional administrator who runs the program for seven small municipalities/districts (Town of Amherst, Town of Bridgewater, District of Barrington, Municipality of Cumberland, District of Digby, District of Lunenburg, District of Yarmouth).
- Clean Foundation requires a 1:1 debt to savings ratio (cost of the clean energy upgrades, program fees, and cost of borrowing must be less than or equal to the estimated energy savings over the financing period).
- Over 50 projects completed.
- Maximum financing amounts range from \$10,000 to \$25,000.
- Program eligibility:
  - All of the property owners must consent to participation in the program
  - The property has been in good standing with respect to municipal taxes, rates, or charges
  - The residence is in a participating municipality
  - Note: The District of Lunenburg and the Town of Amherst also require a credit check for each homeowner
- Rebates currently available through Efficiency Nova Scotia, for home and water heating systems range from \$150 to \$2,500. Rebates are also available for solar PV through Efficiency Nova Scotia for up to 25% of the eligible system costs or up to \$6,000.
- Update (July 2021): Clean Foundation recently received approval through FCM's program for \$6.4M in a loan and \$3.2M in a grant for their Clean Energy Financing Programs.

## 7.2 Program Forms and Documents

The following are the main program forms and documents and description:

Program Document	Description
Program Terms and Conditions	The terms and conditions document outlines eligibility requirements, product eligibility requirements, etc.
Pre-Qualification Form	The Pre-Qualification Form is the initial form submitted by the property owner to enter the program. It includes preliminary information about the property and property owners. It will be available on myCEIP.ca as a web form.
Project Application Form	The Project Application Form is submitted by the participant to the AMSC. It contains project information including contractor details, improvement details, and the results of the home energy evaluation.
Project Agreement	The Project Agreement is a legal agreement for the completion of the project between the property owners, the Qualified Contractor, and the AMSC. This agreement must be executed after the Clean Energy Improvement Agreement and before any work is completed.



Clean Energy Improvement Agreement	The Clean Energy Improvement Agreement is a legal agreement between The City and the property owners. It is the financing agreement for the clean energy improvements and contains the financings terms like interest rate, repayment period, pre-payment terms, etc.
Upgrade Completion Form	The Upgrade Completion Form is submitted by the participant once at least one clean energy improvement in the project is completed. The final Upgrade Completion Form must include the post-retrofit EnerGuide information.

Note: Additional documents may be built out as program needs are identified.

## 8 Appendix A – Eligible Clean Energy Improvements

Eligible Clean Energy Improvements
Air source heat pump replacing gas furnace
Attic or roof insulation
Combined heat and power
Drain water heat recovery
ECM motor for residential furnace
Foundation insulation
Ground source heat pump replacing natural gas furnace
Heat and energy recovery ventilation
Heat pump water heater
High-efficiency air source heat pump
High-efficiency central air conditioner
High-efficiency combination heater
Energy-efficient door
High-efficiency gas boiler
High-efficiency gas furnace
High-efficiency storage water heater
Energy-efficient window
Indoor lighting control
Lighting fixture
Solar PV systems
Pipe and duct insulation
Rim joist insulation
Smart thermostat
Solar thermal water heating
Tankless gas water heater
Wall insulation