Home Energy Efficiency Transition

Program Design Report

Prepared for:

WELLINGTON COUNTY

Wellington County

November 1, 2024

dunsky Energy + Climate

Submitted to:

WELLINGTON COUNTY

Wellington County

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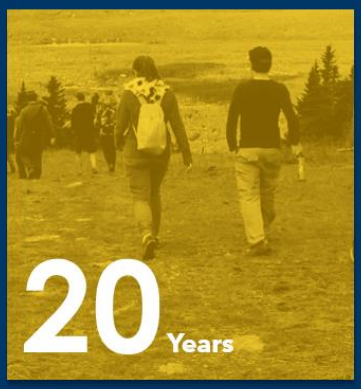

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Executive Summary

As part of its commitment to achieve near net zero emissions by 2050, Wellington County has taken steps towards launching a comprehensive, multi-year program to help decarbonize the building sector. Currently known as the Home Energy Efficiency Transition (HEET) program, this initiative is designed to offer a suite of services and attractive financing to encourage and support a variety of County residents undertake home energy upgrades. The program will also look for opportunities to promote its secondary objectives, namely, to improve the energy performance of existing homes, reduce the rate of energy poverty within the community, and enhance residential and community resilience to climate change effects.

The HEET program is a needed and timely development within the County given the quickly evolving retrofit 'ecosystem' and multiple challenges faced by the community.

- The federal grant program ended earlier this year, leaving a notable rebate gap in this market segment. Rebates are important to make home energy upgrades more affordable by reducing costs and can play a role in driving market demand.
- To meet the strong projected growth in electricity demand over coming years, it is imperative that buildings reduce their energy consumption to ease the load on the grid. This can help to minimize power disruptions and the grid's reliance on fossil fuels.
- While all households deserve to have access to affordable, reliable, and sustainable energy services, roughly one in four households within the County is currently experiencing energy poverty.[1] Some energy upgrades generate cost savings that improve overall housing affordability, while others offer important comfort, health and safety benefits.
- Climate change is worsening the frequency, severity, and impacts of some types of extreme weather events, while accentuating chronic (long-term) risks like rising temperatures and changing precipitation patterns. Homeowners can take simple actions to improve the resilience of their home and community.

Central to this offer, the HEET program will make a variety of incentives and services available to homeowners, while promoting low-carbon resilience approaches and practices more broadly through awareness and education, in addition to workforce development. The HEET program will also leverage the municipal Local Improvement Charge (LIC) mechanism enabled under provincial legislation to unlock access to competitive financing, and to offer longer repayment terms and other advantages to homeowners. With these elements in place, the program is expected to reach an average of approximately 65 homeowners annually.

An experienced third party administrator will be retained to largely deliver the HEET program. The administrator will be responsible for overseeing most of the day-to-day operations and will act as the main contact for participants. Close coordination between the County and its member municipalities will nonetheless be essential. Local municipalities are responsible property taxation, and therefore for administering LICs. Meanwhile, the County is expected to borrow substantial funds to capitalize the HEET program and will rely on LIC payments to

[1] Canadian Urban Sustainability Practitioners. (n.d.) Energy Poverty and Equity Explorer.

repay its loan. Collaboration between these three groups will be critical to effective program implementation.

The County intends to leverage external funding to implement the HEET program. The Federation of Canadian Municipalities (FCM) currently offers significant funding and support through the Green Municipal Fund's Community Efficiency Financing (CEF) initiative. The County is expected to put forth a funding application for an estimated $7.6M in capital and $3.8M in grant, while contributing $2.7M over the program's initial 4-year implementation period.

Sources of Funding	Year 1[18]	Year 2	Year 3	Year 4	Total
County (loan capital)	$676,410	$676,410	$676,410	$676,410	**$2,705,640**
Application fee	$37,600	$37,600	$37,600	$37,600	**$149,200**
GMF (grant)	$1,270,275	$990,875	$709,315	$829,315	**$3,799,780**
GMF (loan)	$1,899,890	$1,899,890	$1,899,890	$1,899,890	**$7,599,560**
Total funding	**$3,883,875**	**$3,604,475**	**$3,322,915**	**$3,442,915**	**$14,254,180**
% loans in grant (GMF)	67%	52%	37%	44%	50%
% covered by non-GMF sources	18.4%	19.8%	21.5%	20.7%	20.0%

The County's immediate next step will be to seek Council approval to present an application to the CEF initiative and to secure the required contribution.

Dunsky Energy + Climate Advisors was retained to design the HEET program to support the County's efforts to plan its next steps and secure the funding needed to launch the program. To complete this work, Dunsky conducted a detailed background review of the County's climate mitigation and adaptation documentation, conducted extensive internal and external stakeholder engagement, compared the LIC program model to other potential options, and elaborate key design features in line with the program's objectives and industry best practices. Kambo Energy Group also provided input into the program design process to integrate further consideration for equity, where relevant.

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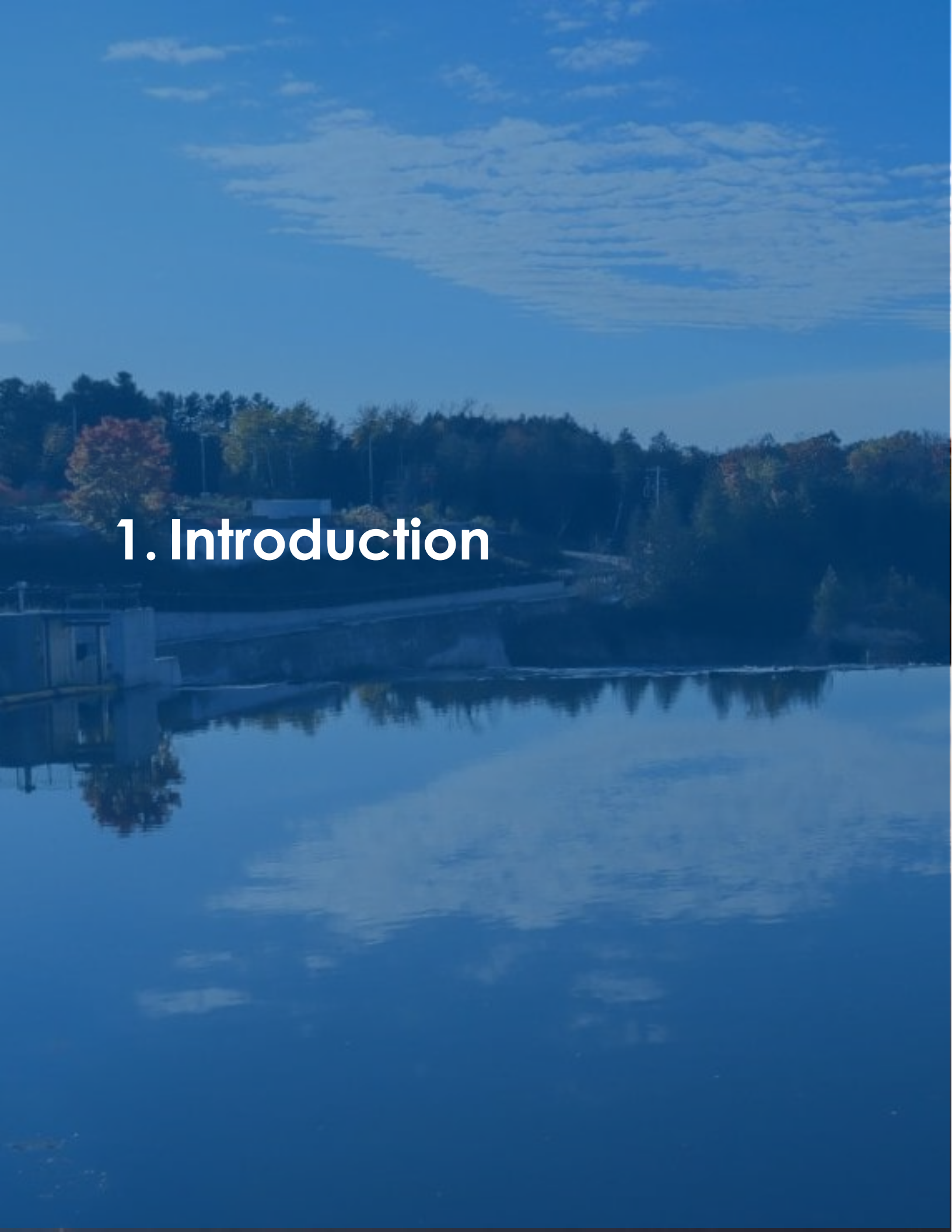


1. Introduction

Wellington County recognizes the need for bold climate action. The transformation needed to achieve net zero targets is significant. As described in the County's Future Focused Climate Mitigation Plan, the municipality produces nearly 1.2 million tCO_2e of greenhouse gas (GHG) emissions annually, 30% of which are emitted by buildings. Setting an interim target, the County is aiming to reduce emissions by 6% below 2017 levels by 2030, working up to an 80% reduction by 2050.

In order to tackle emissions in the buildings sector, the Future Focused plan offers a series of objectives and actions. Among them, **the Plan underscores the value of further promoting home energy retrofits.** Residential buildings represent 39% of all building emissions, thus offering a meaningful opportunity to drive impact given the type and vintage of the local housing stock. The majority of homes are single detached dwellings and built prior to the introduction of energy efficiency requirements in Ontario's building code. In general, these homes tend to be less efficient than denser housing forms and those built more recently. In addition, the vast majority of homes in Wellington County use natural gas as their primary heating system – the largest source contributor (85%) to building emissions. As such, home electrification represents a largely untapped opportunity to support the County's pathway to net zero emissions.

In complement to its climate mitigation efforts, **Wellington County has taken some early steps to improve the community's resilience to the current and future effects of climate change.** As part of this effort, the County has commissioned a climate adaptation study focused on the agricultural sector. In addition, several local municipalities have completed studies on the water supply impacts of the changing climate. In a similar vein, flood mitigation plans have been developed for Harriston (within the Town of Minto)[2] and Drayton (within the Township of Mapleton),[3] both recognized as flood-prone areas. The County also has an emergency response plan in place to prepare and deal with the immediate effects of extreme weather events.

Against this backdrop, **Wellington County has taken significant steps to advance a comprehensive, multi-year initiative to support energy and resilience retrofits.** Currently known as the Home Energy Efficiency Transition (HEET) program, this initiative will support the complementary goals of climate mitigation and climate adaptation through a combination of homeowner services, innovative financing, incentives, and resources to assist homeowners throughout the retrofit process, with a view to address persisting barriers and market gaps. The HEET program will be administered by a third-party organization and require coordination across the County and member municipalities to deliver Local Improvement Charge (LIC) financing. LICs are secured against the property and structured such that the amount borrowed by participating homeowners is repaid via a special charge on the property tax bill. LIC programs generally allow longer repayment terms and any outstanding balance can be transferred to a future home buyer, who would inherit the repayment obligation. In this way, the County's HEET program will help to address the potential misalignment between the length of home tenure and the longer payback periods of many types of energy upgrades.

[2] Town of Minto. (2023). Harriston Flood Mitigation Plan.
[3] Grand River Conservation Authority. (2024). Grand Valley, Waldemar and Drayton Flood Damage Assessment Study.

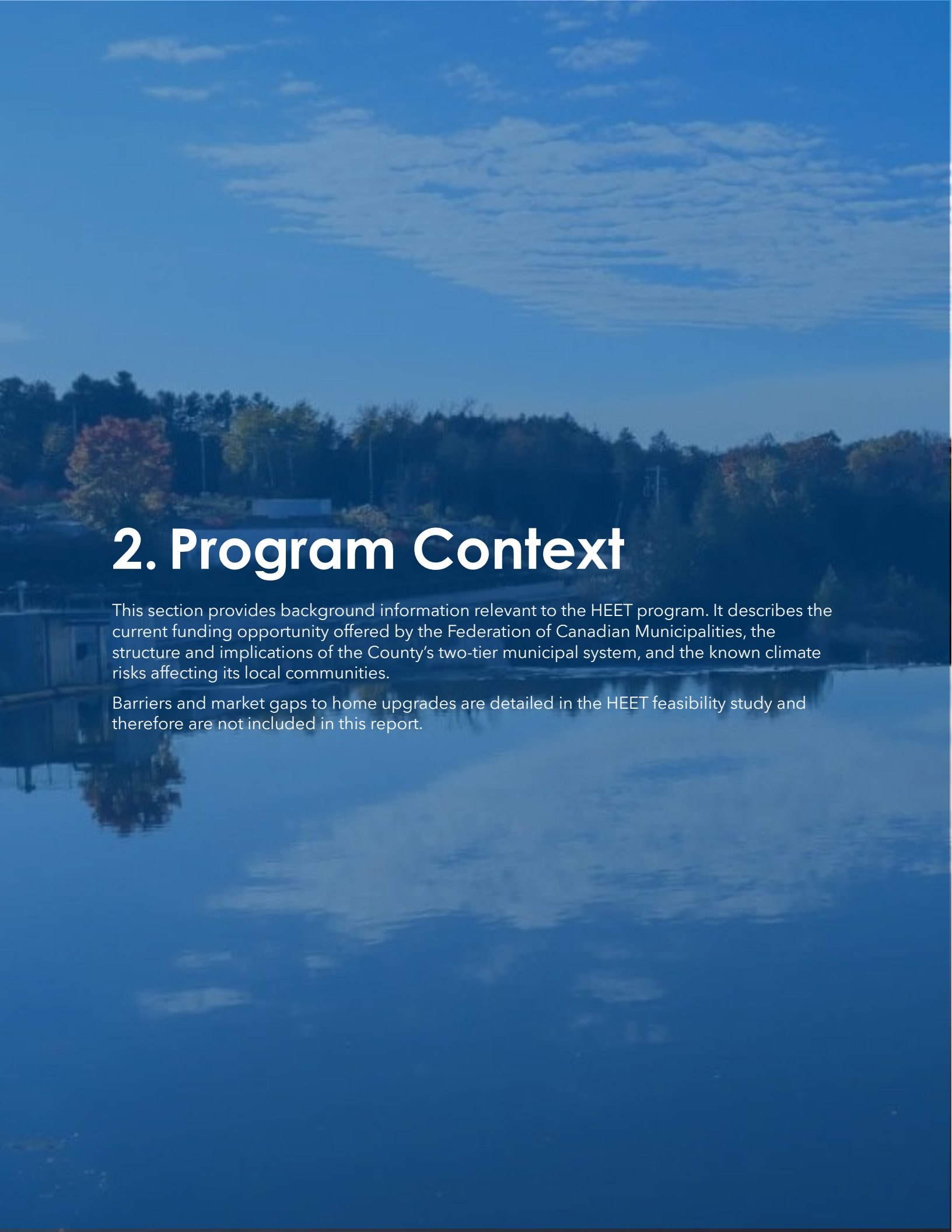
This program is intended to work in concert with existing market interventions (e.g. rebate and workforce training programs) and **can serve to strengthen other policies, regulations and initiatives offered into the future that would further amplify demand for home retrofits**. This includes:

- Continued carbon pricing, which would contribute to rising fossil fuel energy prices.
- Building renovation codes, such as Ontario's eventual adoption of Canada's future Alternations to Existing Buildings (AEB), which will impose increasingly stringent energy efficiency requirements on existing buildings.
- Mandatory home energy labelling and performance standards.
- Promotion of beneficial electrification province-wide and restrictions on fossil fuel use equipment replacement, which would favour electrification.

As pressures to undertake home energy and resilience retrofit grow, **homeowners will increasingly need innovative financing solutions to be able to undertake the necessary home improvements to meet future regulations**. By delivering the HEET program on a smaller scale during its initial implementation period, the County will be better prepared to ramp up its operations to accommodate the growing needs of its residents in the future.

Purpose of this report

The purpose of this report is to offer guidance to successfully set up and deliver the HEET program. It describes the program's overarching objectives, framework, and core features and services; details the program's eligibility criteria, incentives, and financing offer; outlines key program stages for participants and the associated delivery responsibilities; estimates the program's uptake, impacts and funding needs; exposes key risks and mitigation measures; and lists important next steps to prepare for the program's launch in 2026. Many of the report's key design choices reflect best practices and incorporate input from the County, member municipalities, and other interviewed parties. The result is a turnkey program framework that advances the County's climate mitigation and adaptation efforts.



2. Program Context

This section provides background information relevant to the HEET program. It describes the current funding opportunity offered by the Federation of Canadian Municipalities, the structure and implications of the County's two-tier municipal system, and the known climate risks affecting its local communities.

Barriers and market gaps to home upgrades are detailed in the HEET feasibility study and therefore are not included in this report.

2.1 A funding window to capitalize retrofit programs

A home retrofit program offering financing and advisory services can help Wellington County meet its climate mitigation and adaptation goals. To fund this program, the County plans to apply to the Community Efficiency Financing (CEF) initiative offered through FCM's Green Municipal Fund (GMF) and specifically designed to support municipalities and partner organizations implement a local financing program for home energy upgrades. Under this initiative, GMF offers substantial grants to complete feasibility, program design and evaluation studies, and to start up and operate a program over a period of up to four years. GMF also offers low-interest loans to provide capital for on-lending to homeowners, as well as loan loss reserve funds as a backstop to cover any losses from homeowner loan defaults or delinquencies. In addition to funding, GMF offers learning resources and access to a community of practice that brings together other municipalities developing or operating similar programs.

The CEF initiative is expected to sunset in 2026. As such, it is important that the County apply prior to CEF's end date in order to fully benefit from the available funding and capacity building opportunity. In its application, the County will also need to emphasize the innovative elements of the HEET program to ensure it is competitive. These features include the third-party administrative model operating across two municipal tiers, the promotion of low- and no-cost resilience measures, and enabling features geared towards supporting low- to moderate-income households.

The CEF initiative may make additional funding with adjusted terms available in the near term to better support resilience measures. One of the primary obstacles within the existing CEF framework currently affecting the extent to which communities can promote climate adaption is the restriction on the proportion of financing (30%) that can be dedicated towards 'non-energy' measures, including resilience. In the future, CEF may adjust this restriction to allow homeowners to make more significant investments towards improving their property's resilience to climate change impacts. To explore this opportunity further, the County may monitor any new developments and updates shared by GMF over the coming one to two years. For details on the HEET program's approach to promote resilience measures in the community while respecting the current CEF framework, see Section 3.2.5.

2.2 Required coordination within a two-tier municipality

Wellington County operates under a two-tier municipal structure. Specifically, it is an upper-tier municipality representing a federation of seven member municipalities, namely the Town of Erin, the Town of Minto, the Township of Centre Wellington, the Guelph/Emarosa Township, the Township of Mapleton, the Township of Puslinch and the Township of Wellington North. With a regional purview, the County oversees a number of services like regional economic development, social services, emergency management, and housing services and supports. Meanwhile, the County's towns and townships are responsible for more localized services, including building and zoning bylaws, building permits, well water, and property tax collection and administration.[4]

[4] Wellington County. (2024). Who Does What.

While the program administrator will take on most program delivery responsibilities, the HEET program will nevertheless require close coordination across both municipal tiers. In particular, the two tier structure introduces additional complexity to the chosen program model due to the flow of funds between multiple parties. For instance, Wellington County is expected to borrow from GMF to capitalize the HEET program, and while homeowner financing payments will be used by the County to pay back its loan to GMF, the County's municipal powers preclude it from collecting on LICs directly. Instead, the County will need to rely on local municipalities to collect these payments on its behalf, then transfer funds through a preestablished process. This cycle will necessitate close budget monitoring and regular reconciliation between the County and member municipalities. See Section 7.2 for more details on the program's flows of capital.

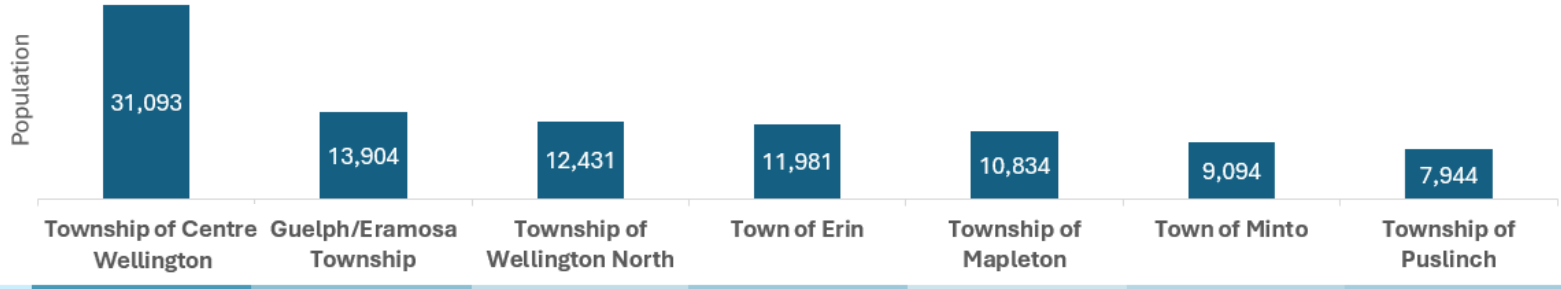
In addition, the program will need to remain flexible to account for the local context within each member municipality. Some of the key differences between them include:

- **Resourcing capacity**. Most member municipalities do not have dedicated staff to support sustainability initiatives, which increases the likelihood of overextending municipal staff. This risks contributing to application processing delays and other consequences that impact program performance. While the Township of Centre Wellington and the Township of Mapleton have established a new climate change coordinator position in 2024 that is shared between the two municipalities, the HEET program will need to account for more limited staff capacity across the other member municipalities when developing program processes and support planning.
- **Climate action commitments**. Certain municipalities have established clear sustainability or energy objectives, while others have not. For example, Guelph/Eramosa Township's Energy Management Plan commits to incorporating energy efficiency across all operations. The absence of a clear commitment from Council could make some municipalities more reluctant to participate in the HEET program.
- **LIC experience**. LICs are not commonly used within the County. However, Centre Wellington has recent experience administering LICs. The HEET program can leverage their expertise to inform the program process development and to offer staff training, knowledge sharing, and other forms of resources and support to the benefit of other member municipalities less familiar with this mechanism. A collaborative approach can also help to drive greater efficiencies and consistencies across the LICs administered across the County.
- **Limited legal resources**. Member municipalities do not have internal legal counsel. As a result, they will depend on the County's external legal team, and on program funding, for support in implementing the program. Required legal documentation includes the LIC bylaw and Property Owner Agreements (POAs).
- **Population density**. The County is made up of urban and rural areas. More densely populated areas, like Elora and Fergus within the Township of Centre Wellington, generally have better access to services than rural areas, like the Town of Minto. In addition, rural areas tend to be more vulnerable to climate change impacts. For this reason, focusing outreach in these communities represents a meaningful opportunity to amplify the program's impacts. At the same time, rural population groups, such as farmers, may be more difficult to engage due to differences in values, priorities, and financial means. The final marketing and outreach strategy should take this into account and be informed by further research into these population groups.

- **Seniors and low-income households**. Local municipalities with a higher representation of seniors and low-income households may require more dedicated program services and support, in addition to means to reduce overall costs (e.g. waived fees, incentives). Robust consumer protections, including financial disclosures, are particularly important for seniors and low-income households to ensure they are well-informed about participation terms and conditions, and potential risks to prepare for (e.g. projected energy savings falling short).

Table 2-1 compares the housing and demographic profiles across the County's member municipalities.

Table 2-1: Housing and demographic profiles of the County's member municipalities[5]



	Township of Centre Wellington	Guelph/Eramosa Township	Township of Wellington North	Town of Erin	Township of Mapleton	Town of Minto	Township of Puslinch
Population density (per km²)	75.9	47.5	23.6	40.1	20.2	30.3	37
Private dwellings	12,701	4,993	4,987	4,396	3,633	3,385	2,946
Single detached (%)	68%	84%	72%	87%	78%	79%	91%
Owner occupied (%)	81%	89%	74%	90%	86%	76%	95%
Seniors over 65yo (% of pop)	22.3%	18.3%	22.0%	17.4%	12.3%	20.9%	23.0%
Seniors over 85yo (% of pop)	2.7%	1.9%	3.3%	1.2%	1.1%	3.5%	2.1%
Low-income status (% of pop)	5.6%	4.2%	12.1%	5.6%	9.3%	10.7%	5.3%
Low-income status (% of 65 yo+)	7.6%	5.7%	16.0%	5.9%	11.0%	16.4%	5.9%
Number of farm properties	363	367	573	137	669	376	132

[5] Statistics Canada. (2021). Census Profile, 2021 Census of Population: Wellington County, Ontario.

2.3 Defining climate risks across the County

Wellington County is undertaking steps to complete a comprehensive climate adaptation plan that will build on some of the groundwork completed in recent years. In addition, the County's 2023-2027 Strategic Action Plan – named Proudly Moving Together – has committed to "[w]orking with member municipalities to create a set of standard criteria which member municipalities can use to evaluate their abilities to withstand extreme weather events resulting from climate change."[6] These actions will help County municipalities plan for, and respond to, the impacts of climate change.

To date, the County has identified the following climate-related changes, reported in the Future Focused plan:

- Increase in number of days above 30°C annually.
- Increase in storm intensity.
- Shorter return period of extreme events.
- Increase in average annual temperature.
- Increase in average annual precipitation.
- Decrease in snow.
- Increase in ice storms.

These changes are expected to have numerous impacts in the community, including an increased cost of insurance, road washout and closures, watermain breaks, lower crop yields, lower water during summer droughts, increased power outages and service disruptions, and increased erosion. In recent years, some of these effects have already been felt by local municipalities, which have been impacted by these risks in different, meaningful ways. For instance, in 2017, high levels of precipitation (up to 160mm) fell in the County overnight, resulting in severe flooding from the Maitland River through Harriston and the displacement of several residents. The event cost an estimated $14.2M in damages.

In alignment with the HEET program's focus on the existing housing stock, Some of these can be further mitigated through County- or ecosystem-wide interventions and infrastructure, as well as behavioural changes from residents. Resilience improvements to residential properties are one of many interventions that can strength the County's resilience to climate change impacts.

Table 3-2 describes some of the most prominent risks affecting the County's residential properties. Some of these can be further mitigated through County- or ecosystem-wide interventions and infrastructure, as well as behavioural changes from residents. Resilience improvements to residential properties are one of many interventions that can strength the County's resilience to climate change impacts.

[6] The Corporation of the County of Wellington. (2023). Proudly Moving Together: Wellington County Strategic Action Plan.

Table 2-2: Climate-related risks and examples of resilience measures

Climate-related risk	Known sensitive areas	Example resilience measures
Severe flooding[7]	• Central Drayton (Mapleton) [8] • Harriston (Minto) [9]	• Sump pump and zero reverse flow vales in basement floor drains • Disconnect downspouts from the sewer system or extending gutter downspouts away from the home[10]
Limited water supply & aquifer recharge	• Quantity Wellhead Protection Area (primarily Centre Wellington) [11] • Other wellhead protection areas and significant groundwater recharge areas[12]	• Increase infiltration to support aquifer recharge • Water saving equipment (e.g. water efficient toilets or faucet aerators) • Install water collection systems (e.g. rain barrels)
Extreme heat	• All local municipalities[13]	• Heat pumps at home (cooling) • White or green residential roofs • Increased canopy cover near homes
Air quality deterioration (e.g. during wildfires)	• All local municipalities	• HVAC systems (windows can remain closed without causing overheating)
Energy reliability	• All local municipalities	• Solar PV with a battery system or a backup generator, other
Roof integrity	• All local municipalities	• Roof load capacity verification and necessary structural maintenance or reinforcement • Roof strengthening measures (e.g. hurricane ties, roof-to-wall connectors, plywood sheathing, stiff structural framework sealants)

[7] See the Sustainable Technologies Evaluation Program (STEP)'s Low Impact Development site for additional guidance on how to improve the management of urban stormwater runoff.
[8] Grand River Conservation Authority. (2018). Preparing for Flooding: A Guide for Residents of Drayton.
[9] Town of Minto & Maitland Conservation. (2020). Harriston Flood Mitigation Study.
[10] This improves stormwater management infrastructure.
[11] Grand River Conservation Authority. (2020). Centre Wellington Tier Three Water Budget. *Matrix Solutions Inc.*
[12] See Wellington Source Water Protection's mapping tool.
[13] Extreme heat poses a significant health risk, particularly to certain vulnerable populations: seniors, individuals with chronic diseases and/or compromised immune systems, children and infants, people experiencing social or economic disadvantage, Indigenous peoples, residents of remove communities. See Lapp, H., Wilson, R., Jackson, E., & Buse, C. G. (2022). Climate Science Report for the Climate Change and Health Vulnerability Assessment for Waterloo Region, Wellington County, Dufferin County, and the City of Guelph.

Compounding climate vulnerability for residents

Climate vulnerability provides an indication of which areas, individuals, and ecosystems are likely to be most adversely affected by climate change. It is defined is "the degree to which a system or jurisdiction is susceptible to harm arising from climate change impacts. It's a function of a community's sensitivity to climate change and its capacity to adapt to climate change impacts."[14]

Climate vulnerability is a combination of the following three factors:

1. **Exposure:** The presence of people, livelihoods, species or ecosystems exposed to climate-related hazards, such as rising temperatures, sea level rise, extreme weather events, or droughts.
2. **Sensitivity:** The degree to which a community is sensitive or responsive to climate impacts. This depends on factors like health, ecosystem stability, infrastructure quality, and economic reliance.
3. **Adaptive Capacity:** The ability of built, natural and social systems to adjust to climate impacts, mitigate damage, and recover from disruptions. This includes access to resources, knowledge, infrastructure, social capital, and technology that enable effective responses to climate risks.

With respect to rural housing specifically, climate vulnerability may be heighted due to:

- **Underlying housing vulnerabilities**, such as increased exposure to the elements (greater wear and tear), reliance on wells and septic systems (expensive to repair/replace), limited access to rental housing (limited housing access/affordability), and greater risk of house fires (slower response times).
- **Poverty and/or energy poverty**, **which can have negative effects on health and wellbeing.** Rural households are more likely to have limited access to healthcare; delayed response by emergency services; greater exposure to extreme weather events, water and air quality issues; and occupational health risks. [15]

When assessing the climate vulnerability of homes, local demographic profiles, population density, and income are factors that may coincide with higher degrees of sensitivity to climate change impacts and a lower capacity to adapt in the absence of adequate support.

The intersection between climate vulnerability and home retrofits

Increased climate vulnerability can significantly impact housing, particularly when it comes to energy retrofits. Vulnerabilities arise when certain populations, particularly those already disadvantaged, face barriers to accessing or benefitting from these retrofits.

The following describes some of the ways in which climate vulnerability intersects with home retrofits.

1. **Low- to moderate-income (LMI) homeowners**
    - High upfront costs. LMI homeowners often face financial barriers to retrofitting their homes due to the high upfront cost. However, without energy performance improvements, these households remain vulnerable to higher energy bills and less comfortable living conditions, especially as climate change leads to more extreme weather.

[14] Canadian Council of Ministers of the Environment. (2021). Guidance on Good Practices in Climate Change Risk Assessment.
[15] Kantamneni, A. & Haley, B. (2024). Archetypes of Experiences with Energy Poverty in Canada. Efficiency Canada, Carleton University, Ottawa, ON.

- Energy poverty. LMI homeowners already tend to spend a larger proportion of their income on their energy bills. Without the means to retrofit their home, they can also experience higher energy burdens during extreme weather events.
- Lack of access to financing. Even when financial incentives exist, LMI households may lack access to affordable financing options for retrofits or may be unable to qualify due to poor credit.

2. **Older homes in climate-exposed areas**
   - Extreme weather and non-resilient homes. Older homes are often built with outdated materials and systems that make them more sensitive to climate change impacts. These homes may lack proper insulation or energy-efficient windows, among other measures, increasing their risk of heat stress during heatwaves or water intrusion during storms. Home energy retrofits can thus improve their resilience to extreme weather events.
3. **Indigenous and rural communities**
   - Limited access to retrofit programs. Indigenous and rural communities often face geographic and financial barriers to accessing energy retrofit programs. At the same time, these communities may also be located in areas that experience higher exposure to climate risks such as wildfires, droughts, and floods.
   - Lack of resources. Remote or rural areas may lack the resources needed to implement retrofits, such as access to skilled labour. This can hinder their ability to improve energy efficiency and resilience, leaving residents exposed to higher energy costs and impacts from extreme weather events.
4. **Health impacts from poor housing conditions**
   - Vulnerable populations and indoor air quality. Homes that lack proper insulation, ventilation, or efficient heating and cooling systems are more susceptible to mold growth, indoor pollution, and unhealthy living conditions. As climate change exacerbates extreme temperatures and humidity, these households – particularly seniors, children, and those with pre-existing health conditions – face greater risks of respiratory illnesses, heat stress, and other health problems. Energy retrofits could mitigate these risks, but vulnerable households often lack access to them.
5. **Impact of natural disasters on housing retrofits**
   - Limited ability to rebuild or retrofit post-disaster. After extreme weather events, like floods or wildfires, many vulnerable households may not have the financial resources or insurance coverage to rebuild their homes with energy-efficient and climate-resilient materials. This leaves them in homes that remain vulnerable to future climate impacts, perpetuating a cycle of climate vulnerability.

Increased climate vulnerability is closely linked to socioeconomic and geographic factors, with energy retrofits offering a potential solution to reduce both energy costs and climate-related risks. However, without equitable access to retrofit programs and financing, vulnerable populations will remain disproportionately exposed to the negative consequences of climate change.

3. Program Overview

This section presents an overview of the program concept. It includes a description of the program's objectives, a presentation of the key features and services that will be offered, and a discussion on the design elements aimed at enforcing consumer protections.

3.1 Program objectives

The HEET program's primary objective is to reduce GHG emissions by helping to decarbonize the County's existing housing stock. In addition, the program will support several secondary objectives:

- Improve the energy performance of existing homes.
- Reduce the rate of energy poverty in the community.
- Enhance residential and community resilience to climate change impacts.

The program is also intended to offer customized supports to meet the unique needs of specific population groups – including farmers, seniors, and low- to medium-income households – to promote a just energy transition and improve the adaptive capacity of those most vulnerable to the impacts of climate change.

3.2 Key features and services

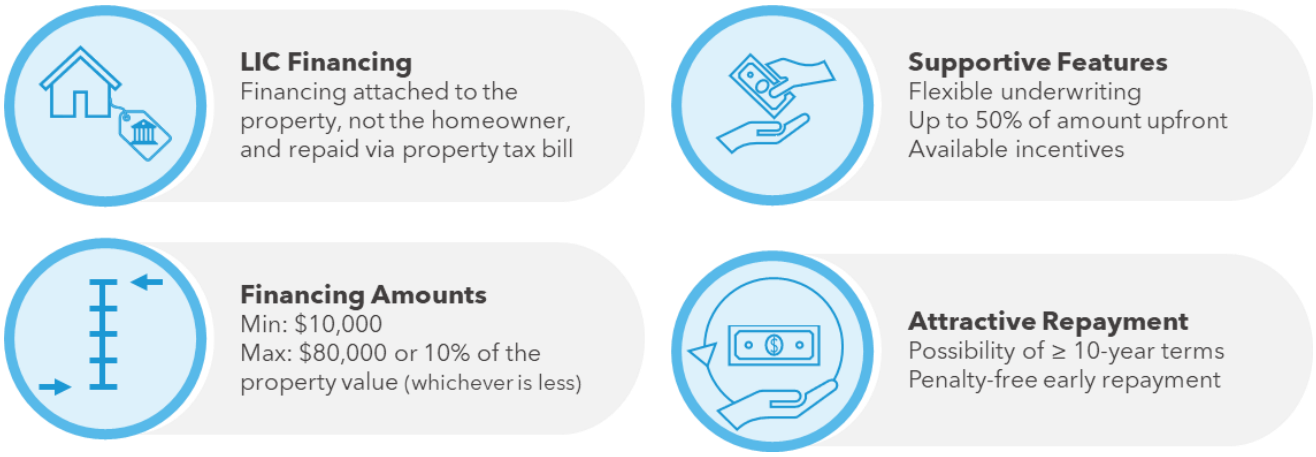
The HEET program will provide a turnkey solution for home energy upgrades and encourage homeowners to take steps towards improving the climate resilience of their property. In addition to offering a mix of incentives and competitive financing, homeowners will be able to conveniently access relevant resources, guidance, and technical expertise to support their home energy retrofits and climate resilience improvements. Together, these program features and services are expected to help homeowners overcome much of the process complexity, take advantage of other available incentives, make informed decisions about their property upgrades, and commit to seeing their project all the way through. In addition, the program will aim to stimulate additional market demand for home retrofits across the County by further promoting and socializing the value of energy and resilience investments in the residential sector.

The following section describes the program's key elements: the funding offer, concierge services, centralized web platform, climate-ready pathway plan, and low-carbon resilience awareness and capacity building. The program administrator will be responsible for delivering the concierge services and climate-ready pathway plan, in addition to providing significant input into the development of the centralized web platform. As such, the description of these elements can be used to guide the evaluation of proposals from program administrators should the municipality follow a competitive bid process.

3.2.1 Financing & incentives

The HEET program will offer a mix of financing and incentives which aim to make home energy retrofits and resilience improvements affordable and accessible. At the same time, the financing offer will aim to limit the municipal administrative burden of monitoring LICs over time and protect homeowners from the risk of becoming overleveraged. Figure 3-1 below describes the central benefits and details of the offering.

Figure 3-1: Summary of the program's financing offering



- **Simple and transferable payments.** LICs offer homeowners several advantages. Payments are made easy, with a special assessment tied to the borrowed amount directly integrated into the property tax bill. In addition, because the repayment obligation is tied to the property rather than the homeowner, the outstanding balance may be transferred to a new home buyer at the time of sale. This feature provides flexibility for homeowners who may be considering a move in the near- to medium-term, since they will not have to continue debt payments on a home they no longer reside in or pay it off early. Instead, the energy savings and related payment will accrue to the new owner.
- **Financing between $10,000 and $80,000, not to exceed 10% of the property value.** The HEET program primarily encourages deep retrofits and electrification projects as a way to reduce emissions and energy consumption. While the associated costs can quickly escalate, HEET will accept financing requests as low as $10,000 to accommodate homeowners that prefer simple upgrades or to follow a staged upgrade approach over time. The program's Climate-Ready Pathway Plan can help homeowners map out key moments to make further investments in energy efficiency and resilience, so that they are able to make investments at a pace that works for them (see Section 3.2.4).
- **Features to help homeowners qualify and pay for home retrofits.** The upfront costs of a home retrofit project can be a major deterrent and financial barrier for households. Unlike most private sector financial products, the HEET program's underwriting relies primarily on a homeowner's tax bill history (see Section 4.1 for a full overview). This can help homeowners with difficulty accessing other forms of low-cost financing pay for home energy and resilience upgrades. While broadening access to financing is a key feature of the HEET program, it is equally important to uphold consumer protection measures, drawing from best practices (see Section 3.3). In addition, the program allows participants to draw down on their loan amount before the upgrades have been completed so that they are able to cover any contractor deposits and related fees. This advance disbursement serves to limit interim costs carried by the homeowner until the final Property Owner Agreement is executed. Finally, incentives help to bring down total costs for homeowners, while stimulating market demand (see Section 4.3).

- **Attractive repayment terms.** The HEET program offers competitive interest rates and extended financing terms that generally align with the average useful life of the measures installed, up to a maximum of 20 years. This can help homeowners afford debt payments, as spreading costs over a longer period of time lowers the amount that is due and payable on a regular basis. For energy upgrades, particularly for LMI homeowners, the term length will ideally allow for a 1:1 debt-to-savings ratio or better to be achieved, so that financing costs do not exceed energy bill savings gained from the project. A detailed term sheet is included in Section 4.4.

3.2.2 Homeowner concierge services

The program administrator's concierge team ("Concierge") will offer a variety of services to help homeowners move through the home retrofit process. Specifically, the Concierge will offer technical, financial and practical expertise on energy projects and low- and no-cost resilience improvements, providing participating homeowners with personalized recommendations, guidance, information and other forms of support. The Concierge will also help identify measures which are most cost effective, particularly for LMI homeowners, to help prevent them from becoming overleveraged. Through this hands-on approach, the Concierge will help to overcome common homeowner barriers like knowledge gaps and process complexity, making home upgrades feel more accessible and achievable.

Benefits

The Concierge will support program enrolment and retention, while promoting more comprehensive and high-value retrofits that achieve GHG emission reductions, energy cost savings, and property resilience improvements. By using a third-party program administrator to deliver these services, the County will benefit from the in-house expertise and experience of service delivery firms, while diminishing pressures on municipal resources within the County. Many existing administrators for LIC programs are non-profit organizations and offer high-quality services at a reasonable cost.

Key components

Depending on the agreement in place with the selected program administrator, the Concierge may offer a variety of services to participating homeowners. These can include:

- Providing information about the program, describing the customer journey, and sharing access to relevant resources.
- Providing expert guidance and recommendations on recommended energy, resilience, and other eligible measures that are suited to each home, while considering household preferences and circumstances, the overarching program objectives, and available incentives.
- Helping to identify registered energy advisors and qualified contractors, planning the staging of retrofit work, and evaluating the reports and quotes obtained.
- Pointing to other initiatives (e.g. utility rebate programs) that participating homeowners may benefit from.
- Offering help to directly fill in forms for identified priority groups.

The Concierge may also ask homeowners if they are willing to share data on their energy consumption. Homeowners may access their electricity and natural gas use data through the Green

Button website, a service required by Province via O. Reg 633/21 of the Electricity Act.[16] By asking participants to share this data, in addition to providing a copy of the pre-retrofit EnerGuide evaluation, the Concierge will be better able to advise participants, enhance the Climate-Ready Pathway Plan, and evaluate projects' real impact on household utility bills.

3.2.3 Centralized web platform

A centralized web platform will be an online portal that acts as a "one-stop-shop". It will allow homeowners, as well as the program administrator, County and local municipalities, to easily access, share, and communicate project information in one place. Specifically, homeowners will use the platform to submit all application documents and receive notifications on their file. Behind the scenes, the platform will also allow the program administrator, County and local municipalities to effectively exchange information, store files, and monitor program activity. This will greatly simplify the coordination needed across multiple stakeholders, while offering a streamlined process to participants.

The centralized web platform can serve other purposes as well. It can direct participants to relevant rebate and incentive programs, connect homeowners with the program's Concierge services (e.g. booking a meeting, submitting enquiries), and provide access to local energy advisor and contractor directories. In addition, the platform can support program evaluation efforts by capturing and reporting on collected data, as well as by deploying surveys and utilizing other data collection tools.

Benefits

A centralized web platform will be a valuable tool that can help to address certain homeowner retrofit barriers, including process complexity and fragmented information, due to its simplicity, accessibility, and user-friendly interface. The platform will store all information in one place, so that homeowners can easily make sense of what they need to do next and how to do it, complete forms, submit supporting documentation, and receive communications regarding their application status and any further requirements. At the same time, it can allow local municipalities to upload and share relevant property tax records and other information needed for the third-party administrator to process applications and funding requests.

However, not all homeowners will feel comfortable using an online platform. Therefore, alternative means of communications and advancing through the different program stages will be possible. For instance, accessing and submitting print copies of forms and opting into phone communications will be possible. Ideally, in-person communication will also be feasible.

Key components

The centralized web platform can make the following functionalities available to homeowners:

- **Information and education.** The platform can be used to share information on home energy and resilience retrofits, including the benefits of home retrofits, climate risks and adaptation, and available financing options, to improve homeowner knowledge and understanding. The platform can also share tips on selecting contractors, evaluating quotes, and ensuring quality

[16] Ontario Energy Board. (2024). Green Button.

workmanship. In addition, the platform can be used to promote workshops and information sessions on energy efficiency, resilience, and financing related to home renovations.

- **Process guidance.** As an information hub, the platform can walk homeowners through the program and retrofit process, providing information and resources at each stage of the process. For instance, the platform can connect homeowners with applicable rebates, incentives, and other relevant initiatives, as well as registered energy advisors and qualified contractors to install the homeowner's selected measures.
- **Application forms and submissions:** Homeowners will be encouraged to complete and submit their applications using the online platform. This can help to simplify the application process.

3.2.4 Climate-ready pathway plan

The climate-ready pathway plan will be an individualized plan to help homeowners plan their home upgrades to achieve deep energy and emission savings, as well as property resilience improvements to better withstand climate change impacts. It will consider the age of current heating and cooling equipment in the home, along with other factors such as roof or window replacement schedules, equipment and installation costs relative to expected utility cost savings, and climate change vulnerabilities (e.g. location in a flood zone) to identify key opportunities for the homeowners to install high-efficiency, low-carbon and climate resilient measures that spread costs over time. The climate-ready pathway plan will be based on the pre-retrofit EnerGuide evaluation, available data, and other information provided the homeowner with a view to offer clear and customized retrofit recommendations which explain how a homeowner may stage the installation of different efficiency upgrades, including the cost and timing implications, to achieve net zero home emissions by 2050. It will also describe how to apply a combined efficiency and resilience lens during renovations and identify other relevant property resilience improvements.

Benefits

A climate-ready pathway plan can offer homeowners a way to make sense of complex information to make planning and decision-making easier, and to make envisioning a pathway toward a net zero home possible. It also provides valuable technical recommendations that can make it easier to lead conversations with contractors.

Key components

To prepare climate-ready pathway plans, the program administrator will draw from completed energy audits, the County's flood risk maps, submitted Green Button energy usage data (where possible), and other available data to present the results of different analyses.[17] It may include:

- An optimal cost pathway to achieve net-zero ready standards before 2050, taking into account equipment replacement cycles.
- Vulnerability to different extreme weather events and other climate change impacts (e.g. health risks, property damage).
- The payback period of energy measures and, where applicable, resilience measures.

[17] The plan's analysis of resilience improvements could become more specific and detailed with climate adaptation enhancements (e.g. property climate risk assessment) in future iterations of the program.

- A comparison of the incremental capital costs and long-term energy savings associated with energy measures relative to a one-for-one equipment replacement, taking into account rising energy prices and the carbon tax, to demonstrate its value add and help to address energy poverty.

The plan may also include information that addresses common misperceptions and propose low-cost and no-cost resilience property improvements that homeowners can easily implement.

To effectively communicate this information, the following design principles can help develop a user-friendly report template:

1. **Synthesize information.** The report should provide information that is complete and clear, but succinct (under 6 pages).
2. **Use a compelling format.** The report should present information in a way that is easy to follow and visually appealing.
3. **Tailor information to the target audience.** The report should avoid technical jargon surrounding energy efficiency and climate adaptation projects where possible. Key terms, such as net zero emissions, should be defined. In addition, estimated bill savings and the co-benefits of energy and resilience improvements should be communicated.

Taken together, these elements will help homeowners understand how to gradually improve their home's energy performance and resilience to climate change impacts.

3.2.5 Promotion of low-carbon resilience

Working within the current constraints of the CEF initiative, the HEET program will aim to maximize opportunities to promote greater climate adaptation efforts. This will include not only working with local organizations and homeowners directly to promote greater awareness of climate risks and climate change impacts, but also gradually building increased workforce capacity and expertise in climate adaptation matters. This will help to set the foundational knowledge needed to drive and support climate adaptation action in the community in anticipation of an expected opportunity to unlock more significant capital from GMF for resilience projects in the near future (Section 8.1), accompanied by more flexible CEF program requirements.

Benefits

Climate mitigation and adaptation are both essential to meeting climate goals. While drastically cutting GHG emissions is critical to avoid the worst consequences of climate change, it is important to recognize that climate change will impact our daily lives more and more. Climate change is increasing the frequency, intensity and impacts of extreme weather events, and slow-onset climate events are gradually leading to more severe damages and losses in ways that are interlinked and mutually reinforcing.

By incorporating a climate adaptation lens to the HEET program, homeowners are expected to become more aware of the climate risks affecting their property and to understand simple actions to improve resilience. The program will also help the local workforce deepen their understanding, knowledge, and skills related to the materials and techniques that improve resilience, as a way to encourage them to integrate these considerations into their work more regularly.

Key Components

Property resilience improvements led by homeowners will be encouraged through the HEET program through a variety of means, such as:

- Providing general information on local climate risks, the numerous benefits of adaptation, and what residents can do to improve the resilience of their home and neighbourhood, including easy and DIY low-cost and no-cost measures.
- Circulating targeted materials to properties located within flood zones and other particularly vulnerable areas and communities.
- Recommending property resilience improvements within the program's climate-ready pathway plans prepared for homeowners and through one-on-one calls with the concierge.
- Providing or facilitating access to climate risk and resilience training for local contractors and energy advisors.

Moreover, the HEET program could offer specific resilience measure rebates or incentives to homeowners, as further discussed in Section 4.3.

3.3 Consumer protections

Robust consumer protection measures are critical to the success of a home retrofit program offering financing. They help ensure that a homeowner's investment in energy upgrades delivers on projected benefits, represents good value, and is well-suited to the participant's financial circumstances. It is therefore important that participating homeowners fully understand the cost implications, project risks, and financing details to make a well-informed decision. Without these protections in place, homeowners may be deceived by the program outcomes (e.g. unrealized energy savings) and run the risk of taking on debt they will struggle or be unable to repay. While these risks affect all homeowners, they are particularly salient for low- and fixed-income households, which tend to have less capacity to take on additional debt payments, especially when they are higher than expected.

At the same time, it's important to recognize that vulnerable groups and underserved communities are often the most likely to spend a considerable portion of their income on home energy costs, while simultaneously being the least able to prepare for, and recover from, the impacts of climate change.The HEET program must aim to strike a balance between consumer protections, which prevent homeowners from assuming debt that will cause them undue financial hardship, and flexibility to ensure the program is broadly accessible to the community and able to have a meaningful impact on the County's program objectives. Critically, the program acknowledges that it will not be suited to all homeowners, and that a wide range of solutions are needed to meet the County's emissions targets. HEET should not lend to homeowners who cannot afford payments.

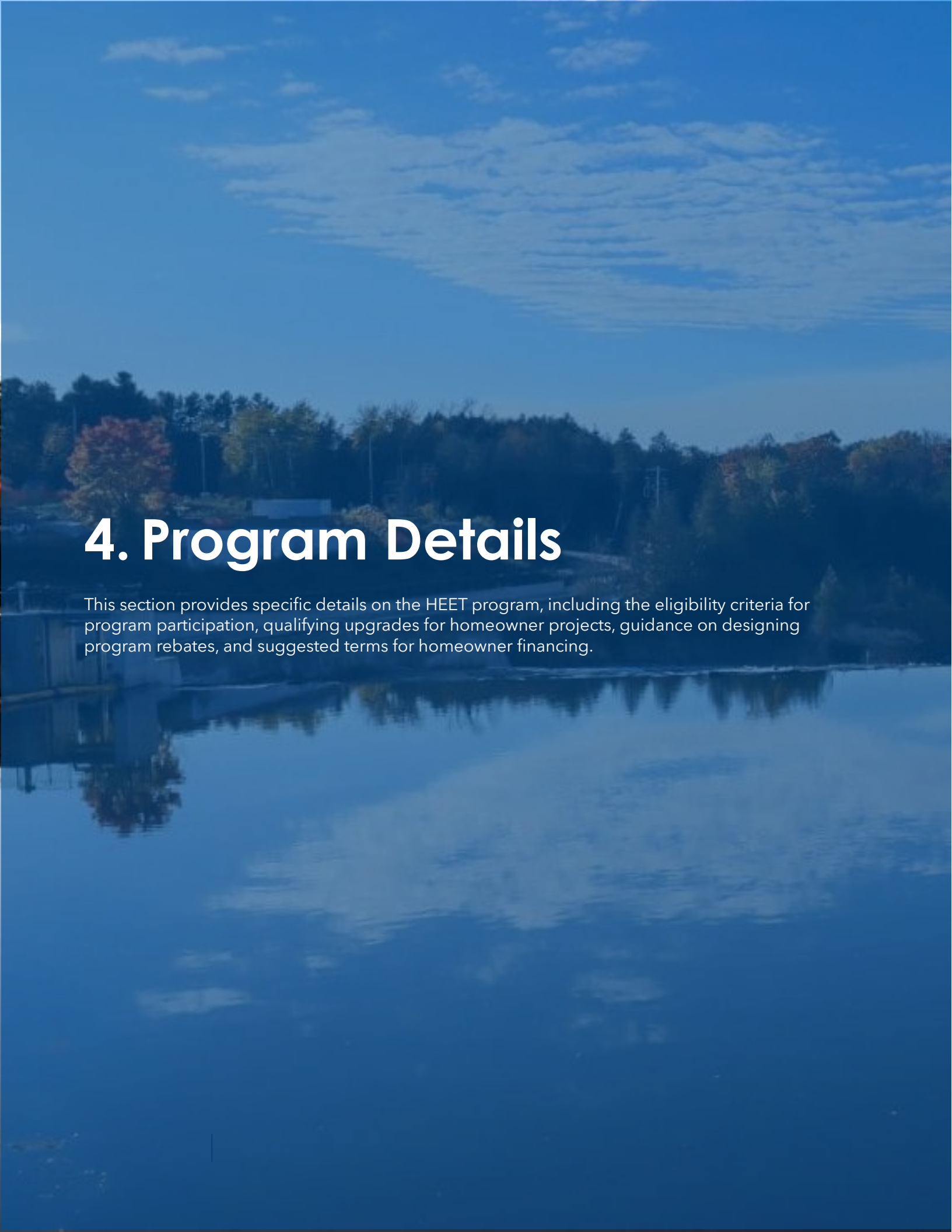
The HEET program includes numerous consumer protection measures including the following:[18]

- **Transparency.** The concierge will convey program disclosures to participants verbally during one-on-one calls with a view to promote an understanding of the implications and risks. This will complement, rather than substitute, written program disclosures. It is important to communicate

[18] A comprehensive list of consumer protection measures, based on best practices for PACE programs, are detailed in PACE Nation's (2021) Residential Property Assessed Clean Energy (R-PACE) State and Local Consumer Protection Policy Principles report.

the program disclosures early on, and to reiterate them within the POA. The POA should clearly state the total amount of the LIC assessment, the total amount the homeowner will pay over the term of the assessment, the fees charged, and the payment schedule. It should also state that failure to pay any outstanding balance could result in foreclosure, and that the assessment may need to be paid off to close a property sale or refinance the home. Finally, homeowners will have a right to cancel the POA up to three days after signing without penalty.

- **Fraud prevention.** During the program's information session, the program administrator will communicate clear marketing and communications guidelines to program delivery partners (Table 8-1) with a view to limit the spread of predatory practices and program misrepresentation. The program's concierge will also verify that the contractor holds all necessary licences and certifications to conduct the work proposed before approving financing requests. The post-retrofit energy audit and Certificate of Completion can both serve to indirectly validate that the upgrades were completed correctly before remitting payment to contractors.



4. Program Details

This section provides specific details on the HEET program, including the eligibility criteria for program participation, qualifying upgrades for homeowner projects, guidance on designing program rebates, and suggested terms for homeowner financing.

4.1 Participant eligibility criteria

To evaluate applications to the program, the HEET administrator will gather required documentation from applicants and perform the necessary checks to confirm the following criteria is respected.

1. The applicant must be the owner of the home in which energy improvements are made.[19]
2. The property must be located in Wellington County.
3. The home must be considered a low-rise residential property three-storeys or less (detached, semi-detached, row housing, similar) and situated on a permanent foundation, with a space heating system and all windows and doors in place, such that it is eligible for an EnerGuide evaluation.[20]
4. The home must be at least 6 months old from the date of occupancy.
5. The applicant should hold at least 20% in home equity.[21]
6. The applicant must be current on property taxes and not have been late on payments in the past three years, or since the purchase of the home if less than three years.
7. Where applicable, the applicant must be current on water bills.
8. The applicant must not be in the process of deferring mortgage payments (deferment or forbearance).
9. The applicant must not be in a reverse mortgage or equity release agreement.

In addition, the program administrator will need to approve the homeowner's program application, planned upgrades, and collected quotes before any work is started and any materials are purchased. A pre- and post-retrofit EnerGuide home evaluation will also be required. Pre-retrofit audits conducted 48 months prior to the homeowner's application submission date will be accepted by the program, provided no major energy upgrades were completed in the intervening period.

As part of the application process, homeowners will need to consent to some information about their project being made public as part of the process, given that Property Owner Agreements (POAs) are presented to, and must be approved by, local Councils. POAs include the address, property owner names, total financing, and yearly repayment.[22] The POA may also require homeowners to sign up for the pre-authorized payment plan option for property tax payments to streamline the process.

For substantial financing requests (to be defined), applicants may be required to provide additional supporting documentation on household income and debt obligations to support the program's underwriting assessment. For instance, this process may include verification that the applicant's Total

[19] While non-owner-occupied properties are eligible, other measures should be implemented and enforced to protect renters from potential rent increases and "renovictions". This could include eviction and affordability covenants registered on land title. For more information on best practices, refer to Kantamneni, A., & Haley, B. (2023). Energy Efficiency in Rental Housing: Policy Mixes for Efficiency, Affordable and Secure Housing.
[20] Natural Resources Canada. (2023). EnerGuide Energy Efficiency Home Evaluations.
[21] If a homeowner's down payment represents less than 20% of the purchase price, mortgage loan insurance is required. However, CMHC and other mortgage lenders do not currently provide permit LICs to be recorded on insured mortgages. Canada Mortgage and Housing Corporation. (2016). CMHC Master Loan Insurance Policy.
[22] The City of Toronto's Home Energy Loan Program can be referenced to access an example of a Local Improvement Charge (LIC) by-law adopted for a qualifying property.

Debt Service (TDS) does not exceed 44%,[23] and that the applicant must not have had any bankruptcies or foreclosures within the past five years.

4.2 Qualifying upgrades

Eligible projects will need to meet baseline project requirements, as well as the criteria for qualifying upgrades. A detailed list of eligible measures is included in Appendix B.

Baseline project requirements

Applicants will need to demonstrate that their financing request meets the following requirements.

1. Financed upgrades include one or more qualifying energy measure.
2. Financing is not used for the installation or replacement of any fossil fuel system.
3. Up to 30% of total approved financing may be directed toward qualifying supporting measures, including climate resilience.
4. Financed measures are consistent with or exceed the minimum energy efficiency standards recommended in the EnerGuide evaluation.
5. Financed upgrades must be completed within 18 months following the execution of the Property Owner Agreement (POA).

The program will also permit DIY upgrades on a case-by-case basis to ensure alignment with the overall program objectives and that the request is reasonable. For instance, certain measures, such as heat pumps and solar PV, must be installed by a qualified contractor and therefore cannot be DIY projects. The applicant will need to obtain written approval from the program administrator *before* proceeding with any purchases or work and provide all receipts for materials at the end of the installation. Homeowners will not be allowed to claim charges for their own time.

Eligible measures

The program will finance energy conservation measures (ECMs) and ancillary costs ("supporting measures"), recognizing that homeowners will, in many cases, incur related costs that fall outside of a strictly defined scope for home energy equipment installation. For instance, some homes may need electrical wiring and service upgrades prior to or in conjunction with the installation of ECMs, while other homes may benefit from mold remediation before further work is completed. In some cases, homeowners may also wish to pair ECMs with minor related renovations for cosmetic or practical reasons, such as replacing the door frame trim and installing doorknobs that exceed industry cost standards. Some discretion is therefore needed to assess the reasonableness of proposed costs, though in general, evaluating costs from a holistic view of the retrofit project will make the process more convenient for participants and the program appear more attractive.

The program will also finance measures which align with the program's overall objectives, including climate resilience. However, because HEET's primary focus is to support energy upgrades that reduce GHG emissions, additional improvements will not be permitted to represent more than 30%

[23] TDS is the percentage of monthly household income that covers housing costs and other debts. A lower percentage indicates that a smaller proportion of household income is being directed to debt payments. To provide a frame of reference, CMHC restricts TDS to 44% for mortgages they insure.

of the total financing request. This cap is consistent with the CEF initiative's requirements for qualifying homeowner projects.

The program Concierge may work directly with homeowners to clarify what energy, resilience and supporting measures are eligible under the program.

4.3 Program rebates and incentives

With the close of the Canada Greener Homes (CGH) grant program, less substantial incentives are currently available for home energy upgrades and resilience improvements. There nevertheless remains multiple incentives which aim to support low- and moderate-income (LMI) households with home energy improvements, including:

- Natural Resources Canada (NRCan)'s Oil to Heat Pump Affordability Program.
- Wellington County's Ontario Renovates pilot programme.
- Enbridge's winterproofing program.
- Save on Energy's Energy Affordability Program.

The next phase of the CGH grant program is also expected to support LMI households.

The HEET program can leverage the capital program grant from the CEF initiative to offer additional rebates and incentives to homeowners in ways that complement these programs. Rebates and incentives can encourage program participation, stimulate demand for specific measures that may be otherwise unpopular, and reduce total project costs for homeowners.

Depending on the County's priority objectives and assessment of market needs, the program's rebates and incentives may be used to achieve different goals, such as:

1. **Incentivizing property resilience improvements**. Incentives could be used to promote specific low-cost and no-cost property resilience improvements. The priority improvements may vary from one local municipality to another, depending on its vulnerability to climate change impacts. Alternatively, certain resilience improvements could be made mandatory to qualify for financing in the program.
2. **Offering targeted supports for LMI homeowners.** In general, LMI homeowners are less likely to participate in, and thus benefit from, a home retrofit program, despite experiencing a greater energy burden and being more vulnerable to the impacts of climate change. Waiving program fees and providing greater retrofit assistance at no cost can help to reach this population group and encourage them to participate. However, careful attention should be paid to avoid duplication with other market offerings. Offering additional incentives and rebates can also help to bring down total financing costs for LMI homeowners, who have a more limited ability and propensity to absorb additional debt. For this same reason, measures that tend to generate sufficient energy savings to offset financing payments should be prioritized for LMI homeowners. By lowering overall housing costs, the County can gradually help to address energy poverty in the community.
3. **Supporting cold climate heat pump adoption.** Cold climate heat pumps offer multiple benefits, such as reducing GHG emissions, lowering home energy consumption, and improving a household's resilience to extreme heat through its cooling function. Program rebates for this equipment could further improve its appeal and stimulate greater demand from homeowners. Over time, this could lead to a larger pool of heat pump installers, increase their expertise (e.g.

right sizing the system, correct placement), and support the conditions needed to make cold climate heat pumps the industry standard.

4. **Promoting deep energy retrofits to significantly cut GHG emissions.** To this end, performance-based incentives structured around relative or total targets (e.g. emissions reduction) can reward participants for more impactful projects, while making them more affordable.

The program's incentives and rebates may vary over time. The program should remain responsive to larger market trends, and continue to tailor incentives to addressing market gaps, given the frequent fluctuations in available program offerings. As an example (and mentioned previously), the CGH grant program recently stopped accepting new applications, announcing it would work towards shifting to a new phase geared to LMI households.[24] Given the changing landscape, it will be important to monitor the available rebates and incentives offered through other programs so that program's own set of rebates and incentives are directed to where it is most needed.

4.4 Term sheet

Table 4-1 below outlines the preliminary terms of the LIC financing offer and are subject to change in the final version, pending further discussion with municipal finance and legal staff, as well as the provisions in an eventual agreement with GMF. Certain elements of the term sheet may also be adjusted throughout the program implementation period to better respond to municipal and homeowner needs.

Table 4-1: Preliminary program term sheet

Terms	Details
Eligible Borrowers and Properties	Homeowners that comply with participant eligibility criteria (Section 4.1)
Eligible Measures	Qualifying upgrades (Appendix B)
Time to Complete Work	18 months from the date of execution of the POA. Extensions of up to 24 months may be granted upon request.
Amount	Minimum of $10,000. Maximum of the lesser of $80,000 and 10% of the home's appraised value. Can cover up to 100% of qualifying measures. Up to 30% of the total financing request may be directed to supporting measures defined in Section 4.2. In the case of consecutive applications to the program, the maximum amount subtracts the outstanding balance of any previous LIC assessments.

[24] Natural Resources Canada. (2024). Canada Greener Homes Initiative – February 2024 Update.

Term	Up to 20-year terms. For amounts less than $20,000, the maximum term is 10 years, and for amounts of $40,000 or more, the maximum term is 20 years. In all instances, the term must be equal to or smaller than the weighted average useful life of the measures approved for the project.[25]
Interest Rate	Fixed interest rate. Basis points to be determined.[26]
Administration Fee	3% of the total financing value, with a minimum of $450.[27]
Advanced Disbursement	One-time advance disbursement permitted, representing the lesser of 50% of the estimated total project value or $20,000, for the purposes of covering contractor fees and related eligible costs.
Payment Frequency	In accordance with the property tax billing cycle and related property tax payment requirements.[28]
Early Repayment	No prepayment penalty. Partial lump sum payments must, at minimum, represent $5,000, and are permitted no more than once per fiscal year.
Collateral	Secured by a special assessment on the property.
Right to Cancel	The homeowner has three days after signing the POA to cancel the agreement entirely without penalty. Some program administration fees may apply.

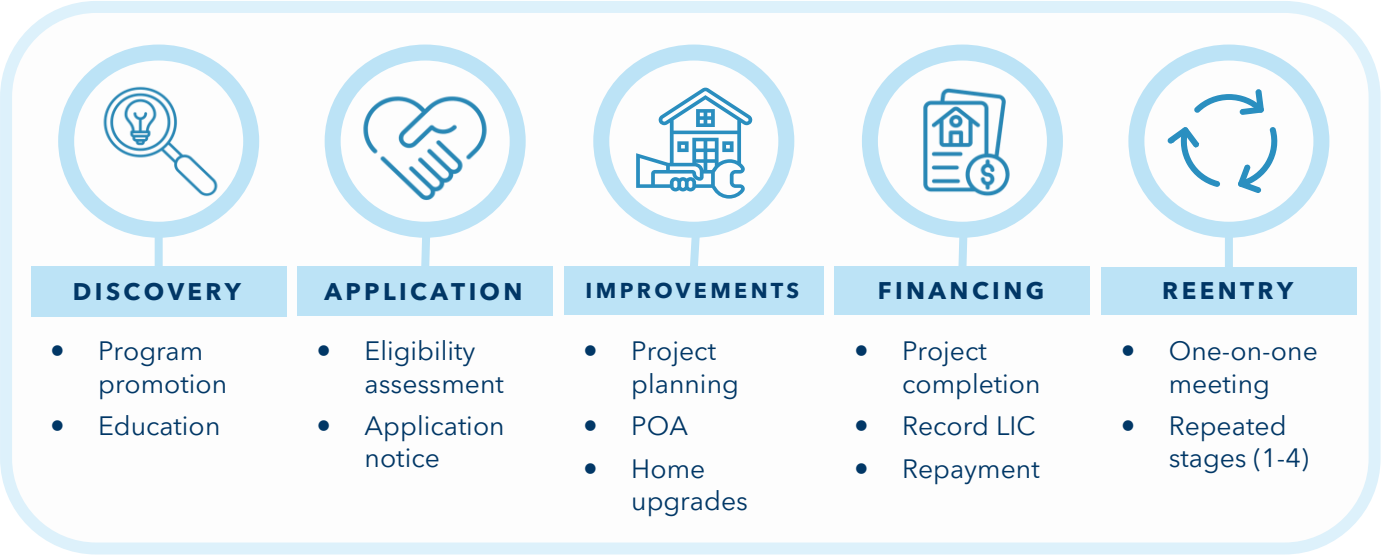
[25] For a comprehensive list of the estimated useful life of energy measures, see IESO's (2022) Prescriptive Measures and Assumptions List.
[26] The interest rate will be influenced by the interest rate charged on the loan facility with GMF.
[27] As a frame of reference, some R-PACE programs charge a one-time administration fee ranging between 2% and 5% of the total financing amount (e.g. Toronto, Ottawa, Switch PACE).
[28] For added simplicity, the HEET program could require that all participants opt into to the same billing cycle (e.g. quarterly, annually).

5. Multi-Stakeholder Journey

This section presents the five program stages, distinguishing between the homeowner experience and different delivery activities implicating the administrator, Wellington County, and member municipalities. It also describes the supporting documentation and infrastructure, as well as the internal controls for quality assurance, needed to effectively support each stage.

The HEET program is comprised of five main stages: discovery, application, home improvements, financing, and re-entry, as shown in Figure 5-1 below.

Figure 5-1: Summary of five program stages



The following section details each stage and is structured around the following three elements:

- **Process description.** An overview of the general steps involved in delivery at each program stage, including the homeowner experience, as well as the responsibilities of the program administrator, Wellington County, and local municipalities.
- **Supporting documentation and infrastructure.** A list of the documentation and infrastructure needed to support activities at each program stage.
- **Internal controls for quality assurance.** A description of mechanisms that can be put in place to maintain program delivery in alignment with established policies and procedures.

1. Discovery

During the discovery stage, targeted marketing and outreach strategies will be used to reach eligible homeowners and direct them to available resources that can help them reflect on and plan their home energy upgrades.

Process description

The following steps are carried out at the discovery stage:

- **Program promotion.** The program administrator raises awareness about the program by deploying the marketing and outreach strategy through different communication channels and mediums (see Section 8.2). Interested homeowners learn more about the different considerations surrounding a home retrofit project by exploring the information and features available on the program webpage and by submitting enquiries to the program administrator.

- **Education.** The program administrator promotes the benefits of home energy and resilience upgrades through the program's communications and website, in partnership with different departments within the County and local municipalities, and via trusted local organizations.

Homeowner experience

As part of the discovery stage, interested homeowners consider whether to apply to the program. To reach this decision, homeowners learn about the benefits of home energy and resilience upgrades and gather information about the HEET program services, the overall retrofit process and timelines, LICs, and financing disclosures. For specific enquiries, the homeowner can get in touch with the program administrator through established communication channels.

Program delivery activities

In addition, key program delivery partners are responsible for the following:

- **Program administrator**
  - Develop educational content on home energy upgrade and resilience improvements in partnership with the County and local municipalities.
  - Deploy the marketing and outreach strategy, including promotional materials.
  - Respond to enquiries from homeowners.
- **Wellington County**
  - Help develop and share educational content, adapting it to fit the local context where relevant.
  - Support the deployment of the marketing and outreach strategy.
  - Direct interested homeowners to the program website.
- **Local municipalities**
  - Help develop and share educational content.
  - Support the deployment of the marketing and outreach strategy.
  - Direct interested homeowners to the program website.

Supporting documentation and infrastructure

The documentation needed to support the discovery stage includes:

- Educational content on home energy upgrades and resilience improvements.
- Program marketing and outreach strategy.
- Program marketing content and materials.
- Website content on program offering, processes, and FAQ. A directory of registered energy auditors and guidance on how to vet and work with contractors may also be added.

Internal controls for quality assurance

Key Performance Indicators (KPIs) and supporting tools will help monitor the effectiveness of marketing and outreach efforts, and communications and engagement with homeowners.

2. Application

During the application stage, interested applicants submit an application. If the homeowner meets the program's eligibility criteria, the administrator issues a pre-approval notice.

Process description

The following steps are carried out at the application stage:

- **Eligibility assessment.** Interested homeowners submit a completed application through the program's online portal or by mail. The web portal also provides applicants with updates on the status of their application during the time in which the administrator assesses the application according to the program's eligibility requirements (Section 4.1).
- **Application notice.** The program administrator shares the result of the assessment with applicants. Participants who are pre-approved are given supplementary information to guide their next steps and promote transparency. Participants who do not meet the eligibility criteria are notified of the reason(s) why and are directed to other programs for which they may qualify.

Homeowner experience

As part of the application stage, interested homeowners apply to the program by preparing and submitting an application, attestation and consent form, alongside any other required supporting documentation. The homeowner may be asked to provide additional information or clarification.

Summary of stakeholder activities

In addition, key program delivery partners are responsible for the following:

- **Program administrator**
  - Evaluate applications against the program's eligibility criteria, and request clarifications or additional information where needed.
  - Trigger a request from the local municipality to verify the property tax history and water bill account, where applicable, for each application deemed otherwise eligible.
  - Provide notice to applicants regarding the result of the assessment, along with other relevant information.
- **Wellington County**
  - No direct support at this stage.
- **Local municipalities**
  - Check whether the property tax bill history, as well as the water bill account where applicable, is consistent with the program's eligibility criteria.

Supporting documentation and infrastructure

The documentation needed to support the discovery stage includes:

- Centralized web platform, with an integrated Customer Relationship Management (CRM) tool.
- Final list of eligibility criteria.
- Application, attestation,[29] and consent forms.
- Application notice template.
- Detailed process and procedures, including standard response times.

Internal controls for quality assurance

CRM software can help monitor average timeframes to review applications (from the application to the notice dates), including the number of business days for local municipalities to respond to property tax history and water bill checks. Data on the program's delinquencies and defaults during its implementation period can also be used to assess whether more stringent eligibility criteria is needed.

3. Home improvements

During the home improvements stage, participants prepare for their project by first retaining an energy advisor to conduct a pre-retrofit energy audit. From there, homeowners submit a copy of the report to the program administrator and may request a customized climate-ready pathway plan and to meet one-on-one with the Concierge to gather further information and deepen their reflection on their project. The homeowner collects quotes from qualified contractors and submits their selected options to the program administrator, along with a completed financing request form. This allows the program administrator to prepare the POA, which must be executed before authorizing any financed work on the property. All necessary municipal permits must also be issued before the improvements are started. Homeowners are responsible for notifying their mortgage lenders, if applicable and needed.

Process description

The following steps are carried out at the home improvements stage:

- **Project planning.** To help plan their project, program participants must obtain a pre-retrofit EnerGuide evaluaton to respect the program's eligibility requirements. The evaluation report helps to understand the energy performance of the home and provides a personalized list of recommended upgrades to maximize energy savings. Homeowners then have the option of requesting a climate-ready pathway plan (Section 3.2.4) and working with the Concierge to

[29] The attestation form should ask homeowners to acknowledge that they have read the terms and conditions of the program, confirm that all the information submitted is true and accurate to best of their knowledge and that they have the authority to submit the attestation, and agree to providing timely responses to questions from the program administrator.

select appropriate improvements for their property, while accounting for their personal values and priorities, financial circumstances, and other factors.

- **Property Owner Agreement (POA).** Once homeowners have selected the contractors they'll need for their project, they apply for any required municipal permits and submit a completed financing request form alongside their chosen quotes to the program administrator. Within the form, homeowners have the option of requesting an advance disbursement to cover contractor deposits and related fees. Based on the information collected from the homeowner, the program administrator validates that costs are consistent with the program's criteria for qualifying measures, then prepares the POA. The program administrator shares the POA with the local municipality for final review and signature. As a last step, the program administrator sends the POA to the homeowner for countersignature.
- **Home upgrades.** The program administrator disburses funds to homeowners who requested an advance disbursement (Section 4.4). The contractor proceeds with the quoted home improvements, with oversight from the homeowner.

Homeowner experience

As part of the home improvements stage, homeowners start by hiring a registered energy advisor to complete a pre-retrofit EnerGuide evaluation. Once complete, homeowners submit a copy to the program administrator. Homeowners who are interested in conducting further property upgrades over time can request a customized climate-ready pathway plan. They can also meet one-on-one with the Concierge for advice on what energy conservation measures and resilience improvements are best suited to their property characteristics, personal values and priorities, and other circumstances, and how to find relevant contractors and assess price and quality.

Once homeowners have a clear idea of the scope of their project, they contact different contractors to obtain quotes and select the ones they feel are most appropriate. Homeowners may then work with their chosen contractors to submit any required permit applications to the local municipality for review and approval. An advance disbursement may be provided to homeowners during this process to help cover contractor deposit fees and other costs incurred. Taken together, these supports help homeowners make well-informed decisions about how they invest in their home and help to cover upfront costs.

After homeowners have finished planning their project, a POA must be executed prior to any work being started. To do so, homeowners are required to submit a completed financing request form summarizing the total cost and scope of the project, alongside the quotes from selected contractors. Only once the fully executed POA has been filed with the program administrator can homeowners authorize contractors to start working on their property.

Program delivery activities

In addition, key program delivery partners are responsible for the following:

- **Program administrator**
  - Prepare a customized climate-ready pathway plan based on the pre-retrofit energy audit, energy usage data, and other available information (if applicable).
  - Meet with homeowners one-on-one to discuss their project and next steps.
  - Respond to written or phone enquiries.

- Monitor program files and follow up on any inactive or incomplete applications.
- Process financing documentation and follow up with homeowners and contractors for clarification when needed.
- Prepare and facilitate the execution of the POA by both the homeowner and local municipality.
- Provide advance disbursement (if applicable).
- Work with local contractors to promote an understanding of the program, favour quote transparency, and encourage the integration of resilience into projects as a value-add.

- **Wellington County**
  - Pay invoices to the program administrator.
  - Provide funds to the program administrator to cover advance disbursements and incentives.
- **Local municipalities**
  - Review and sign drafted POA.
  - Issue relevant municipal permits.

Supporting documentation and infrastructure

The documentation needed to support the discovery stage includes:

- Climate-ready pathway plan template.
- POA template.
- Ongoing contractor training materials and Q&A.
- Centralized web platform, with an integrated Customer Relationship Management (CRM) tool.
- Detailed process and procedures, including standard response times.

Internal controls for quality assurance

CRM software can track "inactive" files to identify a need to follow up with homeowners. This allows the program administrator to evaluate whether to close a file or offer support to move the project forward. It also helps monitor average timeframes to prepare climate-ready pathway plans and to review and sign the POA. In addition, the homeowner surveys will offer valuable insights on the quality of the services offered at this stage.

4. Project completion

During the project completion phase, homeowners schedule a post-retrofit energy audit and compile the final documentation needed to obtain their final disbursement. The program administrator evaluates the documentation provided for completeness and supports adjustments to the POA if there is need for a modification to the final financing amount. The program administrator then disburses the remaining balance to either the homeowner or contractor, depending on the agreed upon flow of funds (Section 7.2). In addition, the program administrator helps local municipalities record LICs by preparing supporting documentation (e.g. Council resolutions,

property bylaw,[30] lien registration documentation). Local municipalities remain responsible for reviewing and certifying the LICs, presenting corresponding bylaws to Council, adding the charge to the tax roll, and managing the billing and collections process. To streamline the process, multiple LICs may be batched together and presented on a quarterly basis.

Process description

The following steps are carried out at the project completion stage:

- **Project completion.** Program participants are required to obtain a post-retrofit energy audit and additional documentation, including all invoices, receipts, and a Certificate of Completion that attests the approved retrofit measures having been installed. The compiled documentation is then submitted to the program administrator for review.
- **Record LIC**. With the final financing amount confirmed, and the supporting documentation approved, the program administrator disburses the remaining balance to the homeowner or contractors. The administrator also supports local municipalities effect changes to POAs when needed and prepare the LIC bylaws for benefitting properties. Local municipalities present the bylaw to their Council and record the local improvement rolls in their tax system.
- **Repayment.** Participants make regular payments on their LIC financing through a special charge on the property tax bill. Participants may be required to sign up for a pre-authorized payment plan option for property tax payments to help streamline the collections process. See the term sheet in Section 4.4 for more details on the financing offer. Delinquencies and defaults are treated with the same remedies as uncollected property taxes.

Homeowner experience

As part of the project completion stage, the homeowner undergoes a post-retrofit EnerGuide evaluation, has the contractors sign a Certificate of Completion, and compiles all other required documentation. Once the POA is ready, the homeowner countersigns the document to access the final disbursement needed to remit payment to contractors. Over time, the homeowner repays the outstanding balance through a special charge on the property tax bill. If they move, the homeowner is required to provide notice to prospective buyers that they will inherent the LIC payment obligations.

Program delivery activities

In addition, key program delivery partners are responsible for the following:

- **Program administrator**
  - Verify submitted documentation for completeness, and request additional information and clarification as needed.
  - Draft modifications to the POA (if applicable).
  - Coordinate POA signatures (if applicable).
  - Disburse remaining balance to the homeowner or contractors directly, depending on the established flow of funds.

[30] To reference an example, see the City of Toronto's directory here.

- Draft LIC property bylaw, Council resolution, and lien registration documentation.
- Provide notice of recorded LIC to Wellington County, with a copy of the POA.
- Gather supporting data for reporting purposes.

Wellington County

- Register final LIC amount in tracking tool or software.
- Prepare regular reports to program funder (GMF), with support from the program administrator, to fulfill funding requirements.

Local municipalities

- Certify and sign modified POA (if applicable).
- Pass LIC property bylaw.
- Register lien on title, post on the municipality's website notice of the special charge bylaw in advance of its introduction and after its adoption, and update the tax certificate.
- Record the LIC in the property tax system.
- Oversee billing and collections, including any delinquencies and defaults.

Supporting documentation and infrastructure

The documentation needed to support the discovery stage includes:

- List of required documentation for final disbursement.
- LIC property bylaw template.
- Billing and collections software, with integrated updates if needed.
- Template documentation for notary (lien registration).
- Updated tax certificate template with additional line items to include the full LIC amount, amount payable in the current year, outstanding amounts owing, and a note to reference the bylaw pursuant to which the special charge was imposed.[31]
- Municipal webpage dedicated to posting LIC property bylaws.
- Centralized web platform, with an integrated Customer Relationship Management (CRM) tool.
- Detailed process and procedures, including standard response times.

Internal controls for quality assurance

The homeowner surveys will offer valuable insights on the quality of the services offered at this stage. The program may also conduct virtual or on-site quality assurance checks on a sample of completed projects. The program may opt to make energy usage data sharing required for participation, capturing the home energy performance before the retrofit and in the initial years following the retrofit, to adjust assumptions underlying the energy savings projections shared with program participants. Finally, the program should implement strict protocols for managing personal identifiable information and data security, with semi-regular checks in place.

[31] These disclosure provisions are borrowed from the City of Toronto's By-law 587-2022.

5. Program re-entry (optional)

During the program re-entry stage, previous program participants are invited to consider additional home energy and resilience upgrades with support from the HEET program. This provides interested homeowners with an opportunity to continue on the roadmap set out by their customized climate-ready pathway plan, thus helping to build and maintain a positive long-term relationship with them.

Process description

The following steps are carried out at the program re-entry stage:

- **One-on-one meeting.** The program administrator offers a one-on-one meeting with each homeowner to revisit their climate-ready pathway plan and discuss their current circumstances and priorities. This personalized engagement can help motivate homeowners to seriously reflect on investing in further property improvements.
- **Repeated stages.** Homeowners interested in moving forward will prepare an application and move through the program stages anew. Certain steps may be more streamlined. For instance, if the pre-retrofit energy audit is still valid, the homeowner may be able to skip this requirement. In addition, the POA may be modified, rather than fully re-drafted, provided it has not yet been dissolved.

Homeowner experience

As part of the program re-entry stage, former participants receive follow up communications from the program, inviting them to consider additional home energy upgrades and resilience improvements using the climate-ready pathway plan as a starting point for reflection. The homeowner meets with the program concierge to discuss the opportunity further.

Program delivery activities

In addition, key program delivery partners are responsible for the following:

- **Program administrator**
  - Monitor the CRM to identify homeowners to re-contact.
  - Send out communications to encourage homeowners to undertake additional home energy and resilience improvements and to re-enter the program for support, technical guidance, and access to LIC financing.
  - Disclose program re-entry terms and conditions.
  - Meet one-on-one with interested homeowners to review their climate-ready pathway plan, discuss their current circumstances and priorities, and advise them on the process to re-enter the program.
- **Wellington County**
  - No direct support at this stage.
- **Local municipalities**
  - No direct support at this stage.

Supporting documentation and infrastructure

The documentation needed to support the discovery stage includes

- Description of disclosures and terms for program re-entry.
- Stored climate-ready pathway plans.
- Centralized web platform, with an integrated Customer Relationship Management (CRM) tool.
- Detailed process and procedures, including standard response times.

Internal controls for quality assurance

Key Performance Indicators (KPIs) and supporting tools will help monitor the effectiveness of communications and engagement with homeowners.

6. Uptake and Impacts

This section outlines the projected program uptake, impacts and co-benefits. The estimates are based on results from Dunsky's proprietary financing program model, informed by available costing information, uptake data from other jurisdictions, and building archetypes representative of common housing types in the community. A sensitivity analysis with three uptake scenarios is shown to demonstrate a range of program possibilities under different conditions. Further details on the financing program model are provided in Appendix C

6.1 Estimated participation rate

Based on the modelling results of different uptake scenarios, the program is expected to support **up to 515 participants within the first four years of operations,** reaching a cumulative total of 1,280 homes by year 10 (Table 6-1). This would represent 5.7% of the total eligible housing stock (22,487 dwellings). The preliminary budget and impact estimates are built around the 'medium' scenario.

Table 6-1: Estimated uptake, Wellington County[32]

Uptake Scenario	Average Annual Uptake		Total Cumulative Uptake	
	Years 1-4	Year 1-10	Years 1-4	Years 1-10
Low	10	10	40	100
Medium	**66**	**66**	**264**	**660**
High	128	128	512	1,280

Table 6-2 and Table 6-3 provide an approximate breakdown of the total and average homeowner uptake within each member municipality, respectively, based on local population size. The moderate scenario suggests that the program will support 6-7 projects annually in most member municipalities, and up to roughly 20 projects in Centre Wellington, over the initial four-year program implementation period. Note that these estimates account for the persisting split incentive barrier for rental properties (non owner-occupied),[33] a notoriously difficult challenge to reconcile.

Table 6-2: Estimated uptake by municipality, cumulative over first 4 years

Uptake Scenarios - First 4 years (Cumulative)	Township of Centre Wellington	Guelph/ Eramosa Township	Township of Wellington North	Town of Erin	Township of Mapleton	Town of Minto	Township of Puslinch
Low	12	6	4	6	4	3	4
Medium	**77**	**41**	**29**	**38**	**27**	**23**	**28**
High	150	80	57	74	53	44	54

Table 6-3: Estimated uptake by municipality, yearly average for first 4 years

Uptake Scenarios - First 4 years (Yearly)	Township of Centre Wellington	Guelph/ Eramosa Township	Township of Wellington North	Town of Erin	Township of Mapleton	Town of Minto	Township of Puslinch
Low	3	2	1	1	1	1	1
Medium	**19**	**10**	**7**	**10**	**7**	**6**	**7**
High	37	20	14	19	13	11	14

[32] Some totals may not add up exactly due to rounding.
[33] Split incentives often occur in rental properties, as landlords who incur the expense of energy upgrades tend not to accrue the benefits – including improved comfort and energy cost savings – which would help to offset and justify the cost of their investment.

Program uptake could exceed projections if there is substantial pent-up demand, if existing programs sunset, and if other initiatives that further drive demand for home energy and resilience improvements are introduced at the local, provincial and federal levels in the coming years. The HEET program is also expected to indirectly increase retrofit activity outside of the program by motivating homeowners to undertake energy and resilience improvements through other financing options (e.g. savings, home equity loan), as the local retrofit ecosystem becomes more established, and as residents become more aware and familiar with the associated benefits.

6.2 Environmental impacts

Based on the projected uptake for the program, Table 6-4 and Table 6-5 describe the estimated energy and GHG savings stemming from home retrofits completed through the HEET program, respectively.

Table 6-4: Estimated Energy Savings (GJ)[34]

Uptake Scenario	Average Annual Energy Savings		Total Cumulative Energy Savings	
	Years 1-4	Year 1-10	Years 1-4	Years 1-10
Low	2,075	4,565	8,300	45,655
Moderate	**13,600**	**29,925**	**54,410**	**299,260**
High	26,340	57,950	105,365	579,500

Table 6-5: Estimated GHG savings (tCO_2e)

Uptake Scenario	Average Annual GHG Savings		Total Cumulative GHG Savings	
	Years 1-4	Years 1-10	Years 1-4	Years 1-10
Low	110	245	450	2,460
Moderate	**520**	**1,140**	**2,080**	**11,420**
High	1,020	2,250	4,085	22,470

While the HEET program will play a role in meeting the County's climate action objectives, a variety of other policies, regulations and initiatives – both carrots *and* sticks – will be needed to achieve net zero emissions across the existing housing stock by 2050.

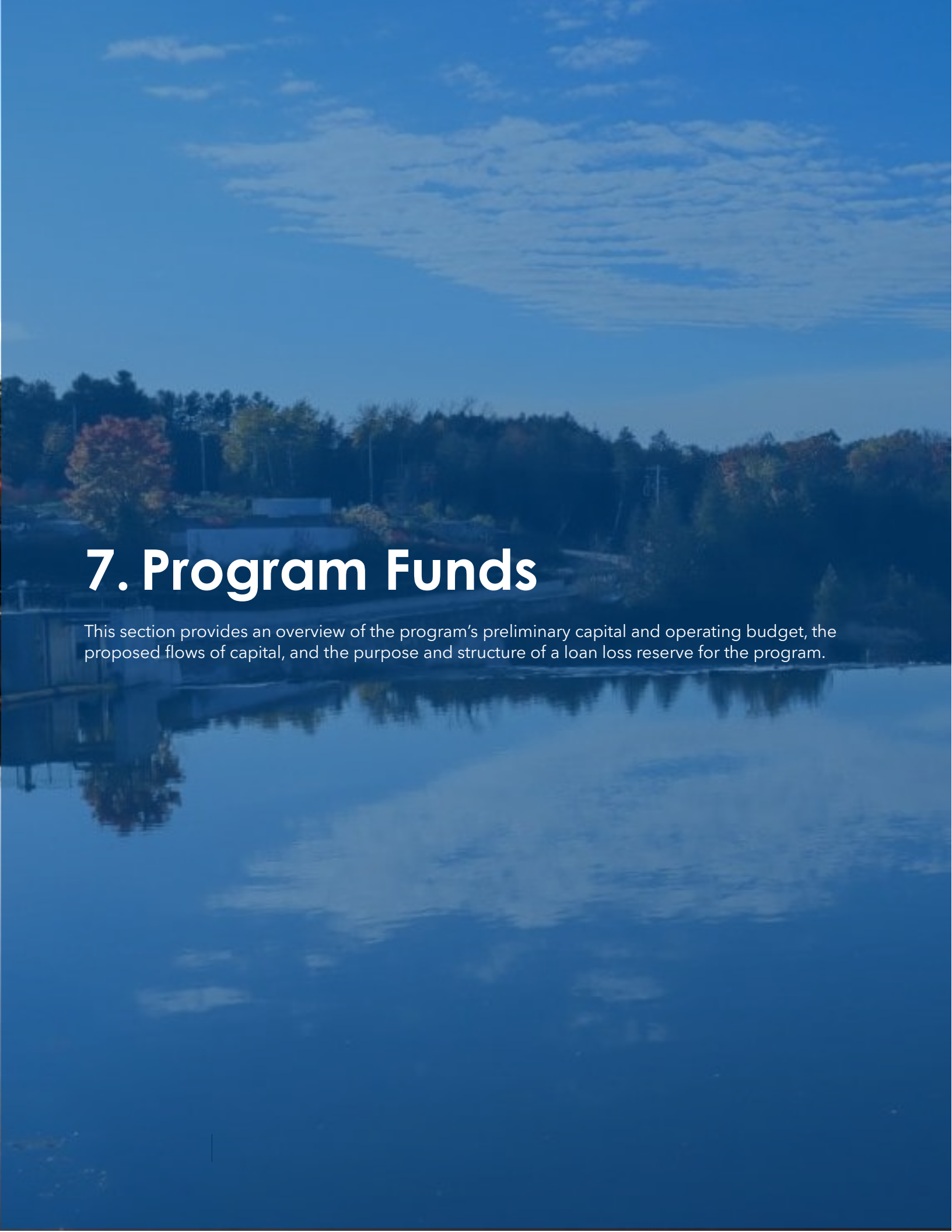
[34] Some totals may not add up exactly due to rounding.

6.3 Program co-benefits

The program will generate multiple co-benefits, in addition to supporting the County's GHG, energy and resilience objectives. Some of the expected community benefits resulting from the program's direct and indirect impacts include:

- Reduced rate of energy poverty across the County.
- Reduced pressure on the grid from reduced energy consumption.
- Increased economic activity (e.g., jobs created).
- Improved homeowner comfort and conditions for aging in place.
- Improved health and safety (e.g., better air quality, less moisture and mold issues).
- Increased home values.
- Increased supply of housing – provided the program is paired with other strategies to promote and facilitate the creation of secondary suites.

This program will also allow the County to be well positioned to support residents meet future and growing pressures to undertake energy and resilience upgrades, as well as expand to target commercial and multifamily buildings.



7. Program Funds

This section provides an overview of the program's preliminary capital and operating budget, the proposed flows of capital, and the purpose and structure of a loan loss reserve for the program.

7.1 Preliminary budget

To capitalize the HEET program, the County intends to apply to the Community Efficiency Financing (CEF) initiative offered by the Green Municipal Fund (GMF) (description in Section 2.1). The following high-level estimate of the program's operating and capital needs is intended to help the County prepare its application to the CEF initiative and secure the required funding commitment from Council, assuming the program is awarded funding from GMF. It will also support the County's regular budget planning for the year ahead.

Table 7-1 shows the estimated funding needed to administer the program during its first four years of operations, and
Table 7-2 shows potential contributions from different parties and revenue sources, noting that the CEF initiative requires that a portion (20%) of the program's total eligible costs be covered by non-GMF sources. While it is the applicant's responsibility to secure these funds, the matching contribution may be committed by any number of external parties, and therefore do not necessarily need to be entirely covered by the County.

Table 7-1: Preliminary HEET program budget

Program Expenditures	Year 1[35]	Year 2	Year 3	Year 4	Total
Operation costs	$712,200	$432,800	$332,800	$452,800	$1,930,600
Fee subsidy for income qualified households	$5,595	$5,595	$5,595	$5,595	$22,380
Program incentives	$544,680	$544,680	$363,120	$363,120	$1,815,600
Loan loss reserve	$45,100	$45,100	$45,100	$45,100	$180,400
Homeowner financing	$2,576,300	$2,576,300	$2,576,300	$2,576,300	$10,305,200
Total expenditures	**$3,883,875**	**$3,604,475**	**$3,322,915**	**$3,442,915**	**$14,254,180**

Table 7-2: Sources of funding to cover the program budget

Sources of Funding	Year 1[18]	Year 2	Year 3	Year 4	Total
County (loan capital)	$676,410	$676,410	$676,410	$676,410	$2,705,640
Application fee	$37,600	$37,600	$37,600	$37,600	$149,200
GMF (grant)	$1,270,275	$990,875	$709,315	$829,315	$3,799,780
GMF (loan)	$1,899,890	$1,899,890	$1,899,890	$1,899,890	$7,599,560
Total funding	**$3,883,875**	**$3,604,475**	**$3,322,915**	**$3,442,915**	**$14,254,180**
% loans in grant (GMF)	67%	52%	37%	44%	50%
% covered by non-GMF sources	18.4%	19.8%	21.5%	20.7%	20.0%

The final estimates for the budget are based on the moderate scenario. During the program's 4-year implementation period supported with GMF funding, HEET will support an estimated 265 home

[35] Year 1 includes the program start-up and the first full year of the program.

retrofits. The estimated start up and operating costs are shown in Table 7-3, and the administrative cost breakdown is described in further detail within Table 7-4.

Table 7-3: Estimated program operating budget

Operating budget	Start up	Year 1	Year 2	Year 3	Year 4	Total
1. Administration costs* (see Table 7-4 for breakdown)	$213,000	$116,870	$154,870	$64,870	$184,870	$734,480
2. Wellington staff time	$56,250	$112,500	$112,500	$112,500	$112,500	$506,250
3. Contingency on Wellington staff time	$28,125	$56,250	$56,250	$56,250	$56,250	$253,125
4. Marketing and communications	$20,000	$30,000	$30,000	$20,000	$20,000	$120,000
5. Compensation to municipalities for file administration[36]	$0	$52,800	$52,800	$52,800	$52,800	$211,200
6. Contingency on municipality file administration	$0	$26,400	$26,400	$26,400	$26,400	$105,600
Sub-total (items 1-6)	**$317,375**	**$394,820**	**$432,820**	**$332,820**	**$452,820**	**$1,930,655**
7. Loan loss reserve	$0	$45,100	$45,100	$45,100	$45,100	$180,400
8. Income-qualified rebates and other incentives	$0	$550,275	$550,275	$368,715	$368,715	$1,837,980
Total expenditures	**$317,375**	**$990,195**	**$1,028,195**	**$746,635**	**$866,635**	**$3,949,035**

Table 7-4: Administrative cost breakdown (as part of the operating budget)

Administration costs	Start up	Year 1	Year 2	Year 3	Year 4	Total
1. Program setup	$40,000	$0	$0	$0	$0	$40,000
2. Web portal setup/ update	$18,000	$7,000	$7,000	$7,000	$7,000	$46,000
3. Energy auditor and contractor capacity building	$20,000	$30,000	$50,000	$0	$0	$100,000
4. Program administrator services[37]	$0	$54,870	$54,870	$54,870	$54,870	$219,480
5. Program evaluation (external consultant)	$0	$0	$10,000	$0	$100,000	$110,000
6. Contingency **(**items 1-5**)**	$10,000	$25,000	$33,000	$3,000	$23,000	$94,000
7. Legal fees for agreement with financial partner	$45,000	$0	$0	$0	$0	$45,000
8. Legal fees for agreement between County and member municipalities	$30,000	$0	$0	$0	$0	$30,000
9. Contingency on legal fees (items 7-8)	$50,000	$0	$0	$0	$0	$50,000
Total costs	**$213,000**	**$116,870**	**$154,870**	**$64,870**	**$184,870**	**$734,480**

[36] This item will depend on further fees assessment and negotiation with member municipalities.
[37] Items 1 to 4 should be included in the program administrator offering package.

The tables above are generally based on conservative assumptions. Actual costs will vary depending on the final program design established during the start up phase, as well a range of other variables, such as third-party costs for program administration, software, marketing and outreach activities. Monitoring program activity and expenditures will help inform any decisions to make program adjustments and reallocate funds as needed throughout the implementation period.

GMF is expected to provide most of the funds needed to support the program through the initial start up period and first four years of operations. After GMF's funds have been fully expended, an alternative capital provider will need to be identified, and the revenue streams will need to be adjusted to account for operating costs no longer covered by the GMF grant (e.g. increased participant fees, reduced incentives).

Alternative sources of capital include:

- **County funds**, such as from municipal reserves. However, the County may wish to minimize the impact on its tax base, debt servicing limits, and municipal cashflow to the extent possible, in order to reserve some of its internal funds and borrowing capacity to inject in other priority capital projects.
- **Private capital** from financial institutions, such as local credit unions, chartered banks, and other potential capital providers. In most instances, the program's potential financial partners are expected to set minimum drawdown amounts. This means the program will need to make best efforts to generate great enough financing volumes to ensure borrowed funds are passed through to homeowners within a given amount of time. Other financial instruments, such as sustainability-linked bonds, may be considered as part of a larger portfolio of municipal capital projects.

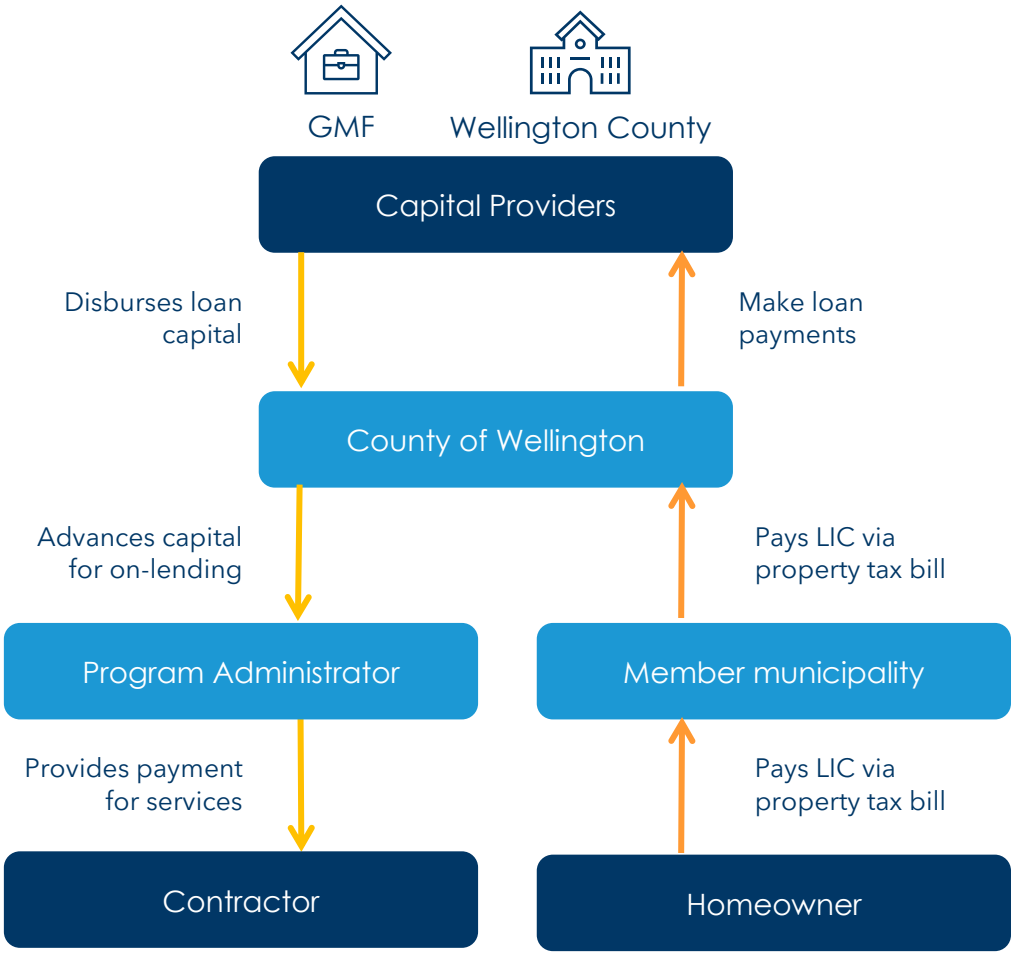
The County will also need to identify new revenue streams to cover the program's operating costs when the program transitions away from its dependence on CEF's grant contributions. This could include:

- Increasing program participation and/or financing fees.
- Adding fees for services that were previously free (e.g. Concierge).
- Relaxing some of the program eligibility criteria to increase participation volumes (e.g. render the EnerGuide home evaluation optional).
- Sharing costs and risks with other jurisdictions led by a common program administrator. This approach can leverage efficiencies of scale.
- Evaluating program processes to identify potential areas for efficiency gains.
- Providing municipal contributions to cover a portion of administration costs. For instance, it could draw from an internal green revolving fund dedicated to supporting the County's climate action initiatives.

7.2 Capital flows

Figure 7-1 below illustrates the capital flows between key program actors. Some adjustments to this flowchart may be warranted once agreements with all relevant parties have been put in place. Outflows (disbursements) are shown in yellow, with inflows (payments) in orange.

Figure 7-1 Simplified capital flow diagram



Direct payment to contractors

Most LIC programs are structured such that funds are disbursed to participating homeowners for remittance to contractors. However, a more streamlined approach would place the onus to pay contractors on the program administrator, rather than the homeowner. While not all program administrators offer this service, this approach allows for a more direct flow of capital so that the borrowed funds pass through fewer changes of hands (Figure 7-1). It alleviates some of the administrative burden for homeowners, while also mitigating the risk that homeowners are made to access temporary funds to cover contractor payments while they await their final program disbursement. Whatever approach is selected will ultimately need to be validated during the start up phase of the program through consultation with the retained program administrator.

The following table outlines some of the strengths and shortcomings of this more direct approach to contractor payments.

Table 7-5: Strengths and shortcomings of a direct contractor payment structure

Strengths	Shortcomings
Enhances the homeowner experience. Homeowners are not responsible for managing large sums of money.	**Increased administrative complexity.** Direct contractor payments create additional responsibility for the program administrator and can become particularly complex on projects involving multiple contractors.
Reduces the risk of misuse of funds. This approach ensures that borrowed funds are directed to home improvements, rather than other uses.	**Limited administrator choices.** Few experienced LIC administrators currently offer this service. If made a procurement requirement, fewer organization will be able to present a bid.

7.3 Loan loss reserve

A Loan Loss Reserve (LLR) is a credit enhancement tool where a pool of funds is set aside to cover a portion of losses incurred by lenders from homeowner financing defaults. The balance of the LLR fund may fluctuate as the balance of outstanding loans changes, since deposits are held until loans are repaid by the borrower (in this case, homeowners). In the event of default, lenders can apply to the LLR fund to be made whole for a portion of their demonstrable losses. Risks are shared between both parties as the LLR only covers a portion of losses. The LLR can also be authorized to invest the funds set aside in an interest-bearing account.

Many capital providers still require borrowers to carry a LLR due to the relative novelty of using LICs for energy efficiency purposes within Canada, resulting in perceived market uncertainty. While the program isn't expected to transition to a private capital provider until the end of the first four-year implementation period, CEF funds used to establish a LLR at the onset of the program may remain with the County after this initial period has ended.

A LLR may also be leveraged by the County to negotiate preferential terms with any future financial partners. It can help to secure below-market interest rates, expand underwriting criteria to homeowners with lower credit scores, lock in longer term lengths and amortization periods, increase maximum loan amounts, and access other benefits for participating homeowners.

LLRs may also help build acceptance from mortgage lenders, many of whom are currently reluctant to permit LICs on covered properties due to its priority lien status, as well as the risk of contributing to or triggering foreclosures. The LLR offers an alternative to a foreclosure and tax sale process in the event of default, and the drawdown amount is limited to the outstanding loan balance and based around a given set of LLR parameters.

In light of the benefits of LLRs, the preliminary program budget (Section 0) accounts for the establishment of a LLR equivalent to 5% of the total loan portfolio. This 20:1 capital to LLR leverage ratio is expected to be sufficient to satisfy the needs of the County and private capital providers, given the inherent security of LICs.

8. Program Implementation Plan

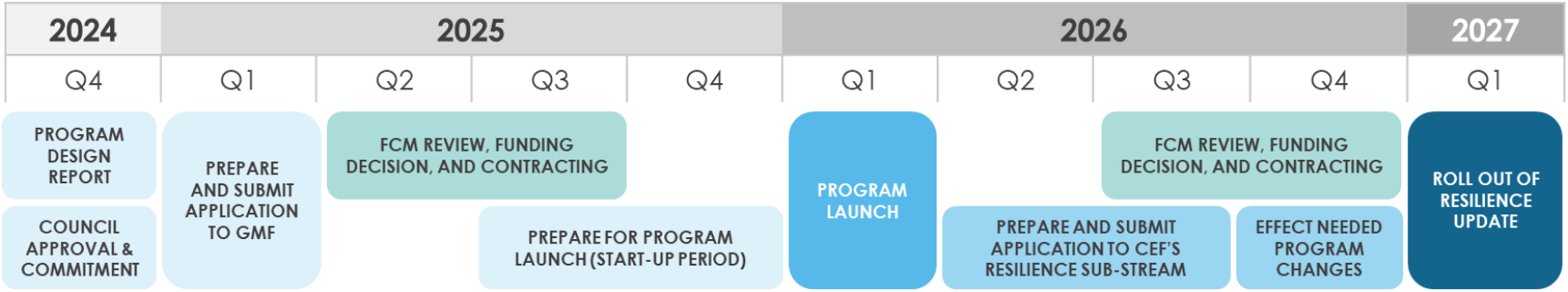
This section maps out a near-term plan to prepare for program implementation. It includes a timeline leading up to program launch, as well as series of required start up tasks. It also describes the roles and responsibilities of the different stakeholders that will support program delivery.

8.1 Program launch timeline

Based on the approximate timeline to program launch shown in Figure 8-1, the program's expected launch date falls in early 2026. Following the start-up period, the County is expected to continue receiving funds from GMF for up to four years, after which time alternative sources of revenue and capital will need to be secured.[38]

In addition, GMF is expected to open a new resilience sub-stream within the CEF initiative that will help municipalities enhance the available financing and services that support climate adaptation efforts in the residential sector. Assuming the details of the sub-stream will be announced in late 2025, the County may propose to refine certain elements of the program design to pursue this funding opportunity, with a view to make additional financing available to homeowners for property resilience improvements one year following program launch.

Figure 8-1: Illustrative program timeline



This timeline also assumes that the County will be comfortable incurring costs prior to funding confirmation from GMF. The CEF initiative allows costs incurred following the full application date to be reimbursed, provided the program is awarded funding. Following this approach would allow the County to continue advancing efforts to prepare for program launch with less delay, as GMF's review and contracting process can last over a year.

[38] As an example, after Ottawa's Better Homes program was fully subscribed, it transitioned to a model that leverages private capital. To cover its operating expenditures, it rolled out a new fee structure for program participants.

8.2 Start up plan

Once the County has submitted its funding application to GMF and is ready to move forward, several tasks must be completed to prepare for program launch. The start up period will be shaped by close collaboration between the County and member municipalities, as well as the program administrator once retained. The following section provides a high-level overview of these activities, which include but are not limited to:

1. **Council and funding commitment**. The County will need to secure Council endorsement and the requisite funding commitment to fulfill application requirements to the CEF initiative (see the callout box below). In addition, local municipalities will need their own Council approval to participate in the program and adopt relevant legislation prior to launch. The County can support local municipalities with this effort.
2. **Application to GMF's CEF initiative**. The County will need to prepare an application to GMF's CEF initiative in order to fund the majority of operating costs and capitalize the program during the program's start up period and initial implementation years.
3. **Resourcing**. The County will need to retain a program administrator through a process consistent with its procurement policies. The County will also need to re-engage with different municipal teams, both within the County and the member municipalities, to notify them of the activities they will be responsible for during the start up period. This will help to firm up the internal and external resourcing plan, while providing municipal staff with some lead up time to arrange their future workload and projects to accommodate the needs of this special project.
4. **Legal and financial activities**. The County will work with a lawyer to draft a LIC bylaw template, which will need to be shared with and adopted by the member municipalities. The County will also work with its finance team and the member municipalities to finalize the program's term sheet and work out the processes and procedures to store and share data, transfer funds, monitor the performance of LICs, and conduct budget reconciliations on a regular basis. An agreement between the County and member municipalities will be required to set out the terms of the program. In addition, the County will lead efforts to establish a Loan Loss Reserve account and communicate the terms and conditions to member municipalities.
5. **Program infrastructure**. Working with the program administrator and other third parties, the County will need to establish the program's backend infrastructure (e.g. CRM, centralized web platform) and website. This step may require a significant investment of time to ensure all software is well customized to the needs of the program.
6. **Delivery partner engagement**. The County, local municipalities and program administrator will need to work together to finalize the program's various processes and procedures, create alignment, and offer training and support. In addition, the County will need to work with local energy auditors, relevant contractor firms, and other potential program delivery partners (e.g. local environmental organizations) to communicate the details of the program and enhance understanding of home resilience improvements.
7. **Marketing and outreach strategy**. The program administrator will be responsible for developing a complete marketing and outreach plan for the program, leveraging its previous experience. The administrator will also be responsible for producing promotional and website content and materials.

The following section elaborates on these seven key start up tasks.

1. Council and funding commitment

Approval from the County's Council is needed to proceed with a capital program application to GMF and to secure the required matching contribution representing 20% of total eligible costs (Section 0). At the same time, the Council resolution may also request delegating authority to one or more designated municipal staff (e.g. CFO) for the purposes of negotiating and executing a funding agreement with GMF, negotiating and executing a service agreement with the retained program administrator, entering into an EnerGuide data sharing agreement with Natural Resources Canada, and creating a LLR account and transfer funds in and out of the account as needed.

In addition, member municipalities will need their own Council approval to participate in Wellington County's HEET program. The resolution may also aim to set up provisions that clarify and streamline approval processes during program implementation. For instance, the Council resolution may specify the authorization of specific staff to countersign POAs, certify the local improvement rolls and ongoing collections, add the special charge to the tax roll in the quarter or year in which it becomes payable, and to regularly submit bills to impose the special charge on participating properties. The County and program administrator (once retained) can support this effort by describing the overall program and drafting comprehensive resolutions for local Councils.

GMF funding and required contribution

Through the Community Efficiency Financing (CEF) initiative, GMF offers funding to cover up to 80% of total eligible costs across the combined operating and capital budget. GMF may provide a loan of $10M to cover capital expenditures and up to $5M grant for start-up and operating costs. The grant cannot make up more than 50% of the approved loan amount or exceed the total start-up and operating costs.

To demonstrate to GMF that the County has some "skin in the game," the County is required to secure the remaining funds from internal resources (e.g. municipal reserves, staff time) or identify other sources of funding (e.g. provincial or utility grant) to make up the 20% of funding contribution.

2. Application to GMF's CEF initiative

Preparing a capital program application to the CEF initiative requires extensive documentation. The County will need to demonstrate that HEET is a municipal priority and aligns with existing plans and strategies, provide evidence of consultation with the Province, provide a detailed budget, and identify all sources of program funding. Because the CEF initiative's funding award process is competitive, the application should also emphasize the program's innovative features.

While preparing the funding application to GMF, the County will need to:

- **Finalize the program budget.** Through further discussions with the program administrator, equity experts, and finance teams across both municipal tiers, the County will need to finalize its decision about the nature of the municipality's contribution (currently shown as capital in Section 0), an appropriate compensation framework for member municipalities, and the specific structure of the program's incentives. See section 4.3 for high-level direction on some of the types of approaches, measures, and population groups that the County may choose to support with the program's rebates.
- **Prepare application documents.** The CEF initiative requires applicants to undergo a pre-application process to confirm eligibility before submitting a full funding application. The pre-application process is relatively short and straightforward, whereas the full application will require preparing a more complex and lengthy application form and project workbook, as well as compiling all required supporting documentation.

GMF has communicated that the CEF initiative is expected to sunset in 2026. As such, the County must continue to advance through CEF's application stages within the next one to two years in order to fully take advantage of this funding and capacity building opportunity.

3. Resourcing

To deliver the HEET program, the County will need to allocate the appropriate resources, clarify roles and responsibilities, and ensure adequate staffing both internally and externally.

- **Designate a County program lead**. Once the County receives confirmation of funding award (or earlier, depending on the County's tolerance for risk), the County can begin to undertake the activities needed to prepare for program launch. To do so, dedicated staff will need to be assigned to lead and coordinate activities during the program start up, implementation and evaluation processes. The program lead will need adequate allocated time and resources to successfully deliver on their responsibilities.
- **Retain a third-party program administrator.** The County will need to enter into a service agreement with a qualified third-party program administrator. To help select an appropriate partner, a thorough review of the program's roles and responsibilities should be conducted in consultation with affected municipal departments. The firm retained may impact the flow of funds currently envisioned in Figure 7-1, depending on their disbursement capabilities.
- **Engage other affected municipal staff.** While the program administrator will take on much of the program's day-to-day responsibilities during implementation, the program lead will need to work closely with relevant municipal staff both within the County and member municipalities during the start up period in order to share information on the program, collect input, delegate tasks, and support training efforts on program processes and related activities.

  Some municipal staff members offer valuable support and expertise that can help to effectively set up the program (e.g. Building Services), while others will be essential to the program's ongoing operations (e.g. Finance, Climate Change and Sustainability). They will thus need to clearly understand their roles and responsibilities. Staff consultation will serve to uncover potential hurdles to address prior to program launch, and to better understand staff needs and preferences when developing detailed processes and procedures. The specific delivery roles and responsibilities of municipal staff are described in Section 8.3.

4. Legal and financial activities

Member municipalities will need to adopt a LIC bylaw. The exact terms for the participant term sheet, as well as the flow of funds and reporting requirements, should also be clarified.

- **LIC Bylaw Adoption.** Provincial legislation requires Ontario municipalities to adopt a local bylaw which permits LICs to be used for home energy efficiency and resilience improvements on residential properties. As such, each member municipality will need to adopt a local LIC bylaw to authorize the HEET program. The County's retained legal staff, with specialized support if needed, should draft the bylaw to mitigate the legal burden for member municipalities, while ensuring consistent wording across the County.

  As a starting point, the County can refer to LIC bylaws developed by other Ontario municipalities operating similar programs. The municipalities' draft bylaw should then be reviewed by a legal expert to ensure correct interpretation of the Ontario regulation governing LICs (O. Reg 586/06) and offer a complete understanding of its legal implications.[39]
- **Finalize the Term Sheet.** Once the terms of the funding agreement with GMF have been established, the County will be able to finalize the program's term sheet, since the two are closely connected. The County should consider extended financing terms to lower program payments for homeowners, provided they remain reasonable and do not exceed the average estimated useful life of the measures installed. In addition, the interest rates offered to homeowners may be set in relation to the County's interest rate on the loan facility with GMF and any other borrowed funds in order to cover the County's cost of borrowing.
- **Financial Reporting.** The County will need to coordinate with GMF, member municipalities, and the program administrator to finalize the program's capital flows, fee structure, and reporting requirements. For instance, the program administrator may remit payment directly to contractors to further simplify the process for homeowners and minimize delays. Incentives may also be disbursed to homeowners by the administrator or the County, or directly applied to LICs to reduce total financing amounts at the outset. Additionally, the County and member municipalities will need a clear understanding of the approach to transfer LIC payments, store and share financial and other data, and conduct regular budget reconciliations. Further internal discussion is needed to reach a final decision on these items.
- **Establish a LLR.** The County may use GMF funds to establish a LLR with third party legal support. A LLR serves to mitigate homeowner default risk and promote greater confidence from mortgage lenders and private capital providers. While similar LIC programs have historically had very low default rates (less than 1%), and municipal remedies are robust given that LICs hold a priority lien status on the property, LLRs can help protect municipalities from the cost, complexity, and reputational risk associated with triggering a tax sale in the event of payment default, while reducing financial risk concerns from mortgage holders. The terms of the LLR, including the loss coverage rate and description of eligible withdrawals, require further reflection and may need to align with GMF funding requirements.

[39] Examples include the City of Peterborough's By-law Number 24-065 and the City of Guelph's By-law Number (2024) – 20927.

Impact on the Municipal Debt Ratio

Ontario PACE financing programs are expected to have little to no impact on the municipal debt ratio and are generally treated as a passthrough, provided the municipality receives and disburses the program's capital from a dedicated, single-purpose account. Only the outstanding account balance should impact this ratio.

To avoid carrying a large outstanding balance, the County should aim to draw down only the funds needed to cover projected retrofit activity within a given timeframe. Moreover, negotiating with the program's capital provider to access smaller, more frequent disbursements can help to mitigate this risk.

5. Program infrastructure

To support program operations, HEET will require the following backend infrastructure and systems. Coordination with the selected program administrator is recommended as they may already have some of these items in place.

Lead	Infrastructure/systems	Status
Program oversight		
Administrator	• Centralized web platform, with an integrated CRM tool.	To be lightly customized
	• Secure file sharing platform to send and receive files from program internal delivery agents and program participants.	To be set up
	• Integrated data collection tools.	To be developed
Program capital		
County	• Processes and software to manage loan facility with GMF (draw down, repayment, etc.), in addition to paying invoices from third parties and advancing capital and incentives to the program administrator.	In place
	• Monitor LIC payments and lead budget reconciliations.	To be developed
	• Collect LIC payments by requisitioning member municipalities.	In place
	• Establish and monitor the Loan Loss Reserve to backstop qualifying losses.	To be developed
Local municipalities	• Software to add local improvement rolls to the tax bill, generate amortization schedules and financing statements, process prepayments, and monitor LICs over time.	To be updated where needed

Lead	Infrastructure/systems	Status
Program delivery		
County	• Municipal webpage dedicated to posting LIC property bylaws.	To be developed
Program administrator	• Directory of registered energy auditors.	To be developed
Third party firm	• Create and update program website.	To be developed

6. Delivery partner engagement

The County, local municipalities, and program administrator will need to work together to finalize the program's various processes and procedures, create alignment, and offer training and support to staff. In addition, a variety of industry actors will be critical to the program's success. They can help promote the program, support program delivery, and ensure alignment and coordination across program messaging and offerings. As such, the County will engage with, and enter into agreements where needed (e.g. funding, MOU), with key delivery partners. These including the following.

Table 8-1: Responsibilities of key program delivery partners

Delivery partner	Responsibilities
Natural Resources Canada	• Provide access to EnerGuide house files. • Coordinate to align program offerings.
Green Municipal Fund	• Disburse grant and loan funds based on drawdown requests (provided funding is awarded). • Offer capacity building materials and activities.
Local utilities	• Promote the program (e.g. utility bill inserts). • Coordinate to align program offerings.
Service Organizations / Energy Advisors	• Participate in information sessions to understand the program and align on program messaging. • Communicate local capacity relative to demand and identify any opportunities to improve program processes.

Delivery partner	Responsibilities
Contractors	• Participate in information sessions to understand the program and align on program messaging. • Communicate local capacity relative to demand and identify any opportunities to improve program processes. • Participate in climate adaptation training to understand opportunities to integrate resilience measures and offer added value to homeowners.
Local environmental organizations and community groups	• Participate in information sessions to understand the program and align on program messaging. • Promote the program, refer potential participants, and share general information on energy efficiency and climate resilience.

7. Marketing and outreach strategy

The program administrator will develop a marketing and outreach strategy with support from the County's communications team. It will serve to raise awareness of the program and engage with the broader market to drive interest and uptake. This section outlines some of the key considerations as a means to support the development of a more detailed strategy during the start-up period. Drawing from best practices, the marketing and outreach strategy may include some of the following activities.

- **Lead an energy efficiency and climate resilience awareness campaign**. A public education campaign would promote a basic understanding about the importance and benefits of energy efficiency, building decarbonization, and climate adaptation, while debunking some of the most common misconceptions. Information can be shared through press releases, social and traditional media, information sessions and community events, utility and property tax bill inserts, and local associations, organizations and colleges. The campaign should be designed with the target audience and local demographics in mind. The messaging should be tailored to resonate with different groups and reflect their level education, language, awareness, and other factors.
- **Leverage delivery partners and other industry actors.** Engaging with and collaborating with other actors in the residential retrofit ecosystem is critical to the program's success. It can improve awareness and understanding of the HEET program, stimulate further interest from homeowners, and promote greater clarity and consistency across communications from different parties. In addition, the HEET program can be used to encourage more contractors to deepen their knowledge of materials and techniques that improve both energy and resilience in homes as a way to upskill and upsell their services. Trainings can be held virtually and in-person, with information circulated through associations, places of business, industry trade shows, conferences, and other events. Existing educational content and training modules should be leveraged wherever possible.

- **Target messaging to reach homeowners at key home retrofit trigger points.** Targeting homeowners at optimal moments (i.e. retrofit "trigger points") can help to promote energy and resilience upgrades. Retrofit trigger points occur when homeowners are more likely to integrate energy and resilience investments into their home renovation or another major purchase. This can mean reaching homeowners during planned renovations or equipment replacements and when buying or selling a home. Homes with fossil fuel heating systems also represent a significant opportunity to reduce emissions and should be prioritized in outreach efforts.

Best practices for consumer protections also recommend clear and transparent communications. As such, it is important that program communications convey the following points unambiguously:

- **HEET is not a government assistance program.** The program should not be misinterpreted as a form of financial aid or subsidy from the government.
- **HEET is not free.** Any home improvements financed through the program come at a cost, which will need to be repaid.
- **HEET payments are collected through the property tax bill.** Participating homeowners should understand that the financing provided through the program will become due and payable through a special charge applied to property tax bill.

8.3 Delivery roles and responsibilities

A third-party organization will be retained as program administrator to oversee most of the program's administrative responsibilities and services offered to homeowners, with support from the County and member municipalities at key stages (Section 5). Outsourcing these responsibilities will minimize the impact on municipal staff, while leveraging operational efficiencies as experienced administrators already have developed some of the needed infrastructure, materials and content.

Table 8-2 describes the key roles and responsibilities of the primary program partners and service providers.

Table 8-2: Roles and responsibilities of main HEET program partners

Program Lead	Detail of Role / Responsibilities
Wellington County	• Oversight over the program, including final decisions over spending and the program's term sheet and eligibility requirements. • Evaluate and monitor program performance. • Fulfill reporting requirements to program funder. • Prepare updates for Council, as needed. • Negotiate and execute agreement(s) with the funder(s). • Manage the program's financials and prepares status update reports. • Remit payments to capital providers, the program administrator, member municipalities, and other relevant parties. • Establish and oversee the LLR.

Program Lead	Detail of Role / Responsibilities
Program administrator	• Lead program marketing and outreach activities. • Manage the centralized web platform in communication with the software provider. • Deliver concierge services to homeowners. • Prepare climate-ready pathway plan. • Program performance and other reporting to the County. • Oversee participant files throughout the project pipeline. • Prepare advance disbursement requests based on near-term disbursement projections. • Draft POAs, bylaws for benefitting properties, and Council resolutions. • Remit payment to participants, including advance disbursements. • Lead the coordination among internal stakeholder (e.g. to verify the property tax payment history). • Deliver contractor and service provider trainings. • Respond to enquires and complaints to ensure customer satisfaction and uphold program reputation. • Circulate the homeowner survey to participants and collect other program data for program evaluation and reporting.
Member municipalities	• Verify participant property tax bill history. • Approve and sign POAs. • Record LICs on benefitting properties. • Pass required bylaws Council resolutions. • Oversee billing and collections process. • Prepare budget and status updates for the County. • Manage any delinquencies and defaults and apply to loan loss reserve to recover partial losses when needed.
Capital provider	• Disburse funds in accordance with the terms of the loan facility. • Collect loan payments from the County. • Collect key program data.

Appendices

Appendix A:
Program theory logic model

LOGIC MODEL
Home Energy Efficiency Transition (HEET) Program

PURPOSE

The HEET program aims to support homeowners in undertaking energy upgrades and resilience improvements to their homes by addressing homeowner barriers and market gaps, while strengthening and expanding the local retrofit ecosystem. The program's primary objective is to decarbonize the County's existing housing stock. The program will also advance three secondary objectives: improve the energy performance of homes, reduce energy poverty, and enhance local resilience to climate change impacts.

INPUTS

GMF Contributions
- Grant for start-up and operations over up to 4 years
- Capital for on-lending
- Capacity building and resource sharing (e.g. Community of Practice)

County Contributions
- Matching contribution to meet GMF's application requirements
- Staffing, LIC mechanism and supporting infrastructure, other internal resources

Other Third Party Contributions
- Centralized web platform
- Program websit
- Concierge services
- Workforce training on resilience
- Energy and climate learning resources

HOMEOWNER BARRIERS

Practical Barriers
- Competing renovations/ financial priorities
- Limited local workforce capacity and awareness of climate resilience measures

Process Barriers
- Knowledge/awareness
- Access to information
- Complexity

Financial Barriers
- Upfront costs
- Access to capital

ACTIVITIES

Engagement Staregy
- Collaborate with program delivery partners to promote the program among homeowners, improve understanding, and ensure messaging consistency.
- Coordinate with local trade schools, colleges and relevant associations to grow local capacity.

Centralized Web Platform
A centralized web platform is established, allowing homeowners and other partners to find all the program and related information needed to complete home retrofits and to submit supporting documentation in one convenient location.

Concierge
An energy and climate adaptation specialist is made available to participating homeowners to guide and advise them on their retrofit journey.

LIC Financing
- The cost of energy efficiency, renewable energy, climate resiliency and supporting upgrades are added to the tax bill via a LIC.
- Relaxed underwriting enables broad participation.

SHORT-TERM OUTCOMES (1-3 YEARS)

Homeowners are aware of the program and its benefits → **Homeowners** have access to information and an improved understanding of the benefits of retrofits → **Homeowners** are motivated, supported and empowered to undertake retrofits → **Homeowners** across different income levels undertake retrofits resulting in home energy savings, more resilient homes, and other benefits

MEDIUM-TERM OUTCOMES (4-5 years)

Expertise and capacity in the **home retrofit industry** expands, with more local training, upskilling and new job opportunities → As the performance history of the residential retrofit industry becomes more established, more **financial institutions** are willing to invest, with improved terms → Building on its success, the program expands to target a **broader audience**, including multifamily and commercial buildings

LONG-TERM OUTCOMES (5+ years)

Demand for retrofits and financing coincides with the adoption of new policies and regulations, rising carbon tax and fossil fuel prices, and more extreme weather and slow-onset events → Growth in the **local green economy** accelerates the community's energy transition and progress towards achieving near net zero emissions by 2050 → **Economies of scale** are realized, resulting in operational efficiencies; access to low-cost capital is improved; and a greater porportion of the County's building stock is energy efficient, low carbon and climate resilient

Appendix B:
List of eligible measures

The energy and resilience measures described in the tables below are eligible for program financing. Other supporting measures may be considered as part of the POA in line with the criteria set out in Section 4.2 on qualifying upgrades.

Table A- 1: Qualifying energy conservation measures

Category	Eligible Measures	Minimum Eligibility Criteria
1- Heating, ventilation and air conditioning (HVAC)	Cold-climate air source heat pump	• ENERGY STAR® qualified • Certified by Canadian Standards Association (CSA) • Installed by a licensed, qualified professional
	Ground source heat pump	• ENERGY STAR® qualified • Certified by Canadian Standards Association (CSA) • Installed by a licensed, qualified professional
	Heat recovery ventilator / energy recovery ventilator	• Listed with the Home Ventilating Institute • Installed by a licensed, qualified professional
2- Thermal envelope	Attic Insulation	• Min. 20% of attic/ceiling area: Increase insulation from ≤ R35 to ≥ R50 • Cathedral / flat roof: Increase insulation by ≥ R14 or achieve ≥ R28
	Exterior wall insulation	• Add R3.8 – R20 to 100% of building • Add ≥ R3.8 to achieve ≥ R12
	Basement Insulation	• Add R12 – R23 to 100% of basement • Add R10 – R23 to 100% of crawlspace • Add R24 to 100% of floorspace above crawl space • Must upgrade a minimum of 20% of total wall area
	Comprehensive Air Sealing	• Achieve base target or better
	Window/door/skylight	• ENERGY STAR® qualified
	Connected thermostat	• ENERGY STAR® qualified smart thermostats
3- Water heating	Drain-water Heat Recovery	• Minimum 30% efficiency
	High-efficiency water heater	• ENERGY STAR® qualified electric resistance water heater • ENERGY STAR® qualified heat pump water heater

Category	Eligible Measures	Minimum Eligibility Criteria

4- Other	Renewables	• Rooftop solar photovoltaics:
		  ○ Certified by Canadian Standards Association (CSA)
		  ○ ≥1.0 kW DC
		  ○ For grid connected system: letter of approval or permission for interconnection issued by the local electrical or building authority
		• Solar hot water systems

	Battery storage	• Connection to solar system
	Electric vehicle charging stations	• EV charging infrastructure (Level 2)

Table A-2: Eligible resilience improvements (capped at 30% of total financing per project)

Category	Eligible Improvements	Minimum Eligibility Criteria
1- Flood-proofing	Backwater valve	• Certified by Canadian Standards Association (CSA) • Installed by a licensed, qualified professional
	Sump pump/pit systems or backup sump pump	• Installed by a licensed, qualified professional
	Permanent sealing of unused floor drain	• Installed by a licensed, qualified professional
	Gutter downspout extension	• Angled away from the house
	Basement window well covers	• Must be easily openable from the inside
	Rain gardens	• Can be DIY, accompanied with guidance from the concierge
2- Drought prevention	Water efficient toilet	• Uses 4.8 litres or less per flush

Appendix C: Modeling approach

Dunsky's proprietary financial model generates valuable estimates to guide the design study, including the program's projected uptake, energy and GHG savings, municipal and third-party staffing needs, start up and operating costs, capital requirements, and 10-year cashflow.

A summary of the model's inputs and outputs is provided below.

Inputs

- **Archetype analysis.** Three building archetypes were developed to represent common low-rise (i.e. Part 9) housing characteristics in the Wellington County. The archetypes used in this study are designed as single-family dwellings of approximately the same size, with different heating systems and average energy consumption.
- **Retrofit packages.** Nine retrofit packages were developed to represent combinations of energy efficiency and renewable energy measures, drawing from a variety of data sources. The combinations of measures were also selected to align with the program requirements and to reflect homeowner preferences for certain technologies and cost ceilings.

Outputs

- **Uptake projections.** The program's uptake projections are based on a number of variables, including the estimated housing market size, participation rate, and uptake variations between retrofit packages. The results provide a low-, medium- and high-uptake scenario to establish a reasonable range for program participation during the first 10 years of operations.
- **Budget estimates.** Based on the uptake projections and other design choices, the financial model is used to estimate the program's total operating and capital expenditures, while identifying the estimated staff and other resources needed for program implementation. The results are used to identify the matching contribution required to apply for funding to GMF's CEF initiative.

Housing archetypes

Drawing from available EnerGuide and Municipal Property Assessment Corporation (MPAC) data, the study defines three archetypes that are representative of common housing types in Wellington County, with key characteristics summarized in Table C-1 below. The estimated bill savings and GHG emission reductions shown are based on the study's retrofit packages.

Table C-1: County of Wellington Housing Archetypes

	 Natural gas-heated homes	 Electric-heated homes	 Oil-heated homes
Type	Single family dwelling	Single family dwelling	Single family dwelling
Year of construction	Before 2000	All ages	Before 2000
Stories	2 stories	2 stories	2 stories
Total area	246 m^2	282 m^2	260 m^2
Primary space heating source	Natural gas	Electricity	Heating Oil
Total annual energy consumption (% for space heating)	150 GJ (74%)	113 GJ (62%)	210 GJ (85%)
Annual GHG emissions	6.5 tCO_2eq	0.9 tCO_2eq	12.8 tCO_2eq
Annual estimated bill savings from upgrades	$125 - $1,500	$950 - $3,275	$5,200 - $7,100
Estimated annual GHG emissions reduction from cost-effective upgrades	2.3-6.1 tCO_2eq	0.3-0.5 tCO_2eq	9.7-10.1 tCO_2eq

Retrofit packages

The project team developed nine retrofit packages with different combinations of ECMs and renewables, accounting for the County's housing stock characteristics, their average energy consumption, and the results from the homeowner survey conducted as part of the feasibility study. Three retrofit packages were created for each of the archetypes with different heating sources. The total costs of the retrofit packages range between $13,000 and $67,000 before rebates. The measures included in each of the retrofit packages are described in Table C-2 below.

Table C-2: Summary of Retrofit Packages

Package	1	2	3	4	5	6	7	8	9
Potential market									
Space & water heating source	Natural gas			Heating Oil			Electric		
Measures									
Heat pump[40]	✓(partial)	✓(partial)	✓		✓	✓	✓(partial)	✓(partial)	
Water heater	✓	✓	✓		✓	✓		✓	
Windows			✓			✓		✓	
Insulation		✓	✓		✓	✓	✓	✓	
Solar PV array[41]			✓	✓		✓		✓	✓
Package costs									
Estimated costs	$13K	$22K	$64K	$22K	$27K	$67K	$19K	$65K	$25K
Incentives[42]	$3K	$5K	$5K	$0	$10K	$10K	$0	$0	$0
Final amount	$10K	$17K	$59K	$22K	$17K	$57K	$19K	$65K	$25K
Benefits									
Est. annual bill savings[43]	$445	$545	$2,150	$1,660	$5,225	$7,150	$1,810	$3,980	$1,900
Est. annual energy savings (GJ)	69.3	72.5	110.3	38.4	99.8	144.3	41.9	92.2	44.1
Est. annual GHG savings (tCO_2eq)	4.7	4.8	5.1	0.3	9.8	10.1	0.33	0.72	0.34

[40] For gas-heated homes, the retrofit packages assume partial electrification with a dual fuel heat pump. For electric-heated homes, the heat pump is expected to cover the majority of heating needs, but not all (e.g. mini-split heat pump paired with electric resistance heating in some areas of the home).
[41] The cost of a solar PV system varies according to the overall size of the system, which is set in relation to the archetype's assumed electricity consumption and total size.
[42] For oil-heated homes, the federal government's Oil to Heat Affordability Program incentives are applied. However, those incentives are reserved for income-eligible households. Homeowners who do exceed the jurisdiction's median income will not have access to this incentive. For gas-heated homes, the incentives stem from Enbridge's HER program, which was relaunched following the end of the Canada Greener Home Grant (which was delivered in Ontario under the HER+ program).
[43] This represents the estimated average annual bills savings over the assumed useful life of the equipment using a 2% annual real utility escalation rate. Carbon price on natural gas is assumed to increase by $15/tCO2e annually up to $170/$tCO_2e$ in 2030 and remain consistent thereafter.

Uptake projections

The uptake projections consider the estimated market size, participation rate and uptake variations between retrofit packages.

- The total market size is 33,314 homes, defined as the number of eligible low-rise (Part 9) houses in the County.[44] Additional variables are used to further refine and segment this market. These include the types of homes, proportion of homes that are owner-occupied, and the primary home heating fuel. With these factors applied, the estimated market potential falls to 22,487 properties.
- The model's uptake rates are informed by a mix of data from longstanding programs in both Canada and the US, more recent programs launched during the pandemic, and Dunsky's professional judgement. The model generated low-, medium- and high-uptake scenarios to establish a range of potential participants. Based on the program's design choices and outlook, the project team then selected the moderate scenario to develop budget estimates.
- The expected preference for certain retrofit packages is weighted in the analysis to determine their market share. For instance, several studies and data sources highlight the popularity of heat pumps among homeowners undertaking energy retrofits, while building envelope improvements are less common.[45]

Budget estimates

The program's operating budget assumes the County will retain a third-party program administrator, rather than run the program in-house, and will access the combined grant and loan from GMF's CEF initiative during the initial 4-year program implementation period. The capital budget is informed by the estimated number of participating households and average cost of the modelled retrofit packages. Taken together, the total operating and capital budget can help the County develop cashflow projections, plan internal resourcing needs, formulate the funding application to GMF, and prepare for the program's eventual recapitalization.

[44] Statistics Canada. (2021). Census Profile, 2021 Census of Population.
[45] This includes the following report: Green Communities Canada. (2023). Retrofitting Canada's Homes: Progress Report #1.

Appendix D:
Risk mitigation strategy

Table D-1 below describes potential risks associated with program implementation, alongside risk mitigation strategies. These measures are expected to be further refined during the program start up phase once program delivery partners have been further engaged.

Table D- 1: Risk Mitigation Strategy

Potential Risk		Risk Description	Mitigation Strategies
1. FINANCIAL RISKS			
1.1	Insufficient operating revenue	While the aim is to deliver a cost-neutral program, lower than anticipated uptake may fail to generate sufficient operating revenues to offset fixed administrative expenditures (e.g. staff time).	Keep fixed administration costs low wherever possible; consider a regional third-party administrator to share costs, resources and risks with other communities; and explore ways to increase revenue streams (e.g. increase uptake, participant fees and interest rate markups).
1.2	Cost overruns	The final program budget may vary from the design study's estimated program costs due to the current degree of uncertainty pertaining to specific details.	Include a contingency within the budget and use conservative estimates. As part of the start up phase, obtain quotes for required third party services and products and revise the budget accordingly.
1.3	Delinquent payments and defaults	Should homeowners fail to make payments, member municipalities will need to use collection remedies such as penalties, interest charges, and tax sales.	Ensure staff have a clear understanding of the municipal process for collecting on property taxes in arrears. Process LICs within reasonable delays. This includes registering the special charge on tax certificates and on title, and publishing notice of the property bylaw both in advance of its introduction and after its adoption. This will promote transparency during property transfers. Adopt a flexible process for addressing delinquent payments to provide options to homeowners struggling to make payments. Implement robust consumer protection measures to mitigate the risk of creating or contributing financial hardships for participating homeowners, as well as to provide a degree of quality assurance for the installed measures.

2. PROGRAM DELIVERY RISKS – INTERNAL			
2.1	Insufficient staff capacity	Finance staff may be stretched thin as the number of LICs to process and monitor increases.	Leverage an experienced third-party program administrator to outsource financing responsibilities (e.g. disbursements, billing and collections) wherever possible as a way to minimize impact on staff. Establish reasonable and realistic processing timelines. Consider using a portion of the GMF grant to create one or more staffing positions (contract/permanent, part-time/full-time) to support program activities conducted in house. Plan to slow or pause participation (e.g. limit program promotion), or to proactively manage participant expectations about processing timeframes and potential delays, during moments in the year that are particularly busy for the finance departments. Invest in any new software, system improvements, and other means that can help to streamline and automate processes. Identify strategies that can be implemented on short notice to increase resourcing for the program. Plan for a soft launch (e.g. limited marketing) to reduce the likelihood of a difficult-to-manage surge of demand at the program start.
2.2	Coordination difficulties	Close coordination may be challenging across all eight municipal bodies.	Rely on an experienced third-party program administrator for most of the program delivery responsibilities and facilitate communications across municipalities. Test program systems with a few participant files and adjust any processes that are unclear, inefficient or impractical. Build program processes in collaboration with the main parties involved and ensure the information is clearly disseminated through trainings, procedure documents, and other means.

			Build a strong CRM system to support coordination without need for direct communication at every step. Engage regularly with member municipalities to identify concerns and resolve them early. Develop a master agreement between the County and member municipalities that outlines the responsibilities of each party. Participate in peer-learning activities with other programs delivering similar programs.
2.3	Reputational risk related to defaults	Community backlash in the event that arrears on LICs lead to foreclosures and tax sales.	Clearly communicate disclosures on eligibility, underwriting criteria, program processes for delinquencies and defaults, and participation risks to promote transparency. Enforce robust consumer protection measures to ensure homeowners do not take on ill-advised debt. Establish a loan loss reserve that can be drawn from to cover missed payments in case of default.
2.4	Process friction (pain points)	The absence of a clear program lead with sufficient capacity, resources, and authority to obtain the necessary government approvals and to manage overall program oversight.	Secure Council support for the program to provide clear direction to municipal staff, delegate signing authority to appropriate members of the senior leadership team, and ensure sufficient resources (e.g. new hires, funding commitments) are secured. Identify a clear program lead to oversee the program's operations and coordinate with staff and delivery partners to address process fragmentation, overcome pain points, and implement adjustments to support continuous improvement efforts.
2.5	Stagnant level of program uptake	Low uptake may hinder the program's financial viability and ability to deliver on its stated objectives.	Implement other complementary strategies to drive homeowner demand for energy and resilience improvements, including: • Improve the community's understanding and appreciation of energy efficiency and climate resilience and make it easy for households to take initial steps (e.g. behavioural changes).

			• Promote the program by engaging and sharing resources with local community organizations and other stakeholders.[46] • Offer incentives that address gaps or shortfalls in other initiatives. • Promote word-of-mouth program promotion by focusing on creating a positive participation experience and showcasing success stories. • Revise financing terms (e.g. interest rates, terms, underwriting) to improve the offer as needed, without compromising consumer protection measures. • Simplify program requirements (e.g. do not require home energy audits). • Support local green workforce capacity and expertise and promote the value of resilience improvements as a value-add. • Conduct an interim (mid-program) evaluation to identify challenges in the existing offer and opportunities for improvement. • Develop complementary policies, such as home energy rating disclosures and green development standards and promote voluntary standards.[47]

[46] Contractors can play an enormous role in driving program uptake, as they can influence homeowner choices during renovations. Therefore, contractors should be trained and equipped to market the program. Program consistency and transparency over time may also contribute to growing the local green workforce.

[47] The County of Wellington is currently developing Green Development Standards alongside Grey and Dufferin Counties.

3. PROGRAM DELIVERY RISKS - EXTERNAL			
3.1	Poor contractor performance	Contractors who do not correctly install selected upgrades may indirectly present reputational risks to the program by contributing to a poor participant experience. In addition, poorly installed equipment can result in unmaterialized energy and GHG savings, impacting the program's ability to deliver on its stated objectives and homeowners' capacity to afford payments on their home upgrades when energy savings that fall substantially short.	Establish or leverage an existing vetted contractor list which enforces a quality assurance process and disciplinary measures (e.g. probation and expulsion from the list). Alternatively, direct homeowners to official trade directories (e.g. RenoMark, HRAI, insulateandairseal.ca). Ensure all contractors meet industry standards when quotes are submitted to the administrator prior to any work being authorized. Manage, track and resolve complaints to the best of the program's ability, and clearly communicate liability disclosures.
3.2	Local workforce capacity	In the event that retrofit demand outpaces local workforce capacity, homeowners may face delays and higher total project costs (e.g. to pay for travel costs for professionals from further away).	Promote energy advisor and contractor training, including program- and trade-specific training (e.g. NAIMA Insulation Training), through partnerships with local colleges and trade schools, relevant associations, and other entities. Support established training programs by offering municipally owned buildings as venues at little to no cost, offer subsidies for registration, create opportunities for apprentices in municipal projects, and promote materials that encourage enrolment.
3.3	Changing rebate and incentive landscape	Sunsetting rebate and incentive programs can make home retrofits less affordable and attractive, while contributing to market confusion.	Monitor the rebates and incentives offered by other entities and ensure the program materials and communications remain up to date. Adjust the program's rebates and incentives as needed to ensure funds are directed to where they are most needed and continue to reflect the program's priorities.

Appendix E:
Preliminary monitoring & evaluation plan

The evaluation plan will help to monitor program performance and integrate continuous improvement efforts into the program delivery. While the program will need to undergo a formal evaluation at the end of the initial program implementation period, per GMF requirements, the County will also collect data to improve the program in real time. This will help to ensure the HEET program responds to feedback received from a variety of internal and external stakeholders, while adapting to changing market needs and technological advances in a timely manner.

In addition, the evaluation plan will enable the County to produce clear evidence of success or to demonstrate the lack thereof, which will be important to report on at the end of the initial implementation period backed by GMF. The results of the analysis will help the County determine whether to expand the program, with or without substantive modifications, or discontinue it.

Effective evaluation planning relies on clearly articulating the existing barriers, describing how the program will address these, and defining the criteria that will be used to evaluate the program's outcomes and assess its rate of success. The evaluation plan is therefore closely connected to the Program Theory Logic Model (PTLM) shown in Appendix A.

This following describes the program's preliminary evaluation plan and includes the evaluation objectives, general approach, principal sources of data, and Key Performance Indicators (KPIs)

Evaluation objectives

The program evaluation has three main objectives:

1. Evaluate the effectiveness and efficiency of program delivery in accordance with programs objectives and activities.
2. Assess the program's impacts in the community compared to a business-as-usual (BAU) scenario.
3. Identify clear and actionable recommendations for program improvement.

General approach

The program evaluation will measure the direct impacts of the program by evaluating participants, as well as the indirect impacts across other households and industry actors influenced by the program's activities and outcomes.

The evaluation framework aims to strike a balance between the development of an easy process for tracking program impacts; access to reliable, relevant, and meaningful data, without placing undue burden on homeowners and program delivery partners; and the constraints of the available budget, time, and resources for the evaluation.

Metrics

As a way to monitor and assess program performance, KPIs will identify a mix of quantitative and qualitative data to inform decision-making and identify potential program improvements. The KPIs build on the program objectives and integrate the following principles:

1. **Measurable**: Clearly defined quantifiable indicators will be used to assess program success. They will also align with industry best practices to ensure results are credible.
2. **Aligned**: The KPIs will help connect program outcomes with program objectives.
3. **Manageable**: The monitoring and evaluation process should be reasonable and practical given the program's size, budget, time, and resource constraints, while maintaining appropriate rigour.

Periodicity

The evaluation framework should be finalized prior to program launch so that relevant data collection is integrated into the program processes and infrastructure.

Some evaluation activities will be initiated in real time, such as the homeowner survey which will circulated shortly after each LIC has been recorded in the tax system. This will help to ensure that the feedback received is timely, relevant, and actionable. In addition, a formal evaluation should be conducted at two major milestones:

1. **Mid-program:** The mid-program evaluation should be triggered once 130 participants have submitted a financing request, or after two years following the start of the program, whichever comes first. The results of the mid-program evaluation will allow for timely adjustments to the program processes and delivery approach to improve the experiences of participants and program delivery partner, while optimizing program outcomes.
2. **End of program:** The end of program evaluation will be triggered towards the end of the program's initial four-year implementation period backed by GMF. Ideally, this process should begin six months to one year before the expected end of the initial program implementation period, so that County has time to plan and prepare for a smooth transition, ideally without abruptly pausing the program. A line of sight into the direction the program will take in future years will also allow the program administrator to manage expectations in its public communications. Ultimately, the findings of the final evaluation will help formulate a recommendation on whether to extend the program. If it is continued, the County will need to work with a new capital provider and reflect on new revenue sources in order to maintain a cost-neutral program for the municipality.

Responsibilities

Primary data (e.g. homeowner surveys) will be collected on an ongoing basis throughout program implementation and will be complemented with secondary sources of data (e.g. utility energy consumption data). Effective program evaluation will require collaboration across various stakeholder groups including:

- **A third-party evaluator**. While data will be collected on a continuous basis during program implementation, an independent, third-party evaluator will likely be given the responsibility to produce an evaluation report due to their depth experience, subject matter expertise, and objective perspective, in addition to the County's limited in-house capacity. The program administrator or a third-party evaluator may lead the development

of a detailed evaluation plan during the program's start-up period, building on this framework, as well as lead the evaluation analysis and reporting on key findings and recommendations.

- **Internal stakeholders.** The program lead will be accountable for initiating, coordinating and reporting on evaluation activities, drawing support from the program administrator and member municipalities. Specifically, the County's program lead will need to ensure a third-party program evaluator is retained within the established timelines, help collect data and relevant documentation, communicate findings with relevant parties, and support the implementation of recommendations.
- **External stakeholders.** Program partners and other industry actors can support the evaluation process through interviews, surveys, and other forms of feedback. Many are well-positioned to offer insights into the performance of the program, near-term impacts, and potential market transformation effects.

Main sources of data

The rigour of the evaluation study depends largely on effective data collection. As such, an important early step is to identify program data needs and establish robust data collection methods prior to implementation.

The primary data sources that will be used in the evaluation study include:

- **EnerGuide files.** The pre- and post-retrofit EnerGuide files will provide information on the housing type, year of construction, energy source, energy consumption, installed measures, emissions reductions, and other data.
- **Green Button utility data.** The energy usage data from consenting households will provide data on actual energy consumption pre- and post-upgrades.
- **Project database.** The homeowner project database, managed by the program administrator, will track data on participants, processing times, the project pipeline, and other relevant information.
- **Homeowner surveys.** Homeowner surveys circulated at the completion stage will provide data on the effectiveness of the program services and delivery processes, as well as the quality of the homeowner's experience in the program. This data can be both quantitative and qualitative in nature. Qualitative data can help to assess underlying opinions, perceptions, and motivations.
- **Stakeholder interviews.** Interviews with key stakeholders may directed towards municipal staff, the program administrator team, relevant contractors, energy advisors, and others, with a view to provide feedback on the program. Alternatively, the same target audiences could be consulted through annual surveys about the program.
- **General population micro-survey.** A brief phone and online survey could be used to target the general population as a way to assess the awareness of available retrofit and resilience programs – including HEET – and to understand the evolution of homeowners' home retrofit intentions and needs.

Additional data sources may be identified upon contract signature with GMF, in preparation for program launch, and at the final evaluation stage.

Key performance indicators

The evaluation plan identifies key KPIs to measure the program's progress towards meeting its stated objectives, namely:

1. Reduce GHG emissions by helping to decarbonize the County's existing housing stock.
2. Improve the energy performance of existing homes.
3. Reduce energy poverty.
4. Enhance residential and community resilience to climate change impacts.

The following section identifies key evaluation questions, KPIs and sources of data to assess the program's outcomes based on each of its stated goals.

Objective #1: **Reduce GHG emissions by helping to decarbonize the County's existing housing stock.** This objective contributes to the County's climate mitigation efforts and long-term goal of achieving near net zero community emissions by 2050.

Table F- 1: KPIs for Objective #1

Evaluation Questions	KPIs	Sources of Data
Did the program reach high-emitting homes?	Number of electrification projects ➢ Quantitative	• Number of fossil fuel-heated homes that completed retrofits • Proportion of fossil fuel-heated homes that converted to electric heating **Requires definition of 'high-emitting homes'*
Is the program contributing to the County's emission goals in a meaningful way?	Amount of GHG emissions averted ➢ Quantitative	• Estimated GHG savings from participants in the program that completed retrofits • Number of program participants that included electrification measures and renewables • Number of homes with electric heating compared to before the program

Objective #2: **Improve the energy performance of existing homes.** This objective is connected to the County's efforts to decarbonize the existing housing stock and reduce energy poverty, as high performance homes tend to emit fewer GHG emissions and have lower utility bills.

Table F- 2: KPIs for Objective #2

Evaluation Questions	KPIs	Metrics
Did the program result in more homeowners undertaking home energy improvements?	Number of projects that improved energy performance and installed renewables ➢ Quantitative	• Number of completed projects via the program and overall number of post-retrofit energy audits compared to those completed before the program (direct and indirect effects) • Homeowner survey responses regarding the influence that program services and financing had on a homeowner's decision to undertake energy upgrades

Did the program enable homeowners to undertake more extensive retrofits?	Depth of retrofits in completed projects ➢ Quantitative and qualitative	• Number and type of installed measures • Energy performance improvement (measured based on pre- and post-retrofit energy audits, change in utility bill) • Depth of energy savings per home – as a total, as an average, and in comparison to the average before the program • Homeowner survey responses regarding the impact of program services and financing on the depth of their retrofit and any persisting gaps/barriers • Homeowner survey responses on the impact of program incentives on the depth of their retrofit and any persisting gaps/barriers
Were the program services and features well designed and delivered to meet participant needs, while addressing retrofit barriers and market gaps?	Customer satisfaction with program features ➢ Qualitative	• Number of participants in the program that completed projects (attrition rate) • Size of program pipeline and conversion rates at different stages • Homeowner survey responses regarding their satisfaction with the different program services and features

Objective #3: Address energy poverty. This objective is motivated by the demographic composition of the County, including seniors, low-income households and farmers.

Table F-3: KPIs for Objective #3

Evaluation Questions	KPIs	Metrics
Is the program supporting LMI households in reducing their energy bills	Number of LMI households supported ➢ Quantitative	• Number of participants that access the participation fee waivers • Number of participants referred to income-eligible rebates and incentives programs
	Depth of energy bill reduction ➢ Quantitative	• Cost-effectiveness of projects for LMI participants • Monthly energy savings, net of financing payments

Objective #4: **Enhance residential and community resilience to climate change impacts**. This objective supports the County's climate adaptation efforts to improve the community's ability to withstand extreme weather events and other climate impacts.

Table F-4: KPIs for Objective #4

Evaluation Questions	KPIs	Metrics
Did the program improve the community's understanding of climate change impacts and adaptation actions?	Homeowner awareness and understanding of climate adaptation concepts ➢ Quantitative and qualitative	• Number of website visits on climate adaptation content • Homeowner survey responses regarding changing awareness of climate adaptation and of the program's educational content
Did the program improve the local workforce's understanding of their role in improving climate resilience through their work?	Number of energy auditors & contractors engaged ➢ Quantitative and qualitative	• Number of trainings facilitated • Self-reported changes to business practices and their impact (e.g. survey)
Did the program result in more homeowners undertaking property resilience improvements?	Number of property resilience projects ➢ Quantitative and qualitative	• Number of enquiries about resilience • Number of participants in the program that completed projects including resilience measures • Number and amount of resilience rebates granted to participants • Homeowner survey responses regarding the influence that program services and financing had on a homeowner's decision to undertake resilience improvements
Did the program serve homeowners with moderate to high vulnerability to climate change impacts?	Number of target homeowners reached ➢ Quantitative	• Number of participants located in a flood zone • Number of participants in high drought risk municipalities integrating water infiltration or water saving measures to their projects.
Did the program motivate homeowners to consider property resilience improvements they otherwise would not have?	Depth of retrofits in completed projects ➢ Quantitative and qualitative	• Number and type of installed measures • Homeowner survey responses regarding the impact of program services and financing on the depth of their retrofit and any persisting gaps/barriers • Homeowner survey responses on the impact of program incentives on the depth of their retrofit and any persisting gaps/barriers

Appendix F:
Future resilience enhancements

The HEET program may be able to drive further impacts in the community by scaling the LIC mechanism to finance more extensive home resilience projects in the near term. Currently, only 30% of the total LIC financing amount per project may be directed to supporting measures (including but not limited to resilience) to align with the CEF's initiative's funding requirements. As a result, the program is expected to mainly support the implementation of low-cost and no-cost improvements, such as purchasing and installing rain barrels and downspout extensions, or building a rain garden. The program will thus encourage homeowners to take small actions that improve their property's climate resilience, without providing them with the means to consider larger projects.

Fortunately, GMF is exploring the possibility of establishing a resilience sub-stream through adjustments to the existing CEF framework. This is expected to offer an opportunity for the HEET program to support more extensive and more costly resilience improvements. It may also create an opportunity for the County to work more closely with key industry actors. For instance, the County could leverage GMF funds to engage and coordinate with local insurance companies as a means to uncover important insurance policy trends (e.g. coverage gaps, common causes of increases over time, available premium discounts).

Should the County be awarded additional funding from the CEF sub-stream, it will need to reflect on the following program design questions:

- How will homeowners assess the exposure and vulnerability of their property to the effects of climate change?
- What types of improvements will the program fund with LIC financing and incentives?
- What metrics will the program utilize to assess the success of the program's resilience investments?
- How will the program mitigate the risk of fraud and incorrect installation without on-site visits?
- What messaging and engagement approaches will the program use to motivate homeowners to improve their home resilience?
- How much demand may there be for more extensive and costly resilience improvements, and can the local workforce capacity accommodate this growth in demand?
- Will the program complement the County's Emergency Response Plan for Wellington County and its member municipalities,[48] and if so, how?

The timeline and details of CEF's resilience sub-stream remain uncertain. The County will need to continue to monitor GMF announcements and analyze the details of the offering once made available.

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[48] Wellington County. (2017). Emergency Response Plan for Wellington County and the Member Municipalities.

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This report was prepared by Dunsky Energy + Climate Advisors, an independent firm focused on the clean energy transition and committed to quality, integrity and unbiased analysis and counsel. Our findings and recommendations are based on the best information available at the time the work was conducted as well as our experts' professional judgment.
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