City of Kingston
Information Report to Council
Report Number 21-245

To:	**Mayor and Members of Council**
From:	**Peter Huigenbos, Commissioner, Business, Environment & Projects**
Resource Staff:	**Julie Salter-Keane, Manager, Climate Leadership Division**
Date of Meeting:	**October 19, 2021**
Subject:	**Green Standard Community Improvement Plan – Funding Options**

Council Strategic Plan Alignment:

Theme: 1. Demonstrate leadership on climate action

Goal: 1.5 Develop and promote incentives for residents to reduce their energy use and become part of city-wide solutions to meet Kingston's carbon neutral target.

Executive Summary:

This report provides Council with information regarding options and strategies related to financing the incentives of the proposed Green Standard Community Improvement Plan that has been developed as per Council strategic priorities and goals.

Three options are presented; however, only Option 1 fits within the tax rate parameters established by Council. Staff will continue to seek sources of grant funding to implement the program under any direction received from Council. Council will recall that the City has applied for $15M in funding through a FCM grant program for the Kingston Home Energy Retrofit Program. Staff are optimistic that a similar grant program will be available to be used to incentivize net zero new construction. Unfortunately, no program is available to the City at this time.

Recommendation:

This report is for information only.

Authorizing Signatures:

ORIGINAL SIGNED BY COMMISSIONER

Peter Huigenbos, Commissioner, Business, Environment & Projects

ORIGINAL SIGNED BY CHIEF ADMINISTRATIVE OFFICER **pp**

Lanie Hurdle, Chief Administrative Officer

Consultation with the following Members of the Corporate Management Team:

Paige Agnew, Commissioner, Community Services	Not required
Craig Desjardins, Acting Commissioner, Corporate Services	Not required
Brad Joyce, Commissioner, Transportation & Public Works	Not required
Jim Keech, President & CEO, Utilities Kingston	Not required
Desirée Kennedy, Chief Financial Officer & City Treasurer	

Options/Discussion:

On August 3, 2021, staff presented the draft Green Standard Community Improvement Plan to the Environment, Infrastructure & Transportation Policies (EITP) Committee in Report Number EITP-21-017 Green Standard CIP. This was in response to Council's strategic priority to develop a new build net-zero policy and incentive program through a Community Improvement Plan (CIP) model. The report included an estimate of costs to administer the incentive programs included within the proposed Green Standard CIP at $5,150,000.

The following recommendation was presented to the EITP Committee for consideration:

"That the Environment, Infrastructure & Transportation Policies Committee recommend to Council:

> **That** the proposed by-law attached as Exhibit A to Report Number EITP-21-017 be adopted to designate the Community Improvement Project Area for the City of Kingston Green Standard Community Improvement Plan in item 2 below; and
>
> **That** the proposed by-law attached as Exhibit B to Report Number EITP-21-017 be adopted to approve the City of Kingston Green Standard Community Improvement Plan (attached as Schedule A to the by-law); and
>
> **That** Council approve funding of up to $50,000 from the Environmental Reserve Fund to fund feasibility study grants for applicants submitting Green Standard Community Improvement Plan applications during 2021; and
>
> **That** Council direct staff to incorporate the necessary funding of the Green Standard Community Improvement Plan incentive programs into future operating and capital budgets; and
>
> **That** Council direct staff to incorporate an incremental tax increase of up to 0.25% annually for four years starting in 2023, as required, as an investment in climate change, to enable implementation of the Green Standard CIP incentive programs."

Upon consideration of the recommendation of staff, the EITP Committee amended the recommendations by deleting the last clause and replacing it with the following:

> **That** Council acknowledge a possible new budget requirement of up to $600k annually for four years to enable full implementation of the Green Standard CIP incentive programs.

The recommendation from EITP was considered at the September 7, 2021 Council meeting, resulting in a deferral motion as follows:

> **That** clause 2 of report 78 from the Environment, Infrastructure and Transportation Policies Committee be deferred until no later than the 2nd Council meeting in October, in order for City staff to report back to Council with alternative options and strategies for a Green

Standard Community Improvement Plan that fit within the tax rate parameters established by Council in the 2019-2022 Council Strategic Plan.

As directed by Council, staff reviewed different options and strategies for the proposed incentives to determine what options would fit within the tax rate parameters established by Council. This report presents three options for consideration by Council in the implementation of the Green Standard CIP. Each option outlines the impact to the budget and concludes that Option 1 is the only option that fits within the tax rate parameters established by Council without reducing spending or service levels in other areas or receiving other sources of funding such as grants from upper levels of government. The greenhouse gas (GHG) emissions impact that will result from the three options was also evaluated to illustrate the affect of incentives in reducing GHG emissions.

According to the Energy Services Association of Canada, Canadians annually waste 25% of the energy consumed and the wasted energy in buildings costs approximately $150 billion every year. Furthermore, the association estimates that for every dollar spent on more efficient energy use avoids about three dollars investment required for energy supply.

Locally, buildings account for over 40% of all GHG emissions within Kingston. Encouraging highly efficient new construction will be an important means to help Kingston meet its long-term GHG reduction targets over time while reducing the amount of wasted energy resources.

There are a relatively small but growing number of buildings in Canada that generate all needed energy onsite with renewables to achieve Net Zero energy. Many of these high-performance buildings have been constructed within the public sector. Low life-cycle return on investment rates and long-term payback periods for high-performance building construction are often sufficient for municipalities and public institutions while serving their environmental strategic goals. However, the natural business case without incentives has been inadequate to regularly attract private sector investment which also typically has a higher cost of capital than compared to the public sector. At this time, incentives are deemed necessary to assist developers and homebuilders with the Internal Cost of Carbon (ICC) premiums for voluntary building to green performance standards that exceed the Ontario Building Code (OBC) compliance level.

There have been a few independent studies assessing the ICC premium for constructing high performance green buildings relevant to Ontario. These include:

- The City of Toronto Zero Emission Framework (2017)
- The Canadian Green Building Council’s Making the Case for Building to Zero Carbon (2019)
- The Evaluation and Costing of the Proposed ENERGY STAR for New Multi-Family Buildings Program for Ontario (2018)

These studies indicate the associated premium construction expense (or ICC) can range from as little as 2% and up to 17% above the same building constructed to current OBC energy efficiency standards. This range in ICC premiums depends on the performance improvement achieved above the current provincial compliance level, the benchmark standard referenced as

well as the type of building (i.e. retail, commercial, multi-residential, single family homes). Generally, office buildings have the lowest ICC associated with achieving advanced building performance in new construction followed by multi-residential developments with retail having the highest proportionate ICC due to their relatively lower cost of construction per square metre compared to other building types.

The average building permit issued for new multi-residential or commercial/retail developments within the City of Kingston during January 2018 and June 2020 values the developments at almost $6 million per project. Therefore, the ICC premium to build above the current building code can be substantial and seems to be a current barrier to more buildings voluntary constructed to reach higher energy efficiency levels.

There are some local residential developments that achieved building performance levels such as Energy Star (approximately 15% - 20% above OBC energy related standards) and others that use renewable energy. However, there are currently no known net zero buildings operating within the City of Kingston, excluding individual homes that may have achieved that building performance level. Over time, Kingston's Green Standard CIP, as proposed, would be expected to stimulate more net zero development within the City.

- It is estimated that approximately 1,150 tonnes of new GHG emissions are emitted each year from new buildings constructed in Kingston (multi-residential, commercial office/retail).
- Emissions per square metre of new building space is expected to decline by 50% by about 2030-2032 based on the OBC reaching Net Zero ready around that time.
- 81% of the annual GHG emissions from new buildings in 2018-2020 in Kingston are attributable to medium to large buildings (8 of 41 buildings during the 30-month period of building permits analyzed) which is likely the type of new developments that would be influenced by the Green Standard CIP.
- 1 new large Net Zero energy (NZe) multi-residential building can reduce as much as 35% of annual GHG emissions from all new construction compared to if it was built to the current building code.
- This 1 new NZe building could reduce the GHG's emissions by 7,000 tonnes during 2022 - 2040 (Kingston's Carbon Neutral Target) and almost 20,000 tonnes over its 50-year lifespan.

Option 1: Green Standard CIP Program Without Financial Incentives

A strategy is that the Green Standard CIP program is approved but that all funding for incentives is deferred until further notice and at the direction of Council. This option would put the implementation of the incentives on hold until funding became available from upper levels of government. Staff would promote the program and encourage new development to adopt net zero design, but would not be able to offer any financial incentives to implement.

Option 1 could also include a review of current services and programs across the corporation to find savings that can be used for the Green Standard CIP. Staff would need direction from

Council as to which general programs/services it wishes to reduce to fund the Green Standard CIP. Staff would then provide specific options to Council.

Option 1 is the only option that currently fits within the tax rate parameters established by Council in the 2019-2022 Council Strategic Plan as it eliminates any financial incentives funded by the municipal tax base. Staff will continue to monitor the availability of upper-level grant funding options and report back to Council if funding becomes available so that incentives can be offered. At this time, incentives are deemed necessary to assist developers and homebuilders with the ICC premiums for voluntary building to green performance standards that exceed the OBC compliance level. Based on staff's research of other programs that were implemented without financial incentives, it is unlikely that there will be significant, if any, take up by the private sector to design and construct net zero buildings before the OBC requires it. As presented in Report Number EITP-21-017 Green Standard CIP, there are a relatively small but growing number of buildings in Canada that achieve Net Zero energy. Many of these high-performance buildings have been constructed within the public sector. Low life-cycle return on investment rates and long-term payback periods for high-performance building construction are often sufficient for municipalities and public institutions while serving their environmental strategic goals. However, the natural business case without incentives has been inadequate to regularly attract private sector investment which also typically has a higher cost of capital than compared to the public sector.

Therefore locally, under Option 1, it is unlikely that the goals of the Green Standard CIP will be met:

- Providing education and training supports to increase the local understanding and capacity of property owners and developers to construct high performance new buildings.
- Stimulating economic competitiveness and innovation in the local building sector to voluntarily move towards achieving Net Zero energy levels within new buildings prior to their inclusion in related provincial codes and standards.
- Achieving Kingston's community GHG emission reduction targets and aim for carbon neutrality.

Option 2: Limit the Green Standard CIP to the Incremental Property Tax Rebate Incentive Only

In reviewing the different strategies and incentives for this option, staff have determined that in the short-term, the incremental property tax rebate incentive is the most cost-effective in reducing GHG emissions compared to only offering the cash rebate incentive. The incremental property tax rebate is intended for developers that retain ownership of building post-construction to recoup a larger portion of their ICC than compared to the Cash Rebate Grant. This has the benefit of pushing out the need for significant budget until at least 2024 because this incentive requires the building to be fully built and taxes paid for a full year before the tax rebates are provided back to the building owner.

Option 2 is a scaled back version of the full Green Standard CIP program and although Option 2 does not fit within the current tax rate parameters, it does significantly reduce the budget needed and can be managed on a per application basis. The number of applications can be

limited over the next number of years and approval of Council would be required prior to offering the incremental property tax rebate for any application.

The Incremental Property Tax Rebate incentive is expected to stimulate development of at least the equivalent of 2 large new buildings reaching NZe each year which could cumulatively reduce approximately 60,000 tonnes of GHGs emissions by 2040.

The following chart outlines the estimated budget for the implementation of Option 2.

Green Standard CIP Implementation Costs	**2022**	**2023**	**2024**	**2025**	**2026**	**Totals**
Feasibility Study Grants	Included as eligible expense within incentives					
Cash Rebate Grant	$0	$0	$0	$0	$0	**$0**
Incremental Property Tax Rebate	$0	$0	$500K	$750K	$750K	**$2,000K**
Training/Education, Program Administration		$125K	$125K	$125K	$125K	**$500K**
Estimated Annual Totals		**$125K**	**$625K**	**$875K**	**$875K**	**$2,500K**

Option 2 would require tax increase of up 0.10% for four years starting in 2023. Should the City be successful in receiving grant funding within that time period, the increase would be reduced or eliminated. As per the original recommendation from staff, the funding required for 2022 can be incorporated in the 2022 draft operating budget.

Option 3: Revised Green Standard CIP Full Program
Option 3 is to approve the Green Standard CIP as presented to the EITP Committee on August 3, 2021 with an amended estimated annual budget of up to $3,750,00 over the four years.

The estimated budget presented to EITP on August 3 was $5,150,000. Since that time staff have looked at refining the program to reduce the overall impact to the budget. The reduction in the estimated budget of Option 3, as presented in this report, resulted in the following refinements to the program:

- Removing upfront Feasibility Study Grants and instead including them as an eligible expense within proposed incentive programs.
- Recognizing that the incremental property tax rebates will not occur until 2024 at the earliest, due to a longer time period for completion of construction, building occupancy and municipal property tax assessment than that of the Cash Rebate Grants (paid upon commissioning of the building).
- Using existing budget resources for a portion of the training/education program administration.

This reduction of the annual budget of the full Green Standard CIP at $3,750,000 would require an incremental tax increase of approximately up to 0.16% increase per year for four years starting in 2023. As per the original recommendation from staff, the funding required for 2022 can be incorporated in the 2022 draft operating budget.

The following chart outlines the estimated budget for the implementation of Option 3:

Green Standard CIP Implementation Costs	**2022**	**2023**	**2024**	**2025**	**2026**	**Totals**
Feasibility Study Grants	Included as eligible expense within incentives					
Cash Rebate Grant	$0	$500K	$500K	$250K	$0	**$1,250K**

Incremental Property Tax Rebate	$0	$0	$500K	$750K	$750K	**$2,000K**
Training/Education, Program Administration		$125K	$125K	$125K	$125K	**$500K**
Estimated Annual Totals		**$625K**	**$1,125K**	**$1,125K**	**$875K**	**$3,750K**

Within Option 3, the cash rebate grants would potentially be phased out in 2026. As previously indicated in the August 3, 2021 EITP report, 2030 is when energy efficiency standards within the OBC are expected to reach Net Zero ready (i.e. highly efficient but without use of renewable energy to reach Net Zero energy).

Estimated Impact of the Proposed Green Standard-CIP Incentives on Reducing GHG Emissions Within the Community

The GHG emission impact for each option is assessed with the proposed Green Standard (GS) CIP building performance and incentivization levels against the OBC and its expected improvements over the next 10 years. For clarity, GHG reductions attributable to Kingston's' proposed CIP program are only those above and beyond the energy efficiency levels embedded within the OBC in force.

Based on local building permit data from January 2018 to June 2020, staff have estimated that new multi-residential and commercial construction added an average 1,150 tonnes of new GHG emissions per year or about 70 tonnes per new building. This can be considered a status quo without the GS-CIP acting as a bridge to when Net Zero energy ready is incorporated into the OBC. Based on stakeholder consultation, staff expect Green Standard CIP applications from medium and larger developments which have ranged from adding 135 to 531 tonnes of GHGs per building during the study period. About 81% of GHG emissions from new construction are from the 8 largest buildings permitted during 2018 - 2020. Therefore, based on estimates of 2 - 4 new medium to larger development applications to the new CIP program per year, an estimated range of 200 - 800 tonnes of GHGs could be reduced per year with the GS-CIP incentive program in the next few years depending on which of the 3 different proposed building performance levels CIP applicants achieve by utilizing financial support from the City. The greater the incentive, the higher performance likely pursued by building proponents accessing Kingston's Green Standard CIP.

However, this program impact decreases if deferred to future years as the building code becomes more stringent over the remainder of this decade and the corresponding compliance level of new construction lowers the amount of GHGs attributable to a voluntary municipal green standard development program. The greatest GHG impact is expected with full program operation over the period 2022 - 2026 or until the next major change to the OBC comes into force relevant to improving energy efficiency of new construction. The estimated program impact further declines around 2030 - 2032 when NZ ready is expected to be the compliance level enforced for new construction in Ontario.

The proposed GS-CIP incentives have the potential to significantly reduce GHG emissions from new construction. For example, one large new Net Zero energy (NZe) multi-residential building (constructed to meet all its own annual energy requirements) can reduce as much as 35% annual GHG emissions from new construction compared to if it was built to the current OBC. This one new NZe building would cumulatively reduce 7,000 tonnes of GHGs during 2022 - 2040 (Kingston's Carbon Neutral Target) and almost 20,000 over its 50-year lifespan.

As illustrated in the chart below, the proposed Incremental Property Tax Rebate incentive is expected to stimulate development of at least the equivalent of two large new buildings reaching NZe each year which could cumulatively reduce approximately 57,000 tonnes of GHGs by 2040 assuming no GS-CIP incentives are offered past 2030. The full GS-CIP program could achieve greater impact with an estimated 73,000 tonnes of GHG emissions reduction from new buildings by the year 2040 even with Cash Grants phased out by 2026 and no GS-CIP incentives offered past 2030.

	Estimated Cumulative GHGs (T) from New Buildings Constructed Between 2022-2030		
Green Standard CIP	**2022 - 2025**	**2022 - 2030**	**2022 - 2040**
Option 1 - **Green Standard CIP Program without financial incentives**	**10,173**	**43,292**	**124,676**
Option 2 **- Limit the Green Standard CIP to the** Incremental Property Tax Rebates **Incentive only**	**7,950**	**25,115**	**63,921**
Option 3 - **Revised Green Standard CIP Full Program**	**6,792**	**20,792**	**51,700**

Estimated Cost to Achieve GHG Reductions Through Carbon Offsets Costs

At the September 7th Council meeting, staff committed to providing the cost to achieve the estimated community GHG reductions of the GS-CIP in terms of offsetting the GHG emissions instead of providing financial incentives to encourage net zero development. To show this, this report looks at an example for one net-zero building. A net-zero building that receives $1,000,000 in incentives under the GS-CIP is estimated to avoid 3,982 tonnes of GHGs every 10 years. The price of carbon will be $50 per tonne in 2022 and will increase by $15/year over the next 8 years to $170 per tonne by 2030 as established by the Federal government in

December, 2020. Beyond 2030, the carbon tax price is not known but staff have assumed an estimate that it will remain at $170 per tonne per year to 2050.

The chart below illustrates the tonnes of GHG's reduced for one building over the 50-year lifespan of the building, the cost of the GS-CIP incentive and the equivalent carbon cost over 50 years if the building was not constructed to net zero. Investing in the net zero building up front shows an estimated $2 million dollars in savings over the life-span of the building**.**

Example of Incentivizing 1 large Building Using the Property Tax Rebate Incentive Versus Buying Offsets Over the Life of the Building:

Incremental Property Tax Rebate	2022 - 2031	2032 - 2041	2042-2051	2052 - 2061	2062 - 2071	**TOTALS**
Years of operation	1-10	11-20	21-30	31-40	41-50	50
Tonnes GHGs reduced (@ Net Zero energy)	3,982	3,982	3,982	3,982	3,982	19,909
GS-CIP incentive (Tax Rebate)	$1,000,000	$0	$0	$0	$0	$1,000,000
Equivalent carbon offset cost over 50 years	$461,883	$676,898	$676,898	$676,898	$676,898	$3,169,473
Equivalent Cost savings compared to offset purchase	$538,117	-$676,898	-$676,898	-$676,898	-$676,898	**-$2,169,473**
Avg. Carbon price (2022 = $50/tonne increasing by $15 each year to 2030)	$116	$170	$170	$170	$170	

With a building life span assumed 50 years, it would cost approximately $3,000,000 in carbon offsets if the building was constructed to current building code and not to net zero.

Existing Policy/By-Law:

None

Notice Provisions:

None

Accessibility Considerations:

None

Financial Considerations:

Financial considerations are found within the report.

Contacts:

Julie Salter-Keane, Manager, Climate Leadership Division 613-546-4291 extension 1163

Other City of Kingston Staff Consulted:

Lana Foulds, Director, Financial Services

Paul MacLatchy, Environment Director, Business, Real Estate & Environment

Exhibits Attached:

None