

Report to Strategic Priorities and Policy Committee

To: Chair and Members
Strategic Priorities and Policy Committee

From: Kelly Scherr, P.Eng., MBA, FEC
Deputy City Manager, Environment & Infrastructure

Subject: Overview of Engagement and Feedback on Draft Climate
Emergency Action Plan

Date: April 5, 2022

Recommendation

That, on the recommendation of the Deputy City Manager, Environment & Infrastructure, this staff report dated April 5, 2022, containing details of the engagement and feedback received on the draft Climate Emergency Action Plan between February 8 and March 25, 2022, **BE RECEIVED** for information.

Executive Summary

Municipal Council received the draft Climate Emergency Action Plan (CEAP) after the Strategic Priorities and Policy (SPPC) meeting on February 8, 2022 and resolved on February 15, 2022 that approximately two months be allocated for community engagement on the draft CEAP prior to holding a public participation meeting at SPPC on April 5, 2022.

CEAP Documents, Resources and Promotion of Engagement

City staff provided the following documents and resources for community review on the City's Get Involved website:

- February 8, 2022 Report to the Strategic Priorities and Policy Committee;
- Draft CEAP including the 10 Areas of Focus implementation workplans;
- Ten individual Areas of Focus implementation workplans (separate documents);
- An "Actions at a Glance" document;
- A Questions and Answers summary document; and
- 13 Background Information (Supporting) documents.

The above resources were accompanied by three main on-line feedback opportunities:

- A short feedback form for visitors to provide responses to specific questions;
- A general feedback form with no character input limit for visitors to provide comments on any or all of the available CEAP documents; and
- An email address (ClimateAction@London.ca) for those who wished to provide feedback via email and attach additional documents.

In addition to the documents posted, short videos were created and posted. Advertisements were placed in the London Free Press and The Londoner. A public participation meeting notice was placed in The Londoner. The City used social media to share details along with the City's e-News (Our City). City staff participated in 15 meetings, workshops, information sessions and events to present the draft CEAP and engage in discussions and receive feedback from various audiences.

Community and business engagements and promotions occurred by the London Environmental Network, Climate Action London, Thames Region Ecological Association, Urban League of London and the London Chamber of Commerce.

Engagement Feedback Analysis

From February 8 until March 25, 2022, City staff reviewed materials submitted and shared in meetings and sessions. The comments and feedback were grouped together using similar themes, comments and feedback under five headings and considered the:

- SPPC February 8 report;
- Draft Climate Emergency Action Plan including Areas of Focus (February 2022); and
- Climate Emergency Action Plan (CEAP) Foundational Actions:
 - A. Actions related to greenhouse gas emissions reduction milestone targets
 - B. Actions related to implementing the Climate Emergency Action Plan
 - C. Actions related to engagement with other levels of government
 - D. Actions related to financial impact/considerations.

The CEAP has been intentionally designed to be improved upon continuously, particularly through feedback from community members and businesses that engage with the plan and the efforts of City staff to monitor implementation performance, emerging best practises and the feasibility of new technologies and methods for reducing emissions and improving resilience.

Because of its design, City staff believe that the majority of comments and feedback received are addressed by the CEAP but in some cases the information may not be as clear as needed. In other cases, the work has not been done yet as it should be co-created with the community or other sectors. In other cases, there is a request for actions to move quicker than anticipated, both in scale (e.g., implement more) and timing (e.g., implement sooner). The need for increased financial investment now has been raised many times. As expected, there is some disagreement on actions and uncertainty with CEAP.

It also became clear that Londoners, businesses, employees, students, partners, etc. want to have an ongoing voice; not just provide comments and feedback when documents and materials are available for review. This voice includes providing ideas, actions, solutions, and experiences.

Two additions are proposed to the draft CEAP that address many of the items received, items that will continue to be received, and/or indicate how they can be addressed in the future:

- Develop a Process to Receive and Review Ongoing Feedback and Ideas; and
- What are the Preliminary Benefits and Costs at the Household Level?

City staff will continue to review comments and feedback leading up to the public participation meeting on April 5, 2022.

Progress on Climate Change Adaptation Planning

London has partnered with ICLEI Canada to be part of a cohort with twenty other Ontario municipalities in the program called Advancing Adaptation. It is designed to assist municipalities in the creation of a climate change adaptation plan by working through an industry-standard framework called 'Building Adaptive and Resilient Cities' or BARC. The BARC framework is used internationally by many cities and has been used extensively by the Federation of Canadian Municipalities (FCM) with several examples in Ontario. A working group has attended two workshops this year:

- February 9, 2022. The focus was on developing actions that would address the risks of climate change in London; and
- March 8, 2022. The focus was on reviewing, prioritizing and investigating who would lead and support the various actions.

Attendance has included City staff from 15 divisions and community representatives arranged through the London Environmental Network. The overall focus for the working group is to create a draft climate change adaptation plan for community engagement later in 2022.

CEAP Implementation in 2022

The CEAP includes 59 Categories of Actions and contains over 200 actions, ranging from basic to complex actions, across the 10 Areas of Focus. A number of the actions are designed to start in 2022 and/or are already under way. Other actions will start in 2023 and some in 2024.

In the February 8 SPPC report (Table 10: Selected CEAP Actions, Resources and Funding) details were provided on the actions that Civic Administration will take in the near term as part of CEAP implementation. A summary comment was provided on how the action will be resourced and how it will be funded. In some cases, resources and funding is available for the initial work (e.g., analysis and report back), not for undertaking the action.

The February report also identified that the current dedicated annual investment for climate change initiatives is approximately \$120,000 in operating funding and \$100,000 in capital funding. This is in addition to leveraged funding and funding for the Transportation Management Association. This current report provides further details on actions and approved funding (range) that has been assigned in 2022 for implementation of CEAP.

Conclusion

City staff engaged with Londoners on the draft CEAP and received valuable feedback. Based on the analysis of feedback received, the CEAP and its Areas of Focus implementation workplans provide a strong foundation of milestone targets, actions, shared leadership and support for continuous improvement of the CEAP.

Expedient implementation of the CEAP in its current form was supported and encouraged by the majority of those who provided feedback on the draft document. The two adjustments proposed by Civic Administration increase the opportunities for on-going input and feedback.

Should Municipal Council be satisfied with the draft plan, and that the plan appropriately incorporates community feedback including what may be presented at the public participation meeting, a recommendation for Council to approve the plan could be considered by the Strategic Priorities and Policy Committee and include:

- the final Climate Emergency Action Plan, attached as Appendix “A”;
- the final Climate Emergency Action Plan Foundational Actions, attached as Appendix “B”; and
- the proposed by-law to authorize and approve a Memorandum of Understanding with the University of Western Ontario to advance joint climate change mitigation and adaptation research, technologies, analyses and knowledge attached as Schedule “A” to the by-law, attached as Appendix “C”.

Linkage to the Corporate Strategic Plan

Municipal Council continues to recognize the importance of climate change mitigation, climate change adaptation, sustainable energy use, related environmental issues and the need for a more sustainable and resilient city in the development of its 2019-2023 Strategic Plan for the City of London. Specifically, London’s efforts in both climate change mitigation and adaptation address four of five areas of the Strategic Plan, at one level or another:

- Strengthening Our Community
- Building a Sustainable City
- Growing our Economy
- Leading in Public Service

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

- February 8, 2022, Draft Climate Emergency Action Plan Report to the Strategic Priorities and Policy Committee (SPPC)
- August 31, 2021, Outcome of Climate Lens Process Applied to Waste Management Programs and Projects to the Civic Works Committee (CWC)
- August 31, 2021, Outcome of Climate Lens Screening Applied to Major Transportation Projects to CWC
- April 27, 2021, Update – Development of the Climate Emergency Action Plan to the SPPC
- August 11, 2020, Climate Emergency Action Plan Update Report to the SPPC
- November 26, 2019, Climate Change Emergency Update report to the SPPC
- April 23, 2019, Climate Emergency Declared at Municipal Council

1.2 Key Dates - Development of the Climate Emergency Action Plan

Key public-facing dates in the development of the Climate Emergency Action Plan are identified in Table 1. The COVID-19 pandemic delayed a number of items directed by Council, including community engagement.

Table 1: Summary of Key Developments to Date

Key Dates	Item	Overview
April 23, 2019	Climate Emergency Declared at Municipal Council	Municipal Council approved the declaration of a climate emergency put forward by the Advisory Committee on the Environment through the Planning and Environment Committee. (April 15, 2019 PEC meeting Agenda & Minutes ; April 23, 2019 Council meeting Agenda & Minutes)
November 26, 2019	Climate Change Emergency Update report to the SPPC	This report contained 25 directions to staff including the establishment of a City-wide target for net-zero GHG emissions by 2050, creation and use of a climate lens on specific projects, specific areas to focus on and completion of a Climate Emergency Action Plan. (November 26, 2019 SPPC Meeting Agenda)
January 24, 2020	Launch of Community Engagement	Project Get Involved webpage was launched with questions and opportunities for the public to make comments. Engagement materials were periodically updated to advance engagement and apply learnings to seek further insight from the community.
March 2, 2020	Budget approval	\$50,000 was approved to undertake the development of the Climate Emergency Action Plan (CEAP) including community engagement.
August 11, 2020	CEAP Update Report to the SPPC	Update Report on the progress towards the 25 directions to staff from the November 26, 2019 SPPC report and modified timelines (particularly as a result of COVID-19 related challenges). (August 11, 2020 SPPC Meeting Agenda)
October 28, 2020	Release of a CEAP “Discussion Primer”	Feedback from surveys and other engagement, as well as peer municipality climate action research informed the creation of the document. The document was posted on Get Involved and disseminated directly to many stakeholders and potential CEAP partners for feedback.

Key Dates	Item	Overview
April 27, 2021	Update – Development of the Climate Emergency Action Plan to the SPPC	Update on the rollout and evolution of the Climate Lens Process, community engagement for the development of the CEAP, and Corporate, City-influenced and community climate actions. (April 27, 2021 SPPC meeting Agenda)
August 31, 2021	Several climate change reports submitted to Civic Works Committee (CWC)	2020 Corporate Energy Consumption and Activities Report 2020 Community Energy Use and Greenhouse Gas Emissions Inventory Outcome of Climate Lens Process Applied to Waste Management Programs and Projects Outcome of Climate Lens Screening Applied to Major Transportation Projects (August 31, 2021 CWC meeting Agenda)
February 8 and 15, 2022	Presentation of the draft Climate Emergency Action Plan to SPPC	Council received the draft CEAP after the SPPC meeting on February 8, 2022 and resolved that approximately two months be allocated for community engagement on the draft CEAP prior to holding a public participation meeting at SPPC on April 5, 2022.

2.0 Discussion and Considerations

2.1 Engagement Efforts

City staff made several resources and documents detailing the draft CEAP available to the public for review and engaged in several online engagement meetings, workshops and events to promote engagement and consultation on this work between February 15 and April 5, 2022. The following sections detail those efforts with City staff findings and comments of feedback provided at the end.

2.1.1 CEAP Documents, Resources and Promotion of Engagement

City staff provided the following documents and resources for community review on the City's Get Involved website:

- February 8, 2022 Report to the Strategic Priorities and Policy Committee;
- Climate Emergency Action Plan full document, including the 10 Areas of Focus implementation workplans;
- Ten individual Areas of Focus implementation workplans (separate documents);
- An "Actions at a Glance" document summarizing all proposed actions contained within each of the Areas of Focus implementation workplans;
- A Questions and Answers summary document; and
- 13 Background Information (Supporting) documents to develop the draft CEAP.

The above resources on the Get Involved website were accompanied by three main on-line feedback opportunities:

- A short feedback form for visitors to provide responses to specific questions;
- A general feedback form with no character input limit for visitors to provide comments on any or all of the available CEAP documents; and
- An email address (ClimateAction@London.ca) for those who wished to provide feedback via email and attach additional documents.

In addition to the documents posted and available on Get Involved, short videos were created and posted:

- Why does climate change matter in London, Ontario;
- Call to action (multi-person) to review the draft CEAP;
- Perspectives and encouragement to review the draft CEAP; and
- Narrated overview of the draft CEAP using a slide deck.

Advertisements were placed in the London Free Press and The Londoner and encouraging engagement through the Get Involved website. A public participation meeting notice was placed in The Londoner. The City also used social media to share details along with the City's e-News (Our City).

2.1.2 City Staff Direct Engagement Events

City staff participated in meetings, workshops, information sessions and events to present the draft CEAP and engage in discussions and receive feedback from various audiences (Table 2).

Table 2: List of CEAP Presentations and Discussions

Date	Event Details
February 9, 2022	London Environment Network Board meeting
February 14, 2022	Fanshawe College Administration and Faculty
February 16, 2022	Cycling Advisory Committee
February 17, 2022	Environmental and Ecological Planning Advisory Committee
February 22, 2022	Transportation Advisory Committee
February 23, 2022	Trees and Forests Advisory Committee
March 2, 2022	Advisory Committee on the Environment
March 2, 2022	St. Joseph Health Care London environmental team
March 10, 2022	Western University President's Advisory Committee on the Environment and Sustainability
March 14, 2022	City of London, London Environment Network, Oneida Nation of the Thames, Pillar Nonprofit Network and Urban League of London "London's Climate Change Conversation" community event, including five presentations, breakout rooms and polls
March 15, 2022	Western University Society of Graduate Students "Climate Action Town Hall" event
March 21, 2022	Building and Development Liaison Forum (City, local developers, planning consultants and engineers)
March 22, 2022	Building Sustainable Food Systems symposium presented by Fanshawe College, Western University, Brescia University College, Ontario Centre for Innovation and London Economic Development Corporation
March 23, 2022	London Home Builders' Association "Local Energy Efficiency Partnership (LEEP) Cost Benefit Analysis Tool" Workshop
March 24, 2022	Huron at Western; Governance, Leadership and Ethics Program; Environmental Stewardship Course
April 1, 2022 (scheduled)	Chippewas of the Thames First Nations staff discussions

Additional efforts were also put forward to connect with stakeholders and partners in the community through direct contact via email and soliciting feedback during other forums.

2.1.3 Community and Business Engagements and Promotions

The London Environmental Network, Climate Action London, Thames Region Ecological Association, Urban League of London, the London Chamber of Commerce and Western University all provided on-line presence, events and/or on-line promotion of the draft CEAP. Below are a few examples of the materials



"Do not be dismayed by the brokenness of the world. All things break. And all things can be mended. Not with time, as they say, but with intention. So go. Love intentionally, extravagantly, unconditionally. The broken world waits in darkness for the light that is you." — L.R. Knost

Our City just released the Climate Emergency Action Plan, 2.5 years in the making. We hope our community and city rise to the challenge. **Net-zero by 2050 or earlier is not only possible, it is the only option.**

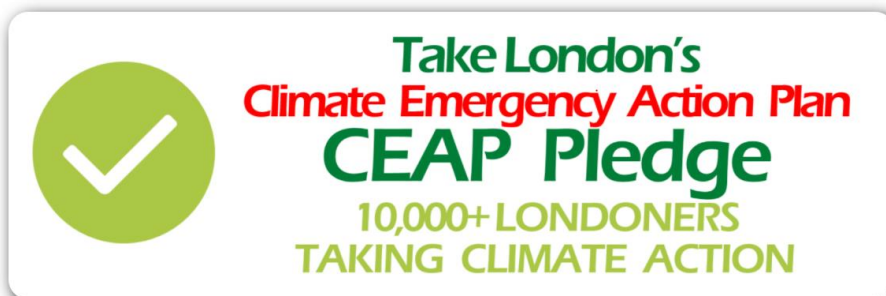


Home About CEAP Individual Youth Reconciliation Faith Learn Projects Blog Archives



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How Can We Help You Engage In The Climate Emergency?



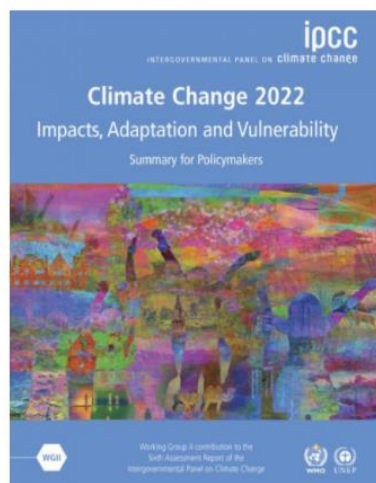
Click on image or [here](#) to take the CEAP Pledge

LEARN MORE, READ THE PLAN, PROVIDE FEEDBACK

Welcome to TREA - Thames Region Ecological Association

TREA's main goal is to educate its members and community to protect the environment, stay informed and take personal action. We also have an entrepreneurial streak given that TREA encourages citizen participation and innovative projects from and for the community.

IPCC 2022 Report



Assembled by the International Panel on Climate Change (IPCC) — a team of more than 200 scientists — their latest report represents a sweeping analysis of thousands of studies published over the past eight years as people the world over suffer record-shattering

London's Climate Action Plan



There is an open call for feedback on London's DRAFT Climate Action Plan released February 8th 2022. The proposed **Climate Emergency Action Plan** is a community-wide plan to achieve three main goals:

1. Net-zero community greenhouse gas (GHG) emissions by 2050
2. Improved resilience to climate change impacts
3. Bring everyone along (e.g., individuals, households, businesses, neighbourhoods)

Participate using [this link](#).

[EXTERNAL] London's Climate Emergency Action Plan



London Chamber of Commerce <info@londonchamber.com>



Climate change impacts everyone – including businesses. It also represents opportunities for local businesses, new jobs and economic development.



Network for Economic and Social Trends (NEST)



Climate change and the city: Western expert panel discussion of London's climate emergency action plan

The City of London released its draft climate emergency action plan in February 2022. What are its strengths? What can be improved? How will cities confront the challenges of climate change?



John Fleming
Distinguished Practitioner
Research Fellow at the
Urban Centre



Dan Leeming
Chair of the Resiliency Caucus,
Council for Canadian Urbanism



Martha Paiz-Domingo
Master's student, Geography
and Environment



Martin Horak
Associate Professor,
Political Science



Katrina Moser
Associate Professor,
Geography and Environment



Megan Stacey
Reporter,
London Free Press



March 31, 2022



4:00 - 5:30 P.M.



Room 56, UCC



Live stream via Zoom



<https://bit.ly/3ldIToA>

Presented by the Centre for Urban Policy and Local Governance (NEST) and the Department of Geography and Environment, Western, with the support of the Centre for Climate Change, Sustainable Livelihoods and Health and the Council for Canadian Urbanism.

3.0 Engagement Feedback Analysis

3.1 Engagement and Consultation Received

Each of the direct engagement events included an opportunity for attendees to provide City staff with comments, ask questions for clarification and engage in conversation about implementation. Overall, the number of attendees and levels of participation in engagement events was relatively consistent with similar events held during the engagement period for CEAP development (January 2020 to September 2021).

Written submissions were received from some individuals through the climateaction@london.ca email address as well as through the Get Involved general feedback and feedback form options.

3.2 Overview of Community Comments and Feedback

From February 8 until March 25, 2022, City staff reviewed materials submitted and shared in meetings and sessions. The comments and feedback were grouped together using similar themes, comments and feedback under five headings (below) and considered the:

- SPPC February 8 report;
- Draft Climate Emergency Action Plan including Areas of Focus (February 2022); and
- Climate Emergency Action Plan (CEAP) Foundational Actions:
 - A. Actions related to greenhouse gas emissions reduction milestone targets
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 - D. Actions related to financial impact/considerations.

1. Engagement process for draft CEAP

- The timeline for engagement on the draft is too short considering the length of the document and extent of actions being proposed.
- The CEAP is too detailed for many people; need to make it easier to read.
- More visual pieces should be created to help with understanding the importance of CEAP.
- Need to go to other people's meetings and sessions (get on other's agendas).
- Hold more events so visibility of draft CEAP is increased.
- The CEAP represents a lot of good work and there is no desire to stall the process of moving to implementation.
- Many positive comments for releasing CEAP as a draft document to solicit input.

2. CEAP Foundations Actions 1 to 4: A. Actions related to greenhouse gas emissions reduction milestone targets

- The first target should be for 2026 to see if London is on track to meet our 2030 target.
- Targets should align with the terms of Council (four year targets) so progress can be measured over the term of Council.
- Using science-based targets is crucial to moving forward.
- Need more financial information to understand the cost impacts of climate change in the community and at the household level of the milestone targets.
- Many climate change actions need to be stronger and more meaningful; others are too light and less meaningful.
- Need definition of net-zero and what types of energy sources would be included in a net-zero energy grid and energy system (e.g., nuclear, geothermal, low-carbon hydrogen, renewable natural gas, other renewable energy sources).

3. CEAP Foundations Actions 5 to 10: B. Actions related to implementing the Climate Emergency Action Plan

Area of Focus 1 - Engaging, Inspiring and Learning from People

- The City should work with neighbourhoods and engage champions of climate action as well as list where community engagement has been strong.
- Targeted awareness and engagement with health care and fitness sectors.
- Use more social media (e.g., TikTok, Facebook, Instagram) and any other available mediums of communication to reach different demographics.
- Create more visuals to show what denser neighbourhoods could look like so they are viewed positively.
- The role for local First Nations and urban Indigenous communities needs to be clearer and part of reconciliation.
- Move those that are the furthest behind and most susceptible to climate change to the front of the line of work and actions.
- Make sure materials are created in different languages as a growing population has English as a second language.
- Provide easy access to opportunities for ongoing engagement and input from the community.
- Ensure strong connection with London businesses for policy, program and action development.
- Provide businesses with access to information, resources and funding opportunities to help implement CEAP.

Area of Focus 2 - Taking Action Now (Household Actions)

- Limited information available on costs and benefits of climate change actions at the household level.
- Make participation as easy as possible.
- Bring programs and projects to the people.
- Make sure projects and programs are visible.
- Fire pits need to be banned from both a climate change and air quality perspectives.

- Leverage existing projects and make them bigger, if possible.
- Make sure projects are reaching communities that have been marginalized
- More community gardens and different types of gardens are needed (e.g., Indigenous community garden).
- More financial investment is required now.
- Need clearer information on the actions that are going to be taken in 2022.

Area of Focus 3 - Transforming Buildings and Development

- The City should mandate through a by-law that new homes are designed to be EV-ready including wiring.
- The City should mandate through a by-law that home builders offer customers alternative heating equipment like heat pumps.
- The proposed home energy retrofit pilot project is way too small and should be 50 times larger (2,500 homes per year for three years resulting in 7,500 homes). This will create a bigger impact and encourage more households to take action.
- Advancing partnerships for action with London's development industry should be accomplished in one to two years, not three to four years.
- Phasing out fossil fuel use for heat in all new buildings should be immediate or for all buildings where a building permit is applied for as of January 2023, not 2030.
- Policy and development plans must include direct support for tiny homes and living with a small environmental footprint.
- Stop urban sprawl.
- Individual properties have impacts that can be controlled. For example, the width of driveways should be limited and they should have to be made of permeable material to allow infiltration.
- Stop building on flood plains.
- Create more incentives for developers to move in a more sustainable direction.
- Create opportunities and/or an agency to promote, sell and install heat pumps, other energy efficient solutions, fuel switching opportunities, and other alternatives to natural gas.
- Independent agencies, not for profit companies, should be managing organizations that make services and products available to the consumer.

Area of Focus 4 - Transforming Transportation and Mobility

- Building bike infrastructure is a "California-style solution" that will not suitably replace vehicle use in London's climate.
- A plan for increasing the wide availability and convenience of electric vehicle use requires a focus on Level 3 fast chargers, not just Level 2 destination chargers.
- The City should focus on non-personal vehicle transportation improvements.
- Industrial areas of the City are underserved or poorly served by public transit which forces workers to take on the expense of a car even if they can't afford it.
- Consider making transit free (for everyone or at least low income families).

Area of Focus 5 - Transforming Consumption and Waste as Part of the Circular Economy

- A ban on non-refillable plastic bottles and containers by Council will be required to meet the 60% waste diversion from landfill goal.
- The City should stop burning sewage sludge and instead compost it and turn it into fertilizer.
- There is no mention of urban farms and green farming methods within the City limits and should be addressed.
- Implement the Green Bin program as soon as possible.
- Create more local business opportunities by creating a circular economy.

Area of Focus 6 - Implementing Natural and Engineered Climate Solutions and Carbon Capture

- Trees are ineffective as carbon capture and sequestration considering the amount of emissions in London.
- Carbon capture technologies use energy which reduces their effectiveness.

- Baseline data on natural heritage as it relates to climate action will be critical to monitoring the affects of climate change on the natural environment.
- The City should consider a “shade policy” for all development such that shade is prioritized as a resilience measure to combat rising temperatures in urban settings.
- The definition of Landscape Open Space in the Zoning By-law allows for paving over open space and does not require open space to be vegetated. Vegetated lands contribute directly to offsetting immediate impacts of climate change from planting shade trees, to gardens and it offsets drainage from overwhelming the sewer systems and returns water to underground aquifers.
- Low Impact Development (LID) should be applied on every new development application, road construction, parking lots, sidewalks, boulevards – essentially everywhere as a matter of policy.
- City needs to review tree by-laws for private property to ensure they do their part to reduce climate impacts. Residents have the option to opt out and reject a street tree outside their home if one is planned to be planted by the City as part of annual planting plans, even if one was there before.
- Natural assets in London need to be valued, protected and enhanced.
- London should not be counting on carbon capture, utilization and storage to help reduce GHG emissions.
- Little information has been provided on the role that London’s rivers can play in climate change mitigation (e.g., sinks for carbon, additional renewable energy).
- More details required on the role of carbon sequestration, local businesses and broader industrial manufacturing.

Area of Focus 7 - Demonstrating Leadership in Municipal Processes and Collaborations

- The City could build wind and solar farms and utilize potential energy storage like elevated water reservoirs.
- Renters need to be addressed with rebate programs as they are the ones that need help the most.
- London’s electrical grid cannot accommodate the electrification of even 50% of the current natural gas consumption for building and water heating.
- Carbon offsets should not be a significant tool to reach net zero as they are not viewed as real GHG reductions by some.
- Carbon offsets should be included in the menu of actions that households can do to reduce their carbon emissions.
- The City needs to be a model for others to follow; City projects need to be very visible and serve as a learning opportunity.
- A carbon offset policy in London is not required; all GHG reductions in London must be real local reductions.

Area of Focus 8 - Adapting and Making London More Resilient

- Complete London’s climate change adaptation plan and ensure it is available for community input.
- Make use of vacant lots by naturalizing them.
- More information is needed on climate hazards.
- Focus on adaptation in lower income areas.

Area of Focus 9 - Advancing Knowledge, Research and Innovation

- Creating opportunities for students will help retain more climate change knowledge in London.
- Increased academic collaborations provides opportunities for Londoners and newcomers to advance their knowledge.

Area of Focus 10 - Measuring, Monitoring and Providing Feedback

- GHG contributions from aviation and railways need to be added to the community emissions inventory since London has an international airport and is encouraging London become a major regional transportation hub.

- Use and/or promote existing dashboards for climate change metrics (e.g., Sustainable Development Goals dashboard).
- Make sure comparison and learnings continue to be made with other municipalities.
- Feedback to the community is vital and the City needs to lead and/or support different methods for doing so.

4. CEAP Foundations Actions 11 to 12: C. Actions related to engagement with other levels of government

- Provincial and federal action is essential and the City must help to move the discussions when they cross into different political views.
- Action on climate change should be broadly supported by all political parties and must expand based on who is elected, not be retracted based on different philosophies.
- Most people do not care which level of government takes action as long as action is being taken.

5. CEAP Foundations Actions 13 to 17: D. Actions related to financial impact/considerations

- Council needs to revisit the 2020-2023 budget to add more budget to climate change actions.
- Greater emphasis is needed on the City budget and how it will advance action towards GHG targets, particularly with a funded list of short-term projects.
- How is this plan going to be paid for?
- Further details needed on the capital costs of implementing this plan.
- What are the potential costs in London of not meeting targets?
- Further details needed on the potential costs of inaction when dealing with the impact of severe weather such as recent situations in Canada?

3.3 Addressing the Information Received

The CEAP has been intentionally designed to be improved upon continuously, particularly through feedback from community members and businesses that engage with the plan (Area of Focus 1 – Engaging, Inspiring and Learning from People Workplan actions 1 and 2) and the efforts of City staff to monitor implementation performance, emerging best practises and the feasibility of new technologies and methods for reducing emissions and improving resilience.

Because of its design, City staff believe that the majority of comments and feedback received are addressed by the CEAP, but in some cases the information may not be as clear as needed. In other cases, the work has not been done yet as it should be co-created with the community or other sectors. In other cases, there is a request for actions to move quicker than anticipated, both in scale (e.g., implement more) and timing (e.g., implement sooner). The need for increased and immediate financial investment has been raised many times. As expected, there is some disagreement on actions and uncertainty with aspects of the CEAP.

It also became clear in comments and discussion that Londoners, businesses, employees, students, partners, etc. want to have an ongoing voice, versus only providing comments and feedback when documents and materials are available for review. This voice includes providing ideas, actions, solutions, and experiences.

Based on comments and feedback received as of March 25, 2022, two additions are proposed to the draft CEAP that address many of the items received, items that will continue to be provided and/or indicate how they can be addressed in the future:

- Development of a Process to Receive and Review Ongoing Feedback and Ideas; and
- What are the Preliminary Benefits and Costs at the Household Level?

Both new sections are described in the following sections. City staff will continue to review comments and feedback leading up to the public participation meeting on April 5, 2022.

3.3.1 Develop a Process to Receive and Review Ongoing Feedback and Ideas

Engaging community-wide is an essential part of implementing the CEAP. Area of Focus 1, Engaging, Inspiring and Learning from People and the workplan lay out how this will be achieved. These actions align with Area of Focus 10, Measuring, Monitoring and Providing Feedback and how London will be kept informed on progress. Threaded throughout all workplans is the need for engagement, dialogue and understanding.

To expand on this, a new section has been added to CEAP 11.6 Develop a Process to Receive and Review Ongoing Feedback and a new action 9. has been added to Area of Focus 1 - Engaging, Inspiring and Learning from People workplan:

9. Work with community partners to develop methods to receive input and feedback on a more frequent basis to capture new ideas, improved ideas, innovative ideas and solutions to reduce GHG emission and make London more resilient including any processes needed to support this action.

The focus will be on creating ongoing opportunities to participate, comment and/or provide feedback in the CEAP on an ongoing basis. This will provide information to City staff, Council, community partners and/or stakeholders on a more frequent basis. It will also act as an input for the Area of Focus 9 - Advancing Knowledge, Research and Innovation. It will also allow participants to get engaged more frequently rather than wait until specific opportunities present themselves.

This can be achieved by using a combination of existing tools and techniques (e.g., use of the City of London Get Involved website, use of other websites, design charrettes, open space meetings, crowdsourcing) and creating opportunities for actions such as:

- Idea generation forums and community think-tanks;
- Focus groups and panels for idea testing;
- Brainstorming and problem-solving sessions;
- Community and social innovation approaches; and
- Community storytelling, sharing and replicating.

Examples of the above approaches exist in London today through groups like Pillar Nonprofit Network and organizations outside London like the Tamarack Institute and the Centre for Social Innovation.

Key to this level of engagement is managing expectations. Not all ideas can be implemented, are practical or can be funded. Processes will need to be established to ensure participants understand how to engage and how the information will be used.

A working model with some similarities at the City of London is the Neighbourhood Decision Making Program. Residents submit their ideas and get to vote on which ideas they want to see come to life (i.e., the community decides). Neighbourhood Decision Making allows residents to be involved in making their neighbourhood a better place to live, while connecting with their neighbours and engaging with local government. Those ideas are screened by City staff to ensure they can be implemented in both the practical and financially responsible sense. Currently this program does accept ideas focused on the environment and climate change.

3.3.2 Costs and Benefits of Household Climate Actions

One key aspect of the draft CEAP discussed during the February 8, 2022 SPPC meeting and in subsequent sessions was the costs and benefits London households and London rental building owners may face when trying to take action at the household level. To increase understanding of the potential financial requirements of some

household GHG emission reduction and resilience measures, City staff have included additional context and preliminary cost estimates for a range of household action in a new section of the CEAP (Section 9.4) based on available information and presented in Appendix D of this report. A new action 8. has also been added to Area of Focus 2 – Taking Action Now (Household Actions) workplan:

8. Household Climate Change Action Information – a. Work with community and business partners to continue to develop and compile details and information that will help households make decisions on climate action and ensure this information is promoted and easily accessible.

The 9.4 section added to the CEAP provides the reader with some examples of the simple payback periods (the time in which it would take for savings realized from an action to equal the cost incurred to take that action) for actions like replacing an existing internal combustion vehicle with an electric vehicle or e-bike, installing a smart thermostat, draft-proofing a home, insulating a poorly insulated attic, installing an air-sourced heat pump and installing a net-metered solar power system. Additional details are also provided regarding the costs and benefits of reducing household food waste and what may be expected in terms of cost and effort to undertake resilience improvements for a household.

Details are also provided on emissions offset credits which are defined by the Canadian Council of Ministers of the Environment (CCME) as GHG emission reductions or removal enhancements generated from project-based activities that compensate for emissions made elsewhere. Offset credits can be generated in both regulatory (for large industrial emitters) and voluntary programs (including small businesses and households).

Emissions offsets and similar products are available to Londoners and London businesses today. Some companies offer the purchase of renewable electricity, renewable natural gas, and green fuels to offset the emissions from the customer's use of electricity, natural gas, gasoline and/or diesel. Others offer offsets for flights as well as homes.

There are challenges regarding the use of offsets within the local community level, specifically around accounting for community wide GHG emissions. At this time, the City of London does not have access to any data from offset providers on the total number of offsets purchased (or sold) on an annual basis by Londoners and London businesses. As a result, City staff are unable at this time to account for their use and contribution towards local emission reductions. Further research, accounting methods and understanding is required to determine the overall value of this approach as a GHG reduction measure.

In summary, while the specific circumstances and requirements for any climate action at the household level can vary significantly according to the characteristics of a household and how actions are implemented, the added section provides a starting point for householders to undertake further work to meet their own needs, level of effort, cost (investment), savings and other benefits.

4.0 Progress on Climate Change Adaptation Planning

Adapting to climate change was recognized as one of the early steps needed in the CEAP as it is one of the two pillars of climate change actions; mitigation and adaptation. Area of Focus 8 Adapting and Making London More Resilient details the approach being taken and the steps involved.

London has partnered with ICLEI Canada (formerly International Council for Local Environmental Initiatives), to be part of a cohort with twenty other Ontario municipalities in the program called Advancing Adaptation. It is designed to assist municipalities in the creation of a climate change adaptation plan by working through an industry-standard framework called 'Building Adaptive and Resilient Cities' or BARC. The BARC

framework is used internationally by many cities and has been used extensively by the Federation of Canadian Municipalities with several examples in Ontario. This ongoing work builds upon the risk assessment work completed internally by the City of London in 2014 and includes collaborative planning on climate change adaptation action identification, implementation and monitoring. A working group has attended two workshops this year:

- February 9, 2022. The focus was on introducing actions that would address the risks of climate change in London; and
- March 8, 2022. The focus was on reviewing the actions and prioritizing and investigating who would lead and support the various actions.

Attendance included City staff from 15 divisions and community representatives arranged through the London Environmental Network. The overall focus for the working group is to create a draft climate change adaptation plan for community engagement later in 2022.

5.0 CEAP Implementation in 2022

The CEAP includes 59 Categories of Actions and contains over 200 actions, ranging from basic to complex actions, across the 10 Areas of Focus. A number of the actions are designed to start in 2022 and/or are already under way. Other actions will start in 2023 and some in 2024.

In the February 8 SPPC report (Table 10: Selected CEAP Actions, Resources and Funding) details were provided on the actions that Civic Administration will take in the near term as part of CEAP implementation. A summary comment was provided on how the action will be resourced and how it will be funded. Leveraging and adjusting existing approved projects for 2022 and 2023 is key to implementing all ten Areas of Focus.

The February report also identified that the current dedicated annual investment for climate change initiatives is approximately \$120,000 in operating funding and \$100,000 in capital funding. This is in addition to leveraged funding noted above and funding for the Transportation Management Association.

Highlighted on Table 3 are further details on budget ranges by Area of Focus including specific projects that were are in development. These are generally for community-based actions and implementing CEAP. This is in addition to leveraged resources and funding already approved for 2022.

Table 3: Leverage Resources, Funding and New CEAP Budget Range

Area of Focus and Category of Action	2022 CEAP Budget Range
1. Engaging, Inspiring and Learning from People Category of Action 1 to 9 – all categories listed are currently under way or will be launched in 2022.	\$20,000 - \$25,000
2. Taking Action Now (Household Actions) Category of Action 1 to 7 – all categories listed are currently under way. Specific initiatives with assigned funding range noted below:	\$30,000 - \$35,000
(Proposed) MyHeat Solar rooftop solar power cost-benefit calculator web-based tool (one year pilot).	\$10,000 - \$15,000
(Proposed) LightSpark home energy retrofit cost-benefit calculator web-based tool (in support of the proposed FCM-funded home energy retrofit pilot project); potential amount of funding requested from London is unknown at this time.	

Area of Focus and Category of Action	2022 CEAP Budget Range
3. Transforming Buildings and Development Category of Action 1 to 3 - all categories listed are currently under way.	\$2,500 - \$5,000
4. Transforming Transportation and Mobility Category of Action 1 to 8 – all categories listed are currently under way or will be launched in 2022. Specific initiatives with assigned funding range noted below:	See Note a)
Transportation Management Association (also includes an additional \$15,000 to \$20,000 in approved capital funding)	\$35,000 - \$45,000
5. Transforming Consumption and Waste as Part of the Circular Economy Category of Action 1 to 4 - all categories listed are currently under way.	See Note a)
6. Implementing Natural and Engineered Climate Solutions and Carbon Capture Category of Action 1 to 3 – three categories listed are currently under way. Category of Action 4 – work currently scheduled for 2024	See Note a)
7. Demonstrating Leadership in Municipal Processes and Collaborations Category of Action 1, 3, 4, 5, 7, 9, 12 – seven categories listed are currently under way. Category of Action 2, 6, 8 – work currently scheduled for 2023. Category of Action 10, 11 – work currently scheduled for 2024.	See Note a)
8. Adapting and Making London More Resilient Category of Action 1 to 7 - all categories listed are currently under way. Specific initiatives with assigned funding range noted below:	\$2,500 - \$5,000
ICLEI adaptation pilot project for lower income neighbourhood (50% funding up to \$7,500 from ICLEI).	\$7,500 - \$10,000
9. Advancing Knowledge, Research and Innovation Category of Action 1 to 2 – both categories listed are currently under way.	\$20,000 - \$25,000
10. Measuring, Monitoring and Providing Feedback Category of Action 1 to 3 – both categories listed are currently under way. Specific initiatives with assigned funding range noted below:	\$10,000 - \$15,000
Technical assistance to develop detailed cost estimate modelling to support climate change mitigation and community energy planning work. FCM and Provincial sources are anticipated to cover between 50% and 75% of project costs. City contribution could range between \$50,000 and \$100,000 in approved capital funding depending on funding sources.	

Note:

- a) The Areas of Focus uses only leveraged funding and resources in 2022.

Conclusion – Next Steps

City staff engaged with Londoners on the draft CEAP and received valuable feedback. Based on the analysis of feedback received, the CEAP and its Areas of Focus implementation workplans provide a strong foundation of milestone targets, actions, shared leadership and support for continuous improvement of the CEAP. Expedient implementation of the CEAP in its current form was supported and encouraged by the majority of those who provided feedback on the draft document.

Should Municipal Council be satisfied with the draft plan, and that the plan appropriately incorporates community feedback including what may be presented at the public participation meeting, a recommendation for Council to approve the plan could be considered by the Strategic Priorities and Policy Committee and include:

- the final Climate Emergency Action Plan, attached as Appendix “A”;
- the final Climate Emergency Action Plan Foundational Actions, attached as Appendix “B”; and
- the proposed by-law to authorize and approve a Memorandum of Understanding with the University of Western Ontario to advance joint climate change mitigation and adaptation research, technologies, analyses and knowledge attached as Schedule “A” to the by-law, attached as Appendix “C”.

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Appendix A Climate Emergency Action Plan

Appendix B Foundational Actions for the Climate Emergency Action Plan

Appendix C By-law and Memorandum of Understanding with the University of Western Ontario

Appendix D Preliminary Costs and Benefits of Household Climate Actions

Appendix A
Climate Emergency Action Plan

Report is contained as a separate document

Appendix B

Foundational Actions for the Climate Emergency Action Plan

To move forward with the Climate Emergency Action Plan (CEAP), there are a number of foundational actions that are required. These actions set the stage for the successful implementation of the CEAP. The rationale for these foundational actions was provided in the February 8, 2022 Strategic Priorities and Policy Committee report.

A.	Actions related to greenhouse gas emissions reduction milestone targets
1	Change the baseline year for measuring community-wide greenhouse gas emission reduction from 1990 (current baseline) to 2005 to be consistent with the Government of Ontario, the Federal Government and a growing number of Canadian municipalities.
2	Adopt the following short and mid-term milestone targets to achieve the community-wide target of net zero community greenhouse emissions by the year 2050: <ol style="list-style-type: none"> i. 55 percent reduction in total annual city-wide emissions by 2030, consistent with the 1.5°C science-based target established by the United Nations Framework Convention on Climate Change’s Race to Zero campaign. ii. 65 per cent by 2035 iii. 75 per cent by 2040.
3	Revise the Corporate net zero energy related GHG emissions target from 2050 to 2045 and will be based on the following milestone targets: <ol style="list-style-type: none"> i. 65 per cent reduction in total energy-related emissions from 2007 levels by 2030 ii. 75 per cent by 2035 iii. 90 per cent by 2040.
4	Join the Race to Zero Cities Campaign, a global campaign to rally leadership and support for science-based targets.
B.	Actions related to implementing the Climate Emergency Action Plan
5	Include the following Areas of Focus in the Climate Emergency Action Plan: <ol style="list-style-type: none"> 1. Engaging, Inspiring and Learning from People 2. Taking Action Now (Household Actions) 3. Transforming Buildings and Development 4. Transforming Transportation and Mobility 5. Transforming Consumption and Waste as Part of the Circular Economy 6. Implementing Natural and Engineered Climate Solutions and Carbon Capture 7. Demonstrating Leadership in Municipal Processes and Collaborations 8. Adapting and Making London More Resilient 9. Advancing Knowledge, Research and Innovation 10. Measuring, Monitoring, and Providing Feedback.
6	Obtain ongoing input from the City of London advisory committees, Londoners, community and business groups, employers, institutions, local First Nations communities (Chippewas of the Thames First Nation, Munsee-Delaware Nation, Oneida Nation of the Thames and Urban Indigenous peoples), including the integration of specific efforts to reach people facing barriers to participation and disproportionate impacts from climate change (Area of Focus 1 Engaging, Inspiring and Learning from People).
7	Create a Transportation Management Association (TMA) using the approach outlined in this report and prepare two progress reports, 2022 and 2023,

	including participants, services, costs, benefits and outcomes (Area of Focus 4 Transforming Transportation and Mobility).
8	Request the City of London Boards and Commissions to provide an annual update to Council on climate change actions and progress (Area of Focus 7 Demonstrating Leadership in Municipal Processes and Collaborations).
9	Use a Memorandum of Understanding, Letter of Commitment or similar approach to establish working arrangements, roles, responsibilities, accountabilities for climate mitigation and adaptation action when a more formal arrangement is desirable. This does not replace the need for executed contracts, agreements and purchase orders as per Council policies. The first example of this approach using a Memorandum of Understanding will be with Western University (Area of Focus 9 Advancing Knowledge, Research and Innovation).
10	Continue to use the Project Justification approach for recommending Corporate investments in energy efficiency and greenhouse gas reduction, continue to compile information on similar municipal business cases to assist with decision-making in London, and encourage organizations such as Clean Air Partnership (CAP), QUEST Canada, and the Federation of Canadian Municipalities to develop a municipal best practice(s) catalogue to assist with decision-making.
C. Actions related to engagement with other levels of government	
11	Request that the Mayor share the Climate Emergency Action Plan with the Government of Ontario, the Ontario Energy Board (OEB) and the Independent Electricity System Operator (IESO) and encourage intergovernmental cooperation to achieve the City of London's climate-related goals.
12	Request that the Mayor share the Climate Emergency Action Plan with the Government of Canada and encourage intergovernmental cooperation to achieve the City of London's climate-related goal.
D. Actions related to financial impact/considerations	
13	Undertake a procurement process to solicit technical assistance to develop detailed cost estimate modelling to support climate change mitigation and community energy planning work (Area of Focus 10 Measuring, Monitoring and Providing Feedback).
14	Implement the initiatives contained in this report that can be addressed through existing budgets, programs and projects in 2022 and 2023.
15	Adjust the 2022 and 2023 operating and capital budgets as required to best accommodate Climate Emergency Action Plan initiatives proposed to be funded through existing budgets, programs and projects.
16	Develop a detailed Climate Change Investment and Implementation Plan with associated timing and financial impacts for all Climate Emergency Action Plan initiatives requiring additional investment to support the development of the City's 2023-2027 Strategic Plan and 2024-2027 Multi-Year Budget, as well as future Strategic Plan and Multi-Year Budget processes.
17	Develop and provide an annual update to Council and the community on the progress of the Climate Emergency Action Plan, new and emerging ideas for implementation, and proposed adjustments to the Climate Emergency Action Plan (Area of Focus 10 Measuring, Monitoring and Providing Feedback).

Appendix C

By-law and Memorandum of Understanding with the University of Western Ontario

Bill No.
2022

By-law No. A.-

A by-law to authorize and approve a Memorandum of Understanding between University of Western Ontario and The Corporation of the City of London and to authorize the Mayor and the City Clerk to execute the Memorandum of Understanding.

WHEREAS section 5(3) of the *Municipal Act, 2001*, S.O. 2001, c. 25, as amended, provides that a municipal power shall be exercised by by-law;

AND WHEREAS section 9 of the *Municipal Act, 2001*, S.O. 2001, c. 25, as amended, provides that a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under this or any other Act;

AND WHEREAS it is deemed appropriate for The Corporation of the City of London (the "City") to enter into a Memorandum of Understanding with the University of Western Ontario ("Western") to undertake collaborative work in the areas of energy efficiency, energy conservation, energy literacy, climate change mitigation, climate change adaptation, community engagement, technology development, testing and commercialization, and understanding the impacts of severe weather locally and regionally;

AND WHEREAS it is deemed appropriate to authorize the Mayor and the City Clerk to execute the Memorandum of Understanding on behalf of the City;

NOW THEREFORE the Municipal Council of The Corporation of the City of London enacts as follows:

1. The Memorandum of Understanding between The Corporation of the City of London and the University of Western Ontario, attached as Schedule A to this by-law, is hereby authorized and approved.
2. The Mayor and the City Clerk are hereby authorized to execute the Memorandum of Understanding authorized and approved under section 1 of this by-law.
3. This by-law shall come into force and effect on the day it is passed.

PASSED in Open Council _____, 2022

Ed Holder
Mayor

Michael Schulthess
City Clerk

First Reading – _____, 2022
Second Reading – _____, 2022
Third Reading – _____, 2022

Schedule A

Memorandum of Understanding

Between

The Corporation of the City of London (“City”)

And

The University of Western Ontario (“Western”)

Whereas the Council of the Corporation of the City of London declared a climate emergency on April 23, 2019 for the purposes of naming, framing, and deepening our commitment to protecting our economy, our eco systems, and our community from climate change;

Whereas Council directed Civic Administration to develop with the community a Climate Emergency Action Plan to build on years of collaborative work in the areas of energy efficiency, energy conservation, energy literacy, climate change mitigation, climate change adaptation, community engagement, technology development, testing and commercialization, and understanding the impacts of severe weather locally and regionally;

Whereas the City wishes to examine, support, conduct research and/or implement projects under the broad classification(s) of climate change mitigation and climate change adaptation in London, or in collaboration with others outside of London, as part of continuous learning, implementation, and improvement methodologies;

Whereas the City wishes to pursue projects, relationships, and partnerships for the purposes of innovation, creativity, best practices, and excellence in climate change mitigation and adaptation as part of the implementation of the Climate Emergency Action Plan;

Whereas the City has several established and ongoing relationships and projects with individual faculties and research institutes such as the Institute for Chemicals and Fuels from Alternative Resources (ICFAR), Human Environments Analysis Laboratory (HEAL), Centre for Environment and Sustainability, and Western Water Centre (WWC);

Whereas Western has a broad range of demonstrated expertise in the areas of climate change mitigation and adaptation;

Whereas Western has identified Carbon Reduction, Climate Change, Green Energy, Circular Economy and Environmental Sustainability as areas of research strength, knowledge transfer, and implementation through on-the-ground projects and programs; and

Whereas through Western’s interdisciplinary approach to research, academic learning and student innovation and creativity, and now wants to further extend its relationship with the City for mutual interests.

1.0 Purpose of the Memorandum

This Memorandum of Understanding (“MoU”) is intended to set out the mutual intentions of the City and Western to advance their joint climate change mitigation and adaptation objectives. The MoU is based upon the mutual understanding that the combined expertise, influence, and commitment of the parties are better applied together to support their common goals. The MoU establishes the non-legally binding framework and set of principles for enhanced and focused coordination and collaboration to support their shared interests in climate change mitigation and adaptation.

The parties to this MoU acknowledge that if they wish to jointly carry out specific initiatives that may arise out of this MoU, they will have to engage in further discussion and prepare necessary agreements to define, authorize and execute, among other things, each party's roles and responsibilities, resource allocation and other details.

The MoU is not an exclusive arrangement and does not restrict either party from pursuing their mandates either on their own or in collaboration with any other party.

2.0 Short-Term Objective

The short-term objective of the collaboration between the City and Western is to:

- Build on the existing foundation of traditional and innovative projects to mitigate and/or adapt to climate change;
- Create a focal point (centre or centres) for the ongoing examination of practical and innovative solutions for energy efficiency, energy conservation, energy literacy, climate change mitigation, climate change adaptation, community engagement, technology development, testing and commercialization, and understanding the impacts of severe weather locally and regionally;
- Develop a list of research and project areas that would benefit from direct involvement of Western staff, faculty and students (working title is Academic Agenda for Action on Climate Change) and contribute to the implementation of the Climate Emergency Action Plan;
- Establish partnerships and collaborations between government, academia, and businesses to synergistically build on existing strengths to create opportunities to reduce greenhouse gas emissions and/or to build a more resilient London and region; and
- Be known as an innovative centre of excellence with shared facilities and resources providing leadership, implementing best practices, undertaking leading edge research, providing knowledge and support to industry, while educating and training students, researchers, and postdoctoral fellows in the various fields of climate change mitigation and adaptation.

3.0 General Arrangement

This MoU sets out the General Arrangement between the parties that will be the basis for working together.

The responsibilities of the City are to include:

- Share climate change mitigation and adaptation knowledge and expertise with Western and other partners,
- Assist with funding applications and discussions/negotiations with potential partners,
- Provide access to relevant City facilities, following established protocols, such as Material Recovery Facility (MRF), Greenway Wastewater Treatment facility, W12A Landfill Site, facilities with energy efficient equipment installed, other City facilities,
- Participate in project development, design, and/or implementation,
- Participate, when available, in discussions, tours and related activities,
- Provide climate change mitigation and adaptation materials, in appropriate quantities, to assist with knowledge transfer,
- Participate and/or make available resources to assist with student research,
- Assist with reporting, being available for media interviews and related matters, and
- Keep London Municipal Council informed of progress.

The responsibilities of Western are to include:

- Carry out research and development projects supported by grants and contracts which generate knowledge, expertise and trained personnel with a focus on climate change mitigation and adaptation;
- Share climate change mitigation and adaptation expertise with the City and with the industry partners;
- Contribute to the implementation of the Climate Emergency Action Plan;
- Act as window of access of academic expertise on behalf of the Western community for the City, government agencies, and potential industry partners bringing together the appropriate teams from across Western aiming at maximizing synergies of expertise, infrastructure and resources; and
- Proactively engage in conversations with the City and with industry partners to ensure continuous review and improvement of current initiatives and development of new projects.

4.0 Formal Agreement

The parties agree to work together to develop a Formal Agreement to undertake activities that involve capital works, contracts with funding agencies, contracts with private companies and investors.

5.0 Effective Date and Duration

This MoU will come into effect upon the date it has been signed by all parties and will remain in effect until December 31, 2026. This MoU will be reviewed two months prior to each anniversary date and minor amendments may be made on consent of the parties, which may be provided on behalf of the City by the City's _____, or designate and on behalf of Western by _____, or designate.

Either party may withdraw from this MoU by providing sixty (60) days' written notice to the other party. Notice may be provided to the parties as follows:

- The City: _____
- Western: _____

A party may withdraw from this MoU by providing a sixty (60) day written notice to the other parties.

This MoU is subject to approval processes required by each of the parties.

DATED this _____ day of _____.

IN WITNESS WHEREOF:

THE CORPORATION OF THE CITY OF LONDON

By:

Name: Ed Holder
Title: Mayor

By:

Name: Michael Schulthess
Title: City Clerk

I/We have authority to bind the City.

THE UNIVERSITY OF WESTERN ONTARIO

By:

Name: _____

Title: _____ The University of Western Ontario

Acknowledgement:

By:

Name: _____

Title: _____

I/We have authority to bind Western.

Appendix D

Preliminary Costs and Benefits of Household Climate Actions

Moving ahead with any of the household actions presented in Section 9.3 of the CEAP will require varying amounts time and expertise to plan and implement. Knowledge of costs and savings will be key. While every household is unique and the financial, time and expertise requirements to take on most climate actions can vary significantly based on many factors, the following preliminary cost estimates and associated cost-saving benefits have been compiled based on available information and assumptions identified. These estimates are provided to help build a foundation of information to assist Londoners in understanding the potential magnitude of costs and efforts required for some of the climate actions presented in the CEAP. The specific requirements for any household may vary significantly.

Transportation and Mobility

For households considering electric vehicles, the Ontario-based non-profit organization [Plug'n Drive](#) provides an on-line calculator to estimate the costs and savings associated with all electric vehicle models compared to a gasoline-fueled vehicle of similar size and trim. For example:

- A new Kia Niro plug-in hybrid has a \$9,300 net premium over an equivalent gas-fueled vehicle (i.e., Honda HR-V) but will currently have a payback time of around six years through annual fuel cost savings (1,200 litres of gasoline per year) and lower maintenance costs.
- A new Kia Niro EV has a \$19,200 net premium over an equivalent gas-fueled vehicle (i.e., Honda HR-V) but will currently have a payback time of around nine years through annual fuel cost savings (1,600 litres of gasoline per year) and lower maintenance costs.

For households considering replacing their existing vehicle with an e-bike or a transit pass, the Canadian Automobile Association provides an [on-line calculator](#) to estimate the costs associated with owning and operating a vehicle by make and model. For example, a paid-off 2016 Toyota Corolla that is only driven 10,000 kilometres per year for in-town trips will have annual operating and maintenance costs of approximately \$5,000 (\$2,000 for maintenance, \$1,800 for insurance, \$1,200 for fuel).

Given that the average costs of new e-bikes are between \$3,000 and \$5,000, replacing this 2016 vehicle with an e-bike would pay for itself within about one year. Cargo e-bikes capable of carrying groceries, with a cost range of \$5,000 to \$10,000 depending on the make and model, would pay for themselves within about two years.

Replacing this vehicle with a London Transit monthly pass, at \$1,140 per year, would save almost \$3,900 per year (over \$320 every month).

Home Energy Retrofits

The costs and savings associated with home energy retrofits is largely dependent on the age, condition and size of the house, with older homes generally having greater potential for savings. Incentives of up to \$5,000 are available from both [Enbridge Gas](#) and the [Canada Greener Homes](#) program, but residents are not able to use both programs for the same measure (e.g., cannot apply to both programs for draft-proofing). However, incentives for different measures can be combined between these programs to allow households to receive incentives up to \$10,000. Both programs require a home energy audit before the retrofits can take place.

Based on background market research that has been carried out in support of a proposed home energy retrofit program for London, the most common older housing stock in London are single-family homes built in the 1950s through to the 1970s. These

homes typically are heated with high-efficiency gas furnaces already, so future retrofits would likely involve improving insulation, draft proofing (air sealing), and hybrid heating with air-sourced heat pumps paired with existing high-efficiency gas furnaces. Net-metered solar power may also be of interest to some households.

High-level costs and estimated payback time from lower utility bills for these measures are as follows, noting that these will vary significantly depending on the age, size, and current state of any house:

- Smart thermostat – about \$350, with about a three-year payback currently. Enbridge Gas offers a \$75 incentive as well as a free thermostat for qualifying lower income households.
- Draft-proofing (air sealing) – about \$750, with about a three-year payback currently. Enbridge Gas offers a \$150 incentive or free draft-proofing for qualifying lower income households. Canada Greener Homes also provides incentives.
- Basement insulation – about \$3,000, with about a ten-year payback currently. Enbridge Gas offers a \$1,250 incentive or free insulation for qualifying lower income households. Canada Greener Homes also provides incentives.
- Attic insulation – about \$3,000, with about a 30-year payback currently. Enbridge Gas offers a \$750 incentive or free insulation for qualifying lower income households. Canada Greener Homes also provides incentives.
- Wall insulation – about \$7,500, with about a 25-year payback currently. Enbridge Gas offers a \$3,000 incentive. Free insulation for qualifying lower income households. Canada Greener Homes also provides incentives.
- Air-sourced heat pump – about \$4,000 premium over a new central air conditioning unit. Enbridge Gas is testing a new \$3,200 incentive as part of their pilot project that does not require a home energy audit. The Canada Greener Homes program also offers a \$4,000 incentive but requires a home energy audit. This measure is expected to break even, with more information expected once the pilot project has been completed.
- Net-metered solar power – about \$15,000 to \$17,500 for a 5-kilowatt system. The Canada Greener Homes program offers a \$5,000 incentive. Payback time is currently about 17 to 21 years.

For Londoners in rented homes, the measures above would need to be undertaken by property owners. However, some draft-proofing measures can be undertaken by tenants at a low cost (well under \$100), such as:

- Temporary window film for draft-proofing and insulation;
- Electrical outlet foam gaskets for exterior walls; and
- Draft-proofing tape for exterior doors.

Purchased GHG Emission Offsets

Emissions offset credits are defined by the Canadian Council of Ministers of the Environment (CCME) as GHG emission reductions or removal enhancements generated from project-based activities that compensate for emissions made elsewhere. Offset credits can be generated in both regulatory (for large industrial emitters) and voluntary programs (including small businesses and households).

Emissions offsets and similar products are available to Londoners today. Companies such as [Bullfrog Power](#) offer the purchase the environmental attributes of renewable electricity generation, renewable natural gas, and green fuels to offset the emissions from the customer's use of electricity, natural gas, gasoline and/or diesel. Other

companies such as [Less](#), [Planetair](#), and [Tentree](#) offer offsets for flights as well as homes. For example:

- Renewable natural gas – about \$41 per month for 220 cubic metres of gas (\$0.19/m³) in addition to what Enbridge Gas charges;
- Renewable electricity – about \$21 per month for 850 kilowatt-hours (2.5 cents per kWh) in addition to what London Hydro charges;
- Green fuel – about \$0.43 per litre (in addition to what local gas stations charge); and
- Emissions offsets - \$20 per tonne for CSA Standard-Certified Canadian Offsets, or about \$18 per month for the average single-family household (in addition to the average household energy costs of about \$460 per month in 2019). This cost is likely to increase over time as demand increases.

It is important to note that there are challenges regarding the use of offsets within the local community level, specifically around accounting for community wide GHG emissions. At this time, the City of London does not have access to any data from offset providers on the total number of offsets purchased (or sold) on an annual basis by Londoners and London businesses. As a result, City staff are unable at this time to account for their use and contribution towards local emission reductions. Further research, accounting methods and understanding is required to determine the overall value of this approach as a GHG reduction measure at the household level.

Food Waste Reduction (Avoidance)

Food waste reduction (avoidance) can be accomplished in many ways, most of which will have only minor costs (e.g., reusable storage containers) and has the potential for significant savings (e.g., \$450 to \$600 per year for the average London household in 2019). Reducing the amount of uneaten food that goes to waste can be accomplished by meal planning prior to shopping to ensure only the needed amount of food is purchased and properly storing both perishable food and leftovers and consuming them before they go bad.

Londoners can reduce wasted food generated by retailers by purchasing “ugly” fruits and vegetables and taking advantage of deals on discounted fruits and vegetables for recipes that can accommodate them.

Looking for locally produced foods can reduce the amount of demand for foreign foods, which results in lowered transportation GHG emissions, though sometimes locally produced products may come with a cost premium. There are added benefits with supporting local agricultural producers through community supported agriculture programs as well, like getting to know local farmers and learning to eat more seasonally (which has a lower carbon footprint).

Home and Property Resiliency

Several actions can be taken at home on private property to prepare for and adapt to the changing climatic conditions. The following is a short list of measures including high level costs that a homeowner may consider. Since flooding has been identified as one of the highest risks in London caused by climate change, basement flooding preventative measures have been identified as a theme of many of the actions to prioritize.

- Basement flood protection – measures for the basement to prevent flooding from sewer back-up and overland flow including sump pits, sump pumps with back-up power supply, and sewer backflow prevention devices:

Equipment	Item Cost Range
Sump pump	\$100 to \$300
Sump pit	\$100 to \$200
Sump pump battery back-up	\$200 to \$400
Back-flow preventor / backwater valve	\$100 to \$150

Note: the labour costs for installation of the above listed basement flooding prevention equipment will require a qualified plumber which will add to these costs. City of London incentive programs provide for 90% cost recovery up to maximum funding limits for each item. For example, a sump pit and pump in the basement can access 90% funding to a maximum of \$2,500. Details of London's basement flooding grant program can be reviewed at london.ca/living-london/water-environment/flooding.

- Outdoor Surface Drainage Protection – measures for the yard to prevent surface water from entering the home including basement window well covers, downspout extensions, downspout splash blocks, and landscaping to maintain or create surface swales. Increasing permeable surfaces may also benefit drainage.

Equipment	Item Cost Range
Basement window well covers	\$50 to \$100
Downspout extension	\$15 to \$25
Downspout splash block	\$25 to \$30
Drainage swale landscaping	
• Grass seed	\$15 to \$20
• Topsoil	\$5 to \$10
• Shovel	\$20 to \$50

Note: the above measures do not typically require professional help to install, and the efforts required can normally be completed by the homeowner.

- 72 Hour Emergency Kit – in the event of a power outage, neighbourhood disaster or any event that requires Londoners to shelter-in-place, these kits can help in the short term.

Equipment	Item Cost Range
Pre-assembled kits	About \$200 (2 person) About \$300 (4 person) About \$500 (4 person, deluxe kit)

Typical items contained in a 72-hour emergency kit are: bottled water, medications, food (for 3 days), first aid kit, wind-up flashlight and radio, external battery pack or wind-up phone charger, dust mask and duct tape, whistle, personal sanitation items, important documents, cash in small bills and coins, warm clothing and blankets or sleeping bags (Source: City of Calgary).

- Tree Planting – planting native trees around the house will provide shade in the summer and can act as a wind break in the winter months reducing the home energy needed for both summer cooling and winter heating. They also absorb carbon dioxide and provide oxygen, therefore providing both climate adaptation and mitigation benefits in addition to absorbing water in their leaves and roots. Boulevard trees also provide the same benefits, and their planting in appropriate locations should be encouraged whenever feasible.
 - tree prices will vary with size, species, and local abundance;
 - wood chips, soil and compost are commonly sold in bags or bulk from many London businesses; and
 - wooden stakes to support newly planted trees range from \$5 to \$10 for a dozen.

Note: tree planting initiatives and programs are often available by contacting City of London Urban Forestry, Upper Thames River Conservation Authority or ReForest London. Lists of appropriate native species type for London and planting advice are also available through these offices.