

Discussion Primer for the Climate Emergency Action Plan- 2020

Outline of the Discussion Primer (5 Pages plus appendices)

- Background on London's Climate Emergency Action Plan
- Climate Emergency Declaration
- The London Plan – Planning for a Green and Healthy City
- Action Required – How You Can Help
- Appendix 'A' – Part A - What your Organization Does and/or Can Do
- Appendix 'B' – Part B - Development of the Climate Emergency Action Plan including a Focus on Actions for the City of London
- Appendix 'C' – Climate Emergency Action Plan Actions for Discussion

ACTION REQUIRED

Complete Part A - Let us know what actions your organization has already planned to address the Climate Emergency (e.g., climate change mitigation or adaptation plans, sustainability plans, resiliency plans, environmental plans). This includes letting us know if there are any new ideas your organization would be interested in exploring with the City of London and other partners to address the Climate Emergency

Complete Part B - Provide ideas, comments and where your organization can assist in the delivery of actions as part of a Climate Emergency Action Plan

Background on London's Climate Emergency Action Plan

The City of London has been leading and/or collaborating on three major initiatives dealing with increasing energy efficiency, reducing greenhouse gas (GHG) generation and addressing climate change for over 20 years. Recent activities and actions are summarized in the 2014-2018 Community Energy Action Plan, the 2019-2023 Corporate Energy Conservation and Demand Management Plan (and its predecessor covering 2014-2018) and a series of actions addressing climate change adaptation that included the completion of the 2014 Vulnerability Assessment, delivery of the "Flooding Matters Program" from 2015-2018 and others. Addressing climate change is also a key component of London's Official Plan, the London Plan, as is discussed further in this document.

In addition to the City of London and its many agencies, boards & commissions, businesses, institutions, community organizations and members of the community in London have also taken action and assumed a leadership role with respect to climate change. For example, the expertise, knowledge and actions from London Hydro, Enbridge, Upper Thames River Conservation Authority, London District Energy and large energy stakeholders such as Western University, London Health Sciences Centre, Labatt, 3M, Green Economy London, and many others has been very evident. Similarly, numerous community stakeholders provide expertise as individuals through organizations like London Community Foundation, London Environmental Network, Urban League of London, London Cycle Link, Thames Region Ecological Association, Friends of Urban Agriculture, Urban Roots London, etc.

London's strength has also benefited from relationships and partnerships with the Ontario and Federal Government, Association of Municipalities of Ontario (AMO), Federation of Canadian Municipalities (FCM), Quality Urban Energy Systems of Tomorrow (QUEST), Clean Air Partnership (CAP), CDP Cities and the Global Covenant of Mayors for Climate & Energy.

On April 24, 2019, the Declaration of a Climate Emergency was approved by London's City Council "for the purposes of naming, framing, and deepening our commitment to protecting our economy, our ecosystems, and our community from climate change". As of May 2020, London is one of over 1,700 jurisdictions in 30 countries to recognize and declare a climate emergency.

On November 26, 2019 Council received staff's report for further actions to be taken in respect to the City's Climate Emergency Declaration and the next steps to further reduce energy use and increase climate change mitigation and adaptation actions during the next twelve months. These items included establishing a process to create a Climate Emergency Action Plan (CEAP). Council directed that consultation be held with stakeholders, partners, potential partners and citizens of London.

The City of London is working towards a new long-range GHG emissions reduction goal of net-zero GHG emissions in London by the year 2050. Net-zero emissions means that any remaining human-caused GHG emissions from London will need to be removed from the atmosphere by natural means or by technology. This target of net-zero GHG emissions will apply for both municipal operations and the community as a whole to mitigate and adapt to climate change. The City of London will also review its current medium-term goal to be 37 percent below 1990 GHG emissions levels by 2030.

In order to meet the 2050 target of net-zero GHG emissions, changes will be required in all sectors of London and will require significant cooperation and action from everyone. The Corporation of the City of London has direct control over only approximately four (4) percent of London's community GHG emissions (i.e., methane emissions from the W12A landfill, fossil fuel use by municipal operations, etc.). Decisions made by City Council regarding land use and transportation can potentially influence approximately 70 percent of London's community GHG emissions, but the ultimate responsibility for those emissions rests with others. For instance, the combined GHG emissions from personal vehicle use and residential energy use accounts for half of the London's local GHG emissions, and commercial buildings energy use and industrial emissions combine for roughly another quarter.

The City is committed to doing its part and working collaboratively to find the best ways to help others do their part. The CEAP is intended to be a long-term (30 year) roadmap with appropriate milestone dates for the City, businesses, institutions, other organizations and individuals to work together towards our collective goal of net-zero GHG emissions by 2050. In addition to addressing how to reduce GHG emissions, the CEAP will also identify strategies and actions that should be adopted and undertaken to improve London's physical and social resilience to withstand the impacts from our changing climate.

Considering the long time horizon that the CEAP addresses, regular periodic updates of the plan (e.g., every 4 to 5 years) will be required to ensure that it remains applicable and current as technologies, attitudes, priorities of provincial and federal governments and environmental conditions change over the next 30 years.

Climate Emergency Declaration

On April 24, 2019, the following Declaration of a Climate Emergency was approved by Municipal Council:

"Whereas climate change is currently contributing to billions of dollars in property and infrastructure damage worldwide, stressing local and international economies;

Whereas climate change is currently jeopardizing the health and survival of many species and other natural environments worldwide, stressing local and international eco systems;

Whereas climate change is currently harming human populations through rising sea levels and other extraordinary phenomena like intense wildfires worldwide, stressing local and international communities;

Whereas recent international research has indicated a need for massive reduction in carbon emissions in the next 11 years to avoid further and devastating economic, ecological, and societal loss;

Whereas the climate in Canada is warming at twice the rate of the rest of the world, as per Canada's Changing Climate report;

Whereas current initiatives such as the greening of the city's fleet and energy reduction initiatives are not sufficient to meet the targets as defined by the IPCC scientists,

Whereas an emergency can be defined as "an often dangerous situation requiring immediate action";

Whereas municipalities such as Kingston, Vancouver and Hamilton have already declared climate emergencies;

Therefore, a climate emergency BE DECLARED by the City of London for the purposes of naming, framing, and deepening our commitment to protecting our economy, our eco systems, and our community from climate change."

The London Plan – A Green and Healthy City

The London Plan, London's Official Plan, incorporates community energy planning principles within the Green and Healthy City section of City Building Policies, including but not limited to:

- 719_ Green economic sectors and job clusters will be identified and the role that the City may play in facilitating employment growth in the green economy will be explored.
- 722_ Incentives may be used to encourage the regeneration of urban business areas and to support green business practices throughout the city.
- 724_ Green mobility will be promoted by establishing a city structure that supports rapid transit, transit-oriented design, active mobility, transportation demand management, intensification, and cycling infrastructure throughout the city.
- 725_ The City will explore opportunities for collaborative efforts with the development community to achieve excellence in green development.
- 728_ Green development standards will be promoted. The City may establish its own green standards. Low impact development approaches will be used for municipal infrastructure.
- 729_ Wherever possible, new developments will be planned to be “future ready” to accommodate the future use of solar energy, electric vehicles, and (where applicable) district energy systems. Standards may be developed to require that neighbourhoods or individual buildings are developed to meet specific sustainability measures or standards.
- 731_ Bonus zoning may be applied, in conformity with the Bonus Zoning policies in the Our Tools part of this Plan, in favour of incorporating sustainable development forms, technologies and techniques.
- 732_ Financial tools will be explored to promote improvements to the environmental performance of existing buildings through retrofits. Such incentives may include local improvement charges applied by the City to assist private property owners to undertake sustainable improvements to their property.
- 738_ District energy facilities and infrastructure, including expansion of existing district energy systems, will be encouraged for larger-scale redevelopment opportunities within the Primary Transit Area and Industrial Place Types.
- 740_ Opportunities for ground-sourced thermal energy use are encouraged in an effort to reduce overall energy production costs for redevelopment initiatives, including coordinated efforts to retrofit areas of urban neighbourhoods.
- 741_ The City of London will move toward a full fleet of energy-efficient cars and the most efficient medium- and heavy-duty vehicles practical and affordable, including appropriate employee education and training programs, in an effort to reduce the City's carbon footprint, and will encourage other local fleet operators to do the same.
- 1258_ The Waste Management Resource Recovery Area Place Type may permit the following, in conformity with the policies of this Plan: 1. Landfills. 2. Related uses necessary to the function, operation and education of all aspects of waste reduction, re-use, recycling, management, resource recovery, treatment and waste disposal. 3. Eco-Industrial Parks where industries are involved in the processing, fabricating, or manufacturing of products using materials available from the Waste Management Resource Recovery Area, including alternative energy sources.

Action Required – How You Can Help

There are two actions that we would like you to take:

Complete Part A - What your Organization Does and/or Can Do

Let us know what your organization has done or what you are going to do in the future to adapt to the impacts from climate change, reduce GHG emissions and/or become more sustainable and resilient (e.g., climate change mitigation or adaptation plans, sustainability plans, resiliency plans, environmental plans). What barriers are there to taking your climate actions? What can the City of London do to assist you in taking your climate actions? This includes letting us know if there are any new ideas your organization would be interested in exploring with the City of London and other partners to address the Climate Emergency.

Complete Part B - Development of the Climate Emergency Action Plan including a Focus on Actions for the City of London

Provide ideas and comments on the proposed actions provided in Appendix C, including where your organization can assist in the delivery of these actions as part of a Climate Emergency Action Plan. Can your organization lead or co-lead any of these actions? What actions can be added to this list and undertaken by others?

Options for Providing Input for Inclusion in the Draft CEAP

1. Complete Part A and/or Part B forms and send us your response by email.
2. Send a response that meets the needs of your organization and ties back to the Discussion Primer (e.g., a Letter or Statement of Support, a Letter of Commitment, a Statement from your organization outlining what it is planning to do in the near future, etc.).
3. Send reference to an existing, publicly-available document or website that outlines actions that have been taken, progress on new initiatives, and those under consideration by your organization (e.g., your company's sustainability reporting).
4. Send us a paragraph or two from your organization that could be included within the draft CEAP.
5. Request an on-line meeting (e.g., Zoom, Microsoft Teams, etc.) or conference call to ask questions and dialogue with project team members before selecting one or more of the above actions.

We would like to hear back from you by no later than January 15, 2021.

For more information, or to discuss this further, please contact any of the following team members via ClimateAction@london.ca, or directly via:

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There are a number of other City contacts that are also available including staff from Roads & Transportation, Planning, Building, Neighbourhoods and Investment & Partnerships.

Appendix A: Part A – What your Organization Does and/or Can Do

There have been numerous actions taken by individuals and organizations across London to adapt to the changing climate and reduce GHG emissions. In many cases, these actions are simply in line with good business practices (e.g., reducing costs). In other cases, organizations and businesses have taken actions to support community initiatives, employee relationships, etc. The City is interested in capturing examples of these actions as well as getting a better understanding of the plans or directions already in place at your organization. As a city, London is not just starting on the road to address the climate emergency, so it is important to acknowledge the strong efforts that have been completed and are ongoing to properly inform our CEAP.

Question	What has your organization done, and/or what are you planning to do in the future to adapt to the impacts from climate change (e.g., intense rainfall, high winds or tornados, extreme heat, drought, ice storms)?
Answer	

Question	What has your organization done, and/or what are you planning to do in the future to reduce GHG emissions (e.g., building energy efficiency & conservation, fleet greening, renewable energy, etc.)?
Answer	

Question	What barriers are there to taking your climate mitigation, adaptation, resiliency, sustainability actions?
Answer	

Question	What can the City of London do to assist you in taking these your Climate Emergency Plan actions? This includes letting us know if there are any new ideas your organization would be interested in exploring with the City of London and other partners to address the Climate Emergency (e.g., joint procurement, carpool coordination, etc.).
Answer	

Appendix B: Part B – Development of the Climate Emergency Action Plan including a Focus on Actions for the City of London

The City is requesting that you and your organization review the list of potential actions and supporting actions for inclusion in the CEAP that has been provided in *Appendix C – Climate Emergency Action Plan Actions for Discussion*. Categorized actions with supporting actions have been collected to start discussions around how best to move London toward the goal of net-zero GHG emissions and improved resiliency from climate change.

The actions have been organized into the following pillars, which are borrowed and slightly modified from the extensive community engagement efforts undertaken to inform London’s Official Plan update starting in 2013. The Climate Emergency impacts most parts of life in London, so these categories are meant to be helpful for organizing our thinking during CEAP development:

How We Live	Helping Londoners respond to and prepare for climate change at home
How We Green	Building a greener city by protecting and increasing natural resources in the built and natural environment
How We Move	Supporting low/no emission transportation choices and a transportation network that makes London easy to get around through active transportation and transit and is connected to the region
How We Grow	Ensuring London becomes a mixed-use compact city using green development and redevelopment standards and incentives
How We Prosper	Ensuring a City that is prosperous, innovative and climate change resilient

The City is looking for feedback on:

- The perceived importance or significance of actions and supporting actions (e.g., how significant are these actions to your organization?)
- Supporting actions within the pillars that your organization can play a role in. Proposed roles taken on any of the supporting actions could be one of leadership, co-leadership, partnership or support.
- Other actions and/or supporting actions that your organization or others could support that would strengthen the CEAP.

For quick reference and a high-level summary, the actions provided for discussion are listed here and are further described along with their supporting action details in *Appendix C – Climate Emergency Action Plan Actions for Discussion*.

How We Live: Helping Londoners respond to and prepare for climate change at home

No.	Action
1	Provide ongoing education and engagement on the necessity for community-wide action on the climate emergency.
2	Support and facilitate energy conservation, energy efficiency, renewable energy, and major energy retrofits of residential buildings.
3	Support and develop collaborative approaches to end energy poverty.
4	Support and encourage resource and waste management initiatives for London households.
5	Support and encourage urban agriculture and strengthen local food systems.
6	Assess and establish strategy to improve residential neighbourhood climate resilience.
7	Work with the Middlesex London Health Unit to improve human health resilience to climate change impacts.

How We Green: Building a greener city by protecting and increasing natural resources in the built and natural environment

No.	Action
1	Enhance the natural heritage system's resiliency in urban areas.
2	Enhance the natural heritage system's resiliency in rural areas.
3	Develop a land use carbon sequestration study with targets for conserving and managing natural and agricultural lands to retain and absorb greenhouse gases.
4	Advance the urban forest strategy including exploring reforestation of under-utilized agricultural land within London.
5	Collaborate with First Nations to ecologically restore lands.
6	Advance and enhance current efforts to improve the Thames River watershed health and resiliency.

How We Move: Supporting low/no emission transportation choices and a transportation network that makes London easy to get around through active transportation and transit and is connected to the region.

No.	Action
1	Accelerate the expansion and improvement of active transportation infrastructure.
2	Expand and improve public transit service, including higher-order transit.
3	Encourage and incent increased active transportation, public transit use & transportation demand management.
4	Reduce freight traffic load on secondary and tertiary roads.
5	Advocate for higher frequency and reliable regional transportation services and connections.
6	Encourage and support zero emissions vehicle and electric bicycle (e-bike) adoption.
7	Continue to improve resilience of transportation infrastructure.

How We Grow: Ensuring London becomes a mixed-use compact city using green development and redevelopment standards and incentives

No.	Action
1	Ensure new developments embody complete community attributes such as different forms of housing, opportunities for work and shopping, links to transportation, and green space.
2	Encourage and incentivize climate-friendly, sustainable new development and redevelopment.
3	Ensure long-term growth planning addresses the need for urgent climate change mitigation and adaptation to address the Climate Emergency.
4	Ensure new development is energy-wise & future-ready.
5	Ensure new development is climate emergency resilient.

How We Prosper: Ensuring a City that is prosperous, innovative and climate change resilient

No.	Action
1	Increase and encourage the installation of distributed renewable energy assets.
2	Improve City preparedness for dealing with extreme climate events.
3	Implement policies to improve data collection and use for improved climate monitoring, emergency response and optimization of electricity generation and distribution.
4	Advance more sustainable farming practices and increased local product consumption.
5	Continue to work with business community partners to advance sustainable business practices.
6	Work with the private sector to identify opportunities to leverage City assets and/or funds to activate private capital for climate action in the public and private sector.
7	Support and encourage resource and waste management initiatives for London businesses.

The following pages provide space to comment on each of the actions within the pillars and also provide room for additional actions and/or supporting actions to be added.

How We Live: Helping Londoners respond to and prepare for climate change at home

No.	Action			
1	Provide ongoing education and engagement on the necessity for community-wide action on the climate emergency			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				
2	Support and facilitate energy conservation, energy efficiency, renewable energy, and major energy retrofits of residential buildings			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				
3	Support and develop collaborative approaches to end energy poverty			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				
4	Support and encourage resource and waste management initiatives for London households			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				

5	Support and encourage urban agriculture and strengthen local food systems			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				
6	Assess and establish strategy to improve residential neighbourhood climate resilience			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				
7	Work with the Middlesex London Health Unit to improve human health resilience to climate change impacts			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				

Are there any additional actions that you think would strengthen the CEAP related to the “How We Live” pillar? If so, please provide your input here:

How We Green: Building a greener city by protecting and increasing natural resources in

No.	Action			
1	Enhance the natural heritage system's resiliency in urban areas.			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				
2	Enhance the natural heritage system's resiliency in rural areas.			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				
3	Develop a land use carbon sequestration study with targets for conserving and managing natural and agricultural lands to retain and absorb greenhouse gases.			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				

4	Advance the urban forest strategy including exploring reforestation of under-utilized agricultural land within London			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				
5	Collaborate with First Nations to ecologically restore lands.			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				
6	Advance and enhance current efforts to improve the Thames River watershed health and resiliency			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				

Are there any additional actions that you think would strengthen the CEAP related to the “How We Green” pillar? If so, please provide your input here:

How We Move: Supporting low/no emission transportation choices and a transportation network that makes London easy to get around through active transportation and transit and is connected to the region.

No.	Action			
1	Accelerate the expansion and improvement of active transportation infrastructure			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				
2	Expand and improve public transit service, including higher-order transit			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				
3	Encourage and incent increased active transportation, public transit use & transportation demand management			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				
4	Reduce freight traffic load on secondary and tertiary roads			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				

5	Advocate for higher frequency and reliable regional transportation services and connections			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				
6	Encourage and support zero emissions vehicle and electric bicycle (e-bike) adoption			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				
7	Continue to improve resilience of transportation infrastructure			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				

Are there any additional actions that you think would strengthen the CEAP related to the “How We Move” pillar? If so, please provide your input here:

How We Grow: Ensuring London becomes a mixed-use compact city using green development and redevelopment standards and incentives

No.	Action			
1	Ensure new developments embody complete community attributes such as different forms of housing, opportunities for work and shopping, links to transportation, and green space.			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				
2	Encourage and incentivize climate-friendly, sustainable new development and redevelopment			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				
3	Ensure long-term growth planning addresses the need for urgent climate change mitigation and adaptation to address the Climate Emergency			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				
4	Ensure new development is energy-wise & future-ready			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				

5	Ensure new development is climate emergency resilient			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				

Are there any additional actions that you think would strengthen the CEAP related to the “How We Grow” pillar? If so, please provide your input here:

How We Prosper: Ensuring a City that is prosperous, innovative and climate change resilient

No.	Action			
1	Increase and encourage the installation of distributed renewable energy assets			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				
2	Improve City preparedness for dealing with extreme climate events			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				
3	Implement policies to improve data collection and use for improved climate monitoring, emergency response and optimization of electricity generation and distribution			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				
4	Advance more sustainable farming practices and increased local product consumption			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				

5	Continue to work with business community partners to advance sustainable business practices			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				
6	Work with the private sector to identify opportunities to leverage City assets and/or funds to activate private capital for climate action in the public and private sector			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				
7	Support and encourage resource and waste management initiatives for London businesses			
Perceived Significance:	Not Important	Somewhat Important	Important	Very Important
How can you support this?				

Are there any additional actions that you think would strengthen the CEAP related to the “How We Prosper” pillar? If so, please provide your input here:

General Comments:

We welcome all comments and feedback on both the content and process of developing the CEAP. Do you have an idea for an event or outreach campaign to increase participation in the development of this plan? Please let us know!

Appendix C – Climate Emergency Action Plan Actions for Discussion

Action Types

Potential Actions and Supporting Actions are categorized based on the following action types:

- **Study or Studies:** To conduct research or strategic planning projects to establish direction on new or emerging areas of interest.
- **Policies:** To establish or update rules and regulations or to provide direction for projects, initiatives, or programs.
- **Procedures:** To develop and implement new ways of doing business or adapt existing practices and procedures to reduce GHG emission or build resiliencies.
- **Programs:** To continue or enhance ongoing activities in a core service area to reduce GHG emission or build resiliencies.
- **Projects:** To propose a one-time action to achieve specific outcomes to reduce GHG emissions or build resiliencies.
- **Pilot Projects:** To develop a “trial run” of an action, typically preceded by a feasibility study, that has the potential to become a future program for the City of London, but needs to be tested on a smaller scale.
- **Partnerships:** To collaborate with stakeholders (both internal and external) to advance climate action for the Corporation and in the community and advocate on behalf of the City to other levels of government to advance and support local climate action.

Ability to Implement

The estimated ability to implement each action has been characterized as either straightforward, reasonable or ambitious. These categories are intended to demonstrate the overall complexity involved with implementing each action at a high level.

Any action’s categorization doesn’t imply that all conditions of the category are met, but that the balance of issues surrounding the ability to implement place the action in the category (e.g. an action categorized as ambitious may require significant coordination across senior levels of government and significant disruptive change, but may not require significant or new investment; an action categorized as straightforward may have a strong investment payback and little individual behaviour change, but may require little technology change).

Ability to Implement	Description
Ambitious (A)	Significant Additional or New Investment No investment payback Significant Disruptive Change Significant Technology Change High level of coordination with Senior Governments Significant business behaviour change Significant Individual behaviour change
Reasonable (R)	Moderate Additional or New Investment Moderate investment payback

	Moderate Disruptive Change Moderate Technology Change Moderate coordination required with Senior Government Moderate business behaviour change Moderate individual behaviour change
Straightforward (S)	Little Additional or New Investment Strong investment payback Little Disruptive Change Little or No Technology Change Little coordination required with Senior Government Little business behaviour change Little individual behaviour change







Timing

The estimated timing for starting actions is identified as short-, medium-, or long-term and/or recurring as follows:

Icon/Text	Description	Detail
	Short Term	(1-3 years)
	Medium Term	(4-7 years)
	Long Term	(7+ years)
Recurring	Actions which happen on an ongoing basis	N/A

Potential Outcomes

In the tables below, the potential of GHG reduction actions and potential resiliency enhancement is identified as follows:

-  Lower potential for GHG reductions (<1,000 tonnes per year)
-  Medium potential of GHG reductions (1,000 to 10,000 tonnes per year)
-  High potential for GHG reductions (> 10,000 tonnes per year)
-  Lower potential for resiliency enhancement (e.g., lowers or avoids localized property damage or personal injuries)
-  Medium potential for resiliency enhancement (e.g., lowers or avoids widespread property damage or personal injuries)
-  High potential for resiliency enhancement (e.g., lowers or avoids widespread property destruction or loss of life)







How We Live: Helping Londoners respond to and prepare for climate change at home.

The following table provides a high-level summary of the types of actions and outcomes likely required for London to achieve net-zero emissions by 2050 and to be resilient to future extreme weather events.

By 2030	By 2040	By 2050
<p>Replacement heating systems will be net-zero energy/emission</p> <p>At least 10% of existing housing will be net-zero energy/emission</p> <p>At least 10% of existing housing will have extreme weather resiliency</p> <p>At least 50% of existing multi-family buildings will have "shelter-in-place" capabilities</p> <p>75% diversion and recovery rate from landfill for household waste</p>	<p>At least 50% of existing housing will be net-zero energy/emission</p> <p>At least 50% of existing housing will have extreme weather resiliency</p> <p>All multi-family buildings will have "shelter-in-place" capabilities</p> <p>80% diversion and recovery rate from landfill for household waste</p>	<p>All housing will be net-zero energy/emission buildings</p> <p>All housing will have extreme weather resiliency</p> <p>90% diversion and recovery rate from landfill for household waste</p>

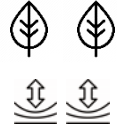

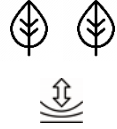



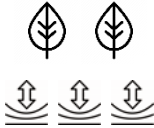

How We Live: Helping Londoners respond to and prepare for climate change at home

Action #1: Provide ongoing education and engagement on the necessity for community-wide action on the climate emergency.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Supporter
1-1	Continue to provide Londoners with the latest information on local greenhouse gas emissions and the expected impacts of climate change	Program	 	■□□	S	City	
1-2	Work with community partners to develop tools and resources to help Londoners and London businesses identify their contributions to greenhouse gas emissions and prepare for extreme weather events	Partnerships	 	■□□	S	City	City
1-3	Work with community partners to develop means to recognize those Londoners and London businesses who are providing local leadership on climate action	Partnerships	 	■□□	S	City	City

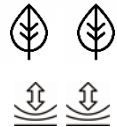





How We Live: Helping Londoners respond to and prepare for climate change at home.

Action #2: Support and facilitate energy conservation, energy efficiency, renewable energy, and major energy retrofits of residential buildings.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Supporter
2-1	Work with community partners to develop programs that engage London homeowners on energy conservation, energy efficiency, and renewable energy climate actions	Partnerships			R	City	
2-2	Work with energy utilities on promoting existing and innovative new energy conservation programs, including fuel-switching opportunities	Partnerships			R	City	
2-3	Develop and test a program for the use of Local Improvement Charges for funding major energy retrofits and climate adaptation measures for single family properties as well as multi-family buildings	Pilot Project			R	City	
2.4	Work with energy utilities to promote low/zero emission backup power and/or energy storage systems to power essential services for residential buildings so they may act as a safe haven for residents to shelter-in-place in the event of loss of power from the electricity grid.	Partnerships			A	City	





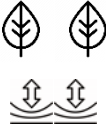



How We Live: Helping Londoners respond to and prepare for climate change at home.

Action #3: Support and develop collaborative approaches to end energy poverty.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
3-1	Work with community partners to develop programs that promote and encourage existing and new energy utility low income support programs	Partnerships			R		City
3-2	Explore municipal options for establishing minimum energy efficiency requirements for rental properties	Study			S	City	
3-3	Develop and test a program for the targeted use of local improvement charges (LICs) and/or Community Improvement Plans (CIPs) for funding major energy retrofits and climate adaptation measures for lower-income single family properties as well as multi-family buildings	Pilot Project			R	City	











How We Live: Helping Londoners respond to and prepare for climate change at home.

Action #4: Support and encourage resource and waste management initiatives for London households.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
4-1	Implement waste diversion and minimization activities as per the 60% Waste Diversion Action Plan	Plan			R	City	
4-2	Continue to work with community partners to implement food waste reduction initiatives	Partnerships			S	City	
4-3	Work with partners to develop tools and resources to help Londoners reduce their resource and material consumption and move towards a circular economy versus waste disposal (e.g., focus on local economy, projects such as the London Waste to Resources Innovation Centre)	Partnerships			R	City	
4-4	Explore opportunities to support equipment share co-op and shared ownership models for common equipment in residential communities	Partnerships			S	City	
















How We Live: Helping Londoners respond to and prepare for climate change at home.

Action #5: Support and encourage urban agriculture and strengthen local food systems.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
5-1	Work with partners to develop tools and resources to help Londoners grow their own food	Partnerships	 		S		City
5-2	Continue to implement and promote the Urban Agriculture Strategy	Partnerships	 		S/R	City	
5-3	Promote and support Middlesex London Health Unit and community partners championing climate-friendly diets	Partnerships	  		S		City

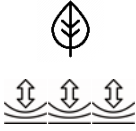

How We Live: Helping Londoners respond to and prepare for climate change at home.

Action #6: Assess and establish strategy to improve residential neighbourhood climate resilience.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
6-1	Work with partners to develop, design and promote the benefits of neighbourhood climate resilience including how to prepare for extreme weather events	Partnerships	 		R	City	
6-2	Review and expand existing City downspout disconnection, sump pump & sewer backflow valve programs	Programs, Projects, Pilot Projects	   		R	City	
6-3	Identify, communicate and promote homeowner-lead climate resilience improvements (e.g., hurricane clips, basement window well upgrades, grade adjustment for drainage, etc.)	Procedure	  		S	City	
6-4	Revise the Vital Services Bylaw to address changed heating and cooling requirements in apartment buildings due to the changing climate	Procedure	 		R/A	City	

How We Live: Helping Londoners respond to and prepare for climate change at home.

Action #7: Work with the Middlesex London Health Unit to improve human health resilience to climate change impacts.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
7-1	Support the Middlesex London Health Unit in implementing recommendations from the <i>Assessment of Vulnerability to the Health Impacts of Climate Change in Middlesex-London</i> report (2014)	Partnerships		---□	S		City
7-2	Work with the Middlesex London Health Unit to review and update the human health impacts of climate change	Partnerships		---□	S		City

How We Green: Building a greener city by protecting and increasing natural resources in the built and natural environment.

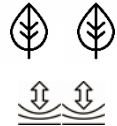



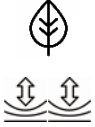

The following table provides a high-level summary of the types of actions and outcomes likely required in order for London to achieve net-zero emissions by 2050 and to be resilient to future extreme weather events.

By 2030	By 2040	By 2050
10% increase in CO ₂ sequestered & GHG emissions avoided due to conservation and management of natural and agricultural lands 28% tree cover within the urban area Steady improvements in subwatershed health categories* (i.e. water quality, forest condition, land perviousness)	20% increase in CO ₂ sequestered & GHG emissions avoided due to conservation and management of natural and agricultural lands 30% tree cover within the urban area Improve subwatershed water quality score* by one grade (e.g. D to C, C to B)	30% increase in CO ₂ sequestered & GHG emissions avoided due to conservation and management of natural and agricultural lands 32% tree cover within the urban area Improve all subwatershed health categories* by one grade

*Using criteria from the 2017 UTRCA Watershed Report Card baseline report for the London subwatersheds with a minimum 50% subwatershed area within London

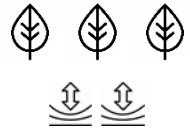

How We Green: Building a greener city by protecting and increasing natural resources in the built and natural environment.

Action #1: Enhance the natural heritage system’s resiliency in urban areas.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
1-1	Review City property for potential tree-planting and natural habitat improvement opportunities	Study			S	City	
1-2	Review natural heritage connection / corridor requirements for new development	Policies			R	City	
1-3	Assess the need, opportunity and implementation of septic system phase-out within urban boundary to improve water quality	Study			S	City	


How We Green: Building a greener city by protecting and increasing natural resources in the built and natural environment.

Action #2: Enhance the natural heritage system’s resiliency in rural areas.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
2-1	Create and implement protection and “set-aside” programs (ecological reserves, forests, woodlots, shelterbelts and wetlands) to increase the carbon component of land and encourage natural pest control near agricultural lands	Policies			R	City	

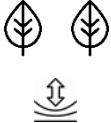
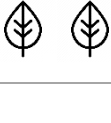
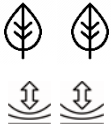
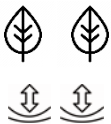
How We Green: Building a greener city by protecting and increasing natural resources in the built and natural environment.

Action #3: Develop a land use carbon sequestration study with targets for conserving and managing natural and agricultural lands to retain and absorb greenhouse gases (GHGs).

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
3-1	Create and regularly update estimates for carbon sequestration rates from trees, environmentally significant areas and other natural areas, and agricultural lands on both public and private land for inclusion in the community GHG emissions inventory	Procedure	N/A	■□□	R	City	
3-2	Assess through measurement connectivity, ecosystem health and area of the natural heritage system	Study	N/A	■□□	S	City	
3-3	Assess, track and improve the permeability of urban lands through Low Impact Development (LID) and de-paving initiatives	Study		■□□	S	City	

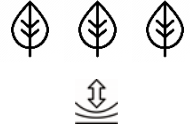

How We Green: Building a greener city by protecting and increasing natural resources in the built and natural environment.

Action #4: Advance the urban forest strategy including exploring reforestation of under-utilized agricultural land within London.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
4-1	Increase tree planting targets for the City's TreeMe program	Program		■■■□	R	City	
4-2	Reduce frequency and area of lands being mowed, and restore with native species	Procedure		■■■□	S	City	
4-3	Enhance the resiliency and connectivity of the natural heritage System through ecological restoration with a focus on potential naturalization areas (including those identified on London Plan Map 5 - Natural Heritage)	Procedure		■■■□	S/R	City	
4-4	Work with partners to develop and test the reforestation of under-utilized agricultural land, or portions thereof, outside of the urban growth boundary.	Pilot Project		■■■□	S	City	

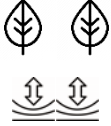
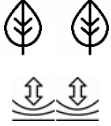



How We Green: Building a greener city by protecting and increasing natural resources in the built and natural environment.

Action #5: Collaborate with First Nations to ecologically restore lands.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
5-1	Consult with First Nations and Indigenous Partners to investigate the potential use of Traditional Ecological Knowledge and practices in developing and implementing restoration plans	Partnership			S/R		

How We Green: Building a greener city by protecting and increasing natural resources in the built and natural environment.

Action #6: Advance and enhance current efforts to improve the Thames River watershed health and resiliency.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
6-1	Improve watershed health and resiliency by implementing recommendations regarding watershed health (e.g., forest cover, groundwater and surface water) as identified in Watershed Studies, Strategies and Report Cards	Partnerships		---□	A	City	
6-2	Implement recommendations from the River Management Plan (One River EA), the Shared Waters Approach (Thames River Clear Water Revival) and the Thames Valley Corridor Action Plan	Procedure		---□	R/A	City	
6-3	Advance the management of priority invasive species with a focus on the Thames River corridor	Procedure		---□	S/R	City	
6-4	Improve water quality in the Thames River by continuing implementation of recommendations of the Pollution Prevention and Control Master Plan and Combined Sewer Separation Program	Procedure		---□	R/A	City	
6-5	Improve water quality in the Thames River (and Kettle Creek) and reduce carbon emissions by increasing uptake of no till and cover crop farming practices	Procedure		---□	R		

















How We Move: Supporting low/no emission transportation choices and a transportation network that makes London easy to get around through active transportation and transit

The following table provides a high-level summary of the types of actions and outcomes likely required in order for London to achieve net-zero emissions by 2050 and to be resilient to future extreme weather events.

By 2030	By 2040	By 2050
<p>At least 50% of new light-duty vehicles sold in London are electric</p> <p>All new buildings provide charging stations for electric vehicles and bikes</p> <p>At least 10% fewer personal vehicles per capita than 2020</p> <p>At least 20% of daily trips made by transit</p> <p>At least 15% of daily trips made by walking & biking</p> <p>No more than 60% of daily trips made by personal vehicles</p> <p>All transit vehicles are zero-emission vehicles</p> <p>All vehicles-for-hire are zero-emission vehicles</p> <p>At least 25% of heavy-duty vehicles and off-road equipment are zero-emission</p> <p>At least 5% of inter-urban trips made by passenger rail or bus</p> <p>All new roads built using low-impact development stormwater management practices</p>	<p>All new light-duty vehicles sold in London are electric</p> <p>At least 30% fewer personal vehicles per capita than 2020</p> <p>At least 30% of daily trips made by transit</p> <p>At least 25% of daily trips made by walking & biking</p> <p>No more than 40% of daily trips made by personal vehicles</p> <p>At least 50% of heavy-duty vehicles and off-road equipment are zero-emission</p> <p>At least 25% of inter-urban trips made by passenger rail or bus</p> <p>At least 50% of existing roads built using low-impact development stormwater management practices.</p>	<p>All light-duty vehicles in London are electric</p> <p>At least 50% fewer personal vehicles per capita than 2020</p> <p>At least 40% of daily trips made by transit</p> <p>At least 35% of daily trips made by walking & biking</p> <p>No more than 20% of daily trips made by personal vehicles</p> <p>All heavy-duty vehicles and off-road equipment are zero-emission</p> <p>At least 50% of inter-urban trips made by passenger rail or bus</p> <p>All existing roads built using low-impact development stormwater management practices</p>

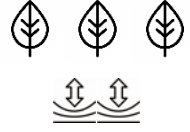

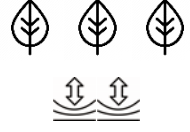

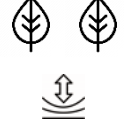



How We Move: Supporting low/no emission transportation choices and a transportation network that makes London easy to get around through active transportation and transit

Action #1: Accelerate the expansion and improvement of active transportation infrastructure.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
1-1	Accelerate the expansion of the City-wide shared use off-road pathway system (e.g., Thames Valley Parkway) system	Partnerships	 		R/A	City	
1-2	Develop and deploy publicly accessible secure bike storage facilities in major destinations (e.g., Downtown London, Old East Village, and along the higher-order transit corridors, etc.)	Program, Projects, Pilot Projects			R	City	
1-3	Establish requirements for new commercial and multi-family buildings to provide secure bike storage facilities for their tenants	Procedure			R	City	
1-4	Accelerate completion of a connected, city-wide all ages & abilities (AAA) cycling network as provided in the City's Cycling Master Plan.	Programs and Projects	  		R/A	City	
1-5	Ensure that all residential streets have dual-side sidewalks, as required for street (re)development (as per LP349), in a manner that preserves existing street boulevard trees	Procedure, Programs and Projects	 		S/R	City	
1-6	Revise winter maintenance practices to place a higher service level for snow and ice clearing on sidewalks, transit stops, and AAA cycling infrastructure	Procedure	 		R/A	City	














How We Move: Supporting low/no emission transportation choices and a transportation network that makes London easy to get around through active transportation and transit and is connected to the region.

Action #2: Expand and improve public transit service, including higher-order transit.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
2.1	Convert 100% of LTC's bus fleet to zero-emission vehicles (based on study results, LTC approval and City approval)	Study Partnerships			R/A	LTC	
2-2	Implement a network of higher-order transit and high-frequency express bus routes as envisioned as part of the City's Transportation Master Plan	Program			R/A	City LTC	
2-3	Establish transit priority lanes and other on-road prioritization measures to support higher-order transit and high-frequency express bus routes	Program			R/A	City	
2-4	Identify and implement first/last mile connectivity solutions for under-served areas, with a focus on active transportation	Pilot Project			R	City LTC	






How We Move: Supporting low/no emission transportation choices and a transportation network that makes London easy to get around through active transportation and transit and is connected to the region.

Action #3: Encourage and incent increased active transportation, public transit use & transportation demand management as envisioned by the City’s Transportation Master Plan and Cycling Plan.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
3-1	Provide support for micro-mobility (e.g., e-scooter/bike share) service(s)	Partnerships	 	---□	R	City	
3-2	Establish a Transportation Management Association(s) for London employers to promote telework, bike/walk to work, transit, carpooling	Programs	   	---□	S/R	City	
3-3	Develop programs to attract new riders to public transit	Programs	  	---□	R	LTC	City
3-4	Support implementation of gateway parking and transit connection(s)	Partnerships	 	---□	R	City	
3-5	Explore the use of time-specified car-free periods in high-volume pedestrian areas such as Dundas Place and/or school zones	Pilot Project	 	---□	S	City	

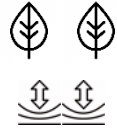
How We Move: Supporting low/no emission transportation choices and a transportation network that makes London easy to get around through active transportation and transit and is connected to the region.

Action #4: Reduce freight traffic load on secondary and tertiary roads.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
4-1	Create a Goods Movement Strategy to foster a safe, convenient, efficient, multi-modal, sustainable, and integrated goods movement transportation system	Study Partnerships	 		R/A		
4-2	Encourage and support the use of zero-emission delivery services	Partnerships			S		










How We Move: Supporting low/no emission transportation choices and a transportation network that makes London easy to get around through active transportation and transit and is connected to the region.

Action #5: Advocate for higher frequency and reliable regional transportation connections.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
5-1	Advocate for a regional transportation system that supports London as a regional transit hub and provides frequent and reliable connections to the Greater Toronto Area, Waterloo Region and Windsor-Detroit	Partnerships		---	A		



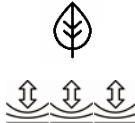

How We Move: Supporting low/no emission transportation choices and a transportation network that makes London easy to get around through active transportation and transit and is connected to the region.

Action #6: Encourage and support zero emissions vehicle and electric bicycle (e-bike) adoption.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
6-1	Revise the Vehicle-for-Hire By-Law to mandate the use of hybrid, electric, or other zero-emission vehicles	Procedure	 		R	City	
6-2	Provide public electric vehicle and e-bike charging at major community facilities	Program	 		R	City	
6-3	Establish minimum electric vehicle and e-bike charging requirements for new multi-family and commercial buildings	Policy	 		R	City	

How We Move: Supporting low/no emission transportation choices and a transportation network that makes London easy to get around through active transportation and transit and is connected to the region.

Action #7: Improve resilience of transportation infrastructure.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
7-1	Explore the use of roadway construction materials and practices that are more sustainable and tolerant to climatic conditions as well as reduce the urban heat island effect	Study		▬▬▬	S	City	
7-2	Explore the use of technical reviews and assessments for major projects to ensure that infrastructure is built to be resilient and sustainable over its lifespan	Procedures		▬▬▬	S/R	City	
7-3	Increase incentives for the adoption of LIDs and permeable materials (public and private lands) for improved stormwater management of transportation infrastructure (e.g. changes to the stormwater rate structure)	Procedures		▬▬▬	R/A	City	
7-4	Review flooding potential on roads (slope and topography) with a focus on primary roads and emergency routes	Study		▬▬▬	S	City	

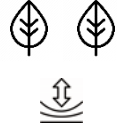

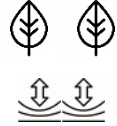

How We Grow: Ensuring London becomes a mixed-use compact city using green development and redevelopment standards and incentives.

The following table provides a high-level summary of the types of actions and outcomes likely required in order for London to achieve net-zero emissions by 2050 and to be resilient to future extreme weather events.

By 2030	By 2040	By 2050
<p>All new housing will be net-zero energy/emission or net-zero ready</p> <p>The majority of new multi-family residential buildings will have “shelter-in-place” capabilities (back-up power, shelter space, etc.)</p> <p>All new developments will be net zero energy/emissions or net-zero ready</p> <p>The majority of new developments built with Low Impact Development features</p> <p>All new developments will preserve existing natural habitats</p> <p>At least 35% of new development is infill development</p> <p>At least 35% of new development is medium-to-high density</p>	<p>All new housing will be net-zero energy/emission</p> <p>All new multi-family residential buildings will have “shelter-in-place” capabilities (back-up power, shelter space, etc.)</p> <p>All new developments will be net zero energy/emissions</p> <p>All new developments built with Low Impact Development features</p> <p>At least 45% of new development is infill development</p> <p>At least 50% of new development is medium-to-high density</p>	<p>At least 60% of new development is infill development</p> <p>At least 75% of new development is medium-to-high density</p>

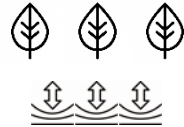

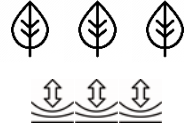



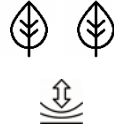

How We Grow: Ensuring London becomes a mixed-use compact city using green development and redevelopment standards and incentives.

Action #1: Ensure new developments embody complete community attributes such as different forms of housing, opportunities for work and shopping, links to transportation, and green space.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Contribute
1-1	Require a development-specific transportation demand management plan with any new development application, with level of effort based upon size of the development being proposed	Policy			R	City	
1-2	Provide guideline documents to assist with the implement of the mixed-use development requirements	Procedure			S	City	

How We Grow: Ensuring London becomes a mixed-use compact city using green development and redevelopment standards and incentives.

Action #2: Encourage and incentivize climate-friendly, sustainable new development and redevelopment.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
2-1	Create Green Development Standards, an implementation checklist, and establish administrative triggers for Standards application	Policy			R/A	City	
2-2	Explore and test potential financial & administrative incentives to promote adoption of Green Development Standards	Pilot Project			R	City	
2-3	Engage with local real estate stakeholders to encourage adoption of the EnerGuide home energy rating system in real estate listings	Partnerships			S		City
2-4	Explore area rating development charges to incent 'inward and upward' development (denser, and more compact)	Study			S	City	

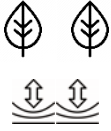
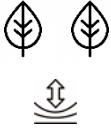
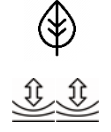

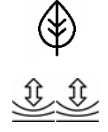

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Action #3: Ensure long-term growth planning addresses the need for urgent climate change mitigation and adaptation to address the Climate Emergency.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
3-1	Update the London Plan’s analysis of growth scenarios to reflect climate emergency mitigation and adaptation considerations	Study	N/A	■■■□	S	City	
3-2	Increase intensification target (35% intensification by 2030, increasing thereafter)	Policy	🌿 🌿	■■□□	R/A	City	
3-3	Maintain urban growth boundary to protect agricultural lands	Policy	🌿	■■□□	R/A	City	

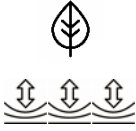
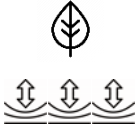
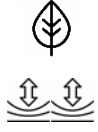
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Action #4: Ensure new development is energy-wise & future-ready.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
4-1	Establish requirements for a development-specific energy management plan with any new development application and compliance with Green Development Standards	Policy			R/A	City	
4-2	Create guideline for satisfying development-specific energy management planning requirement	Study			S	City	
4-3	Create policies for new developments to include EV charging and renewable energy generation (future-ready)	Policy			R	City	

How We Grow: Ensuring London becomes a mixed-use compact city using green development and redevelopment standards and incentives.

Action #5: Ensure new development is climate emergency resilient.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
5-1	Create guidelines to encourage severe weather-resilient building construction (e.g., roof hurricane clips, sewer back-up valves, prohibition on downspout connection to municipal sewers, etc.)	Policy		---□	S/R		
5-2	Incorporate on-site infiltration and/or storage and use of stormwater (e.g., Low Impact Development) in Site Plan Design Manual	Procedure		---□	R/A		
5-3	Maximize retention and enhancement of existing natural heritage features for their ecological goods and services	Policy		---	S		

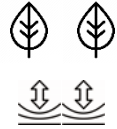
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The following table provides a high-level summary of the types of actions and outcomes likely required in order for London to achieve net-zero emissions by 2050 and to be resilient to future extreme weather events.

By 2030	By 2040	By 2050
<p>At least 10% of London’s electricity needs provided by local renewable generation</p> <p>At least 5% of London’s natural gas needs provided by “green gas” (e.g., biomethane, hydrogen)</p> <p>“Smart grid” technology used by marketplace leaders</p> <p>Zero-emission Connected & Automated Vehicle (CAV) service providers in pilot phase</p> <p>Local pilot projects for creating and selling carbon offsets from local projects</p> <p>Local pilot projects for engineered carbon capture and storage</p> <p>60% diversion rate from landfill for business waste (e.g., London Waste to Resources Innovation Centre)</p> <p>Larger-scale urban food production in pilot phase</p> <p>Food rescue programs from grocery stores and restaurants is common practice</p> <p>Opportunities for other local environmental investments and levels of recognition and reward</p>	<p>At least 30% of London’s electricity needs provided by local renewable generation</p> <p>At least 15% of London’s natural gas needs provided by “green gas” (e.g., biomethane, hydrogen)</p> <p>“Smart grid” technology use is widespread</p> <p>Zero-emission CAV service providers integral part of London’s public transportation network</p> <p>Selling and purchasing of locally created carbon offsets is a common practice</p> <p>Engineered carbon capture and storage used by some large local users of natural gas</p> <p>75% diversion rate from landfill for business waste</p> <p>Circular economy is integral part of London’s economy (e.g., London Waste to Resources Innovation Centre)</p> <p>Urban food production is common</p> <p>Food rescue programs from grocery stores and restaurants is widespread</p>	<p>At least 50% of London’s electricity needs provided by local renewable generation</p> <p>At least 50% of London’s natural gas needs provided by “green gas” (e.g., biomethane, hydrogen)</p> <p>Residual use of natural gas is offset by a mix of local and global carbon sequestration and/or carbon capture and storage projects</p> <p>Urban food production is widespread</p> <p>90% diversion rate from landfill for business waste</p>

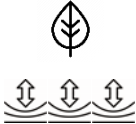

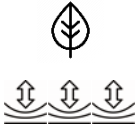

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Action #1: Increase and encourage the installation of distributed renewable energy assets.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
1-1	Review London’s electricity distribution system to identify areas with capacity for additional renewable electricity generation.	Study	N/A	▬▬▬▬	S/R		City
1-2	Review London’s gas distribution system to identify areas with capacity for additional “green gas” (i.e., biomethane and/or hydrogen) gas injection.	Study	N/A	▬▬▬▬	S/R		City
1-3	Explore programs to encourage distributed renewable electricity generation and green gas investment in areas with system capacity.	Pilot Project		▬▬▬▬	S/R		



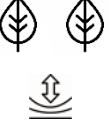

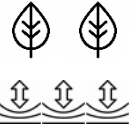

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Action #2: Improve City preparedness for dealing with extreme climate events.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
2-1	Explore potential for formal neighbourhood-scale emergency preparedness and response group support	Partnerships			S/R	City	
2-2	Review readiness of City emergency response process to address extreme weather emergencies	Procedures			S	City	







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Action #3: Implement policies to improve data collection and use for improved climate monitoring, emergency response and optimization of electricity generation and distribution.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
3-1	Advance a data collection and use strategy for London that incorporates climate change mitigation and adaptation actions.	Plan			S	City	
3-2	Complete strategy for connected and automated vehicles that discourages single-occupancy use, encourages shared ownership/service models, complements London’s public transportation system, prioritizes pedestrian and cyclist road users, and employs zero-emission vehicles	Plan			S	City	
3-3	Work with energy utilities to implement smart grid strategies to support climate resiliency, such as EV-to-grid connectivity, solar PV and battery storage, surplus power-to-gas hydrogen generation	Pilot Projects			S		City

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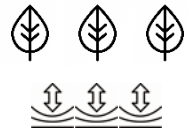

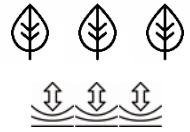

Action #4: Advance more sustainable farming practices and increased local product consumption.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
4-1	Review & revise zoning by-law Z-1 to ensure smaller, family-run farms are not discouraged	Policy	 		S	City	
4-2	Engage regional stakeholders to review food processing infrastructure and potential needs for increased agricultural development	Study	 		S		City

* Refer also to How We Green Actions 2-1, 4-4 and 6-5

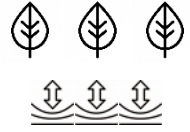

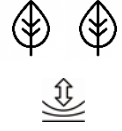

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Action #5: Continue to work with business community partners to advance sustainable business practices.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
5-1	Continued promotion and advancement of Green Economy London and other environmental initiatives for businesses	Procedure			S		City
5-2	Define and encourage the growth of employment in the green products and services sector in London	Partnership			S		City





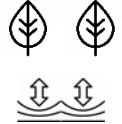



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Action #6: Work with the private sector to identify opportunities to leverage City assets and/or funds to activate private capital for climate action in the public and private sector.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
6-1	Explore green bonds and green revolving funds as potential financing options for increased investment in climate-resilient infrastructure and CEAP initiatives	Study			S		
6-2	Explore the feasibility of creating and facilitating local carbon offset projects to provide funding support	Partnerships			R	City	

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Action #7: Support and encourage resource and waste management initiatives for London businesses.

Supporting Actions		Action Type	Potential Impacts	Timeline	Ability to Implement	Responsibilities	
						Lead/Co-lead	Partner/Support
7-1	Implement waste diversion and minimization activities that support the 60% Waste Diversion Action Plan	Plan			R/A	City	
7-2	Continue to work with community business partners to implement food waste reduction initiatives at grocery stores and restaurants	Partnerships			S	City	
7-3	Work with partners to develop tools and resources to help London businesses reduce their use of packaging	Partnerships			S	City	
7-4	Support and promote London businesses playing a role in developing local circular economy solutions (e.g., London Waste to Resources Innovation Centre)	Partnerships			S	City	