

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON AUGUST 22, 2016
FROM:	JAY STANFORD DIRECTOR, ENVIRONMENT, FLEET, & SOLID WASTE
SUBJECT:	ONTARIO'S CLIMATE CHANGE ACTION PLAN – INITIAL IMPACT AND ALIGNMENT WITH LONDON'S CURRENT PLANS, PROGRAMS AND PROJECTS

RECOMMENDATION

That, on the recommendation of the Director of Environment, Fleet and Solid Waste, this report on the impact and alignment of Ontario's new Climate Change Action Plan with London's existing plans and programs **BE RECEIVED** for information.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

Numerous relevant reports can be found at www.london.ca under City Hall (Meetings) including:

- Report to the June 13, 2016 Planning and Environment Committee (PEC) Public Participation Meeting, Adoption of The London Plan (Agenda Item #2), AND
- Report to the June 8, 2016 Civic Works Committee (CWC) Meeting, Community Energy Action Plan – Update and Status (Agenda Item #11)

STRATEGIC PLAN 2015-2019

Municipal Council has recognized the importance of climate change mitigation, climate change adaptation, related environmental issues and the need for a more sustainable city in its 2015-2019 - Strategic Plan for the City of London ([2015 – 2019 Strategic Plan](#)) as follows:

Strengthening Our Community

- Vibrant, connected and engaged neighbourhoods
- Healthy, safe, and accessible city

Building a Sustainable City

- Robust infrastructure
- Convenient and connected mobility choices
- Strong and healthy environment
- Responsible growth

Growing our Economy

- Urban regeneration
- Local, regional, and global innovation
- Strategic, collaborative partnerships

Leading in Public Service

- Proactive financial management
- Collaborative, engaged leadership
- Excellent service delivery

BACKGROUND

PURPOSE:

The purpose of this report is to provide Committee and Council with a report on the initial impact and alignment of Ontario's new [Climate Change Action Plan](#) with London's major existing and proposed plans (strategies), programs and projects dealing with climate change including Council's [2015 – 2019 Strategic Plan](#), [The London Plan](#) and [London's Community Energy Action Plan](#) (CEAP).

CONTEXT:

On June 8, 2016, the Province of Ontario published its [Climate Change Action Plan](#), which has the following eight action areas:

1. **Transportation:** Becoming a North American leader in low-carbon and zero-emission transportation
2. **Buildings and homes:** Reduce emissions from fossil-fuel use in buildings
3. **Land-use planning:** Support low-carbon communities
4. **Industry and business:** Keeping Ontario competitive: A strong center of modern, clean manufacturing and jobs
5. **Collaboration with Indigenous communities:** Partner to reduce emissions and transition to a low-carbon economy
6. **Research and development:** Focus on climate science and zero-carbon breakthroughs
7. **Government:** Move toward a carbon neutral public service
8. **Agriculture, forests and lands:** Productive, sustainable, and a pathway to creating offsets

Funding for the provincial actions will come from revenue collected from the upcoming greenhouse gas emissions Cap and Trade program that will be applied to large emitters (i.e., facilities that emit more than 25,000 tonnes per year of greenhouse gas emissions) and fossil fuel distributors (i.e., suppliers of diesel, gasoline, and natural gas.) The province estimates that it will collect about \$1.8 to \$1.9 billion per year in proceeds from the Cap and Trade program (May 19, 2016).

It is expected that fossil fuel distributors will pass along these costs to those energy users that are not under the cap and trade program, acting as a de facto carbon tax for energy consumers.

DISCUSSION:

Background – City of London – Our Structure and Action

A collaborative and responsive approach to managing and improving the natural and built environment in London has been in place for decades. Over the last 25 years, this approach has evolved further with more defined and integrated plans (strategies), programs and projects that generally address these five areas of focus and action:

1. Protecting and enhancing our natural environment
2. Reducing impact of our built environment
3. Pursuing environmental sustainability
4. Balancing financial sustainability and environmental investments
5. Fostering citizen and business stewardship to encourage behaviours that reduce environmental impact

To summarize, protecting and improving the natural environment in London requires both a continuous improvement philosophy and a shared responsibility philosophy that is Collaborative, Connected, and Integrated.

The City of London currently achieves this through the actions and leadership of several Service Areas:

- Environmental & Engineering Services
- Planning
- Neighbourhood, Children & Fire Services
- Development & Compliance Services
- Parks & Recreation
- Corporate Services

With respect to climate change, the City of London has limited direct control over how much energy is used in London, but it does have influence on how it is consumed. The control over energy use in London rests primarily with our citizens, visitors, employers and employees. Individual and collective action with respect to sustainable energy use, energy management, and energy conservation is critical for our future. However, the City of London does have direct control of energy use in City facilities and operations.

In addition to the Strategic Plan, the London Plan and London's Community Energy Action Plan (CEAP), Ontario's new Climate Change Action Plan will be connected to many current and in-progress plans, programs and projects such as:

- Active & Green Communities engagement pilot project
- Active Transportation and Transportation Demand Management including Active and Safe Routes to School and a portion of the Parking Strategy (in progress)
- Climate Change Adaptation Strategy (in progress)
- Community Improvement Plans
- Corporate Energy Conservation & Demand Management (CDM) Plan including the Street Light Energy Plan
- Green Development Strategy (2017 or 2018)
- Green Fleet Strategy Update (in progress)
- Heritage Conservation
- London ON Bikes Cycling Master Plan (in progress)
- NeighbourGood London: London Strengthening Neighbourhoods Strategy
- Parks & Recreation Master Plan and programming
- Pollution Prevention and Control Plan
- Resource Recovery Strategy (in progress; waste reduction and diversion programs)
- Shift – London's Rapid Transit Initiative (in progress)
- Smart Moves - 2030 Transportation Master Plan
- Source Water Protection Plan
- Stormwater and watershed management programs
- Thames River Clear Water Revival Project
- Urban Design Program
- Urban Forest Strategy and programming
- Water conservation and efficiency programs

An overview of many key City of London plans, programs and projects related to climate change mitigation and adaptation is contained in Appendix A. It is important to note that many individual projects and on-going programming also make important contributions to climate change action and environmental protection in London and throughout the region.

Why is Ontario's new Climate Change Action Plan Important?

Unlike the City of London, the Province of Ontario does have more ability to control aspects of how energy is used in the province, through tools such as regulations, codes and standards, and policy mandates for energy utilities. The pace at which Londoners take action on climate change is influenced significantly by these measures.

However, like the City of London, the Province of Ontario still has to rely on its abilities to influence the general public and businesses to take action on energy use and climate change, as control over how energy is used still sits with the energy consumer. This is an opportunity for the City of London to work in partnership with the Province of Ontario, given that municipal government is the level of government with the strongest relationships with Londoners and London businesses.

Ontario's new Climate Change Action Plan is an ambitious plan that recognizes many of the same priorities identified by London's Community Energy Action Plan, specifically the need to address transportation energy use and thermal energy needs for space heating and water heating. It also recognizes the critical role that land use planning plays in influencing energy use, in particular the importance of development that supports walking, cycling, and transit as outlined in the London Plan.

What areas of Ontario's new Climate Change Action Plan Will Impact Londoners & London?

All eight actions areas will have an impact on London. However, the first three action areas – Transportation, Buildings and Homes, Land-use Planning – have the most significant impact and alignment with existing City of London plans, programs and projects. Highlights of the action areas of most interest to London include:

- Some of the provincial actions will be funded and administered through a proposed **Green Bank**, modelled upon similar entities used in American states such as New York and Vermont, to provide financing for energy-efficient and low-carbon technologies for homeowners and businesses. The proposed **Green Bank** and its flexible low-interest financing for greenhouse gas-reducing energy improvements for homes and commercial buildings fulfils the same need and function as the proposed Property-Assessed Clean Energy (PACE) included within the 2015-2019 - Strategic Plan;
- A number of **new electric vehicle incentives**, which will help reduce greenhouse gas emissions from personal vehicles, the largest source of greenhouse gas emissions in London;
- The proposed **renewable natural gas** content requirement for the province's natural gas supply **from sources such as landfills and municipal organics management collection** provides new opportunities for the utilization of landfill gas from the W12A Landfill and the potential for utilization of biogas from a future organics management program in London;
- Allowing municipalities to establish their own **green development standards** and **mandating climate change mitigation and adaption within official plans**, both of which have already been incorporated into the new London Plan;
- Funding for **cycling infrastructure** and **transportation demand management plans** that will support the Smart Moves 2030 Transportation Master Plan, London ON Bikes Cycling Master Plan and the Parking Strategy (in progress); and
- The proposed **matching provincial funding for emissions reduction projects** proposed by municipalities that already have community energy plans will help with the implementation of London's CEAP and Corporate Energy Conservation & Demand Management (CDM) Plan.

Appendix B provides an overview of Ontario's new Climate Change Action Plan and the impact and alignment with many City of London plans, programs and projects.

How Will It Impact Londoners & London?

Ontario's new Climate Change Action Plan provides both costs and benefits, including:

- **Financial costs** – through Cap & Trade, a carbon pricing mechanism will be placed on fossil fuel use. The literature identifies that carbon pricing is widely recognized by economists as the best mechanism for reducing greenhouse gas emissions, compared to alternatives such as regulatory controls. Based on the current carbon price forecast of \$18 per tonne for 2017, a report prepared for the Province (Impact Modelling and Analysis of Ontario Cap and Trade Program; EnviroEconomics, Navius Research, and Dillon Consulting, May 17, 2016) estimates carbon pricing will add 4.3 cents a litre to the price of gasoline (about \$8 per month for a household) and 3.3 cents per cubic metre to the price of natural gas (about \$5 on the average monthly bill for households). Compared to recent market price history for gasoline and natural gas, the impact of carbon pricing is relatively modest.
- **Financial benefits** – revenue collected through Cap & Trade will be used to fund new incentive measures for households and businesses. Once taken, these energy-saving measures will then provide ongoing cost savings.

- **Environmental benefits** – not only does the plan focus on greenhouse gas (GHG) reductions, reducing transportation-related GHG emissions use in London also improves local air quality by reducing smog-forming emissions from burning gasoline and diesel.
- **Local job creation** - investing in energy-saving retrofits, local sustainable energy projects, and local energy production creates local jobs.

ACKNOWLEDGEMENTS:

This CWC report was prepared with assistance from Mark Johnson, Planner II (Long Range Planning and Research). Details on the various plans, programs and projects include contributions and actions from many different City staff across the organization.

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Appendix A Overview of City of London Plans, Programs and Projects Related to Climate Change Mitigation and Adaptation

Appendix B Overview of Ontario's new Climate Change Action Plan and the Alignment with City of London Actions

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Appendix A

Overview of City of London Plans, Programs and (Major) Projects Related to Climate Change Mitigation and Adaptation

An overview of many key City of London plans, programs and projects related to climate change mitigation and adaptation is provided in this Appendix. It is important to note that many other individual projects and on-going programming also make important contributions to climate change action and environmental protection in London and throughout the region.

Listed in Alphabetical Order

- Active & Green Communities engagement pilot project
- Active Transportation and Transportation Demand Management including Active and Safe Routes to School and a portion of the Parking Strategy (in progress)
- Climate Change Adaptation Strategy (in progress)
- Community Energy Action Plan (CEAP)
- Community Improvement Plans
- Corporate Energy Conservation & Demand Management (CDM) Plan including the Street Light Energy Plan
- Green Development Strategy (2017 or 2018)
- Green Fleet Strategy Update (in progress)
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- London ON Bikes Cycling Master Plan (in progress)
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- Urban Forest Strategy and programming
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Active & Green Communities engagement pilot project

Active & Green Communities is a community engagement pilot project addressing concerns about our environment, health, household finances, and community wellbeing. It provides a two-way exchange of ideas between participating communities and the City (and its partners) through simple and convenient access to programs and information from the City of London and partners. Active & Green Communities also provides “test markets” for small-scale pilot projects to test new tools and ideas.

The Active & Green Calculator is based on Project Neutral’s CarbonShift calculator, modified for use in London through the incorporation of energy mapping data to provide Londoners with the ability to compare their energy costs and environmental impacts with their neighbours, and provides a household action planning tool specific for their household.

Active Transportation and Transportation Demand Management (TDM) including Active and Safe Routes to School and a portion of the Parking Strategy (in progress)

The Active Transportation (AT) and Transportation Demand Management (TDM) Program focusses on the behavioural aspects of transportation choices, with an emphasis on walking, cycling, and carpooling. This program also plays an integral part

of achieving Smart Moves' goal of increasing active transportation mode share from 9 percent to 15 percent by 2030.

Cycling is a key component of the City of London's AT and TDM program. City staff from several service areas has been working with partner organizations to improve cycling routes, destination facilities and develop education campaigns. The formation of the Cycling Advisory Committee has also been a key development in addressing cyclists' needs. Tools and resources supporting cycling include the Bike & Walk Map (which is now integrated with Google Maps to assist with route planning) and new cycling infrastructure such as the Bike Corrals and Bike Fix-It Stations.

Carpooling is another key component of the AT and TDM program. London has expanded its carpool ride-matching service in partnership with a regional group of municipalities to cover most of Southwestern Ontario under its new name – Regional Rideshare. Active promotion is ongoing in Middlesex County, Oxford County, Perth County, Huron County, Lambton County, St. Marys, Stratford and St. Thomas.

Through Business TravelWise, walking, cycling, and carpooling programs are promoted to London's employers. This includes customized workplace carpool ride-matching through Regional Rideshare as well as providing bicycle racks for workplaces.

Through the London Downtown Parking Strategy (in progress), current and future TDM actions are being highlighted as essential to a balanced program that meets the needs of employees, employers, visitors and residents of downtown London. This project is also examining bike parking in the core areas of London.

With respect to AT and the pathways in parks, there are over 160 kilometers of multi-use pathways for active transportation across the City. The Thames Valley Parkway (TVP) is a multi-use pathway system that stretches over 40 km along the Thames River and extends into many neighborhoods. These pathways are asphalt surfaced and are between 2.4 and 4 meters wide to allow for a broad range of users including walkers, runners, cyclists, and roller bladders. Many secondary pathway systems have been built or are planned to be built to bring more users to the system consistent with the vision for London ON Bikes (the Cycling Master Plan) and the Parks and Recreation Strategic Master Plan.

Active & Safe Routes to School (ASRTS) is community partners from several organizations throughout the Counties of Elgin, Middlesex, Oxford, and the cities of London and St. Thomas working together to promote and sustain ASRTS programs that encourage children and families to choose active transportation. It is currently coordinated by the Middlesex-London Health Unit.

Climate Change Adaptation Strategy (in progress)

London is a "river city" having 43 km of Thames River shoreline. It is therefore expected that one of the most significant impacts of climate change which London will need to adapt to will be on the precipitation levels and associated water levels and flooding of the Thames River. This is associated with more severe and more frequent storm events that are expected. Western University researchers assisted with early background work on an adaptation strategy involved the potential flooding impacts of the Thames River analysed under a changing climate. This early work provided a glimpse of how future water infrastructure may need to be sized according to updated Intensity, Duration Frequency Curves (IDF curves) that more reflect the storms in a changing climate.

Further adaptation strategy background work coordinated by the Risk Management Division involved the inventory of adaptation measures currently underway and being implemented by staff throughout the Corporation. These earlier works plus updated information from upper levels of government are now being assembled to create a Climate Change Adaptation strategy for London. This adaptation strategy is intended to be used by embedding the strategy in decision-making on all future projects planned as directed in the "Building a Sustainable City" focus area of Council's Strategic Plan and in accordance with the new London Plan.

Community Energy Action Plan

One of the most critical roles that City staff plays is to “connect the dots” between our local initiatives and all of London’s major community stakeholders, the activities they engage in, and the role that these stakeholders can play in the London Energy Connections Program.

London is one of Ontario’s leading municipalities in the field of community (or municipal) energy planning, and the work done to date in London has helped the development of community energy planning programs and policies at the provincial and federal level. The Government of Ontario, Association of Municipalities of Ontario (AMO), and the Federation of Canadian Municipalities (FCM) support the development, implementation and advancement of community energy plans. City staff are also playing a leadership role within Quality Urban Energy Systems of Tomorrow (QUEST) Canada, a leading organization for community energy planning.

London’s CEAP was approved by Council in July 2014. The CEAP is the plan on how we collectively move forward on energy conservation, energy efficiency, renewable energy, and other sustainable energy solutions that reduce greenhouse gas emissions. Additional details on how this plan was implemented in the first couple of years (2014 and 2015) was outlined in July 2014. In total, 40 City-led actions were identified over the first two years. This does not include the numerous actions that are taking place (or planned) in the community and by our key energy stakeholders in London.

Community Improvement Plans

The City of London offers financial incentive programs that benefit the environment and help mitigate climate change. In particular, the Upgrade to Building Code and Façade Improvement Loans available in Downtown, Old East Village, and SoHo assist property owners with rehabilitating buildings to meet modern Building Code requirements. These improvements include new windows and roofs, insulation and fire separation, and HVAC equipment. Likewise, the Heritage CIP offers programs to assist property owners with rehabilitating heritage-designated properties to, among other things, meet current Building Code requirements.

The City’s Brownfield CIP offers programs to remediate brownfield sites to stimulate community vitality and the redevelopment of vacant industrial lands to take advantage of existing municipal infrastructure. Finally, as part of a CIP program review currently underway, the preparation of a Green Development CIP is identified as a potential future financial incentive program, which would include the development of environmentally sustainable buildings and/or communities.

Corporate Energy Conservation & Demand Management (CDM) Plan including the Street Light Energy Plan

The Corporate Energy Management Program is a shared responsibility between Environmental & Engineering Services and Financial Services (Facilities). The Corporate Energy Conservation and Demand Management (CDM) Plan is a mandatory requirement of the Ontario Green Energy Act. The scope of the CDM Plan covers all forms of energy used in activities undertaken by the Corporation of the City of London. This plan was adopted by Council in July 2014 and has a timeframe of five years (2014-2018). The CDM plan was built upon previous corporate energy management activities, some dating back to the 1990s.

The plan’s goal is to reduce corporate energy use 10 percent from 2014 levels by 2020, which requires a service delivery energy efficiency (energy used per Londoner) improvement of 15 percent to accommodate London’s growth. If the plan’s goals are met, the Corporation’s annual energy costs will be around \$4 million lower than forecast and the Corporation’s annual energy-related greenhouse gas emissions will be around 3,900 tonnes lower per year compared to business-as-usual.

Several recent energy efficiency and energy optimization projects include:

- Wastewater treatment electricity efficiency measures, such as the commissioning of the sludge dewatering system and slurry heat recovery at Greenway, ventilation

optimization at Adelaide, the upcoming replacement of existing centrifugal wastewater treatment aeration blowers with energy efficient turbo blowers, and investigation of waste heat utilization for power generation at Greenway (Organic Rankine Cycle);

- Water supply pump optimization and replacement;
- Streetlighting upgrades to LED lighting on major arterial roadways and other streets with “cobra head” style streetlight infrastructure;
- Building retrofits, including larger projects such as the award-winning renovation of the Canada Games Aquatic Centre as well as lighting upgrades in other City facilities;
- Green fleet activities, such as the use of biodiesel in garbage collection trucks; and
- Culture of Conservation activities, such as the award-winning arena energy conservation challenge initiated by Parks & Recreation (Aquatics, Arenas and Attractions) as well as other conservation pilot projects undertaken for the Corporate Energy Management Program.

Green Development Strategy (2017 or 2018)

The first step in this process will be the preparation of a summary report identifying and describing the City’s many programs and initiatives currently underway related to Green Development. This report will also undertake a gap analysis based on the review of any missing programs, initiatives or strategies that the City could pursue to support and encourage Green Development.

As described in this CWC report, there are multiple programs and initiatives currently underway to address climate change mitigation and adaptation, and many of these also address Green Development. Working with Environmental & Engineering Services, the gap analysis will focus any future programs that would close these gaps to address possible future Green Development programs that are not covered by the many City initiatives currently underway.

Green Fleet Strategy Update (in progress)

The Fleet Services Division is responsible for vehicle and equipment purchases and disposals, maintenance and service, asset management/administration and fuel management including refuelling stations. The City equipment and fleet consists of over 1,300 units ranging from hand held equipment like string trimmers, to light passenger vehicles, to heavy off-road equipment like graders and backhoes. City of London services are a large consumer of fuel, and Fleet Services continues to research technology that helps end users reduce both energy consumption and their environmental impacts.

The “Green Fleet” initiatives currently underway include a combination of approaches: vehicle right-sizing, gas-electric hybrids, ethanol-blended gasoline (10%), biodiesel-blended diesel (5%), and telematics. Compressed natural gas (CNG) and renewable natural gas (RNG) are two fuel types currently being examined to determine their potential future role.

Heritage Conservation

The Heritage Planning Program, including London’s seven Heritage Conservation Districts, supports energy conservation objectives in alignment with Ontario’s Climate Change Action Plan (2016) and The Ontario Culture Strategy (2016).

Older buildings have intrinsic energy conservation characteristics. By nature of their age, these buildings have embodied energy captured in durable materials, such as old growth wood and structural characteristics. This enhances the potential for adaptive reuse and building longevity. Historic features, such as working shutters, storm windows, and porches, contribute to passive cooling and shading that reduce the reliance on modern heating, ventilation and air conditioning systems. In contrast to repeated replacement required by some modern materials, many of these historic features are constructed of materials that can be easily maintained and repaired. Low-tech solutions and retrofits can make historic buildings as energy efficient as most modern buildings.

London ON Bikes Cycling Master Plan (in progress)

London ON Bikes – London’s new cycling master plan – has been developed to respond to the need for an improved vision, infrastructure, programs, policies and actions related to cycling in London. The plan provides a blueprint for the future of the City’s cycling network, including key pathways, supportive programming as well as outlines a recommended investment and implementation strategy to 2031.

London ON Bikes proposes to increase the length of London’s cycling infrastructure from 331 kilometres to 635 kilometres within the next 15 years, including an additional 99 kilometres of separated bike lanes and other separated bike infrastructure. London ON Bikes will play an integral part of achieving Smart Moves’ goal of increasing active transportation mode share from nine percent to 15 percent by 2030, through the provision of new cycling infrastructure.

NeighbourGood London: London Strengthening Neighbourhoods Strategy

Active & Green Communities is just one a 17 community programs promoted to London’s neighbourhoods and communities through NeighbourGood London, along with other environmentally related programs such as Walk to Shop, treeME, and London Clean & Green.

NeighbourGood London is a key component of London Strengthening Neighbourhoods Strategy (2010 – 2015). This work is guided by Council’s 2015-2019 Strategic Plan within the focus area of “Strengthening Our Community by building vibrant, connected and engaged neighbourhoods.”

Parks & Recreation Master Plan and programming

Parks and Recreation have worked in cooperation with Facilities and Environmental & Engineering Service teams to develop ways to improve energy efficiency. Arena energy savings initiatives like improved technologies in lighting and refrigeration as well as automated irrigation and sports lighting have reduced energy use. Province wide best practices have been adopted and developed in turf care, equipment purchases, aquatic filter rooms and spray pad water recycling to name a few.

Habitat protection, restoration and stewardship work is a priority in London’s public Environmentally Significant Areas (ESAs) in order to protect and enhance their ecological integrity consistent with the Conservation Master Plan recommendations for ESAs. The City and members of the Upper Thames River Conservation Authority (UTRCA) ESA team complete most of the restoration work through their contract with the City to manage over 680 ha of public ESA lands. Trained volunteers with the City’s Adopt an ESA program also participate in restoration projects demonstrating their commitment to local stewardship. The City was recognized by Ontario Nature and awarded with the Lee Symmes Municipal Award in 2016 for community leadership and achievements in successfully managing and improving ESAs in London.

London is an identified leader among other municipalities in Ontario and among other levels of government in demonstrating a proactive approach to the management and control of invasive species in our parks and protected natural areas and the policies, actions and best management practices implemented by the City are serving as an example for other municipalities and levels of government.

The City of London protects and enhances more naturalized habitat every year by providing opportunities for engagement in planting on public and private property, by protecting our natural areas, reducing mowing, and planting native species including milkweed. Currently about 10% of the City is publically owned parkland, and over 60% of that area or about 1,400 hectares is managed as naturalized, non-mowed areas and this area increases every year. City by-laws permit naturalizations, perennial gardens and wildflower gardens on private property and are encouraged through the Growing Naturally Program.

Pollution Prevention and Control Plan

Municipalities across the country are experiencing more frequent high intensity, short duration rainfall events being experienced due to increasing severe weather patterns.

While it is virtually impossible for municipalities to alter or eliminate these relatively new weather occurrences, system response approaches are underway in London. Individual home flooding mitigation measures are also offered by the City to affected property owners who are willing to be proactive in reducing their risk.

In regards to a citywide approach, the City is currently undertaking a Pollution Prevention and Control Plan (PPCP) which will provide the City, Ministry of the Environment and Climate Change, and the community with a long term plan for managing sewer system overflows and bypasses in London. It is noted that this investment will lead to substantial infrastructure improvements in the future and the mitigation of about 149 sewer system overflows (installations) throughout the City to reduce the environmental impacts to receiving water bodies, including the Thames River. These sewer system overflows were originally installed decades ago as localized basement flooding solutions. The PCPP will address both climate change mitigation and adaptation with respect to the sewer system.

Resource Recovery Strategy (in progress; waste reduction and diversion programs)

The Solid Waste Management Division looks after programs associated with waste diversion such as the recycling of paper and packaging material (plastic and metal) as well as landfill operations. Recycling of materials provides a net energy and greenhouse gas reduction benefit when compared to the production of products from raw materials. Methane produced from the anaerobic decomposition of organic materials in a landfill can be used as a renewable source of energy. The W12A Landfill is equipped with a landfill gas collection and flaring system, and City staff are exploring options for the production of renewable natural gas from landfill gas.

Through the Environmental Assessment for the expansion of the W12A Landfill and the development of the Resource Recovery Strategy, options for the diversion of organic materials that include the potential for production of renewable natural gas are being examined.

Shift – London’s Rapid Transit Initiative (in progress)

Shift is London’s Rapid Transit Initiative, which has served to define the requirements for London’s rapid transit project, which consists of approximately 22 km of Rapid Transit connecting all parts of the City. These high-capacity Rapid Transit corridors will be integrated with local bus service, making it easier to travel across the entire community.

Shift will play an integral part of achieving Smart Moves’ goal of increasing transit’s mode share from 12.5 percent to 20 percent by 2030. Shift is also evaluating the use of low-emission (compressed natural gas) and zero-emission (battery electric) transit vehicles for these Rapid Transit corridors.

Smart Moves - 2030 Transportation Master Plan

Smart Moves is the guiding document for planning London’s transportation needs today and in the future. This includes improved transit through the introduction of Bus Rapid Transit (BRT) corridors and increased emphasis on non-automobile travel such as walking and cycling. With Smart Moves’ goal to reduce the automobile’s mode share from 73.5 percent of trips down to 60 percent of trips by 2030, this mode shift is estimated to reduce London’s greenhouse gas emissions by about 190,000 tonnes per year compared to business-as-usual.

Source Water Protection Plan

London is an important player in three Source Water Protection Plans, required in legislation by the Province of Ontario. Three plans are needed primarily due to:

- London’s reliance on a Regional Water Supply system for municipal drinking water which is treated from two of the Great Lakes (Huron and Erie) and
- London’s emergency back-up water supply from two well fields. These diverse sources of safe drinking water means both surface and groundwater supplies are potentially being used by Londoners.

Source Water Protection includes requirements to consider climate change in both sufficient water quality and quantity and safe-guard these resources. In this regard, London has played an important role in both local, regional, provincial and national water policy discussions since the Great Lakes are considered international waters and the Lake Huron and Elgin Regional Water Supply is one of only two regional water systems in Ontario.

Stormwater and watershed management programs

The management of intense rainfall events associated with climate change adaption is managed by the Wastewater Operation Division, Wastewater and Drainage Engineering Division, and the Stormwater Engineering Division. The Wastewater Operation Division provides the frontline response to intense rainfall and basement flooding events. The Wastewater and Drainage Engineering Division manages the basement flooding subsidy program, post flooding resident follow-up, and the annual storm sewer capital renewal program. The Stormwater Engineering Division is the lead with respect to urban waterways, managing overland flows and growth-triggered stormwater management infrastructure such as stormwater management ponds and low-impact development technologies.

The management of urban subwatersheds is a shared responsibility between the Stormwater Engineering Division and Environmental Programs in conjunction with our partners at the three Conservation Authorities and several provincial ministries.

Thames River Clear Water Revival Project

London was a significant player in this 2010 initiative to create a holistic watershed plan for the entire Thames River being the only Ontario river managed by two Conservation Authorities. The only basin-wide study for the Thames River was completed in 1975 and therefore was in need of updating. Currently through this initiative, a Water Management Plan (in preparation) will be one of several significant action plans to direct future management of the Thames River. Similar to Source Water Protection described above in this document, both water quality and quantity, plus both surface and groundwater are being considered in a changing climate with their associated impacts and inputs to the Thames River.

River hydraulic modelling is being updated to reflect the most current climate change projections and these results will be incorporated into the completed Water Management Plan. These projections will inform decisions in both times of flooding and drought. Traditional Ecological Knowledge provided by our First Nations partners is also becoming a significant feature of this initiative with several of our neighbouring First Nations taking an active part in Plan creation.

The London Plan

On June 23, 2016 City Council adopted The London Plan as the new Official Plan for the City of London. The London Plan establishes Council's vision, values, key directions, and policies for city building over the next 20 years. How we live, grow, green, move and prosper will all be affected by the Plan. The London Plan will have a direct impact on all residents of London; its policies address matters from infrastructure development to streetscapes, neighbourhood design, transportation, environmental protection, sustainability, parks and recreation, farmland preservation and affordable housing.

The London Plan sets out a new approach for planning in London. It emphasizes growing inward and upward, so that we can reduce the costs of growth, create walkable communities, revitalize our urban neighbourhoods and business areas, protect our farmlands, and reduce greenhouse gases and energy consumption. The plan sets out to conserve our cultural heritage and protect our environmental areas, hazard lands, and natural resources. Through the London Plan our community is planning for vibrant, healthy, green, safe neighbourhoods, attractive and viable mobility alternatives and affordable housing that is accessible to those who need it.

The London Plan is organized into nine parts that each address a different aspect of city building in London. The parts are Our Challenge, Our Strategy, Our City, City Building

Policies, Place Type Policies, Environmental Policies, Secondary Plans, Our Tools, and Maps. In each of the nine parts, the importance of climate change, related environmental issues and the building of a more sustainable city have been woven throughout. Environmental sustainability will be an underlying consideration in all of the planning and development over the life of the plan. Strategic Direction #4 “Become one of the greenest cities in Canada” serves as one of the foundations to the Plan, to guide our planning and development over the next 20 years.

Urban Design Program

The Urban Design program is helping to mitigate climate change through the promotion of active mobility, walkable neighbourhoods, and better places for citizens to take part in their communities. By implementing City Placemaking Guidelines, area urban design guidelines and urban design policy through all stages of planning and development, we are influencing a more urban character, compact, walkable and human scale built form that gets people out of their vehicles and on to bikes, public transit and walking.

Through collaborations with Transportation and Facilities, and the future Complete Streets Design Manual, we are working to change the way we design the public realm, so that active mobility is given priority, and our public spaces are enjoyable, welcoming, and urban in character. All of this results in better public health, fewer cars on the road, and lower emissions in the air.

Urban Forest Strategy and programming

The Urban Forestry program is responsible for maintaining the overall structure, function and value of the urban forest that is highly dependent on land use decisions as well as climatic factors. A healthy and diversified urban forest has been shown to be an effective way of mitigating and adapting to the effects of climate change.

A major study in 2008 identified that our urban forest had a replacement value of \$1.5 billion dollars and provides \$17million/year in ecological services related to carbon storage, carbon sequestration, pollutant removal and energy savings alone.

London has a Council-approved Urban Forest Strategy with a goal of increasing our tree canopy cover to 34 percent of land area from the 2008 level of 24.7 percent by the year 2065 – this is a 48 percent increase in canopy cover. The Strategy recognizes the impacts of climate change on our forest. The key components of achieving that target are: protect the trees we already have; maintain them so they stay healthier, grow bigger and live longer; monitor the structure and growth of the forest; plant more trees; promote stewardship and engage the residents as three-quarters of all the trees are on private property.

The City of London partners with local organizations, businesses and individuals to develop and implement community-initiated projects on municipal parkland every year. These community projects include naturalization and community forestry plantings, Adopt-a-Park and Adopt-a-Street projects and community gardens.

Water conservation and efficiency programs

The City of London’s water efficiency program is responsible for helping residents reduce their indoor and outdoor water use, while also helping residents indirectly reduce their energy use. The water conservation and efficiency programs have helped reduce water consumption by 14 percent in the past 6 years. This decrease has also assisted in reducing the amount of energy required for the treatment and pumping of water from Lake Huron and Lake Erie.

The programs include education as a major component, as well as significant leak detection activities to reduce the impact leaks may have on the distribution and purchase of water. Through the development of inter-municipal and inter-departmental partnerships, water conservation and efficiency programs have been able to position London’s Water supply system well enough to accommodate sustainable growth for the future, while also reducing energy, and continuing to supply London with safe, clean, drinking water.

Appendix B

Overview of Ontario’s new Climate Change Action Plan and the Alignment with City of London Actions

The Province of Ontario’s [Climate Change Action Plan](#) has the following eight action areas:

1. **Transportation:** Becoming a North American leader in low-carbon and zero-emission transportation
2. **Buildings and homes:** Reduce emissions from fossil-fuel use in buildings
3. **Land-use planning:** Support low-carbon communities
4. **Industry and business:** Keeping Ontario competitive: A strong center of modern, clean manufacturing and jobs
5. **Collaboration with Indigenous communities:** Partner to reduce emissions and transition to a low-carbon economy
6. **Research and development:** Focus on climate science and zero-carbon breakthroughs
7. **Government:** Move toward a carbon neutral public service
8. **Agriculture, forests and lands:** Productive, sustainable, and a pathway to creating offsets

The table below summarizes the proposed actions in each of these 8 areas and the relevant City of London plans, programs and projects (identified as actions).

Excerpts from Ontario’s Climate Change Action Plan	Alignment with City Actions
1. Transportation: Becoming a North American leader in low-carbon and zero-emission transportation	
<i>1) Increase the availability and use of lower-carbon fuel</i>	
Boost the percentage of renewable content required in transportation fuels sold in the province. Provide funding to fuel distributors for high-blend sustainable biofuels and infrastructure upgrades. Pilot a program that uses methane obtained from agricultural materials or food wastes for transportation purposes.	Community Energy Action Plan Green Fleet Strategy Resource Recovery Strategy
<i>2) Increase the use of electric vehicles</i>	
Maintain incentives for electric vehicles and the purchase and installation of home charging stations. Work with the federal government to explore ways to provide full-HST relief to purchasers of new battery electric vehicles. Establish a four-year free overnight electric vehicle-charging program for residential and multi-unit residential customers. Offer a rebate to low- and moderate-income households to help them replace old cars with new or used electric vehicles or a plug-in hybrid. Invest in the rapid deployment of charging in workplaces, multi-unit residential buildings, downtowns and town centres. Ontario will encourage ONroute locations to equip themselves with high-speed chargers. Require all new homes and townhomes with garages to be constructed with a 50-amp, 240-volt receptacle (plug) in the garage for charging an electric vehicle.	Active & Green Communities Community Energy Action Plan Green Development Strategy Green Fleet Strategy NeighbourGood London

Excerpts from Ontario's Climate Change Action Plan	Alignment with City Actions
<p>Require all newly built commercial office buildings and appropriate workplaces must provide charging infrastructure.</p> <p>Work with Plug'n Drive, a non-profit electric vehicle advocacy organization, to establish and operate a facility to showcase electric vehicles and related technology to Ontarians across the province.</p>	
<i>3) Support cycling and walking</i>	
<p>Commuter cycling networks will be established across Ontario, targeting routes with high-commuting volume such as between residential communities, major transit stations and employment areas.</p> <p>There will be more cycling facilities in urban areas, including grade-separated routes and cycling signals.</p> <p>There will be more bike parking at transit stations and provincially owned publicly accessible facilities.</p> <p>Ontario will revise provincial road and highway standards to require commuter cycling infrastructure be considered for all road and highway construction projects where it is safe and feasible. Ontario will do the same for major transit corridors.</p>	<p>Active Transportation and Transportation Demand Management</p> <p>London ON Bikes Cycling Master Plan</p> <p>Shift – Rapid Transit</p> <p>Smart Moves 2030 Transportation Master Plan</p> <p>The London Plan</p> <p>Urban Design Program</p>
<i>4) Increase the use of low-carbon trucks and buses</i>	
<p>Provide incentives to eligible businesses for low-carbon commercial vehicles and technologies to reduce emissions, including electric and natural gas-powered trucks, aerodynamic devices, anti-idling devices, and electric trailer refrigeration.</p> <p>Establish a network of natural gas and low- or zero carbon fuelling stations.</p> <p>Improve the competitiveness of Ontario's short-line railways.</p>	<p>Community Energy Action Plan</p> <p>Green Fleet Strategy</p> <p>Shift Rapid Transit</p>
<i>5) Support the Accelerated Construction of GO Regional Express Rail</i>	
<p>The province intends to work to accelerate deployment of the Regional Express Rail system.</p>	<p>none</p>
2. Buildings and homes: Reduce emissions from fossil-fuel use in buildings	
<i>1) Improve energy efficiency in multi-tenant residential buildings</i>	
<p>Retrofit social housing apartments - Most of Ontario's social housing towers were constructed in the 1960s and 1970s and can use up to 25 per cent more energy per square metre than a house.</p> <p>Consider options for legislative and/or regulatory change that lessen the impact on residential tenants of increased energy costs from cap and trade. The government wants to make sure that carbon pricing does not get passed on to tenants who are unable to make changes to reduce energy use.</p> <p>Offer incentives to install energy efficient technologies, like boiler replacements, adaptive thermostats and lighting retrofits in multi-tenant buildings, such as apartments.</p>	<p>Community Energy Action Plan</p> <p>Community Improvement Plans</p> <p>NeighbourGood London</p> <p>The London Plan</p>

Excerpts from Ontario's Climate Change Action Plan	Alignment with City Actions
<i>2) Improve energy efficiency in schools and hospitals</i>	
<p>Provide funding for existing schools to improve energy efficiency and install renewable energy technologies.</p> <p>Establish a fund to help hospitals, universities and colleges retrofit their facilities with energy efficient and renewable energy technologies.</p>	Community Energy Action Plan
<i>3) Reduce emissions from heritage buildings</i>	
<p>Ontario's heritage properties are excellent platforms to showcase low-carbon technology to the public and among the most challenging structures to retrofit.</p> <p>Retrofitting heritage buildings with low-carbon energy systems and high-efficiency materials provides the double benefit of showcasing to the public the uses and advantages of this technology, and preserving these important buildings for the enjoyment of future generations.</p>	<p>Community Energy Action Plan</p> <p>Community Improvement Plans</p> <p>Heritage Conservation</p> <p>The London Plan</p>
<i>4) Help homeowners reduce their carbon footprints by supporting additional choice</i>	
<p>Help homeowners purchase and install low-carbon energy technologies such as geothermal heat pumps and air-source heat pumps, solar thermal and solar energy generation systems. This will include an increased benefit for low-income households and vulnerable communities.</p> <p>A new program targeting northern and rural communities, including Indigenous communities, would encourage households to switch out older polluting wood stoves for new high-efficiency wood stoves.</p> <p>Rebates will go to individuals who purchase or build their own near net zero carbon emission homes, with energy efficiency performance that sufficiently exceeds the requirements of the Building Code.</p> <p>Use Cap and Trade proceeds to offset the cost of greenhouse gas reduction initiatives that are currently funded by residential and industrial consumers through their bills.</p>	<p>Active & Green Communities</p> <p>Community Energy Action Plan</p> <p>NeighbourGood London</p> <p>The London Plan</p>
<i>5) Set lower-carbon standards for new buildings</i>	
<p>Update the Building Code with long-term energy efficiency targets for new net zero carbon emission small buildings that will come into effect by 2030 at the latest, and consult on initial changes that will be effective by 2020.</p>	<p>Community Energy Action Plan</p> <p>The London Plan</p>
<i>6) Promote low-carbon energy supply and products</i>	
<p>Introduce a renewable content requirement for natural gas and provide supports to encourage the use of cleaner, renewable natural gas in industrial, transportation and buildings sectors. Methane released from sources like landfills, municipal green bin collection, agricultural residues, livestock manure, food and beverage manufacturing waste, sewage treatment plants and forestry waste can be renewed and directly substituted for conventional natural gas.</p>	<p>Community Energy Action Plan</p> <p>Resource Recovery Strategy</p>
<i>7) Help individuals and businesses manage their energy use and save money</i>	
<p>Energy audits would be required before a new or existing single-family home can be listed for sale, and the energy rating will be included in the real estate listing. These audits are intended to be provided free of charge under this plan.</p>	Active & Green Communities

Excerpts from Ontario's Climate Change Action Plan	Alignment with City Actions
<p>Ontario's Green Button program will be expanded province-wide to give Ontarians access and share their data on electricity, natural gas and water consumption in a secure, standardized electronic format.</p> <p>Ontarians would have access to a wide range of climate change tools to help them reduce carbon emissions. Publicly accessible tools will include carbon calculators, solar potential mapping, municipal level emissions data, climate change training materials, and guidance documents for businesses, municipalities and homes.</p>	<p>Community Energy Action Plan</p> <p>Water Conservation and Efficiency</p>
<p><i>8) Training, workforce and technical capacity</i></p>	
<p>New and expanded training programs would be developed to ensure Ontario's buildings sector has the skilled workers it needs to compete in a low-carbon economy, and to help reduce the carbon footprint of Ontario homes and buildings.</p> <p>Training will be developed and delivered through post-secondary institutions and other training partners to be sure Ontario has the capacity to build, maintain and repair low-carbon buildings.</p>	<p>Community Energy Action Plan</p> <p>The London Plan</p>
<p>3. Land-use planning: Support low-carbon communities</p>	
<p><i>1) Strengthen climate change policies in the municipal land-use planning process</i></p>	
<p>Municipalities would be able to require installation of electric vehicle charging stations in surface parking areas.</p> <p>Municipalities would be able to pass bylaws related to green standards in areas other than building construction. This would include, for example, sustainable transportation management.</p> <p>The government intends to consult and propose amendments to Ontario's Planning Act to make climate change a provincial interest, which would ensure climate change is taken into consideration when planning decisions are made. Greenhouse gas pollution reduction and climate change adaptation could be specifically noted as provincial interests.</p> <p>The government intends to consult and propose amendments to the Planning Act to make climate change mitigation and adaptation mandatory in municipal official plans.</p> <p>Minimum parking requirements would be eliminated over the next five years for municipal zoning bylaws, especially in transit corridors and other high-density, highly walkable communities. Minimum parking requirements are a barrier to creating complete, compact and mixed-use communities. Instead, bylaws will encourage bike lanes, larger sidewalks, and enhanced tree canopies.</p>	<p>Active Transportation and Transportation Demand Management</p> <p>Community Energy Action Plan</p> <p>Green Development Strategy</p> <p>London ON Bikes Cycling Master Plan</p> <p>Shift Rapid Transit</p> <p>Smart Moves 2030 Transportation Master Plan</p> <p>Stormwater and Watershed Management</p> <p>The London Plan</p> <p>Urban Design Program</p> <p>Urban Forest Strategy</p>
<p><i>2) Support municipal and other stakeholder climate action</i></p>	
<p>The government intends to establish a greenhouse gas pollution reduction challenge fund or program. This fund or program will support emissions reduction projects proposed by municipalities that already have municipal/community energy plans. Green projects will get matching provincial funding, with a focus on demonstrating the best cost-per-tonne reduction.</p>	<p>Active & Green Communities</p> <p>Community Energy Action Plan</p>

Excerpts from Ontario's Climate Change Action Plan	Alignment with City Actions
<p>Ontario intends to fund the development of Community Energy Plans and Climate Action Plans (and their supporting data) with greenhouse gas pollution inventories for municipalities and First Nation and Métis communities that currently do not have these plans.</p> <p>The government would support collaborative, community-based and data-driven approaches to carbon reduction. This would include district-wide mapping that integrates gas, electricity, heating and cooling, water, transportation, waste consumption and building data into a single platform to enable district-wide decisions. Applications would include distributed generation opportunities, detailed emissions analysis, targeted conservation spending and improved benchmarking.</p>	<p>Corporate Energy Conservation & Demand Management (CDM) Plan</p> <p>Green Fleet Strategy</p> <p>Water Conservation and Efficiency</p>
<i>3) Reduce congestion and improve economic productivity</i>	
<p>Ontario intends to ensure municipalities have the tools they need to pilot congestion management plans and "low emission zones."</p> <p>Ontario would provide grants to municipalities and large private employers to implement Transportation Demand Management Plans. The plans will be designed to help increase walking, cycling, carpooling, telecommuting and flex-work schedules.</p>	<p>Active Transportation and Transportation Demand Management</p> <p>Community Energy Action Plan</p> <p>London ON Bikes Cycling Master Plan</p> <p>Shift – Rapid Transit</p> <p>Smart Moves 2030 Transportation Master Plan</p> <p>The London Plan</p>
<p>4. Industry and business: Keeping Ontario competitive: A strong centre of modern, clean manufacturing and jobs</p>	
<i>1) Help industries adopt low-carbon technologies</i>	
<p>Programs and services will be designed and delivered by the green bank to help reduce greenhouse gas pollution while also reducing costs. The Green Bank would support both large and smaller emitters.</p> <p>These actions would be complemented by a modern and efficient approval process that would reduce time and costs involved in implementing low-carbon technologies. The Green Bank will help businesses and industries identify available government programs and financial supports, achieve economies of scale through project aggregation, calculate returns on investment, and secure financing.</p>	<p>Community Energy Action Plan</p>
<i>2) Help the agri-food sector adopt low-carbon technologies</i>	
<p>Help food and beverage-processing sector expand the use of innovative technologies and practices to reduce emissions.</p> <p>Support the transition to low-carbon, indoor agricultural facilities, such as greenhouses and grain dryers, through retrofits to existing structures.</p>	<p>Community Energy Action Plan</p>

Excerpts from Ontario's Climate Change Action Plan	Alignment with City Actions
<p>5. Collaboration with Indigenous communities: Partner to reduce emissions and transition to a low-carbon economy</p>	
<p>Ontario and First Nation communities would work in partnership to ensure a transition to non-fossil fuel energy in a way that minimizes impact on the communities.</p> <p>Ontario will work with First Nations and the federal government to connect remote communities to the provincial electricity grid.</p> <p>Where community support exists, Ontario would work with First Nation organizations to develop advanced microgrid solutions in First Nation communities.</p> <p>Ontario will establish a fund for community-level greenhouse gas pollution reduction projects and for community energy and climate action planning in First Nation communities.</p> <p>First Nation and Métis Climate Change Tables will be created to ensure ongoing, regular discussion on shared priorities between Ontario and First Nations, and between Ontario and Métis communities.</p> <p>Low-carbon jobs and training partnerships will be established among post-secondary institutions and Indigenous communities.</p> <p>Ontario would connect with First Nation and Métis communities by partnering on regular symposiums to be held in different communities across Ontario, focusing on sharing knowledge on climate change, including Traditional Ecological Knowledge.</p>	<p>Note Council's Strategic Plan highlights collaborations and working together locally, regionally and globally</p>
<p>6. Research and development: Focus on climate science and zero-carbon breakthroughs</p>	
<p><i>1) Support innovation and commercialization of new low-carbon technologies</i></p>	
<p>Ontario will encourage the development and growth of its clean-tech sector by supporting research in low-carbon technologies; developing low-carbon clean technology accelerators and clusters in sectors where Ontario has a competitive edge; supporting proof-of-concept projects for low-carbon technologies; and helping emerging low-carbon companies increase scale.</p>	<p>Community Energy Action Plan</p> <p>Pollution Prevention and Control Plan</p> <p>Resource Recovery Strategy</p>
<p><i>2) Set Tax and Regulatory Policies that Encourage Innovations</i></p>	
<p>Explore opportunities to create tax credits for research and development in order to encourage investment in Ontario companies focused on low-carbon technologies.</p> <p>Work with the federal government to explore possible opportunities for accelerated capital cost allowance for technologies that reduce greenhouse gas pollution.</p> <p>Regulatory requirements will be updated to support the adoption of innovative industrial technologies and the reduction of greenhouse gas pollution.</p>	<p>Community Energy Action Plan</p>

Excerpts from Ontario's Climate Change Action Plan	Alignment with City Actions
<i>3) Support research and development through a Global Centre for Low-Carbon Mobility</i>	
Based at a post-secondary institution in Ontario, a Global Centre for Low Carbon Mobility will be set up to advise the government on low-carbon transportation, and to direct funding for research, development and low-carbon manufacturing. The Centre will also support research and development in low-carbon technology for off-road vehicles. It will build on the strong foundation that exists between Ontario and the auto industry.	None
7. Government: Move toward a carbon neutral public service	
<p>Ontario will reduce emissions in provincial government buildings through measures that include energy-efficiency and low-carbon energy retrofits, and by strengthening the performance of existing buildings.</p> <p>The new government greenhouse gas pollution reduction target will be 50 per cent below 2006 levels by 2030. Ontario will develop a long-term strategy to move all government operations towards carbon neutrality.</p> <p>Provide more opportunities for telecommuting by OPS staff will help reduce emissions from transportation and buildings.</p> <p>Ontario will buy or lease green-plate-eligible passenger vehicles for the OPS fleet wherever possible.</p> <p>To help drive energy conservation and emissions reductions, the government will enable the use of energy performance contracts across the OPS.</p> <p>Public properties and buildings will be used to help demonstrate low-carbon technologies, and to showcase made-in-Ontario innovations and the expertise of Ontario's clean-tech companies.</p> <p>The OPS Procurement Directive will be reviewed to enable low-carbon procurement, considering the full lifecycle of products.</p> <p>Ontario will reform existing policies and programs that support fossil fuel use and fossil fuel-intensive technologies.</p>	<p>Active Transportation and Transportation Demand Management</p> <p>Community Energy Action Plan</p> <p>Corporate Energy Conservation & Demand Management (CDM) Plan</p> <p>Green Fleet Strategy</p> <p>Shift – Rapid Transit</p>
8. Agriculture, forests and lands: Productive, sustainable, and a pathway to creating offsets	
<i>1) Reduce emissions from waste and move Ontario towards a circular economy</i>	
The government will implement the Waste-Free Ontario: Building the Circular Economy strategy, which calls for zero waste in the province and zero greenhouse gas pollution from the waste sector. The draft strategy was released in November 2015. Once finalized, it will be implemented over five years. The government's Waste-Free Ontario Act will help recover resources and divert more waste from landfills while supporting the province's efforts to tackle climate change.	Resource Recovery Strategy

Excerpts from Ontario's Climate Change Action Plan	Alignment with City Actions
<i>2) Increase our understanding of how agricultural and natural lands emit and store carbon</i>	
<p>Develop a Land Use Carbon Inventory to assess the potential of agriculture, forestry and other land uses, such as wetlands and grasslands, to emit, remove and store carbon.</p> <p>Develop a Forest Carbon Policy Framework to clarify the role of managed Crown forests in storing carbon.</p>	<p>Stormwater and Watershed Management</p> <p>Urban Forest Strategy</p>
<i>3) Maximize carbon storage from agriculture</i>	
<p>Ontario will work with stakeholders to develop and implement an Agricultural Soil Health and Conservation Strategy that will maximize long-term carbon storage in soils while protecting their long-term productivity.</p>	<p>The London Plan</p>
<i>4) Understand and enhance carbon storage in natural systems</i>	
<p>Ontario's Greenbelt is being expanded. This will enable more green spaces to be protected and enable the carbon sequestration potential of the area to be maintained.</p> <p>The government will develop and implement the Ontario Grasslands Stewardship Initiative to promote and support grasslands that help store carbon.</p> <p>The Far North Land Use Strategy, when completed and implemented, will help support First Nation-Ontario planning teams in preparing community-based land-use plans.</p> <p>Ontario will continue to support tree-planting programs, including its commitment to plant 50 million trees across the province by 2025. The number of trees to be planted within the boundaries of urban municipalities will be doubled from one million to two million, with funding for irrigation where appropriate.</p> <p>Together with First Nation and Métis communities, Ontario will work to better understand and monitor natural systems that play an important role in carbon storage.</p>	<p>Parks & Recreation Master Plan</p> <p>Stormwater and Watershed Management</p> <p>The London Plan</p> <p>Urban Forest Strategy</p>
<i>5) Update Environmental Assessments to Account for Climate Change</i>	
<p>The province has prepared a draft guide entitled Consideration of Climate Change in Environmental Assessment in Ontario for projects and undertakings under the Environmental Assessment Act. When finalized, this guide will support the province's Climate Change Action Plan and Adaptation Strategy and will become part of the Environmental Assessment program's Guides and Codes of Practice.</p>	<p>Resource Recovery Strategy</p> <p>Stormwater and Watershed Management</p> <p>The London Plan</p>