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| TO: | CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON MARCH 23, 2015 |
| FROM: | JAY STANFORD DIRECTOR, ENVIRONMENT, FLEET, & SOLID WASTE |
| SUBJECT: | COMMENTS ON ENVIRONMENTAL BILL OF RIGHTS REGISTRY - ONTARIO'S CLIMATE CHANGE DISCUSSION PAPER 2015 |

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| RECOMMENDATION |
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That, on the recommendation of the Director of Environment, Fleet and Solid Waste, the:

- a) The comments and discussion **BE ENDORSED** and this entire report to Civic Works Committee be submitted to the Ministry of the Environment's Environmental Bill of Rights Registry posting (EBR 012-3452) titled *Ontario's Climate Change Discussion Paper 2015*. The due date for comments is March 29th 2015; and
- b) Additional comments and discussion and the Council resolution **BE APPROVED** and submitted to the Ministry of the Environment's Environmental Bill of Rights Registry posting (EBR 012-3452) shortly after the Municipal Council meeting on March 31, 2015.

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| PREVIOUS REPORTS PERTINENT TO THIS MATTER |
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Some relevant reports that can be found at www.london.ca under City Hall (Meetings) include:

- Report to the July 21st 2014 Civic Works Committee (CWC) Meeting, Community Energy Action Program (Agenda Item #16)
- Report to the August 19th 2013 Civic Works Committee (CWC) Meeting, Comments on Environmental Bill of Rights Registry - Making Choices: Reviewing Ontario's Long-Term Energy Plan (Agenda Item #2)
- Report to the August 19th 2013 Civic Works Committee (CWC) Meeting, Comments on Environmental Bill of Rights Registry - Conservation First: A Renewed Vision for Energy Conservation in Ontario (Agenda Item #3)

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| BACKGROUND |
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PURPOSE

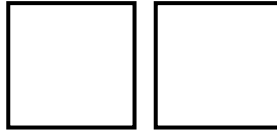
The purpose of this report is to provide Committee and Council with:

- A summary of the Ontario Ministry of Environment and Climate Change's consultation document, *Ontario's Climate Change Discussion Paper 2015* (http://www.downloads.ene.gov.on.ca/envision/env_reg/er/documents/2015/012-3452.pdf), and
- The City of London's feedback on the consultation document for approval and forwarding to the Environmental Bill of Rights (EBR) Registry.

CONTEXT

Ontario Ministry of Environment and Climate Change

On February 12th 2015, the Ontario Ministry of Environment and Climate Change (MOECC) released its consultation document, *Ontario's Climate Change Discussion Paper 2015*, which addresses both climate change mitigation (reducing greenhouse gas emissions) and adaptation. The topics covered by the discussion paper are wide-ranging and touch on a number of municipal aspects to climate change mitigation and adaptation, such as:



- Land use planning and development,
- Building codes and standards,
- Public transit,
- Active transportation,
- Stormwater infrastructure and low-impact development,
- Green infrastructure, and
- Solid waste management.

This is the first significant public release under the ministry traditionally responsible for regulating activities that can impact the environment, but has since significantly elevated the presence and importance of the issue of climate change.

The MOECC has been holding a series of consultation meetings across the province on the discussion paper, including a session in London on March 12th 2015 at Museum London. City staff were in attendance at this session.

Many Terms but one Common Thread

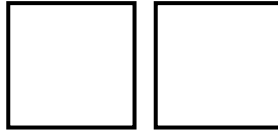
Over the last twenty years, Londoners, businesses in London, Municipal Councils and City staff, have seen many terms being used when climate change and related issues are being discussed. Some of these terms overlap, some terms mean the same thing, some terms more accurately describe the undertaking, some terms are purely a preference, while other terms are often used in the wrong context. The long list includes the following:

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| • Air pollution | • Energy conservation |
| • Air quality | • Energy security |
| • Carbon footprint | • Environmental footprint |
| • Carbon neutral | • Global warming |
| • Carbon pollution | • Green |
| • Carbon reduction | • Green energy |
| • Clean energy | • Greenhouse gas reduction |
| • Climate change | • Livability |
| • Climate change action | • Municipal energy planning |
| • Climate change adaptation | • Near-zero emissions |
| • Climate change mitigation | • Net-zero energy |
| • Climate justice | • Peak oil |
| • Climate resiliency | • Post carbon |
| • CO2 reduction | • Renewable energy |
| • Community energy planning | • Resilient cities |
| • Community energy systems | • Smart energy communities |
| • Community sustainability planning | • Severe weather |
| • Conservation demand management (CDM) | • Sustainable energy |
| • Demand side management (DSM) | • Zero emissions |
| • Ecological footprint | |

There is a common thread running through all of these terms, namely the environmental, economic, and social impacts of how we as a community choose to meet our energy needs primarily through fossil fuels. It all comes down to the following:

1. How to reduce our communities' use of fossil fuels, and
2. How do we deal with the impacts that our past, current, and future use of fossil fuels have made, and will continue to make, on our communities.

The City of London chose to use the term Community Energy Action Program to recognize this common thread. It places the emphasis on the word 'energy' (meaning all forms of energy, but primarily natural gas, fuel at the pump, and electricity) and our overarching goal (and ability to understand) that efficient energy use is the driver for all actions.



2015-2019 - Strategic Plan for the City of London

Municipal Council has recognized the importance of climate change and its many related terms in its 2015-2019 - Strategic Plan for the City of London ([2015 – 2019 Strategic Plan](#)). Specifically, all 4 Areas of Focus address at one level or another climate change (or the current/potential impacts and/or benefits of addressing climate change) as follows:

Strengthening Our Community

- Healthy, safe, and accessible city

Building a Sustainable City

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

Growing our Economy

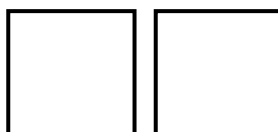
- Local, regional, and global innovation
- Strategic, collaborative partnerships

Leading in Public Service

- Collaborative, engaged leadership
- Excellent service delivery

More specifically, the timing of the MOECC consultation is beneficial to the City of London for a number of reasons:

- The Community Energy Action Plan (CEAP) is moving into implementation (i.e., programming) stage. Programs and initiatives undertaken by the provincial government and its energy-related agencies will play a significant role in London's Community Energy Action Program. The CEAP was designed with significant input from the community over a three year period through the Rethink Energy London community engagement initiative. In its design, it incorporated many different City initiatives including ReThink London, Green Development Strategy, the 2030 Transportation Master Plan, etc., along with activities from major stakeholders such as London Hydro, Union Gas, London Economic Development Corporation, Middlesex-London Health Unit, and the Upper Thames River Conservation Authority.
- The draft London Plan currently under review already incorporates the "climate friendly communities" principles outlined in the MOECC's discussion paper, such as mixed land use and density developments that "take advantage of urban density to 'borrow, balance, and steal' among energy, water, and waste systems".
- Both the Rapid Transit Environmental Assessment and London's Cycling Master Plan (update of the 2005 Bike Master Plan) will benefit from "low carbon mobility" principles outlined in the MOECC's discussion paper.
- The City of London's climate change adaptation activities will benefit from the "climate resilience and risk management" principles outlined in the MOECC's discussion paper.
- The City of London has recently approved an Urban Forest Strategy which includes increasing tree canopy coverage in both the short and long term. The Strategy recognizes the importance of the urban forest and Natural Heritage System in building a strong, liveable and healthy community. Climate change adaptation and mitigation actions are embodied in the individual guiding principles and actions.
- City staff have been studying the potential for using the Province's new Local Improvement Charge (LIC) provisions for energy- and water-saving retrofits on residential and commercial properties, and obtaining clarity on the scope of the Province's proposal to also allow utility bill financing of energy conservation measures, will have a significant impact on whether or not these new LIC capabilities are used for building energy retrofits. It is worth noting that in the United States similar programs fall under a name called property assessed clean energy (PACE).



The City of London is one of a number of Ontario communities that have been actively engaged in climate change mitigation and adaptation through programs such as the Federation of Canadian Municipalities' Partners for Climate Protection (PCP) program and the Ontario caucus of Quality Urban Energy Systems for Tomorrow (QUEST Ontario). The City of London has been a PCP participant since 1994, and is one of 20 municipalities across Canada that has achieved Milestone 5, the highest milestone, of the PCP Program (monitoring the results of actions planned and implemented).

Though participation in QUEST Ontario, over 20 Ontario municipalities have been working in partnership with the Ministry of Energy, energy utility companies, and energy technology providers to promote a holistic approach for climate change mitigation and adaptation through the promotion of Smart Energy Communities.

The City of London was also one of 11 Canadian cities that participated in the Climate Disclosure Project's CDP Cities 2014, a global greenhouse gas emissions reporting initiative.

DISCUSSION:

Comments on the MOECC Discussion Paper have been made from 3 City Service Areas:

- Environmental & Engineering Services
- Planning
- Development & Compliance

However, it must be recognized that these comments also include the understanding and details from collaborative work with many other Service Areas including: Corporate Services (Facilities and Finance), Neighbourhood, Children and Fire Services (Community Partnerships & Funding), and Parks and Recreation (Parks & Community Sports and Aquatics, Arenas & Attractions)

To simplify the Discussion section of this report, details on these matters are contained in two appendices:

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| Appendix A | 3 pages | <i>Overview of Ontario's Climate Change Discussion Paper 2015</i> | Contains a brief overview of the 44 page document |
| Appendix B | 7 pages | Comments to be Submitted to the EBR Registry (#012-3452) | Contains 41 comments/recommendations that address the key questions posed by the MOECC under 5 different headings: <ul style="list-style-type: none"> • Overall Comments • Actions in Key Sectors • Communities and Built Form • Price on Carbon • Science & Technology |

ACKNOWLEDGEMENTS:

This report was prepared with assistance from the following:

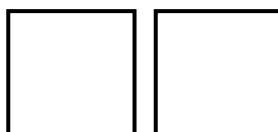
- Edward Soldo, Director, Roads and Transportation
- John Lucas, Director, Water and Wastewater
- Peter Kokkoros, Deputy Chief Building Official
- Gregg Barrett, Manager, Long Range Planning and Research
- Ivan Listar, Manager, Urban Forestry
- Andrew Macpherson, Manager, Environmental & Parks Planning
- Scott Mathers, Manager, Stormwater Management
- Jason Wills, Manager, Risk Management
- Patrick Donnelly, Urban Watershed Program Manager

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Appendix A Overview of *Ontario’s Climate Change Discussion Paper 2015*

Appendix B Comments to be Submitted to the EBR Registry (#012-3452)



Appendix A

Overview of Ontario's Climate Change Discussion Paper 2015

The introduction to the document, *Ontario's Climate Change Discussion Paper 2015*, begins with the Minister's Message that starts off simply with "Climate change is *the critical issue* of our time." This is followed by "two numbers that are vital for Ontarians to be aware of":

- **4**, the number of degrees Celsius that the planet is on track to warm by the end of the century; and
- **6**, the number in trillions of dollars that a shift to a low carbon economy could create.

The discussion paper addresses the following:

- 1 Climate Change: A Plan for Ontario's Future
 - 10 Guiding Principles for Achieving a Low Carbon Economy
- 2 Long-term Goal: Transformation
 - Leadership and Collaboration
 - Individual and Community Leadership
 - Private Sector Leadership
 - Government Leadership
 - Transforming Economic Growth
 - Science and Technology
 - Managing Risks and Improving Resilience
 - Impacts and Risks
 - Risk Assessment and Planning
 - Well-Built Communities
 - Urban Areas
 - Rural Areas
 - Northern and Remote Areas
 - First Nations and Metis Communities
- 3 Short-term Need: Critical Climate Actions
 - Price on Carbon
 - Cap and Trade
 - Baseline and Credit
 - Carbon Tax
 - Regulations and Performance Standards
 - Actions in Key Sectors to Support Transformation to a Low Carbon Resilient Economy
 - Transportation
 - Low-carbon Mobility
 - Vehicles
 - Fuel
 - Buildings and Communities
 - Land Use and Infrastructure Planning
 - Existing Infrastructure
 - New Infrastructure
 - Electricity
 - Industry
 - Agriculture & Forestry
 - Waste
 - Science and Technology Pathways
 - Promote Climate Resilience and Risk Management with Key Partners
- 4 Summary and Discussion Questions
 - Traditional Knowledge
 - Actions in Key Sectors
 - Price on Carbon

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- Communities and Built Form
- Science and Technology

As stated in London’s Community Energy Action Plan, the City of London has adopted the Province of Ontario’s greenhouse gas emission reduction targets. Figure 1 illustrates the impact that the Province’s existing initiatives have had on Ontario’s greenhouse gas emissions, and the scope of reductions that are required to meet the medium-term 2020 target and the long term 2050 target.

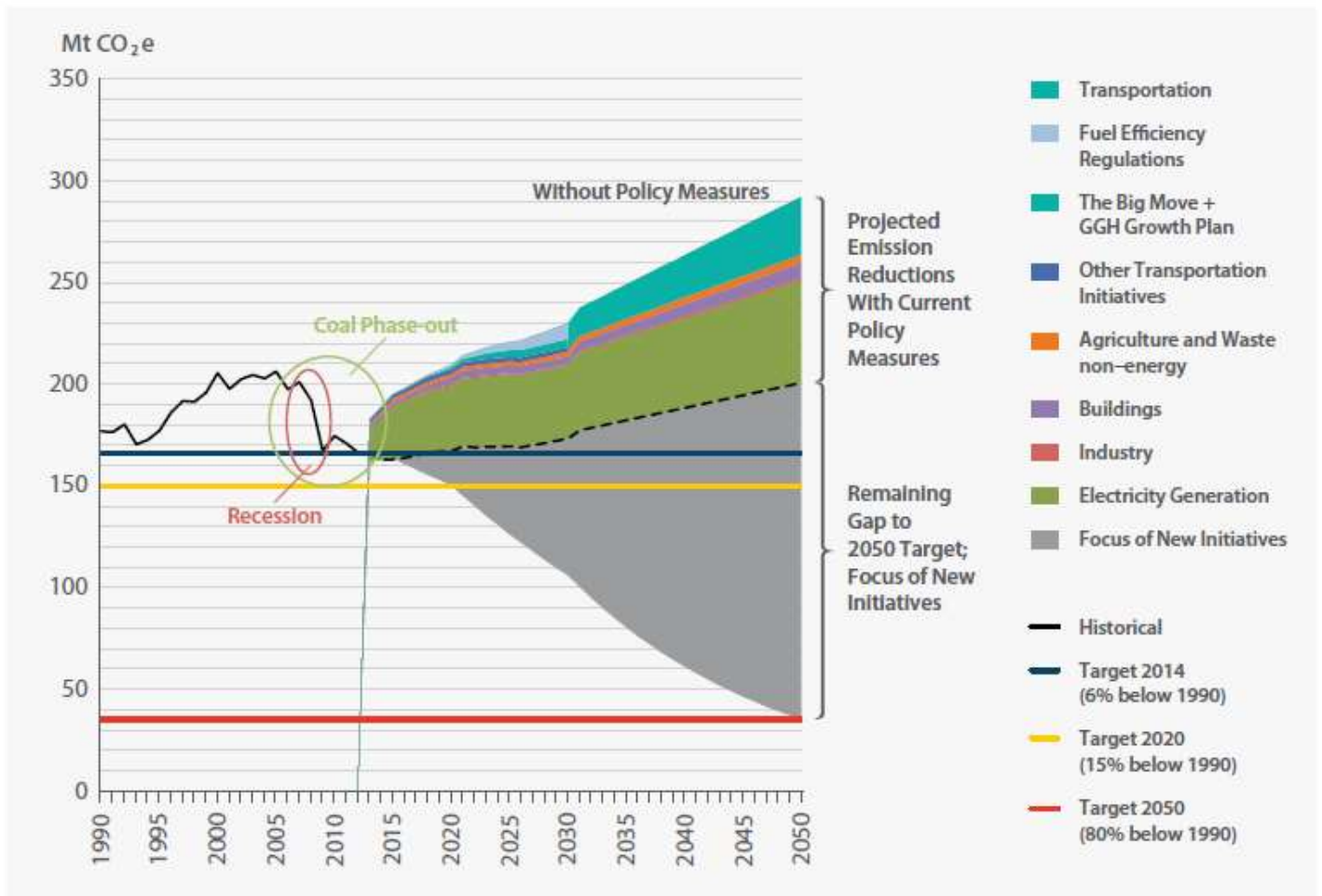


Figure 1 - "Wedge Analysis" of Impact of Existing and New Initiatives on Ontario's GHG emissions (Source: Ontario’s Climate Change Discussion Paper 2015)

Figure 2 illustrates the breakdown of Ontario’s total greenhouse gas emissions for 2012. As is the case with London’s greenhouse gas emissions inventory, Ontario’s inventory clearly shows that the transportation and buildings sectors are important sectors that require more attention.

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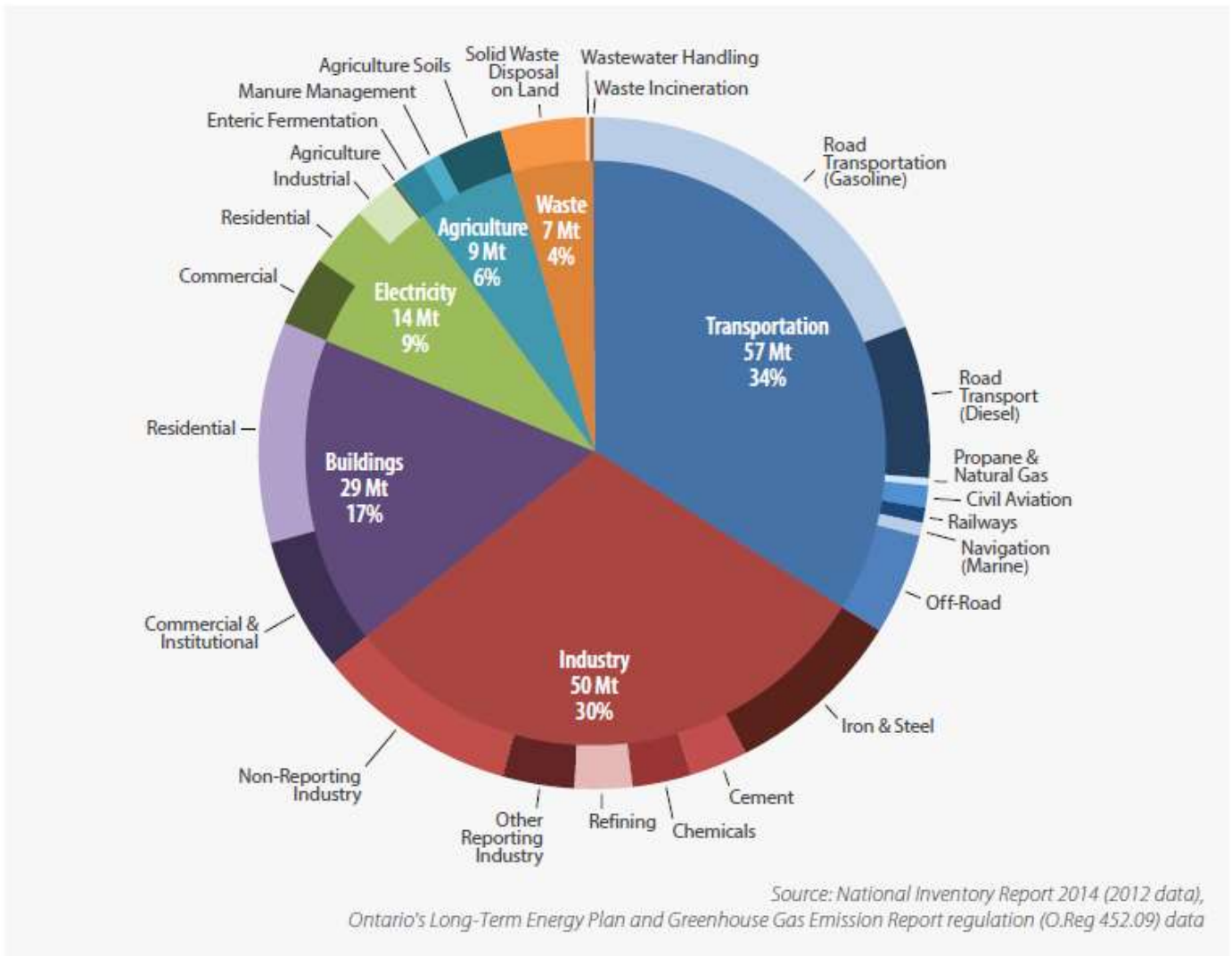
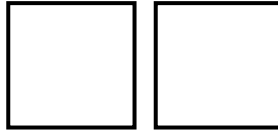


Figure 2 - Ontario's 2012 GHG Emissions Inventory
 (Source: Ontario's Climate Change Discussion Paper 2015)

As noted above, to help seed discussions with stakeholders and the general public, the document poses a number of points for consideration on topics such as: Actions in Key Sectors, Price on Carbon, Communities and Built Form, and Science and Technology. These questions have been included the next section (Appendix B).



Appendix B

Comments to be Submitted to the EBR Registry (#012-3452)

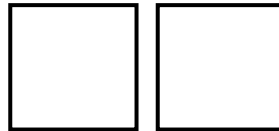
The MOECC have posed a series of discussion questions in the *Climate Change Discussion Paper*. These questions, highlighted in this Appendix, serve as a general guide for the Province-wide consultations and EBR response. They are not meant to be answered in their entirety because some organizations will be in a more knowledgeable position to answer them than City staff. In addition, City staff have introduced a number of comments that we believe are more applicable to municipalities including London. Comments are found in the following five sections:

- Overall Comments
- Actions in Key Sectors
- Communities and Built Form
- Price on Carbon
- Science & Technology

City staff recommend that the following comments be submitted to the EBR posting

Overall Comments

1. The City of London supports the overall direction outlined in the *Climate Change Discussion Paper*, and is encouraged to see that both climate change mitigation and adaptation measures have been identified, and that the importance of addressing greenhouse gas emissions from transportation and building energy use has been identified by the Province of Ontario.
2. The Province of Ontario is to be commended for the actions taken to date to reduce the environmental impact of Ontario's electricity system. Now that electricity use in London accounts for only about 10 percent of London's total greenhouse gas emissions (2013 data), greater attention needs to be paid to natural gas, gasoline, and diesel use.
3. The Province of Ontario is to be commended for the actions taken to date to increase the role that municipalities play in planning the needs for, and associated greenhouse gas emissions from, energy use in their communities. Municipalities make all kinds of decisions that impact community energy needs, including land use planning, transportation, water supply, stormwater and wastewater management, solid waste management and diversion, parks planning, and urban forestry.
4. The Province of Ontario should recognize the leadership role that many major Ontario municipalities have been playing in climate change mitigation and adaptation over the last 20 years, through programs such as the Federation of Canadian Municipalities' Partners for Climate Protection (PCP) program and the Ontario caucus of Quality Urban Energy Systems for Tomorrow (QUEST Ontario). There are 61 Ontario municipalities participating in the PCP program. The City of London has been a PCP participant since 1994, and is one of 20 municipalities across Canada that has achieved Milestone 5 of the PCP Program (monitoring the results of actions planned and implemented), the highest milestone available. Though participation in QUEST Ontario, over 20 Ontario municipalities have been working in partnership with the Ministry of Energy, energy utility companies, and energy technology providers to promote a holistic approach for climate change mitigation and adaptation through the promotion of Smart Energy Communities.
5. The City of London, like many other communities in Ontario, has an action plan focused on energy conservation actions called the Community Energy Action Plan (CEAP). This is the latest iteration of our climate change mitigation program.
6. As over 80 percent of Ontario residents live in urban areas, the City of London encourages the Province to recognize the role and importance of Urban Forests and Natural Heritage Systems in climate change adaptation strategies and in building strong, livable and healthy communities.



7. As outlined in Premier Wynne’s 2014 mandate letter to the Ministry of Environment and Climate Change, municipalities are expecting the Province of Ontario to “lead the development of a new long term climate change strategy”. The City of London is looking forward to a comprehensive and targeted strategy that will provide municipalities with the key design basis and funding framework required to construct new or replace existing climate change impacted infrastructure.
8. The City of London encourages the Province of Ontario to implement climate change resilience through innovative approaches and policy models that influence leadership in businesses, municipalities and the community by way of risk assessment and planning processes. The benefits of proactively managing risk are that it increases productivity, improves service quality, achieves more effective and efficient service delivery and increased customer satisfaction. Proactive strategies also enable on-going compliance with the many statutes, regulations, by-laws and contractual agreements that govern the City’s daily actions ultimately reducing unnecessary costs.

Actions in Key Sectors

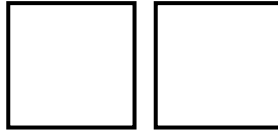
9. The City of London encourages the Province of Ontario to take a holistic approach to addressing the climate change mitigation aspects associated with Ontario’s energy needs (e.g., heating, cooling, transportation, waste management and electricity generation), the energy commodities (e.g., natural gas, petroleum fuels, electricity) used to meet these needs, and the types of solutions to be employed (e.g., behaviour change, carbon pricing, retrofits, high-performance new technology, renewables). The Province of Ontario should not look at our energy needs, energy commodities, and solutions in isolation.
10. With respect to waste management (specifically waste disposal), it contributes 4% of Ontario’s GHG generation. What this number does not illustrate are the GHG savings across all sectors by the prevention and recovery of waste materials (i.e., as secondary materials or as different forms of energy). These avoided emissions can be realized in a number of ways including:
 - avoided landfill emissions
 - reduced raw material extraction and manufacturing through waste avoidance and utilization
 - recovered materials and energy, replacing virgin materials and fossil fuel energy sources, and
 - carbon bound in soil through compost or digestate application.

2. Actions in Key Sectors

- What can each of the key sectors, including transportation, industry, buildings, electricity, agriculture, waste and forestry, do to contribute to Ontario’s 2020 and 2050 targets?
- What can government better do to encourage industry to further increase rates of innovation that would lead to improved productivity of all capital, including natural capital, in order to reduce emissions?
- What industry sectors may best be able to achieve voluntary emissions reductions by 2020 and by 2050 sufficient to achieve Ontario’s emissions targets?
- What role can the agricultural and forestry sectors play in reducing emissions and/or providing carbon sinks or offsets?
- What role should land use planning have in affecting Ontario’s boreal carbon storage?
- Climate change will have an impact on Ontario’s food supply. What role should this issue play in Ontario’s climate strategy?
- How can Ontario best achieve reductions in emissions in the transportation sector sufficient to achieve Ontario’s targets?
- What are the barriers to uptake in low-emission, zero-emission, and electric vehicle use in Ontario?

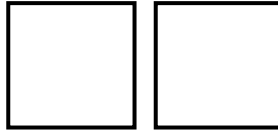
Waste management should be viewed from a holistic approach with the cascading benefits it can have to the energy, manufacturing, mining, agriculture, forestry and transportation sectors in reducing GHG emissions.

11. The City of London encourages the Province of Ontario to increase understanding and benefits of “fuel switching” (e.g., replacing one energy commodity with another in an energy application, such as replacing a gas-fired furnace with an electrically-driven ground-sourced



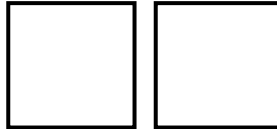
heat pump) where the GHG reduction benefits are cost-effective, rather than the current situation where provincial energy policies discourage or prohibit fuel-switching measures. For municipalities, subsidies or grants to convert from one fuel to another may be essential to help with the initial investment.

12. With respect to transportation systems, the City of London encourages the Province of Ontario to offer incentives specific to light rail transit to assist with switching from diesel powered buses to electrically driven systems that reduce the carbon footprint.
13. The City of London encourages the Province of Ontario to work with commercial building stakeholders to expand the use of voluntary commercial building environmental management practices in use for commercial buildings in major cities (e.g., BOMABEST in Toronto, Ottawa) to other cities in Ontario.
14. The City of London encourages the Province of Ontario to place a greater emphasis on combined heat and power for both net-metering applications as well as district energy systems (i.e., microgrids) where there is sufficient thermal energy needs to make CHP a cost-effective solution. Combined heat and power provides both climate change mitigation benefits (i.e., lower GHG emissions from greater end-utilization of energy content of fuels) and adaptation benefits (i.e., increased energy resiliency and security for buildings.)
15. The City of London encourages the Province of Ontario to place a greater emphasis on natural gas as a transportation fuel within Ontario's climate change action plan, such as assisting municipalities (and other "return-to-base" fleet operators) to use compressed natural gas (CNG) as a vehicle fuel in high-mileage applications such as solid waste collection and public transit, as well as assisting in the installation of liquefied natural gas (LNG) refueling infrastructure for freight transportation in strategic locations along the Province's 400-series highways, such as London. Replacing diesel fuel use with natural gas provides both GHG emission reductions and smog-forming criteria air contaminant emission reductions.
16. The City of London encourages the Province of Ontario to place a greater emphasis on the use of biogas (from agriculture, the food and beverage industry, and municipal sources) and landfill gas in renewable natural gas (RNG) applications such as space heating and vehicle fuel. The GHG reduction benefits are greater for these applications compared to offsetting emissions from a relatively clean electricity grid. When RNG is used as a vehicle fuel in CNG vehicles, it provides additional GHG reduction benefits over diesel fuel use.
17. The City of London encourages the Province of Ontario to the promotion and incentivizing of "eco-driving" behaviours, in partnership with key stakeholders such as Natural Resources Canada's ecoENERGY Efficiency for Vehicle program, the automobile insurance industry, the Canadian Automobile Association, provincial and municipal police forces, and municipal governments. According to Natural Resources Canada, aggressive driving (speeding on 400-series highways, "lead-foot" acceleration) can burn up to 35 percent more fuel per vehicle-kilometre compared to driving with safe, defensive, "eco-driving" techniques.
18. The City of London encourages the Province of Ontario to recognize the ecological "goods and services" that are provided by green infrastructure such as significant woodlands and valley-lands in addition to being carbon sinks and ensure these natural heritage components are protected as outlined in the Provincial Policy Statement (2014).
19. With respect to Forestry, which includes Urban Forestry and Natural Heritage Systems, the City of London encourages the Province to:
 - a. Adopt a strengthened management policy to ensure protection, restoration and stewardship of woodlands and wetlands in Southern Ontario where most of Ontario's residents reside. Some measures may include regional woodland targets, incentives to maintain or re-establish woodlands and encourage secondary uses of wood products.
 - b. Take a greater leadership and supportive role in the management of alien invasive species such as Emerald Ash Borer (EAB). Species such as EAB are recognized as serious threats to the province's natural resources yet the management is left to individual municipalities with little or no support or coordination from either Federal or



Provincial Governments.

- c. Establish a tree canopy cover target for various regions within the province and work with all tiers of government to develop a plan to meet these established targets.
 - d. Establish a provincial Urban Forestry Branch within the Ontario Ministry of Natural Resources and Forestry (similar to that provided by American State governments) to provide scientific, technical, professional and financial support to municipalities to proactively manage the Province's and Municipal natural areas.
 - e. Provide technical, operational and other funding support to municipalities and Conservation Authorities to manage national and provincial issues which effect the sustainability of urban forests and natural heritage areas such as Emerald Ash Borer.
 - f. Recognize urban trees and natural heritage areas are vulnerable to the impacts of climate change. They should be better recognized as natural capital, green infrastructure and valuable assets that increase in value over time.
 - g. Recognize urban forests and tree installation in infrastructure renewal funding just as other infrastructure such as roads, sidewalks and bridges. Funding for tree protection, maintenance and planting should be considered as legitimate operational costs of all infrastructure renewal projects.
 - h. To encourage an increased tree canopy cover in the Province of Ontario considerations should be given by the Province of Ontario to:
 - expand the existing resources and funding for municipalities, Conservation Authorities, charities and stewardship councils to promote and subsidize tree planting on private lands.
 - provide additional support and incentives for landowners to maintain or restore woodlands on lower-productivity lands.
 - i. Establish a Provincial emergency fund for the rapid response at both the provincial and municipal levels to an invasive species of significant economic and environmental impact such as (but not limited to) Asian carp or Asian Long Horn Beetle.
 - j. Support the creation and incentives for value-added forest industries in all parts of Ontario, especially in southern Ontario where a significant amount of woodland has been cut down for agriculture, industry and urbanization.
20. The City of London encourages the Province of Ontario to understand how and if other invasive species such as Phragmites and common buckthorn have more or less significant impacts in a changing climate.
21. With respect to the agriculture sector, specifically the transportation of agricultural produce from Southwestern Ontario, the Province of Ontario should encourage the establishment of regional food terminals outside of Toronto to avoid the unnecessary 400 kilometre round-trip transportation of food grown in Southwestern Ontario to the Toronto food terminal and back to London and area grocery stores.
22. The City of London encourages the Province of Ontario to place a greater emphasis on removing the barriers, both real and perceived, to the adoption of electric vehicles such as addressing range concerns compared to everyday vehicle needs, providing a variety of approaches for providing and managing publicly-accessible charging infrastructure in a financially-sustainable manner, and the ability to issue fines and/or tow combustion engine vehicles that park "illegally" in EV charging spots on private and public property. There is need for greater collaboration amongst key electric vehicle stakeholders such as local electricity distribution companies, EV manufacturers, automotive dealers, charging infrastructure providers, property owners and managers, and municipalities to address these barriers.



Communities and Built Form

23. The City of London believes that climate change challenges and opportunities are a shared responsibility at the local government level and our Community Energy Action Plan (CEAP) recognizes these responsibilities. The City of London encourages the Province of Ontario to involve other provincial ministries in the review and development of Ontario’s climate change action plan, given that climate change mitigation, climate change adaptation, and land-use planning issues do not fit neatly within any one Ministerial mandate. The ministries of energy, natural resources, infrastructure, municipal affairs and housing, economic development, environment, health, education, and transportation all have a shared mandate and responsibility for this.

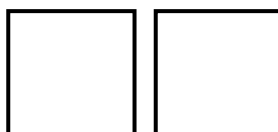
24. In addition to the focus on buildings and building design in the Discussion Paper, the Province of Ontario should also recognize the role of community and neighbourhood design in mitigating the impacts of climate change. Policies which call for mixed land uses, intensification along transit corridors and place-making design are all supportive of walkability and decreased private vehicle usage. The creation of walkable neighbourhoods integrated with natural heritage areas also provides for a mobility network which reduces auto-dependency, and therefore greenhouse gas emissions. The Discussion Paper should also reference the role of intra- and inter-city transit connections and the role of high speed rail in providing viable transportation alternatives to decrease the dependency on the private vehicle.

25. The City of London encourages the Province of Ontario to work with provincial ministries and agencies to provide municipalities with affordable and easy access to community energy planning data (e.g., utility data, property data, vehicle data) for purposes such as energy mapping and tracking improvements in energy performance by building type and age of building.

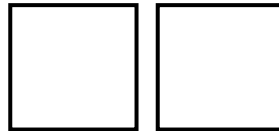
26. The City of London is pleased to see the progress being made by the Province with regard to the “Move Ontario Forward” plan, in particular the commitment to bring High Speed Rail to London. Building a seamless and integrated transportation network across the province is a key to strengthening our economy, ensuring that our communities can grow and prosper while at the same time reducing our impact on the environment. The City is committed to working with the Province on the Environmental Assessment for this project and on making this initiative a reality. Integrating the High Speed Rail project with the City own “Shift – London’s Rapid Transit” initiative is a key priority to ensure residents have viable transportation choices. As noted previously, the City of London encourages the Province of Ontario to offer incentives specific to the cost of changing from one transportation fuel type to another.

3. Communities & Built Form

- Transportation emissions have grown at a rate faster than any other class of emissions largely because of population growth and urban expansion. What role could the Growth Plan for the Greater Golden Horseshoe and other planning mechanisms play, in combination with other government initiatives such as electrified Regional Express Rail, in stabilizing the growth in transportation and building emissions?
- Building net zero communities and buildings are already possible from an engineering standpoint yet few have been constructed. In Ontario, what changes are needed to building codes and planning processes to ensure greater uptake with regard to geothermal, solar, wind, natural light, combined heat and power, community energy and other emerging technologies?
- Buildings must be operated as efficiently as possible – if not operated properly, “green” buildings cannot achieve their sustainability objectives. Does Ontario have the skill base to build and operate such buildings and communities and, if not, what more can be done to train the appropriate expertise?
- When including emissions from electrical demand and heating gas, buildings in Ontario already account for about 1/4 of our emissions. How could emissions from the existing building stock be reduced sufficiently to ensure Ontario achieves its targets?
- What more could be done to ensure more Ontarians have the capacity to invest in low-carbon buildings and technologies?
- Risk assessment will be critical in the design and rehabilitation of infrastructure. How can Ontario communities best determine their local vulnerabilities and risks, engaging local leaders in government, First Nations and Métis communities, and the private sector?



27. The Ontario Building Code (OBC) provides minimum standards for the health and safety of building occupants and has been amended recently to allow for stricter energy-efficient designs, providing multiple options for insulation, heating and ventilation requirements. The OBC does not contain requirements for expanded design options leading to a 'net-zero' building. Provisions for roof solar panel infrastructure, wall outlets for charging of e-vehicles, use of wind turbines are not mandatory. The City of London encourages the Province of Ontario to consider provisions in the OBC respecting 'net-zero' energy infrastructure
28. The Building Code is 'objective based'. Should alternatives be sought in the design and construction of buildings with voluntary green energy initiatives, these can currently be accommodated through an 'alternative solutions' approach. This is only based on a voluntary initiative from building designers. The City of London encourages the Province of Ontario to progress towards including provisions in the OBC resulting in 'net zero' building designs, where appropriate.
29. The City of London encourages the Province of Ontario to take a holistic approach to the design and development of new energy conservation programs that takes into account the interrelationship between power, heating, cooling, and water needs associated with buildings, facilities, and industrial processes. Conservation programs need to be delivered with a "building as a system" approach, rather than the narrow single-commodity focus usually associated with utility-delivered conservation programs in Ontario.
30. The City of London encourages the Province of Ontario to place a greater emphasis on lower-cost renewable thermal energy technology within Ontario's climate change action plan, such as solar thermal energy (space heating, water heating) and geexchange heat pumps for buildings. These technologies reduce the need for natural gas which accounts for 44 percent of London's GHG emissions (2013 data).
31. The City of London encourages the Province of Ontario to place a greater emphasis on district energy systems (i.e., microgrids) where there is sufficient thermal energy needs from mixed land uses and density to make district energy a cost-effective solution. District energy provides both climate change mitigation benefits (i.e., lower GHG emissions from greater end-utilization of energy content of fuels) and adaptation benefits (i.e., increased energy resiliency and security for buildings served by the DE system).
32. The City of London encourages the Province of Ontario to encourage the use of behind-the-meter combined heat and power (CHP) in existing and new high-rise residential buildings. In addition to the GHG mitigation benefits, there is the adaptation benefit of the ability to keep residents in their units supplied with heat, water supply, and emergency power in the event of a major power outage.
33. The City of London encourages the Province of Ontario to provide clarity on its intentions to employ utility bill financing for energy conservation retrofits, and the role this would play alongside the new financing mechanisms for energy and water conservation retrofits that have already been provided through the recent revision to the Local Improvement Charge (LIC) regulation. The City of London, along with other municipalities that participated in the Collaboration on Home Energy Efficiency Retrofits in Ontario (CHEERIO) project, have been studying the potential for using LICs for energy- and water-saving retrofits on residential properties, referred to in some jurisdictions as Property Assessed Clean Energy (PACE) financing. If the Province does introduce utility bill financing of energy conservation measures, this will have a significant impact on whether or not the new LIC capabilities are used for building energy retrofits.
34. The City of London requests that the Province of Ontario provide leadership with respect to the criteria to be used as a basis for designing and constructing stormwater management works and flood control structures. The City of London recommends that any future direction provided by the Province of Ontario have consideration for and differentiate between existing stormwater infrastructure in built-out areas versus new infrastructure in greenfield areas. A framework for sustainable provincial funding to support the construction of climate change impacted infrastructure based on the incremental increase in design criteria should also be established.



35. The City of London requests the Province to change the criteria for approving ground source heat pumps to be performed by licensed well drillers or qualified individuals rather than leaving this practice to unregulated installers. This would ensure that all the advances made in Source Water Protection are not jeopardized and ground water aquifers are not negatively impacted.

Price on Carbon

36. The City of London recognizes that carbon pricing is a significant step for the Province of Ontario and strongly encourages that evidence-based decision-making occurs before implementation. This would include comprehensive analysis on the experience and implications of introducing carbon pricing in British Columbia, Alberta, Quebec, select American states and Europe. Carbon pricing policies can have unintended consequences regarding energy and carbon policies. It is key that economic benefit and competitiveness is balanced with environmental benefit and includes timetables to minimize and address disruptions to certain business sectors. Not considering these issues in detail could result in more barriers for those trying to reduce emissions and risking our collective efforts to address climate change.

37. The City of London is supportive of carbon pricing in principle, as this approach is consistent with “user pays” or “polluter pays” approach that the City of London employs for funding municipal services such as water and sewer use.

38. The City of London encourages the Province of Ontario to develop a carbon pricing mechanism that is applied fairly to all energy end users. For example, if the proposed emissions cap and trade system was applied only to those “large emitters” that meet the Province of Ontario’s current requirements for reporting their GHG emissions, then carbon pricing would only be applied to five “large emitters” within London who account for only 10 percent of London’s annual GHG emissions.

39. The City of London encourages the Province of Ontario to consider a carbon pricing mechanism that is “revenue neutral” at the Provincial level, so that the overall financial burden on Londoners and London businesses is unchanged, and that financially rewards those households and businesses that do take action on reducing their GHG emissions.

40. The role of carbon pricing in relation to existing and proposed financial incentives for taking action needs to be clarified. For example, would carbon pricing make existing measures such as Feed-In Tariffs for renewable power generation redundant?

4. Price on Carbon

- This spring Ontario will confirm the market mechanism or mechanisms that will be used to price carbon in Ontario. Some of the goals of carbon pricing include:
 - i ensuring greenhouse gas emissions reduction certainty;
 - i supporting and encouraging innovation in industry;
 - i improving human, social, financial, produced and natural capital productivity; and to
 - i supporting households and business transition to the low carbon economy.
- Given the above, what market mechanism or mechanisms will best achieve these goals for Ontario?
- For those industries already facing challenges today due to changing economic conditions or technological advances in other jurisdictions, what carbon pricing market mechanism or mechanisms would be most beneficial? What design considerations should be taken into account?

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Science & Technology

41. The City of London encourages the Province of Ontario to consider mechanisms that encourage colleges and universities to work with local energy stakeholders (e.g., local industry, municipal government) on climate change mitigation and adaptation research projects that benefit the community within which they reside. To date, Western University and Fanshawe College has been on the leading edge on practical research dealing with climate change, sustainable energy and related matters.

5. Science & Technology

- In what areas of low-carbon science and technology does Ontario have competitive advantages or strategic interests?
- How can Ontario better support early stage research that could lead to the future commercialization of technologies that will provide economic benefits while also helping Ontario achieve its carbon reduction goals?