

Environment & Climate Division

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Via email to: integratedenergyplan@ontario.ca

Dear Ministry reviewers,

RE: ERO Posting 019-9285 "Integrated Energy Resource Plan Consultation"

I write to provide City staff comments on ERO Posting 019-9285 (the "Proposal") that seeks feedback from the public, stakeholders and Indigenous communities that will inform Ontario's first integrated energy resource plan (the "IERP"). These comments are informed by a number of City of Toronto staff who have reviewed the Proposal. The comments in this letter, and the detailed comments in the two appendices, apply to related postings given the significant interlinkages, specifically 019-9284, 019-9300, and 019-9324.

The IERP will be highly relevant to municipalities like Toronto that want to help residents and businesses save money on energy bills while also lowering greenhouse gas emissions and increasing the electrical system's resilience to future extreme weather. The energy transition offers many opportunities to address affordability but also has potential pitfalls that can lead to stranded assets and increased costs if not addressed proactively (e.g. fossil fuel infrastructure lock-in).

The context for these comments is Toronto City Council's adopted GHG emission reduction targets of 45% below 1990 levels by 2025, 65% below 1990 levels by 2030, and net zero by 2040 ([2021.IE26.16](#)) as part of the [TransformTO Net Zero Strategy](#) that envisions widespread electrification of transportation and building heating, supplied by an electricity grid that is both larger and decarbonized. Council supports a province-wide phase-out of natural gas fired generation as soon as possible ([2021.DM30.3](#)) and is specifically opposed to increasing gas-fired power generation at the Portlands Energy Centre located in Toronto ([2023.MM6.13](#); [2023.MM7.25](#)). Rising fossil fuel pollution from Ontario's electricity grid is due to continued – and increasing – reliance on natural gas generation. Instead, City Council favours rapidly increasing local renewable energy generation and storage, and maximizing cost-effective energy efficiency ([2024.MM19.9](#)) including the contributions of demand response and conservation to the provincial grid ([2021.IE26.16](#), #15(a)).

The comments are also informed by City staff's review of the Ministry's vision paper, [Ontario's Affordable Energy Future: The Pressing Case for More Power](#).

Detailed comments responding to many of the topics covered in the IERP Consultation posting and the Ministry's vision paper can be found the appendices attached to this letter.

Overall, the introduction of integrated energy resource planning in Ontario is welcome and can support development of a future energy system that serves the needs of Toronto and the province for reliable, affordable and low-carbon energy. City staff commend the marshalling of a holistic view that considers energy system needs from the perspective of energy generators, transmitters, distributors, traditional consumers (households, small business and industry) and emerging demand sources (EVs, building heat sector), all within the broader context of increasing electrification across the economy. It is evident in the Ministry's vision paper and the IERP consultation that this new planning approach holds significant potential.

City staff's key comments are:

- **Ensuring sufficient clean and reliable electricity for Toronto:** The Ministry should apply an overall and long-term net zero emissions lens to development and implementation of the IERP with respect to the electricity grid. This would align the IERP with the federal government's commitment to net zero emissions by 2050 and provide a critical support for the efforts of the City of Toronto and other major municipalities seeking to achieve net zero. As noted in the detailed comments in the appendices to this letter, the goals of ensuring reliable and affordable electricity for

Ontarians are generally served best by the collection of technologies and policies that produce lower grid emissions, from greater deployment of utility-scale clean generation to locally relevant distributed energy resources (DERs). Done right, net zero emissions in the energy sector can enhance reliability and overall affordability versus other future scenarios that rely more heavily on fossil fuels.

- **Transitioning away from fossil natural gas:** Ontario's fossil natural gas policy statement should provide clear direction on transitioning away from fossil natural gas as the dominant fuel used for heating. Again, this aligns strongly with the Province and City's shared goal of energy affordability, as the fixed costs of maintaining the gas grid while electrification increases over the coming decades raise important stranded asset risks for ratepayers, especially those more economically vulnerable. Significantly reducing reliance on gas in the buildings sector also offers the biggest potential for GHG emission reductions in Toronto and Ontario's other large cities.
- **Accelerating electrification in Toronto:** City staff are encouraged to see new programs and regulatory changes proposed for ensuring accelerated electrification of buildings and transportation, while both developing larger scale non-emitting energy generation alongside leveraging the ability of DERs to help lower emissions and energy system costs and increase system resilience. Including a focus on "vulnerable populations" when considering resilience in the electricity sector is an important objective.

If you have any questions about our submission, please contact Cecilia Fernandez, Manager, Policy and Research, Environment & Climate at Cecilia.Fernandez@toronto.ca.

Best Regards,

A handwritten signature in black ink that reads "James Nowlan". The signature is written in a cursive, flowing style.

James Nowlan
Executive Director
Environment & Climate Division

Appendix 1 – Detailed Comments on IERP Consultation

The comments below respond to ERO Posting 019-9285 and, where stated, to related postings given the significant interlinkages, specifically 019-9284, 019-9300, and 019-9324. The comments are also informed by City staff's review of the Ministry's vision paper, [Ontario's Affordable Energy Future: The Pressing Case for More Power](#).

Ensuring sufficient clean and reliable electricity for Toronto

- Delivering a net zero emissions electricity grid is paramount.
 - o A primary objective of the IERP with regard to the provincial electricity grid should be to ensure it is net zero emissions as soon as possible, and no later than 2040.
 - o Achieving a net zero emissions grid requires taking steps to phase out the use of fossil natural gas to generate electricity, including the Portlands Energy Centre in Toronto. Greater utilization of energy efficiency, distributed energy resources ("DERs") and grid-scale storage can significantly address the emerging supply and demand gap.¹
 - o New larger scale non-emitting grid-connected projects will also have to be developed, including from technologies and resources that are not currently being utilized.
- Fully leveraging local DERs can bring multiple benefits.
 - o The IERP should support the full leveraging of all local DERs (including but not limited to solar plus storage, bi-directional EV charging, and localized demand response) to the extent it better serves the goals of lowering emissions, increasing system reliability, and ensuring affordability and energy versus a transmission-heavy approach to meeting increased electricity demand in future. Where necessary, the IERP should plan for and ensure resourcing of additional transmission to provide Toronto with sufficient grid power, while minimizing the impact of any new transmission on the environment, sensitive land uses, and property.
 - o The IERP should support investments by local distribution companies to ensure sufficient capacity to meet localized demand, including accelerated electrification of buildings and transport, which is necessary for the City of Toronto's goal of net zero emissions by 2040 ([2021.IE26.16](#)). The IERP would also benefit from outlining how locally relevant DER data and studies can be integrated into planning led by the Ministry or provincial bodies like the IESO or Ontario Energy Board. For example, the City of Toronto is conducting an electricity needs assessment of the redevelopment of the Port Lands area that will include developing a demand model to evaluate the potential of integrating thermal energy networks and Distributed Energy Resources at both behind-the-meter and community-scale to ensure a low-carbon and resilient energy system. Such localized insights can enrich broader scale energy planning if properly integrated.
 - o City staff support the proposed regulatory change under Ontario Energy Board Act, 1998 (<https://ero.ontario.ca/notice/019-9300>) to reduce costs for "first mover" customers in high-growth areas where load growth materializing in the future is very likely, as this could support infrastructure development in Toronto.
- Improved energy planning processes should account for local net zero goals and energy needs.
 - o City staff support proposed amendments to the *Electricity Act, 1998* that, among other things, provide for the promotion of electrification and energy efficiency in order to use electricity to reduce overall emissions in Ontario as one of the purposes of the *Electricity Act, 1998* and the IESO. This is consistent with the focus on electrification in the TransformTO Net Zero Strategy. However, staff note that the full emission reduction benefit of electrification can only be realized through phasing out the use of fossil natural gas to generate electricity.
 - o The IERP should align with the emission goals of Toronto and other major Ontario cities by explicitly declaring a net zero emissions energy system for Ontario as a goal of the Government of Ontario.
 - o Greater coordination of electricity and natural gas planning should include both an emissions and affordability lens, in particular to determine outcomes that can deliver net zero emissions energy use at the lowest cost to energy ratepayers over the next several decades of the energy transition. Particular concern should be given to measures that ensure economically vulnerable ratepayers on the fossil natural gas

¹ See for example, Dunskey, "[Ontario's Distributed Energy Resources \(DER\) Potential Study](#)" (Sep 28, 2022), which concluded that there is sufficient economically viable DER potential to meet 100% of Ontario's anticipated growth in seasonal peak demand and found "DERs can play a vital role in reducing GHG emissions related to energy use in Ontario" even without accounting for the net GHG reductions from electrification that DERs help enable.

system are not subjected to escalated rates as increasing numbers of customers disconnect in favour of electrification.

- City staff support the priorities outlined in the Ministry's vision paper, in particular the calls for:
 - "[S]trengthened local energy planning, including through municipal guidance, support and capacity building". Municipalities with net zero plans, like Toronto, should be involved at every stage of local or regional energy planning cycles, and at key implementation stages of the forthcoming IERP.
 - An improved "Regional Planning Process so it supports coordination with natural gas planning, supports high growth regions and appropriately integrates municipal energy plans". This is critical given that fossil natural gas consumption is the leading source of GHG emissions in Toronto and most other large municipalities in Ontario. Demand forecasts for energy planning (including IERP and more local or regional planning) should account for the energy implications of municipal net zero goals, at least via scenario analysis.
 - Greater coordination between electricity and natural gas planning that "appropriately integrates municipal energy plans." For municipalities with net zero goals, this coordination should explicitly recognize that most energy demand currently served by fossil natural gas in the buildings and transport sectors will need to transition to electricity and continued business as usual approaches to planning for, and regulation of, the fossil natural gas system is not tenable.

Transitioning away from fossil natural gas

- Ontario's fossil natural gas policy statement should provide clear direction on transitioning away from fossil natural gas as the dominant fuel used for heating.
 - The IERP must recognize that electrification of building heating and domestic hot water will lead to a long-term decline of customers to pay for the fixed costs of the fossil natural gas distribution grid. Simply put, there is no way to decarbonize the buildings sector without transitioning away from fossil natural gas and the potential clean alternatives that could theoretically make full use of the existing distribution grid assets – renewable natural gas (RNG) and low-carbon hydrogen² – are unlikely to scale beyond niche use cases in hard to abate sectors. The fossil natural gas policy statement in the IERP should include considerations for avoiding negative affordability impacts from this transition on energy customers in Toronto and across Ontario. These considerations should include an equity lens to guard against economically vulnerable ratepayers on the fossil natural gas system being subjected to increasing rates as increasing numbers of customers disconnect in favour of electrification.
 - As part of ensuring affordability, the IERP should outline measures that proactively incentivize households and businesses to switch from fossil natural gas to clean energy sources for building heating, as well as undertaking energy efficiency measures that lower the impact of fuel switching on the electricity grid and therefore help lower overall system costs. Such measures could complement or enhance existing efforts at the municipal level, such as the City of Toronto's successful [Home Energy Loan Program](#) or the [High-Rise Retrofit Improvement Support Program](#). The IERP should ensure that any increases in energy costs are not passed on to lower-income renter households, an economically vulnerable population of particular concern to the City.
 - The Ontario Energy Board's decisions about maintenance and replacement of fossil natural gas distribution grid assets in the context of the energy transition should remain independent and evidence-based. Those decisions should not be subject to *post hoc* administrative or legislative overrides as this undermines the quality and fairness of the decision-making process.
- Increased energy efficiency will have affordability benefits for Torontonians.
 - Regarding consideration of energy efficiency and the affordability benefits of increased energy efficiency programming, City staff direct Ministry staff to Appendix 2 for City staff's comments on the 2025-2036 Electricity Energy Efficiency Framework (ERO Posting 019-9235).
- Hydrogen is unlikely to play a major role in Toronto's future energy system because it is not cost-competitive with electrification for the buildings and transportation sectors.
 - While low-carbon hydrogen³ has no end-use GHG emissions there is no credible evidence suggesting it will be an economically feasible as a broad scale, low emissions alternative to fossil natural gas, gasoline and diesel for the buildings and transportation sectors, respectively. This is without consideration of technical

² Meaning hydrogen produced through a process that has low lifecycle carbon emissions, which excludes hydrogen produced from fossil natural gas without full carbon capture and storage.

³ Meaning hydrogen produced through a process that has low lifecycle carbon emissions, which excludes hydrogen produced from fossil natural gas without full carbon capture and storage.

barriers to increased blending of hydrogen in the existing fossil natural gas distribution grid. For these reasons, City staff support focusing the renewed Low-Carbon Hydrogen Strategy ([ERO Posting 019-9324](#)) on more viable use cases such as hard-to-electrify customers the industrial sector.⁴ The IERP should be clear about the limited potential for low carbon hydrogen in the buildings and transportation sectors, as compared to electrification.

Accelerating electrification in Toronto

- Improving the speed and ease of last mile connections to energy systems can have economic and emission benefits.
 - o City staff support the inclusion of measures in the IERP to ensure last mile connections to homes and businesses are completed quickly to support growth. If changes to the regulatory framework and information sharing and communication practices at the local level are focused on enabling connections to the electricity grid and greater use of local DERs, this can benefit not just economic growth but also GHG emission reduction goals.
- Provincial support for EV charging infrastructure would align with Toronto's approach
 - o City staff support the EV priorities outlined in the Ministry's vision paper, in particular the calls for measures to "reduce barriers to the build out of affordable EV charging infrastructure" and "[s]trong collaboration across government ... to support continued growth in private and public EV charging infrastructure." This aligns with Toronto City Council's recent adoption of an approach to public EV charging that seeks to ensure sufficient public charging infrastructure will be in place to accommodate growth in EV ownership to 30 per cent of registered personal vehicles by 2030 (2024.IE16.5). Beyond approaches to reducing barriers and increasing collaboration across governments, the IERP should also outline Ontario's future approach to the funding of EV charging infrastructure.
 - o City staff support proposed changes to *Ontario Energy Board Act, 1998*, the *Electricity Act, 1998*, and the *Energy Consumer Protection Act, 2010* to confirm exemptions for EV charging activities. Enhanced regulatory certainty can help draw further financial investment into EV charging, in particular private EV charging.
- Increasing uptake of distributed energy resources (DERs) and incorporate thermal networks (i.e. district energy) into system design at the local level can help lower emissions and energy system costs, while enhancing system resilience
 - o Studies suggest DERs have significant untapped potential to help Ontario achieve ambitious GHG reduction goals in a way that is cost-effective both at the level of household or business utility bills and the overall energy system, and that contributes to GHG emission reductions.⁵
 - o Green building standards, such as the Toronto Green Standard, will ensure net-zero new development in Toronto by 2030, meaning that in future decades there will be limited, if any, energy efficiency measures that can help energy providers and asset owners to deal with load management. DERs and thermal networks play a critical role in balancing the grid for both current and future loads.
 - o The IERP should ensure the potential of DERs are fully explored and leveraged in energy system planning and should also identify and work to remove barriers to greater local uptake of DERs. This would align with Toronto City Council's identification of increasing local renewable energy to contribute to a resilient, carbon-free grid as a key goal for the TransformTO Net Zero Strategy.
- Resilience in the electricity sector becomes even more important as electrification picks up pace.
 - o City staff support consideration of electricity grid resiliency in IERP, and particularly support the Ministry vision paper's identified priority of "reducing impacts on vulnerable populations" as a key consideration in resilience and adaptation planning in the electricity sector.

⁴ Enbridge has only recently been directed by the Ontario Energy Board to expand the scope of its planned hydrogen grid study to include an assessment of the feasibility, cost, and ability to implement system modifications to serve a representative sample of hard-to-electrify industrial customers with 100% hydrogen (see EB-2024-0111). Results of this study will inform the viability of hydrogen blending into the grid beyond minority percentages.

⁵ See for example, Dunskey, "[Ontario's Distributed Energy Resources \(DER\) Potential Study](#)" (Sep 28, 2022), which concluded that there is sufficient economically viable DER potential to meet 100% of Ontario's anticipated growth in seasonal peak demand and found "DERs can play a vital role in reducing GHG emissions related to energy use in Ontario" even without accounting for the net GHG reductions from electrification that DERs help enable. See also ICF, "[IESO York Region Non-Wires Alternatives Demonstration Project: Evaluation Report](#)" (July 2024), which found DERs can provide net positive economic value as a solution for meeting local energy needs, particularly in areas like Toronto that have distribution and/or transmission constraints, rising electricity demand, and potential future retirements of (fossil) generation assets.

- City staff take note of the Ministry vision paper statement that “[a]ny efforts to enhance grid resiliency must be done in an economically efficient manner that prioritizes value for customers.” The approach to electricity grid resilience in the IERP should not prevent consideration or implementation of resilience measures that have positive return on investment when considered over the longer-term, or when a fulsome set of variables that include equity considerations is integrated. Studies consistently show that the economic value of measures to adapt to climate impacts have positive return on investment, usually by many multiples.⁶
- The IERP should note that where local climate projections are available, those should be factored into resilience planning to enhance granularity and local relevance. The City of Toronto’s new local climate projections can inform climate resilience planning for the Toronto electricity region.⁷

⁶ See for example, Canadian Climate Institute, “[Mobilizing Private Capital for Climate Adaptation Infrastructure](#)” (at p. 4).

⁷ <https://www.toronto.ca/services-payments/water-environment/environmentally-friendly-city-initiatives/becoming-a-climate-ready-toronto/>.

Appendix 2 - Detailed comments on the 2025-2036 Electricity Energy Efficiency Framework (ERO Posting 019-9235)

The context for the comments below on the Proposal are Toronto City Council's adopted GHG emission reduction targets of 45% below 1990 levels by 2025, 65% below 1990 levels by 2030, and net zero by 2040 ([2021.IE26.16](#)). The TransformTO Net Zero Strategy set out a blueprint for achieving these targets, calling for widespread electrification of transportation and building heating, supplied by an electricity grid that is both larger and decarbonized. As part of its net zero decision, City Council specifically requested Provincial action to develop and implement new ways to prioritize demand response and conservation in the electricity sector ([2021.IE26.16](#)).

Council also supports a province-wide phase-out of natural gas fired generation as soon as possible ([2021.DM30.3](#)). Council is specifically opposed to increasing gas-fired power generation at the Portlands Energy Centre located in Toronto ([2023.MM6.13](#); [2023.MM7.25](#)). Rising fossil fuel pollution from Ontario's electricity grid is due to continued – and increasing – reliance on natural gas generation. Instead, City Council favours rapidly increasing local renewable energy generation and storage, and maximizing cost-effective energy efficiency ([2024.MM19.9](#)). Provincial policies that lead to increased energy efficiency coupled with renewable and energy storage projects are supported by Toronto to advance the phase-out of gas-fired generation in Toronto and across the province.

City staff are supportive of elements in the Proposal such as a broadening of energy efficiency programs to include more customers, including municipalities, and a stable funding commitment to ensure programs continue over the long-term. Giving more Toronto residents and businesses access to energy efficiency programs and enhancing certainty that programs will endure can help them save money on energy bills while also lowering greenhouse gas emissions.

Absent further details on the Proposal, City staff provide the following comments on how the Proposal could best be aligned with the TransformTO Net Zero Strategy and Council-adopted goals referenced above that seek both energy efficiency and greenhouse gas emission reductions:

- With respect to beneficial electrification:
 - The definition for electricity energy efficiency programming should include beneficial electrification. Beneficial electrification can improve customer understanding of the most feasible and cost-effective pathways to decarbonize buildings. Building electrification via heat pumps provides benefits such as reducing GHG emissions and improving air quality and health by replacing fossil fuel combustion in appliances and improving comfort and resiliency. The Ministry can establish clear parameters around what constitutes acceptable fuel-switching such as replacing fossil fuel use with efficient electricity-powered options reducing overall GHG emissions.
 - The inclusion of beneficial electrification reflects a paradigm shift in the conventional definition of CDM programming and is aligned with Toronto's goal of net zero emissions by 2040. In the past, fuel-switching activities have been excluded from allowable electricity CDM and natural gas Demand Side Management (DSM) activities to avoid conflicting objectives between natural gas and electric utilities.
 - The Proposal should set specific objectives and/or targets relating to beneficial electrification. In order to support this objective, both natural gas and electric utilities should be empowered to pursue fuel-switching projects and support fuel switching measures. Harmonization between gas and electric fuel-switching projects would require guidelines around the costs of fuel-switching measures for ratepayers and how utilities should receive credit for supporting fuel-switching measures.
- With respect to residential buildings:
 - Incentivize electrically efficient equipment and programs to support their adoption in single- and multi-family residential programs including but not limited to heat pumps and smart home technologies, to help lower emissions for Toronto's largest source of greenhouse gas emissions – natural gas consumption in residential buildings.
- With respect to electric vehicles:
 - Incentivize personal electric vehicles and associated power management devices on residential chargers to address Toronto's second largest source of community wide emissions – emissions from gasoline vehicles.
 - Develop funding programs to support commercial electric vehicle projects associated with local electrical capacity upgrades.
 - Consider commercial electric vehicle rate design alternatives to decrease costs and incent demand management.
- With respect to the Industrial Conservation Initiative (ICI):

- Reduce the ICI threshold to 500 kW for all customers, rather than the subset of NAICS classifications. Current eligible customers are more likely to be critical services that cannot reduce demand during peak times. The collective ability of 500-1000 kW customers would have a larger impact during peak demand events.
- Increase number of peaks for the ICI program from five to ten. With increasing electrification and greater stress on the grid, the frequency of high electricity demand periods has increased. So far, the current cycle has seen the second highest set of peaks in over a decade. A larger number of peaks will incentivize ICI participants to implement automated demand response, rather than ad-hoc responses to demand peaks.
- With respect to potential Local Distribution Company (LDC) involvement in energy efficiency program delivery:
 - LDCs should be required to consult affected customers when completing infrastructure repairs (i.e. transformer replacements) to assess long-term electrification needs. Currently, LDCs may be replacing equipment with like-for-like, regardless of customers stated intention to electrify nearby facilities.