Feedback Form

Regional Electricity Planning in Burlington to Nanticoke – November 7, 2024

Feedback Provided by:

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Following the Burlington to Nanticoke region electricity planning engagement webinar held on October 24, 2024, the Independent Electricity System Operator (IESO) is seeking feedback on the draft recommendations as outlined during the presentation. A copy of the presentation as well as the recorded webinar can be accessed from the engagement webpage.

Local considerations and feedback are a critical component to the development of an Integrated Regional Resource Plan (IRRP). The IESO wants to hear from you.

Please submit your feedback to engagement@ieso.ca by **November 7, 2024**

CITY OF HAMILTON – SUBMISSION TO IESO
RE: Burlington to Nanticoke Regional Electricity Planning

What feedback is there on the proposed recommendations?

We understand that a Hamilton Addendum has yet to be finalized, but that a reference forecast for Hamilton was updated in June 2024 and that a high forecast has been created (6.7% near-term (5 years) and 3.3% average annual growth rate over 20 years). IESO has noted that 'electrification and decarbonization plans with a significant impact on the Hamilton area were identified after the September 2023 webinar' and that this resulted in the creation of the high forecast.

The City of Hamilton will provide detailed input to the IESO as the Hamilton Addendum

process unfolds over the coming year. It is also important to note at this point that there is interest and commitment at the City of Hamilton to non-wire solutions and DCM as integral elements of Hamilton's Climate Action Strategy (see mitigation plan core targets/actions set out in Appendix A).

Note, too, that the City's Community Energy and Emissions Plan includes an Action focused on working to develop a 'next generation' electrical grid:

CEEP Action 14 – Develop a next generation electrical grid (2022 – onwards)
Long-term electricity plan aligned with a net-zero future and significant local electrification (e.g., the LRT, commercial and personal EVs, increased solar PV, fuel switching from natural gas furnaces to electric heat pumps, etc.)

- A simple and easy program for new connections to the electricity grid for solar PV and EV charging stations.
- Investment by Alectra, Hydro One, IESO, and/or the Province

What information needs to be considered in these recommendations?
This submission from City of Hamilton staff is intended, in part, to highlight additional future demands that have emerged since September 2023 and to ensure that the IESO is aware of other key information regarding strategies that will likely increase demand for electricity (including targets set out in the Low Carbon Scenario that is central to Hamilton's community-wide Climate Action Strategy). Some of these key elements are described below.

Existing Policies/Strategies
Hamilton's Climate Action Strategy
Hamilton City Council approved a comprehensive Climate Action Strategy in August of 2022. The Strategy includes detailed mitigation and adaptation plans. Of greatest relevance to this context is the mitigation plan – known as Hamilton's Community Energy & Emissions Plan (CEEP). Appendix A includes a summary of targets that were established in the CEEP as part of the 'Modelled Low Carbon Scenario' for moving Hamilton as a whole to Net Zero by 2050.

Policies/Strategies currently under development:

Net Zero Standard for Municipal Facilities
The City of Hamilton is developing a **Net Zero Energy Performance Standard for all new municipal buildings** which is expected to be completed in 2025 and implemented starting in 2026. The municipality has already completed a **Pathway to Net Zero study for all existing municipal facilities** and is actively exploring ways to fund and implement deep energy retrofits of existing facilities.

Electric Vehicle Strategy and Zoning to Support EV Infrastructure
The City has also initiated the development of an **Electric Vehicle Strategy** which will aim

to ensure that the infrastructure and capacity is in place to support the implementation of the municipality's Green Fleet Strategy and to support the broader community transition to electric vehicles, including e-bikes.

Green Building Standards
In October 2024, Hamilton City Council **endorsed Green Building Standards** that include energy performance and greenhouse gas emission reduction criteria. City staff are currently working to develop an implementation strategy for the emerging Green Building Standard that will be presented to Council in Q1 of 2025. Detailed mandatory and voluntary elements of the proposed Green Building Standards can be found here:
https://pub-hamilton.escribemeetings.com/filestream.ashx?DocumentId=422259

Incentive Programs for Retrofitting Existing Business and Industrial Facilities
The City of Hamilton's Economic Development Division is currently exploring ways to encourage and support deep energy retrofits of existing business and industrial facilities in this part of the City. These transitions may require additional electricity from the grid in order to proceed.

Municipally Initiated and Imposed Changes With Potential Future Impacts:

Exploring Feasibility of Accelerating Hamilton's 2050 Net Zero Target
In October 2024 City staff were directed by Council to explore the feasibility of accelerating Hamilton's 2050 net zero target and to report back in June of 2025. While the outcome of the feasibility assessment is still to be determined, should an acceleration be approved, it could result in a shifting of timelines for targets set out in Appendix A that leads to a 'front-ending' / fast-tracking of industry, building, and transportation decarbonization efforts across the municipality.

Possibility of Urban Boundary Expansions
Changes to the provincial planning framework have resulted in the possibility of urban boundary expansions in the City of Hamilton, despite the Hamilton City Council commitment to a firm urban boundary. Should boundary expansions proceed, this will result in new demands for service and associated infrastructure.

How can the IESO continue to engage with communities and stakeholders as these recommendations are implemented, or in preparation for the upcoming addendum?

City of Hamilton Internal **Climate Change Initiatives Steering Committee** – Corporate-wide Director-level group that meets monthly to track corporate progress with implementation of City's obligations in Hamiltons' Climate Action Strategy. Contact for this group = Lynda Lukasik ([redacted]), Office of Climate Change Initiatives.

City of Hamilton – external facing community **Climate Change Advisory Committee** – a formal Advisory Committee that reports up to the City of Hamilton's General Issues Committee. The Committee has 26 members, representing a diversity of community

perspectives and includes 3 non-voting councillor members. Staff contact for CCAC is Beatrice Ekoko from the Office of Climate Change Initiatives – [redacted].

City staff are also happy to share details for other local associations and organizations that IESO should be contacting/engaging in this process moving forward.

What are some key developments, projects or initiatives that should be considered as the Hamilton demand forecast is finalized?

See list provided above in response to Question #2 and high level targets outlined in Appendix A.

APPENDIX A: TARGETS - HAMILTON'S COMMUNITY ENERGY & EMISSIONS PLAN

These targets were established in Hamilton's Community Energy & Emissions plan (our community climate mitigation plan) as part of the 'Modelled Low Carbon Scenario' for moving Hamilton (Corporation of City of Hamilton and Community-at-Large) to Net Zero by 2050.

LOW CARBON TRANSFORMATION #1: INNOVATING OUR INDUSTRY

Low Carbon Scenario Modelled Targets:

- Increase industrial efficiency (other than steel mills) by 50% from 2016 levels by 2050
- At the steel mills, reduce GHG emissions by 50% from 2016 levels by 2035 and achieve net-zero emissions by 2050

LOW CARBON TRANSFORMATION #2: TRANFORMING OUR BUILDINGS

Low Carbon Scenario Modelled Targets:

- Retrofit 100% of commercial buildings, increasing energy efficiency by 50% by 2050 relative to 2016 levels
- New commercial buildings are 60% lower in energy use intensity than 2016 levels by 2050
- Retrofit 100% of existing homes to achieve 50% energy efficiency savings relative to 2016 by 2050
- Post-retrofits, switch buildings to heat pumps for space and water heating by 2050
- By 2031, new dwellings are 60% more energy efficient relative to 2016. Only 20% of new dwellings are single family detached by 2050
- By 2050, all new municipal buildings achieve net-zero emissions
- By 2050, all municipal buildings are retrofitted to achieve 50% energy efficiency relative to 2016

LOW CARBON TRANSFORMATION #3: CHANGING HOW WE MOVE

Low Carbon Scenario Modelled Targets:

- 100% of new Personal Use Vehicles are electric by 2040
- By 2050, 100% of heavy-duty vehicles are green-hydrogen based and light duty commercial vehicles are electric
- Private vehicle trips decline by 9% relative to 2016 per person by 2020
- Vehicular trip length declines by 6% from 2016 levels by 2050
- Increase marine energy efficiency by 50% by 2050 relative to 2016

•100% of new municipal small and light-duty vehicles are electric by 2040
•100% of new municipal heavy-duty vehicles switch to clean hydrogen by 2040
•Decarbonize the transit fleet **by 2035**
•By 2050, 10% of short trips are completed by e-mobility or EV car-share
•Increase transit use **to 15% of trips by 2050** in the urban area
•By 2050, 50% of short-trips in the urban area take place through walking or cycling

LOW CARBON TRANSFORMATION #4: REVOLUTIONIZING RENEWABLES

Low Carbon Scenario Modelled Targets:
•In 2050, for each MWh of central electricity demand remaining after local renewable energy production, purchase a Renewable Energy Certificate (REC). (This action includes the modelled wind capacity)
•In order to replace the remaining natural gas in the City, green hydrogen (produced via renewable energy) is pumped into the natural gas distribution system
•By 2050, installation of 280 MW of ground mount solar PV, inside or outside the City boundary
•Expansion of the downtown district energy network powered by industrial residual heat
•By 2050, installation of rooftop solar PV capacity to power, on average, 50% of building electric load, before the introduction of heat pumps
•Starting in 2031, all new homes have 30% annual load coverage by solar PV, before the introduction of heat pumps
•Starting in 2026, all new commercial buildings include rooftop solar PV panels
•By 2050, 50% of municipal buildings will add rooftop solar PV, covering 30% of the buildings electric load
•By 2050, 95% of organic waste is sent to anaerobic digestion for local energy use
•Purchase remaining RNG needed to replace all remaining natural gas demand by 2050, starting in 2025

Low Carbon Transformation #5: Growing Green

Low Carbon Scenario Modelled Targets:
•Planting 50,000 trees a year through to 2050