

Jim Baxter, P.Eng., MBA  
Director, Environment & Energy

Metro Hall  
55 John Street, 2<sup>nd</sup> Floor  
Toronto ON M5V 3C6

Tel: 416-338-1295  
[Jim.Baxter@toronto.ca](mailto:Jim.Baxter@toronto.ca)  
[www.toronto.ca/environment](http://www.toronto.ca/environment)

July 24, 2019

Independent Electricity System Operator  
1600-120 Adelaide Street West  
Toronto, On M54H 1T1

[engagement@ieso.ca](mailto:engagement@ieso.ca)

**Re: Integrated Regional Resource Plan: Toronto Region  
Proposed Recommendations for Review and Comment  
July 11, 2019**

City of Toronto staff from the Environment & Energy Division (EED), City Planning, Economic Development & Culture, Corporate Finance, and the City Manager's Office, participated in meetings with representatives of the IESO, Hydro One, and Toronto Hydro on April 4<sup>th</sup> and May 16<sup>th</sup>, 2019. Staff from EED were also present at the May 22 Community Engagement Meeting. The following recommendations are based on the presentation materials and discussions that took place during these meetings.

Toronto's Integrated Regional Resource Plan must consider that Toronto faces the acute version of urban energy challenges, including:

**Population growth**

From July 2017 to July 2018, Toronto's population increased by over 77,000 people<sup>i</sup>. Although current population growth is generally in-line with the 2041 Growth Plan targets, there are areas where growth was more intense than expected, which can create electricity infrastructure "pinch-points" that are not visible at a system level<sup>ii</sup>.

Furthermore, Toronto's current residential development pipeline is 397,000 units, 84% of which is proposed in areas targeted for growth in the Official Plan<sup>iii</sup>. If fully built out and occupied, Toronto's population would be 103% of the Growth Plan target by 2041<sup>iv</sup>.

- **Recommendation 1:** That the IESO, Toronto Hydro, and Hydro One carefully monitor areas of residential intensification and, where potential infrastructure pinch-points are identified, they evaluate non-wires solutions in collaboration with City of Toronto staff so as not to become an impediment to housing development.

**Employment growth**

Toronto added nearly 27,000 jobs in 2018<sup>v</sup>, and 90% of non-residential growth is occurring in areas targeted in the Official Plan<sup>vi</sup>. The annual average over the past 10 years was more than three times the rate needed to meet the employment forecast<sup>vii</sup>, and City Planning's most recent scenarios indicate that Toronto could exceed the 2041 forecast by 2031.

Staff from Economic Development & Culture have noted that companies with critical functions (e.g. data centres) are choosing Toronto locations where power is available and reliable. For the growing film and television, logistics and distribution, and manufacturing sectors, reliability is essential.

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- **Recommendation 2:** That the IESO, Toronto Hydro, and Hydro One carefully monitor areas of employment intensification and, where potential infrastructure pinch-points are identified, they evaluate non-wires solutions in collaboration with City of Toronto staff so as not to become an impediment to economic development.

### **Transit development and electrification**

Numerous higher order transit projects for the Toronto area are currently in design and development or undergoing planning, including:

- Light rail projects on Eglinton Avenue, Finch Avenue West, Sheppard Avenue East and through the Central Waterfront
- Extension of Line 2 (Bloor-Danforth subway line) to Scarborough Centre
- The Ontario Line (formerly the Relief Line South and part of the Relief Line North)
- Electrification of GO lines as part of Regional Express Rail
- Smart Track<sup>vii</sup>

These projects will require significant investment in local and regional electricity infrastructure to provide capacity for traction power, which also creates an opportunity to plan for the resilience of the public transit network. For example, Metrolinx is developing a battery storage project in Mount Dennis that will support the Eglinton Crosstown LRT during power outages<sup>ix</sup>.

- **Recommendation 3:** That the IESO, Toronto Hydro, and Hydro One work with Metrolinx (and the TTC, where applicable) to plan for resilience to power outages as part of any new rail transit project, and that they evaluate proposed solutions in collaboration with City of Toronto staff.

### **Resilience to future extreme weather**

With Toronto's weather expected to become hotter, wetter, and wilder over the next 30 years, electricity infrastructure will be increasingly vulnerable to extreme heat, rainfall/flooding, and storms<sup>x</sup>. During IRRP meetings however, Toronto Hydro staff stated that extreme weather scenarios in the IRRP are based on past events that had major impacts. City staff pointed out that this may not be appropriate given future weather projections and instead suggested an alternative approach.

- **Recommendation 4:** That the IESO, Toronto Hydro, and Hydro One collaborate with City of Toronto staff to evaluate the potential future impacts of extreme weather on electricity infrastructure.

### **Climate change mitigation**

Toronto's climate action plan, TransformTO, aims to reduce GHG emissions 80% by 2050 predominantly through electrification of space and water heating, and transportation.<sup>xi</sup> Though there will continue to be a reliance on wires-based solutions, non-wires solutions are expected to play an increasingly larger role. New development, especially in areas where demand growth is expected to exceed capacity, represents the best opportunity to integrate non-wires solutions.

- **Recommendation 5:** That the IESO, Toronto Hydro, and Hydro One collaborate with City of Toronto staff to evaluate non-wires solutions in areas where demand growth is expected to exceed capacity at local transformer stations, or where there are regional transmission supply capacity constraints expected in the long-term.

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The IESO, Toronto Hydro, and Hydro One remarked several times during the engagement period that they would appreciate a continuous dialogue with City of Toronto staff in order to address the issues mentioned here. They also referenced specific locations Downtown and along the Eastern Waterfront, where concentrated growth and/or the presence of electricity assets may require closer collaboration with City staff. Finally, they indicated that they are already thinking ahead to the next Toronto IRRP given the current pace of change.

- **Recommendation 6:** That City of Toronto staff be included in the Technical Working Group for the next Toronto IRRP in order to collaborate most effectively.

A truly integrated energy plan requires the participation of other energy asset owners, which includes natural gas utilities, district energy companies, universities and colleges, healthcare facilities, and various private corporations.

- **Recommendation 7:** That the IESO, Toronto Hydro, and Hydro One collaborate with City of Toronto staff to identify all the necessary participants, including, but not limited to those within the sectors mentioned here, in the IRRP process so as to deliver a truly integrated energy plan for Toronto.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Baxter", written over a horizontal line.

Jim Baxter, P.Eng., MBA  
Director, Environment & Energy Division

<sup>i</sup> <https://www.ryerson.ca/cur/Blog/blogentry35/>

<sup>ii</sup> <http://www.ieso.ca/-/media/Files/IESO/Document-Library/regional-planning/Toronto/engagement/Toronto-IRRP-20190522-meeting-notes.pdf?la=en>

<sup>iii</sup> <https://www.toronto.ca/legdocs/mmis/2019/ph/bgrd/backgroundfile-135020.pdf>

<sup>iv</sup> Ibid.

<sup>v</sup> <https://www.toronto.ca/wp-content/uploads/2019/03/8fd3-Toronto-Employment-Survey-2018-Bulletin.pdf>

<sup>vi</sup> <https://www.toronto.ca/legdocs/mmis/2019/ph/bgrd/backgroundfile-135021.pdf>

<sup>vii</sup> <https://www.toronto.ca/legdocs/mmis/2019/ph/bgrd/backgroundfile-135384.pdf>

<sup>viii</sup> <https://www.toronto.ca/city-government/accountability-operations-customer-service/city-administration/city-managers-office/key-initiatives/transit-in-to-transit-expansion/>

<sup>ix</sup> <https://news.ontario.ca/mto/en/2018/02/ontario-reducing-emissions-on-eqfinton-crosstown-lrt.html>

<sup>x</sup> [https://www.toronto.ca/ext/digital\\_comm/pdfs/resilience-office/toronto-resilience-strategy.pdf](https://www.toronto.ca/ext/digital_comm/pdfs/resilience-office/toronto-resilience-strategy.pdf)

<sup>xi</sup> <https://www.toronto.ca/services-payments/water-environment/environmentally-friendly-city-initiatives/transformto/transformto-climate-action-strategy/>