

Integrated Regional Resource Plan for Toronto

Responses to public feedback on proposed recommendations

August 09, 2019

Following a community engagement meeting (with webinar access) held on May 22, 2019, the IESO [invited input](#) on the proposed recommendations to be included in the Integrated Regional Resource Plan (IRRP) for Toronto. Background information including the presentation material, meeting notes and recorded webinar are available on the [engagement webpage](#).

Feedback was received on the proposed recommendations from the following parties and is posted on the engagement webpage:

- [The Atmospheric Fund](#)
- [City of Toronto](#)
- [Toronto Resident\(1\)](#)
- [Toronto Resident\(2\)](#)

The table below summarizes the themes that emerged from feedback received and IESO responses. Themes include:

1. Non-wires alternatives
2. Considerations to inform future electricity needs in electricity system planning
3. Electrification (e.g., electric vehicles)
4. Costs of the electricity system
5. Composition of the Technical Working Group
6. Engagement/Education

The IESO appreciates the feedback received. It has been considered by the Technical Working Group* in finalizing the Integrated Regional Resource Plan (IRRP) for Toronto.

*The Toronto region IRRP Technical Working Group consists of Toronto Hydro, Hydro One Networks and the IESO

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Source	Feedback
Theme 1: Non-wires solutions	
Toronto Resident (2)	1. Investigate and implement battery storage and power packs in conjunction with solar panels as part of electricity system planning
City of Toronto	2. Evaluate non-wires solutions in areas where demand growth is expected to exceed capacity at the distribution and/or transmission levels.
The Atmospheric Fund	3. Conservation and demand management should be considered to avoid future energy costs to meet Toronto energy needs – avoided costs could be used in the development of a further CDM framework.
Working Group Response:	
<p>Non-wires alternative (NWA) options should be considered when addressing needs identified by the IRRP, and opportunities for NWAs are referenced for several capacity-related needs in the IRRP report.</p> <p>For example, the IRRP identifies that urban growth and economic development around Basin TS is anticipated to result in the station’s capacity being exceeded at the latter stages of the study period. The IRRP recommends that Toronto Hydro coordinate solutions to address this growth, including consideration of potential NWA options.</p> <p>The IRRP also identifies that regional transmission supply capacity at Leaside TS and Manby TS will reach limits near the end of the study period. This provides the IESO, Hydro One, Toronto Hydro sufficient time to prepare solutions, including NWA options. This work will include better defining the needs according to the season and duration (e.g., load profile) in order to assess the full range of potential alternatives, including wires and non-wires. Refer to the IRRP Section 7.3 for this discussion. The IESO also recognizes that there are barriers to the implementation of NWAs. These barriers, in addition to research and opportunities for demonstration</p>	

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and evaluation projects, are being investigated within the scope of the work plan for the IESO's Innovation Roadmap. These activities are described further in Section 7 of the IRRP report.	
Theme 2: Considerations to inform future electricity needs in electricity system planning	
Toronto Resident (2)	4. Consider other ways to accommodate the City's needs when creating transmission corridors – i.e. underground
<p>Response:</p> <p>Throughout the province, existing rights-of-ways for electric infrastructure are used as efficiently as possible before any new rights-of-way are proposed. No new rights-of-way or transmission corridors are being proposed in this IRRP. Should they be needed in the future, careful consideration will be given to whether those will be overhead or underground. Issues such as cost, aesthetics, clearances, constructability, maintainability, conflict with existing infrastructure will all be considered.</p>	
Toronto Resident (2)	5. Power requirements of the internet need to be considered.
City of Toronto	6. Monitor population growth for Toronto particularly in areas of residential intensification where non-wires solutions (not transmission) will need to be used to accommodate growth
	7. Monitor areas of employment intensification and consider non-wires solutions to support the City's economic development goals
<p>Response:</p> <p>Outlooks for electricity demand are an essential and integral part of regional electricity planning. The outlooks that have informed this IRRP have a spatial resolution that allow areas of growth to be clearly visible. It is already anticipated that electricity demand growth due to both population and commercial activity will create local and regional capacity issues in the long term. The process of developing outlooks, including medium-term and long-term forecasts is on-going, with updates done yearly to ensure sufficient</p>	

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	time will be available to evaluate both wires and NWAs as solutions to address any needs that arise. Further, monitoring growth trends is an integral aspect of the recommendations set forth in the IRRP (refer to Section 7.5).
City of Toronto	8. Evaluate future potential impacts of extreme weather on electricity infrastructure
Response: <p>We recognize the potential effects of climate change on our electricity system – particularly how extreme weather events (e.g. flooding, storms) can severely impact parts of the grid. In 2013, the IESO conducted an assessment of the amount of load that could be restored following specific extreme contingencies involving the system that supplies downtown Toronto. An update to this study was conducted as part of the 2019 IRRP. This work found that the impact of these extreme contingencies on the 115 kV transmission system is limited to temporary load interruptions within the Toronto region.</p> <p>Although the results of these assessments are not made public due to security concerns related to the disclosure of possible system vulnerabilities, the ability of the electricity system to withstand weather impacts, and to react and respond to acute stressors (including restoration of loads following events) is central to both planning and the real-time operation of the electric power system.</p>	

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Theme 3: Electrification

Toronto Resident (2)	9. Attention needs to be given to the future electricity needs to support electrification of vehicles.
City of Toronto	10. Work with Metrolinx and TTC to plan for resilience/reliability in future rail transit projects

Response:

Adoption of electric vehicles, electrification of mass transit and other drivers related to the changing use of electricity were explicitly included in the outlooks for electricity demand in this IRRP (Refer to Appendix B of the IRRP). The Toronto IRRP working group is continually assessing needs arising from the potential for increased electrification and growth of mass transit. In 2015, the IESO supported the expansion of Runnymede TS to address the capacity need to accommodate growth in the area including the Eglinton Crosstown LRT project. Recommended solutions in the 2019 IRRP will also enable electrification of mass transit. Increasing the capacity of the Richview TS to Manby TS transmission lines will enable new projects, such as Metrolinx's plan to electrify the Lakeshore West line, while maintaining system reliability.

In terms of accommodating the adoption of electric vehicles (EV), the IRRP planning studies show that the regional transmission system has capacity to accommodate the increased demand until the 2030 to 2040 timeframe. The IRRP recommendations focus on monitoring of growth trends, which would include EV adoption rates (when and where the information is available). If real-world evidence indicates that adoption of EVs is happening at a faster rate than anticipated, then planning studies can be re-initiated with time for the system to adapt.

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Theme 4: Costs of the electricity sector

Toronto Resident (1)	11. Any new demands on capacity should be paid for by new users coming onto the system.
	12. Breakdown of anticipated costs needs to be included in the options presented to meet the needs
	13. Consider investing depreciation costs/value in infrastructure for future investments.
City of Toronto	14. Provide more clarity and understanding on potential costs, schedule and scope of non-wires solutions in order to properly evaluate solutions to meet emerging capacity needs – particularly to accommodate any long lead times to factor into decision-making processes.

Response:

Solutions to longer term needs (e.g. local supply constraints, regional transmission needs) have ample time to consider all possible solutions, including NWA options, and the costs of options. It is the recommendation of the IESO to monitor these longer term needs with information garnered from local stakeholders, identify potential DER and energy efficiency solutions, and develop cost calculations on wires-based alternatives to inform the economic assessment of potential options.

With respect to how the costs related to solutions are approved and allocated, transmitters and distributors present their investment plans to be scrutinized by and approved by the Ontario Energy Board. Those plans would include any costs that would arise from Regional Planning. The cost implications of solutions to short term needs identified in this IRRP, such as end-of-life replacement needs, are being accounted for by Hydro One and Toronto Hydro in said investment plans.

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Theme 5: Technical Working Group

Toronto Resident (1)	15. Working group should expand beyond Hydro groups. Outside experts and users should provide input
City of Toronto	16. Include the City of Toronto in Technical Working Group discussions to provide valuable insights and information to inform electricity planning for Toronto
The Atmospheric Fund	17. Collaborate with the City of Toronto to evaluate delivery models and technical options for non-wires solutions in advance of next IRRP.

Response:

The IESO appreciates the ongoing interest to inform electricity planning for Toronto. Input from the City is not only valuable, it is critical to helping plan the technical requirements of the regional transmission system that helps support the City's electricity needs. Discussions among the members of the Technical Working Group are specific to assets owned, operated and managed by the group and industry provisions are in place to ensure that the protection of these assets are managed safely and reliably. During the development of the 2019 IRRP, members of the Working Group met with the City on a number of occasions to discuss electricity needs and obtain valuable insights into further plans for the City. These insights are reflected in the recommendations in the final IRRP. As mentioned in the [Response to Public Comments](#) in this region's Scoping Assessment, conducting these discussions with the City through the forum of the Working Group is not the most effective way of achieving these outcomes.

Going forward, all members of the Technical Working Group are committed to ongoing dialogue with key stakeholders, like the City of Toronto, to continue to monitor and plan for the future electricity needs of this region – particularly as developments in the downtown core and eastern waterfront evolve. This feedback is appreciated and is reflected in the final IRRP.

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Theme 6: Engagement / Education

Toronto Resident (1)

18. Consider ways to better communicate information in layman terms so that stakeholders are not overwhelmed by technical information.

19. Consider using surveys as a way to work with stakeholders to better understand customer needs.

20. Collaborate with the City of Toronto to identify all the necessary participants, including natural gas, district energy companies, universities and colleges, healthcare and other private corporations, to provide input in the development of an integrated energy plan for Toronto

Response:

The engagements conducted for the 2015 Toronto IRRP involved surveys, focus groups, and other means to help the working group better understand the needs and preferences concerning electricity, reliability, and costs from the perspectives of customers. The findings from these engagements are reported in the Appendices to the 2015 Central Toronto IRRP.

Following the completion of the first planning cycle, the IESO conducted a survey of active participants (e.g., local advisory committee) to identify opportunities for enhancements in future regional planning engagement efforts. This new planning cycle afforded the IESO with the opportunity for renewed approaches to engagement and to clearly define the criteria for input. As such the IESO's strategy to enhance engagement in regional planning in this planning cycle included:

- Broadening and enhancing relationships with municipalities and the communities that they serve
- Building education capacity in electricity matters to equip communities to provide local input on electricity planning
- Establish methods for continuous dialogue with municipalities and their communities
- Increase transparency and broaden opportunities for engagement in regional planning efforts

To address survey feedback and to align with IESO Engagement Principles/Process, the following was implemented in this second planning cycle:

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- Create an engagement approach to ensure that opportunities for input from broader audiences on IRRP development are available
- Develop an outreach plan to help identify key stakeholders and to inform an effective and targeted engagement approach
- Create a dedicated webpage to provide access to all materials related each regional planning engagement process
- Enhanced tools for engagement – i.e. webinars, increased web presence with a dedicated webpage to publish all materials related each regional planning engagement process
- Increased transparency in feedback loop
 - All feedback received is posted on engagement webpage
 - IESO responses to the feedback are posted; responses indicate how the feedback will be considered to shape next steps in engagement
 - Details are outlined with the final IRRP document where feedback has been used to shaped a decision/direction

This feedback will be used to enhance future enhance opportunities – including the use of surveys to seek specific customer needs as well as an ongoing focus to provide education/information to continue attract valuable input into these important discussions.