

Peterborough to Kingston Regional Electricity Planning Public webinar #1 – March 25, 2021

Responses to feedback received

The IESO hosted a public webinar for the Peterborough to Kingston long-term electricity plan – Integrated Regional Resource Plan (IRRP) – on March 25, 2021 to seek input on the demand forecast, early identified needs and proposed plan for engagement on the IRRP. The presentation material and recorded webinar are available on the [engagement webpage](#).

Feedback was received from the following parties and the full submission can be viewed on the engagement webpage:

- City of Kingston

The section below summarizes the themes that emerged from the feedback submitted and IESO responses. The IESO appreciates the feedback received, which has been considered by the Peterborough to Kingston IRRP Technical Working Group¹ as potential options to meet the region's future electricity needs continue to be evaluated.

Theme 1: Development of Load Forecast

Feedback: Suggestion to include a high-growth gross demand/planning scenario within and beyond the confirmed five-year period to reflect future transition to electrification in buildings and vehicles from 2023 – 2038. This includes electrification of transit, municipal fleet and electric ferries for Wolfe and Amherst Islands. Defaulting to projected growth rates of <1% in the mid- to long-term horizon will likely impede this shift in innovation by not allowing enough lead time for additional transmission infrastructure to be built. The City, along with many businesses and customers within the City, all have aggressive decarbonization targets and climate action/energy plans that will involve new projects requiring additional electricity within the 2021-2026+ timeframe.

IESO response: The IESO recognizes the views voiced by communities and stakeholders with respect to the impact of electrification on the transmission system for the region. Over the next few months, the IRRP Technical Working Group will put together a high-growth demand forecast scenario which aims to capture the increasing interest and implementation plans for electrification

¹ The Peterborough to Kingston IRRP Technical Working Group consists of the IESO, Eastern Ontario Power, Elexicon Energy, Kingston Hydro, Lakefront Utilities, Peterborough Utilities, Hydro One Networks, and the IESO

to help inform mid- to long-term options evaluation. This high-growth demand forecast scenario will be shared with stakeholders as part of the next steps in this engagement initiative. The IESO would welcome further feedback from the City of Kingston on this scenario once a draft is ready for comment. The additional insight into a community's plans is appreciated and a helpful part of the planning process.

Feedback: Recognize infrastructure planning needs for potential areas of new concentrated energy demand based on municipal intensification policies and targets, as well as new greenfield business park developments without the requirement of having confirmed customer loads estimates. New developments that aren't currently known will be coming online within five years and fall between current planning cycle and next in 2025/2026.

IESO response: The high-growth demand forecast scenario that the Technical Working Group will be developing will be used to test the suitability of the IRRP's recommendations should the region see greater load growth than the reference growth scenario depicts. Further, if there is new information that indicates significant load growth compared to the forecasted load or other regional needs, the IRRP process can be triggered to commence earlier in advance of the next scheduled planning cycle. The process is conducted every five years at minimum and regions are continuously monitored in between formal planning cycles.

Feedback: Consider adding transmission capacity in the next five years to Gardiner/Frontenac TS to accommodate growth in the downtown and east areas of Kingston. The City has numerous land use planning policy projects underway that encourage higher densities in Kingston which will increase the demand for electricity and development timelines are not anticipated to align with electricity planning timelines.

IESO response: The Technical Working Group will be reviewing options to address identified needs. These options will include potential upgrades to the Gardiner TS and/or Frontenac area supply, and any associated upstream transmission reinforcements.

Theme 2: Behind the Meter Generation

Feedback: Behind the meter solutions should be prioritized to limit the economic impact of Ontario becoming an electricity importer within the next several years.

IESO response:

Behind the meter – or distributed energy resources (DERs) – are one of the most significant changes to the electricity system in recent years and the IESO is working to continue to improve how this type of generation is incorporated in planning activities, and gain better visibility into the

impact that they can have on the local grid. Impacts of existing or known future DERs are considered in the local planning forecasts and incorporated into the planning study when assessing regional needs. Work continues on how to further identify where new DERs or non-wires alternatives (NWAs) may be a potential option to help address specific electricity needs, when and where technically feasible. As an outcome of the recently completed [Regional Planning Process Review](#), next steps related to addressing barriers to NWAs in regional planning have been identified and work has begun on changes to the regional planning process and tools to increase the consistency and rigour of screening for and analysing these opportunities. Updates on this initiative will be presented through the [IESO's Engagement days](#) in the early fall of 2021.

The IESO's work to identify and address barriers to NWAs in regional planning has been informed by a number of innovative pilot programs and procurements undertaken to foster innovation and enhance understanding of the capabilities that DERs can provide as an alternative to traditional transmission line solutions to meet local capacity and other system needs. These include a Demand Response pilot, a residential integrated solar-plus-storage and energy management pilot, a two-phased energy storage procurement, supporting a number of DER-related projects through the IESO's Grid Innovation Fund, and more. You can read more about these initiatives on the IESO's [website](#). The IESO is also working with various stakeholders to develop a series of [Innovative and Sector Evolution white papers](#) to support the creation of a shared and fact-based understanding of emerging trends and opportunities that have the potential to significantly impact the future of Ontario's electricity system and broader electricity sector. A white paper titled [Distributed Energy Resources: Models for Expanded Participation in Wholesale Markets](#) is available online.

The IESO also worked with stakeholders to develop the [Innovation Roadmap](#); a work plan that frames a path forward to focus and coordinate IESO and sector efforts on emerging technologies, increase the transparency and visibility of resources operating on the distribution system, and continue to work with stakeholders to further investigate opportunities to leverage existing and new resources. Further to this, as part of the broader [Enabling Resources](#) initiative, the IESO is developing a DER Potential Study and Roadmap with a keen interest of learning more about the types of DERs that are likely to emerge in Ontario over the next decade, and engagement is anticipated to take place in June. The work to address barriers to NWAs in regional planning is part of the overall DER roadmap. You can email engagement@ieso.ca to be added to the email list for communications related to this engagement or to submit comments and enquiries.

Theme 3: The IRRP Planning Process

Feedback: The IRRP process seems to be a short-term planning process which discounts consideration of longer-term impacts and larger macro trends occurring in community development and the broader economy. If the IRRP is to more adequately plan to meet electricity infrastructure needs beyond a five-year window, additional process considerations are required as

outlined during the March 25th public webinar as well as summarized within the City of Kingston's feedback submission, specifically, the City's concern with potential issues of having sufficient electricity capacity to accommodate local economic growth, community development and achieving greenhouse gas reduction targets. A forward-thinking approach to infrastructure planning is necessary to avoid critical impact on environmental, intensification, electrification and economic development targets and opportunities now and over the coming years.

IESO Response: The IRRP process considers needs over the near- (up to five years), mid- (5 to 10 years) and long-term (10+ year) horizons. For this IRRP, two forecasts are being developed. A reference scenario and a high-growth scenario. Using these two forecasts, system needs and timing are established. Recommended options are developed to address these needs, and evaluated primarily on a basis of cost and reliability impact, and also consider factors such as flexibility, lead time, risk of over or under building, and community preference. The Technical Working Group will make recommendations in the final IRRP report on the basis of this analysis. Through this exercise, Frontenac and Gardiner station capacity needs will be reviewed over the 20-year horizon to ensure that adequate long-term supply of electricity will be achieved in a cost-effective manner.

Theme 4: Future Engagement

Feedback: A clear map of the area transmission and distribution system with geographical context would be helpful information as reference going forward.

IESO response: The IESO will be sure to include a map that has a transmission system overlay as part of future engagement discussions.

Feedback: Existing large energy users in the Industrial Conservation Initiative (ICI) sector need to be consulted more directly for the IESO to learn about expansion plans in the near future, as they are critical stakeholders to be engaged during the IRRP process.

IESO response: The importance of engaging with customers within the region in order to gain a better understanding of load growth for the system is understood priority. Local distribution companies participating in the region have conversations with their customers of this nature to help inform their demand forecasts, as well as ongoing conversations that the IESO has with local communities and transmission-connected stakeholders. The IESO will continue to work with the Technical Working Group, stakeholders and communities to look at ways to broaden our outreach to ensure that the necessary customers have been engaged and their input taken into consideration for the IRRP.