Regional Electricity Planning in Toronto –

December 5, 2024

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To promote transparency, feedback submitted will be posted on this engagement webpage unless otherwise requested by the sender.

Following the Toronto regional planning webinar held on December 5, 2024, the Independent Electricity System Operator (IESO) is seeking feedback on the draft regional electricity needs and the Local Achievable Potential Study. A copy of the presentations as well as recordings of the sessions can be accessed from the engagement web page.

Please submit feedback to engagement@ieso.ca by January 3, 2025.

Regional Planning - Draft Electricity Needs

Topic	Feedback
What feedback do you have regarding the draft electricity needs identified?	EDC welcomes the Technical Working Group's commitment to evaluating scenarios without the Portlands Energy Center. There is a strong community preference for a scenario with significantly reduced reliance on the PEC. The plant is Toronto's largest emitter of greenhouse gases. It emits nitrogen oxides (NOx), known to cause asthma in young children and breathing difficulties for people with respiratory illnesses. The Toronto City Council voted twice against the expansion and passed a motion requesting the IESO to align Toronto's IRRP with the City 2040 Transform TO target by phasing out generation from Portlands Energy Center by 2035, except for emergencies. Local residents have been organizing under the banner of the Toronto East Residents for Renewable Energy (TERRE) to promote local renewable power to replace generation from the Portlands Energy Center. The plant's continued operation and potential expansion make it nearly impossible for Toronto to meet its emissions reduction target of 65% by 2030 and its TransformTO pledge to reach net zero emissions by 2040. It is also incompatible with the City's plan to redevelop the Portlands area and house thousands of people there.
What feedback do you have regarding how to meet the electricity needs to inform upcoming milestones?	We appreciate that the IESO is looking at wires and non-wires options for meeting the anticipated needs. We would encourage the IESO to exert a preference for non-wires options as these are typically more cost effective. The IESO must not rule out technically feasible options simply because they are not authorized due to regulatory gaps or legacy rules which should be reevaluated. At this early stage, the options report should reflect what is possible from a technological and technical standpoint, not from a political one.

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	This includes considering options such as: • Offshore wind in the Great Lakes, especially Lake Ontario In its September 2024 response to shareholder feedback, the IESO stated "offshore wind generation will not be considered since provincial policy has not changed." At this stage of the process, it is a mistake for the IESO not to consider all technologically feasible options. The IESO does not need to offer an opinion on whether the off-shore moratorium should be lifted, but merely to analyze the ability of offshore wind to meet Toronto's needs cost effectively. The IESO's report on how to meet demands should include all technically feasible options, and allow policymakers to address policy gaps to enable these options to be rolled out if they are deemed best for energy affordability, reliability and sustainability. • Solar Power The IESO should consider and analyse the full potential of solar power in the study area. This includes looking at the full potential of solar power on municipal buildings. Earlier this year, New York City Council passed legislation that commits to installing 100 megawatts (MW) of solar energy by 2030 and 150 MW by 2035 on city-owned buildings. Labour unions and environmental groups celebrated this as a way to bring local climate jobs to the city while addressing some of its growing energy needs. The City of Toronto has already started, with over 100 solar arrays installed on city-owned buildings, and should be leading by example by covering all eligible city-owned buildings with solar in the coming years. The IESO should also look at the solar potential of parking lots and other rooftops. The City of Toronto could produce up to 12 terawatt-hours (TWh) of clean energy annually

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	with solar power generated from rooftops and parking lots, according to Dr Heather McDiarmid in a report for the Ontario Clean Air Alliance. Numerous jurisdictions have embraced rooftop solar as a leading source of local clean power generation, including Germany's solar balconies and France's mandate for solar coverage on parking lots. An overview of European countries' approach to solar rooftop is available here: https://caneurope.org/rooftop-solar-pv-comparison-report/ • Expand demand-response and efficiency programs Demand response is not new to Ontario or Toronto, but its potential is still underexploited. Additionally, extreme weather events due to climate change create more frequent and intense peak demand periods which can be better managed. It is necessary for the IRRP to pursue all cost-effective conservation options before investing in new generations. The IESO should additionally explore a scenario where the government of Ontario updates the Ontario Building Code to include strong energy efficiency requirements for residential buildings, which would address concerns about municipal harmonization and unlock huge energy-saving potentials. The IESO must not rule out Vehicle to Everything options to support grid reliability.
What additional information should be considered as we screen high-level potential options?	Click or tap here to enter text.
What additional information should be provided in future engagements to help understand perspectives and insights?	If the IESO screens out potential options, it should provide a solid and defensible rationale as to why it did so, in each instance.

Local Achievable Potential Study (LAPS)

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What feedback do you have on the scope that the IESO should consider?	Vehicle-to-grid, and Vehicle-to-everything technologies should be in scope for this assessment. They are in use in numerous jurisdictions and given the forward-looking nature of the IRRP, it should include options for technologies which will rapidly continue to mature in the coming years. As per above, the IESO shouldn't be constrained by a "current policy scenario" but should look at the full economic potential of clean energy technologies to meet Toronto's demand. Furthermore, the IESO should not use past adoption rates to predict future adoption rates. The pace of the energy transition is picking up exponentially as prices plummet and we move up the technology adoption curve.
What feedback do you have on the methodology that the IESO should consider?	The LAPS's achievability criteria risk artificially narrowing the options by relying on outdated adoption rate rates and excluding options due to regulatory barriers which could rapidly be changed. The IESO should assess the potential under an optimal policy scenario that would push adoption rates as close to their economic potential as possible. Finally, the prioritization of comparable options should consider climate impacts. In setting its assumptions on adoption rates, the IESO must not solely rely on historical adoption rates in Ontario. Surveys or studies assessing current consumer preferences and attitudes toward renewable adoption should be considered as historical rates may not reflect the important change in public interest in climate solutions and affordability. The IESO must also use adoption rates for recent rollouts in comparable jurisdictions and in world leading jurisdictions to make its estimates. When looking at

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	successful programs elsewhere, the IESO should pay attention to the program designs, awareness campaigns and financial incentives that contributed to its success. We recommend that the study: • Adjust the cost-benefit framework to better include emissions reductions. • Explore scenarios with stronger policy-driven accelerations of adoption rates. • Consider the stranded asset risks of further investments into fossil fuel infrastructure as appetite for mitigating climate change increases. EDC notes the technical criteria set out that the potential is "capped by the network hosting capacity for the distributed energy resources". The IESO should clarify whether there are options to upgrade the network to increase capacity and accommodate for more DERs, if that is a more cost-effective approach.
What feedback do you have on the potential uses for the LAPS that the IESO should consider?	The IESO should be completely transparent regarding the assumptions that underpin its analysis and should publish all the data used to reach its conclusions - including tables and non-aggregated data. The IESO must ensure the City of Toronto is well equipped to do stakeholder engagement on the IRRP. The IESO must ensure it considers this input in its planning. Beyond its use for Toronto's IRRP, the study could be used to engage the broader community to accelerate the adoption of non-wire solutions. To do so, the IESO could: • Create an accessible version of the LAPS findings to inform and engage stakeholders, including community groups focused on housing, environment, climate, youth, etc…

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	• Support neighbourhood or building-level energy planning efforts by providing localized data and insights.
What additional sources or regional policies and trends should be considered?	The IESO should consider examples from other jurisdictions, including: • Berkeley Lab's analysis of solar-adopter demographic characteristics: https://emp.lbl.gov/publications/residential-solar-adopter-income-3 • Vermont's home battery incentive program: https://greenmountainpower.com/rebates-programs/home-energy-storage/bring-your-own-device/ • California's combined solar + storage program: https://investors.sunrun.com/news-events/press-releases/detail/279/sunrun-and-pge-collaborate-on-residential-battery-powered • Study of the adoption of rooftop solar photovoltaic panels in the UK: https://www.gov.uk/government/publications/adoption-of-rooftop-solar-photovoltaic-panels-in-the-uk • Prince Edward Island (PEI)'s significant increase in heat pump adoption thanks to targeted government programs: https://climateinstitute.ca/publications/heat-pumps-are-hot-in-the-maritimes/ • The oversubscription of the Canada Green Homes Grant, which demonstrated the public appetite for energy efficiency solutions when supported to address financial barriers

General Comments/Feedback

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