David Robertson
Chair, Ontario Project Group (SCAN!)

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By Email:

Re: IESO's Draft Toronto Integrated Regional Resource Plan Recommendations

The Independent Electricity System Operator (IESO) is Ontario's electricity system manager. It balances electricity supply and demand, sending electrons around the province 24/7, every day of the year. The IESO also notes that its goal is to develop a "reliable, affordable, sustainable, electricity system." And in doing so it is highly involved in planning the future of the electricity system, region by region and province wide.

The IESO is completing its planning process for the Toronto Region. It has developed a Toronto Integrated Regional Resource Plan (IRRP). The plan projects the growth of electricity over the next twenty years and provides recommendations for meeting the growing needs of Toronto.

The IESO informed the public of its recommendations in a public engagement webinar on September 25, 2025 and it is scheduled to released its final report on October 31, 2025.

Although the IESO planning review takes place every five years this one matters most. The next Toronto review will be in 2030, too late to influence critical climate target outcomes and too late to significantly shift energy pathways. The energy transition is time sensitive. The energy transition is taking off now. The pace of change is accelerating. The costs of renewables are plummeting. The opportunities for innovation and economic development are greater at the leading edge of the shift than at its lagging end. This is a critical time. Unfortunately, the current IESO recommendations will lock in energy choices for the next twenty years. Along the way we risk missing the renewable energy opportunities for climate action, good local jobs and sustainable communities.

1. The Wrong Way of Meeting Toronto Electricity Needs

The electricity growth projection for the region is huge. The IESO notes: “In Toronto, demand could grow by 70% to 100% by 2044.”

To meet those needs the IESO favours a highly centralized system of electricity generation and transmission. As the IESO notes “Large scale wire solutions will be needed”. The new large scale transmission system will be powered by refurbished nuclear plants, untested Small Modular Reactors and a continued role for fossil gas (methane) in the production of electricity. The electricity generated will be transmitted to Toronto by a new underwater cable that stretches from Bowmanville to the Port Lands area. The cost estimate for the 900 MW underwater cable is $1.5 Billion (The IESO notes it could be double that amount).

The IESO has very detailed plans for transformer station upgrades, additional load stations, new as well as, upgraded transmission lines and some new battery storage to handle the electricity load in Toronto. Behind these proposals the Ontario government has made a high-stake gamble on an energy future fuelled by costly nuclear, imported fossil gas and fossil gas based hydrogen.

To clear the way for its preferred choices in the “detailed options analysis’, the IESO has:

- provided low-ambition estimates for the potential energy savings from energy efficiency and demand response;
- seriously underestimated the potential for rooftop solar and for Distributed Energy Resources (DER) more generally;
- rejected out of hand offshore wind and other “transmission connected large generation such as wind and solar”;
- screened out a wide range of technical innovations such as balcony solar and parking lot solar;
- refused to consider the peak shaving, load shifting and demand response provided by electric Vehicle to Grid integration; and
- refused to comment on phasing out the Portland gas plant.

2. The IESO in Context: Limiting Options

While many of the IESO recommendations are technical and detailed, the overall context for its work is less revealed. We know how many kilometres of upgraded transmission lines are being recommended but less is said about the broader energy choices that are behind the decisions.

The IESO’s planning objectives and processes are increasingly influenced by the Ontario government. Through legislation such as Bill 214, The Affordable Energy Act, and Bill 40, Protect Ontario by Securing Energy for Future generations Act (first reading June 2025) the mandate of the IESO has been modified to reflect the current government’s energy preferences and its commitment to a certain model of economic growth. In government statements and policy directives, most notably ‘Energy for Generations: Ontario’s Integrated Energy Plan to Power the Strongest Economy in the G7’, the government has clearly stated its preference for Small

Modular Reactors, new large scale nuclear reactors and fossil gas. The Ontario government has set narrow boundaries on the discussion of energy options. As a consequence, the IESO's mandate is not so much the development of a "reliable, affordable and sustainable' electricity system as it is to deliver on the Ford government's energy and economic priorities.

Another limiting factor is the IESO's own narrow, technical approach to energy planning. Despite assurances to the contrary, the IESO seems trapped in a siloed and disconnected model of energy development: Electricity is energy and energy is primarily about generation and transmission. In this approach broader questions get ignored: How energy choices affect the built environment or how urban design affects energy use? What is the relationship between energy choices and efforts to address the climate crisis? What energy choices provide the best opportunities for community development and good local jobs?

3. The Need for a Broader Framework:

At the COP 28 Climate Change Conference in 2023 governments agreed to double the annual rate of energy efficiency improvement and to triple renewable energy capacity by 2030. Those agreements put the issue of energy efficiency at the forefront of policy discussions.. Around the world there are new projects, partnerships and organizations committed to high ambition goals to accelerate the renewable energy transition, to build more sustainable communities and to combat climate chaos. Many of those high ambition initiatives are driven by cities. Even in the U.S., where President Trump has waged a full assault on renewable energy, cities are charting a different energy course. As the Intergovernmental Panel on Climate Change tells us, if we are to protect the future, we need 'innovative and transformative' approaches.

4. Toronto at an Energy Crossroads:

Toronto is at an energy crossroads. One path is shaped by 'innovative and transformative' approaches to energy, emission reductions and urban design. It is a path where Toronto's energy future is shaped by urban design that favours low energy developments, an emission reduction strategy that meets and exceeds climate targets, stepped up efforts at reducing overall energy demand all coupled with an energy transition built on renewables and committed to equitable outcomes.

This is the path marked by a wide array of solar installations (rooftop, parking lot, balcony) offshore wind turbines, innovative technologies like vehicle to grid integration, building retrofits, and a shift away from fossil fuels. It is a path to affordable energy, skills development local jobs and sustainable communities.

The other path is committed to 'last century' technologies and energy choices—highly centralized, large scale, extremely expensive, slow to build, vulnerable to extreme weather, and plagued with reliability failures.

In the face of high ambition efforts around the world the IESO has countered with low ambition goals and wrong choices. Toronto energy needs are treated as a problem to be solved rather than as a solution to be built on.

5. TransformTO

"Toronto City Council has adopted an ambitious strategy to reduce community-wide greenhouse gas emissions in Toronto by 2040—10 years earlier than initially proposed. The city's 2040 target is one of the most ambitious in North America."

To reach those targets the city talks about transformation in a number of key areas, two of which are these:

- "Accelerate a rapid and significant reduction in natural gas use
- Increase local renewable energy to contribute to a resilient, carbon-free grid."

When the IESO's recommendations are evaluated against those goals its proposals fall short. Transform Toronto is a plan that integrates climate action with a renewable energy transition. The IESO plan for Toronto ignores climate action and shunts renewables to the sidelines.

6. The IESO and the Portland Gas Plant

The Portland gas plant (Portland Energy Centre) is a large fossil gas fired generating station on the waterfront in east Toronto. It is adjacent to lands slated for major new waterfront residential communities. It was first built as a peaker plant but now operates on a regular basis. The plant is increasing its capacity to produce more electricity. Local residents, environmental groups and the City of Toronto want the plant shutdown. TERRE is campaigning to have the plant phased down and out by 2030.

The IESO, in introducing the process of the IRRP, issued an information circular which noted:

"The objective of the plan is to ensure a reliable supply of electricity to Toronto for the next 20 years." It went on to emphasize, "This plan will also account for the impact of reducing reliance on Portland Energy centre in its recommendations."

Toronto City Council has explicitly asked the IESO to plan for the shutdown of the Portland gas plant.

In response, the IESO has stated, "The IRRP will not make a recommendation for timing to phase out for PEC—that is beyond the scope of the IRRP." While offering that conclusion a

senior IESO spokesperson noted that some people wanted the plant closed sooner, and some wanted it kept open longer. To characterize the closure of the gas plant as simply a difference of opinion is irresponsible.

The gas plant has been identified as Toronto's largest source of climate wrecking Green House Gases (GHG). In addition to emitting climate pollutants the plant is a major source of contaminants such as nitrogen oxides and particulate matter that affect air quality and pose a risk to human health. These risks also pose a threat to future residential developments.

The National Pollution Reporting Inventory (NPRI) has now released data for the Portland gas plant for the year 2024. The plant discharged more nitrogen oxides in 2024 than the year before. The increase was 17%. There is no safe level for nitrogen oxides. It is harmful to human health in any amounts. The Portland gas plant also increased its discharge of particulate matter (PM10) and Volatile Organic Compounds (VOC) also harmful to human health. The more the plant is used the more potential harm it causes.

The Portland Gas plant supplies about 20% of Toronto's peak electricity demand. While a sizeable figure there is convincing evidence from studies commissioned by Environment Defence and by the Ontario Clean Air Alliance, that the plant can be replaced by renewable energy.

The IESO needs to change its position on the role of the Portland gas plant.

7. The IESO and Vehicle to Grid Integration

Electric vehicles draw electricity from the grid to charge their batteries. In turn, the batteries can be used to power the grid when the vehicles are not in use. These bi-directional flows are known as 'Vehicle to Grid' integration.

TransformTO has a goal of electric vehicles (EV) representing "30 per cent of registered vehicles in Toronto" by 2030.

In the IESO's Local Achievable Potential Study, the high electrification scenario assumed that there will be a 30% EV adoption by 2030 and 100% by 2040.

But even at these proposed levels of electric vehicle adoption the IESO has ruled out Vehicle to Grid integration as part of the Toronto energy plan.

A recent study by Corporate Knights concludes there is a huge potential for Vehicle to Grid integration in Canada. The U.S. Department of Energy in January 2025, concluded "VGI will be a critical tool within the toolbox". Since electric vehicles are connected to the grid for long periods of time (vehicles sit idle most of the time) they can "provide a wide range of grid services such as peak shaving, load shifting and demand response."

While the IESO acknowledges that the battery energy from EVs is “undoubtedly large” it dismisses the potential as “not meaningful for planning purposes.”

There is a common trajectory in the development of innovative technologies, one that starts with demonstration projects moves to pilot initiatives and then to full scale programs. Vehicle to Grid integration is well underway. Demonstration projects have been replaced with extensive pilots. As governments introduce legislation (currently eight U.S. states) vehicle companies respond with bidirectional chargers and utilities develop pricing structures and incentives. This year, the US Department of Energy outlined a ten-year roadmap for Vehicle to Grid integration. The IESO’s Toronto plan has a time frame that extends twenty years to 2045. The shift from pilot projects to full scale Vehicle to Grid programs should be an important component of the IESO’s Toronto Plan.

8. The IESO and Renewable energy

The IESO has set a low ambition goal for energy savings that could be achieved from:
• Behind the Meter Distributed Energy Resources (DERs) including battery storage and solar.
• Energy efficiency measures including heat pumps, HVAC, lighting, appliances, weatherization, and hot water.
• Demand Response including EV charging, HVAC equipment, and water heaters.

The IESO acknowledges the very high potential these initiatives represent on a technical basis and a high potential, even on a cost justified, economic basis. But its modelling has effectively scaled back and substantially reduced what the IESO considers the ‘achievable potential’ those initiatives represent. There is a huge gap in the energy savings between what could be achieved on a technical basis, what could be achieved on an economic basis and what the IESO has identified as its goal. The more energy savings from those initiatives the less the need for new large-scale generation and transmission projects. The IESO is recommending large scale transmission projects which, in the course of things, will be tied into large scale generation.

Through the public engagement process the IESO has been provided studies (Environment Defence, Ontario Clean Air Alliance) that demonstrate a very large potential for roof top and parking lot solar in Toronto. Here again, there is a huge discrepancy between what the IESO has concluded is possible and what the research indicates.

When asked about the discrepancy between IESO estimates and the results of other studies the IESO responded: “As a general practice, the IESO does not comment on analysis produced by other parties.”

The IESO needs to change its low ambition energy savings estimates to a high ambition goal.

9. The IESO, the Third Line and Toronto’s Energy independence

President Trump has forcefully changed Canada-US relations. Trump's tariffs and his mercurial approach to foreign policy and diplomacy make clear the need to reduce our economic dependence on the United States. It is equally clear that relying on foreign sources of energy and energy technologies increases our vulnerability to political and trade disputes and undermines our sovereignty.

At a time when the country needs to decouple our economy from the U.S. and increase our energy independence the Ontario government is moving in the opposite direction. The government's support of fossil gas and Small Modular Reactors increase our dependence on US interests and our vulnerability to U.S. decisions.

Ontario relies for a growing share of its fossil gas supply on shale gas sources in northeastern U.S. The fossil gas we use to heat and cool our homes, power industry and convert into electricity we buy from the United States. That money is lost to the local economy. The longer we rely on fossil gas, the more we import and money that could be used for local renewable production is shipped across the border. Even so, the Ontario government supports a strong future for imported fracked gas.

Similarly, the government's commitment to foreign-owned GE-Hitachi for the design of the SMRs at Darlington reinforces our energy dependency. The SMR at Darlington will be the first foreign designed nuclear reactor in Canada. Once (if) it is in operation it will rely on enriched uranium as the fuel source, another troubling first for the country. The enriched uranium will be imported into Canada from the United States and other countries.

The IESO's recommendations in favour of a large scale, centralized transmission line (third line) that will be supplied, in large part, by nuclear reactors and fossil gas generating plants serves to increase our dependence on foreign energy and technology.

In July 2025, Toronto City Council adopted an update on the Mayor's Economic Action Plan in Response to US Tariffs. This is item 4 on the list:

"4. City Council direct the City Manager and the Executive Director, Environment, Climate and Forestry, to work with Toronto Hydro and The Atmospheric Fund to engage key stakeholders in the development of a report on "The Electrification Advantage" that outlines the accelerated concrete actions to increase the deployment of local renewables and help achieve the goals of the TransformTO climate strategy, enhance energy security, strengthen the long-term financial and environmental sustainability of Toronto, encourage innovation and job creation, and address long term affordability concerns for Toronto residents and businesses."

The IESO's plan for Toronto should help achieve City Council's expressed goals and the mayor's response to U.S. tariffs. Instead, the proposed recommendations for a third line can undermine the city's energy independence through an over-reliance on foreign sources of energy and technology.

According to the IESO, the proposed third line isn't needed until 2034 or 2038. There needs to be careful consideration given to postponing the decision on the third line until the IESO's next five-year review. In the meantime, the plan for Toronto's energy future should emphasize the renewable energy advantage.

10. Conclusion:

The IESO IRRP could have provided insights on emerging city-based best practices. It could have highlighted innovative energy approaches. It could have provided lessons on how barriers and challenges could be tackled. The IESO could have helped the city accelerate renewable, affordable and inclusive energy transitions. It could have helped ensure energy resilience. Or at least, it could have got out of the way and allowed the city to get on with the massive challenge of meeting ambitious climate targets, reducing energy demands, electrifying everything and building a more liveable community.