Ontario's Affordable Energy Future: The Pressing Case for More Power

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SUBMISSION OF HYDRO ONE NETWORKS INC.
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Ontario's energy policy will determine the success of our province, today and for the next generation.[1]

1. Summary

Ontario is growing rapidly, attracting new industrial load and accelerating the development of housing and infrastructure. Demand for electricity is quickly outpacing the system's ability to deliver it reliably.

Ontario will need 111 TWh more energy by 2050, a staggering 75 per cent increase in electricity demand over the next 25 years.[2] Our system is not currently structured to meet the pace of growth.

Hydro One, through its wholly-owned subsidiaries, is Ontario's largest electricity transmission and distribution provider with approximately 1.5 million customers and $32.8 billion in assets.

We will be a principal enabler of electrification in the province and are acutely aware of the need for a timely buildout of electricity infrastructure to successfully navigate the energy transition.

The current regulated transmission and distribution planning processes are not sufficient to advance and build out the grid of tomorrow fast enough to support the Government of Ontario (the "Government")'s priorities around housing, industrialization, decarbonization, and economic development, including export ambitions.

We must build faster. How do we do that?
With an unprecedented need for additional electricity and new access to the grid[3], planning must evolve preemptively to ensure it does not become a barrier to Ontario's growth and prosperity.

[1] *Ontario's Affordable Energy Future: The Pressing Case for More Power*.
[2] *Ibid.*
[3] The IESO is forecasting that Ontario energy demand will increase by 75 percent by 2050 – an update to previous forecasts confirming a steeper growth curve. Depending on the pace of electrification, population growth, and market factors, this forecast may increase by even more.

As the Electrification and Energy Transition Panel ("EETP") rightly recommended: "*in the rapid shift to electrification and the transformation toward a clean energy economy, the risk-return balance between proactive build-out of energy infrastructure and reactive planning has shifted*."[4]

Accordingly, Hydro One proposes the following key recommendations in response to the Government's energy vision as laid out in *Ontario's Affordable Energy Future: The Pressing Case for More Power*:

Planning for Growth

1. Evolve bulk system planning to better leverage information owned by transmitters.
2. Regional planning should be more flexible and new resources dedicated to planning in high-growth areas.
3. Regional planning should evolve to coordinate across electricity and natural gas planning.
4. Partner with Hydro One as Ontario's transmitter of choice.
5. Ensure consistency among legislative and regulatory objectives.

Ensuring Affordable and Reliable Energy

6. Continue to expand the new electricity Demand Side Management ("eDSM") framework.
7. Increase support and policy guidance for grid modernization.
8. Assign Distribution System Operator responsibilities to Local Distribution Companies ("LDCs").
9. Further encourage consolidation in the LDC sector to enable energy transition investments.
10. Maintain a fair and competitive return for electric utilities to attract capital investment.
11. Enable regulatory mechanisms: Deferral and variances accounts to balance growth and planned work, and additional measures.

Becoming an Energy Superpower

12. Begin targeted state-level political and stakeholder engagement to lock down partners.
13. Prepare for bilateral need assessments.

The vision set out in *Ontario's Affordable Energy Future: The Pressing Case for More Power* is achievable with new, more nimble, approaches to planning and delivering power. Through Integrated Energy Planning (IEP), Ontario's clean electricity grid can be leveraged to enable economic growth, energy affordability, and reliability such that energy can become a source of political strength and interjurisdictional influence for Ontario.

2. Introduction: Integrated Energy Plan (IEP) Overarching Question

Hydro One supports the Government's vision as set out in *Ontario's Affordable Energy Future: The Pressing Case for More Power*, and we are very supportive of Integrated Energy Planning ("IEP"), including consideration of all energy sources. We believe that, if implemented thoughtfully, IEP will enable the Government's policy goals while leveraging utility expertise to produce outcomes that are in the public interest.

[4] *Ontario's Clean Energy Opportunity – Report of the EETP,* Recommendation 23 (a)

We will be a principal enabler of electrification in the province and are acutely aware of the need for a timely buildout of electricity infrastructure to successfully navigate the energy transition.

We are also Ontario's *de facto* default transmitter, with the expertise, footprint, community presence, local supply chain and agility to respond nimbly to the pace of change. Our people live, work and play in the communities we serve and where we are building nine new transmission lines across Ontario.

Hydro One is uniquely positioned to help the Government achieve its energy policy goals.

Hydro One holds a unique and privileged role in Ontario's electricity system. We are Ontario's largest electric utility, with a significant footprint comprised of distribution and transmission assets.

Through our transmission network, we manage all critical transmission assets and serve every customer in the province. We are advancing Indigenous Reconciliation through our industry-leading First Nations Equity Partnership Model, and are delivering major projects on time and on budget in a world where this is increasingly challenging.

Partnerships will be key to expediency, efficiency and, ultimately, success.

Hydro One will continue to partner with Government, regulators, Indigenous communities, industry stakeholders, communities, and customers, leveraging these partnerships in support of the Integrated Energy Plan to achieve an energy system that is affordable, clean, and ready to power Ontario's growing economy – now and into the future.

Leveraging synergies between Hydro One and the Province is in the public interest.

Hydro One is actively planning for an electrified future. Our vision for Ontario's energy future is very aligned to the Government's vision, as is our approach.

Hydro One is building nine new transmission lines, bringing power and economic growth to communities across the province. We continue to improve reliability by renewing equipment, hardening our infrastructure to increase resiliency, and adopting innovative, direct-to-consumer solutions. We continue to deepen relationships with local communities and work toward Reconciliation with Indigenous communities.

We have built a resilient, made-in-Ontario supply chain: in 2023, Hydro One's total sourceable spend was almost $2.5 billion, 75% of which – $1.9 billion – was spent through Ontario businesses. And we continue to keep costs down by enabling fuel-switching from higher-cost, imported fuels while steadfastly seeking productivity in our own business, including competitive procurement of our resources and services.

We believe that IEP can be a major step forward in realizing this shared vision. If implemented thoughtfully, IEP can ensure the province has the affordable power needed for a clean and growing economy while providing clear signals and long-term confidence to the sector and investors. It is a

logical step which will leverage efficiencies from existing assets and ensure that future build-out is informed by evidence-based forecasts that embrace expectations of higher rates of electrification.

Time and urgency are of the essence.

When it comes to planning, we need a new definition of "need."

The current planning framework has prioritized predictability and downsizing infrastructure, a reflection of years where load growth was stagnant. This paradigm will not serve our future where the electricity grid is leveraged to foster economic growth.[5]

Going forward, "pre-investment" for growth is essential, with an adaptive planning and regulatory framework to allocate costs and enable timely cost recovery. Utilities must be empowered to act when and where constraints are identified.

We must be enabled to act faster to build system capacity in anticipation of customer need, particularly in areas where significant economic growth is targeted and forecast.

This means utilities must be enabled to develop infrastructure in advance of need including securing corridors to construct the required infrastructure. This pre-emptive consideration ensures that corridors are construction-ready to serve Ontario's unprecedented electricity demands expeditiously and as prudently as possible.

Our recommendations for IEP are driven by this sense of urgency.

3. Key Principles

No customer left behind: The IEP must ensure the energy system meets the needs of all Ontarians, and no customer is left behind

Energy must remain affordable. Energy affordability[6] should be increasingly measured at the aggregate level, to reflect that the electricity grid is now powering vehicles and other modes of transportation in ways it never did before. The "energy wallet" takes a consumer-centric view, assessing the consumer spend on all forms of energy, and affordability in the aggregate.

Energy planning should produce the best overall outcome for Ontarians, by recognizing that the impacts of the new planning environment may impact customers differently. IEP must specifically address

[5] ***Ontario's Clean Energy opportunity – Report of the EETP***, pp. 103-4: "*In the move toward a clean energy economy, the risk-return balance between proactive build-out of energy infrastructure and reactive energy planning has shifted. Energy planning must work proactively to ensure that adequate, affordable, and reliable supply is available in a timely manner to support economic development projects and secure investments*".

[6] Ongoing electrification will result in electricity displacing other energy use, with customers using their connection to the grid to heat their home, operate their vehicle, and more. As a result, electricity will take on a larger share of a household's total energy use. While this necessarily means that an individual customer's electricity bill may be higher, the inherent efficiency of electric technologies mean customers' *overall* energy and associated household costs will be lower. As we move toward IEP, the concept of affordability must also evolve from being fuel specific to a more integrated measure.

distributional effects on vulnerable populations, like low-income households or trade-exposed businesses, and consider preferences of local communities, for example.

Prioritize electrification: In the words of the EETP: "*transforming Ontario into a clean energy economy is a key strategic opportunity for the province*[7]". Barring a compelling case for another fuel, Ontario's IEP framework should prioritize fueling Ontario's economy with electricity, all else being equal. Natural gas will continue to play an important role in the lives of Ontarians in the short term, but IEP should embed longer-term expectations that Ontario's electricity grid will play the central role the Government expects of it in the decades ahead.

Advance Indigenous Reconciliation: Prior eras of electrification have not properly served Ontario's Indigenous communities, which have the worst reliability and capacity and are often not even served by the grid at all. That must change. The IEP must ensure the energy system meets Indigenous communities' current and future energy needs, including the particular needs of remote communities. The energy transition presents an unprecedented opportunity for Economic Reconciliation, meaning the full economic participation of Indigenous peoples. It is essential that the IEP create meaningful opportunities for Indigenous participation. The IEP should be committed to true partnership and to increasing opportunities for Indigenous communities and leadership.

4. Key Recommendations

a) Planning for Growth

Ontario is facing an unprecedented need for additional electricity and new access to the grid.[8] Planning must evolve pre-emptively to ensure it does not create a barrier to Ontario's future growth. Hydro One recommends targeted change to Ontario's energy planning framework to improve energy integration in a fashion that minimizes resources spent on institutional change and red tape.[9] Below are our key recommendations. Details to support these recommendations can be found in our responses to the individual consultation questions, in the attached Appendix.

1. Evolve bulk system planning to better leverage information owned by transmitters[10]

In Hydro One's experience, proactive engagement with asset owners like Hydro One results in better planning decisions and can support faster infrastructure development. We recommend that Hydro One be empowered to take on a larger role in bulk transmission planning, alongside the IESO.

[7] *Ibid,* p. 7.
[8] The IESO is forecasting that Ontario energy demand will increase by 75 percent by 2050 – an update to previous forecasts confirming a steeper growth curve. Depending on the pace of electrification, population growth, and market factors, this forecast may increase by even more.
[9] For a specific example of how to remove red tape in the municipal planning process, see our response to PfG 7, below.
[10] For more detail, see our response to PfG Q1, below

Hydro One should be assigned certain regional and localized system planning responsibilities, with support from IESO. While the IESO would still be expected to confirm the feasibility of potential non-wires solutions and large generator connections as part of an RPP study, Hydro One could take the lead in making connection infrastructure capacity planning decisions to support regional needs.

The current RPP cycle time is approximately 2-3 years and while it works well in steady growth periods, it does not support an effective or timely process for building infrastructure to support high load growth and rapid development in an area.

High priority regions that have limited connection capacity and experience rapid growth require a plan to be developed more quickly. In certain cases, to meet urgent customer connection timelines, the plan may need to proceed with partial analysis and be completed in stages.

Due to the challenges and timelines associated with building transmission infrastructure, there needs to be a commitment to developing a transmission plan in 6-12 months, depending on complexity.

Hydro One should identify and advise on priority corridors in the province that link economically viable clusters of generation facilities with economic development zones or centres of demand. Hydro One must begin proactive development at these locations to ensure demand is met at the time Ontarians need it. With a greater role for Hydro One, working in continued partnership with the IESO, the IESO will be more able to focus on emerging priorities like resource procurement and export opportunities.

2. Regional Planning should be more flexible and new resources dedicated to planning in high-growth areas[11]

We recommend that regional planning evolve to become a more continuous activity. The current five-year planning cycle has been adequate to plan proactively during times of lower growth but can be a barrier when plans must adapt to unexpected growth.

In an era of higher electrification, planning must evolve to be more adaptable and, in areas of especially high growth, to become continuous so as not to hinder economic growth or other development in the region. The IESO and Hydro One should retain dedicated staff to conduct planning continuously in regions of especially high need. Affected utilities must be provided with a funding mechanism to recover new incremental investment requirements that emerge outside of the traditional five-year planning cycle.

In areas designated as being economically significant, further action can be taken. Hydro One and other impacted utilities should be tasked with developing immediate growth-enabling plans to be filed with the OEB for approval and funding, outside of formal rate proceedings. Guidance can be given to the OEB to adjudicate these plans efficiently. Hydro One has provided this advice under

[11] For more detail, see our response to PfG 7, below.

ERO-019-9300 and welcomes further dialogue with Government on how to design and implement this process.

Iterative and scenario[12] based long-term planning provides a repeatable framework to assess and sensitize the impacts of policy objectives and potential energy transition enablers. Including high-growth, high-electrification forecast scenarios will reduce planning uncertainty and risk, increase investor confidence, and provide for a single set of outcomes across fuel sources.

3. Regional planning should evolve to coordinate across electricity and natural gas planning

To maximize the use case of both the electric and natural gas systems, Ontario must coordinate planning across fuels. Coordinated planning across fuels is most appropriately done at the regional level. Primary cross-fuel planning includes coordination on load forecasting to optimize investment plans, and by testing whether Non-Pipe Alternatives to natural gas investments can be suitably served by the grid.

Cross-fuel coordination should avoid becoming bogged down in minute planning details. It should be scoped at this higher level to ensure it addresses decisions of the highest value without delaying electricity and natural gas planning. With clear long-term policy direction, plans and forecasts that emerge from regional planning are already subject to public interest oversight by the OEB when individual utilities bring forward plans for approval, and this principle should remain. Moreover, cross-fuel coordination at the regional level ensures that the views of Indigenous communities, municipalities and customers are addressed in those decisions.

4. Partner with Hydro One as Ontario's transmitter of choice

Currently, bringing new transmission online takes years of planning, development, approvals and construction. To expedite timelines for future transmission assets, we recommend that Government instruct Hydro One to begin immediate development of no regret transmission projects.[13]

As the transmitter of choice for this important work, Hydro One would accelerate the planning process and achieve value for ratepayers through a competitive procurement process. This ensures competitive forces are maintained, would speed up new connections, and would benefit from Hydro One's successful First Nations Equity Partnership Model.

Additionally, we recommend legislative change to protect the fundamental role of the transmission system and the role of transmitters. Recent trends of LDCs "becoming a transmitter" risks accumulating operational risk and diluting coordination and communication. Ultimately, grid reliability could erode. Strengthened legislation underscoring the privileged and vital role fulfilled by transmitters will help maintain reliability and encourage infrastructure to be optimally deployed.

[12] *Ibid.*
[13] For more detail, see our response to PfG 4, below.

5. Ensure consistency among legislative and regulatory objectives[14]

The energy transition requires consistency across legislative and regulatory purposes, along with a clear-eyed understanding that electricity infrastructure will be built both for now and for the future. Aligning the OEB's statutory objectives to match those of Government and the IESO with respect to both economic growth and decarbonization will avoid potential confusion in regulatory decision-making.

b) Affordable and Reliable Energy

Hydro One is committed to an energy transition for all Ontarians. This means ensuring energy remains affordable and reliable throughout the energy transition while expanding customer choice. Affordability and reliability are responsibilities jointly shared by sector participants including utilities, system operators, and governments. These sector participants must continue to work together to accomplish these shared goals.

While the increasing demand for electricity will require investment, there are several key actions the Government can take to ensure that the energy needed to power Ontario's growth remains affordable, reliable, and clean.

6. Continue to expand the new electricity Demand Side Management ("eDSM") framework

Hydro One supports the 2025-2036 eDSM Framework for Ontario, including expanded offerings to residential customers. Electrification requires a robust set of energy efficiency measures to maintain affordability and give agency to consumers who want to take greater action to manage their bills.

Hydro One strongly endorses greater participation of LDCs in eDSM programming. LDCs must be partners on the development of provincial programming, particularly when those initiatives target beneficial electrification. Beneficial electrification is distinct from other types of eDSM as it still involves load growth, meaning there could be implications for distribution system planning.

Local programming should be led by LDCs so that local value opportunities can be "stacked" with upstream bulk system benefits. As trusted advisors to our customers, we are partnering with them to monetize their DERs through new service offerings. This is fundamental to unlocking and maximizing the benefits that eDSM and DER adoption can provide to address specific system issues and make the energy transition easier for customers. We endorse the approach being developed for local programming by LDCs and the IESO.

7. Increase support and policy guidance for grid modernization

Grid modernization is foundational to the ability for LDCs to meet new growth in load and DERs, but has often been seen as discretionary. This is no longer the case. Government direction is required to ensure that grid modernization is not crowded out by other investment priorities. Ontario's

[14] For more detail, see our response to PfG 5, below.

Affordable Energy Future is aligned to this view. LDCs with grid modernization plans would benefit from greater policy guidance by the Government to the OEB to develop a funding mechanism so investments can begin immediately.

Grid modernization plans can be reviewed in rate applications, integrated into the distribution system planning process, to ensure adequate governance and accountability over those investments that come from existing public interest oversight. It is imperative that the Government support grid modernization initiatives to ensure Ontario's grid can affordably meet the demand of the future at the lowest cost possible.[15]

8. Assign Distribution System Operator responsibilities to LDCs

The Government should continue to support planned consultations to enable Distribution System Operators in Ontario. DSOs provide the platform to leverage DERs owned by individual customers, and put them to use for higher order purposes, like deferring grid investments or offering them into IESO wholesale markets. "Value stacking" in this manner provides societal benefits and a pathway for customers to be rewarded for becoming a more active participant in the energy transition, contributing to affordability in the longer term.[16]

Deferring grid investment with Non-Wires Solutions ("NWS") is feasible only on a project-by-project basis, and requires the right volume and mix of DER attributes and loading characteristics to be feasible. DSO capabilities enable NWS at scale by sending pricing signals to the marketplace for DERs and more readily dispatching those DERs when they're needed.

DSOs use these same capabilities to manage supply and demand on the grid to maintain safety and reliability. This function ensures that distribution systems can evolve from supporting one-way power flows to more interactive two-way power flows without sacrificing performance. DSOs allow utilities to make better use of existing distribution infrastructure and maintain reliability that would otherwise be challenged with higher levels of DERs on the grid.

While it is not an immediate priority, the Government should monitor DER uptake closely. If markets fail to attract sufficient levels of DERs at locations where they are especially valuable, such as rural and remote parts of Ontario, consideration could be given to allow utilities to own and operate DERs in circumstances where that is the optimal solution and when solutions are demonstrably unable to service a need.

Through the process planned by the OEB, utilities should be assigned DSO roles and responsibilities as a precursor to their development. Roles and responsibilities should be assigned based on the Market Facilitator DSO model, the emerging industry consensus.[17]

[15] For more detail, please see our response to AaRE 4, below.
[16] Flexibility markets are one such example.
[17] For more detail see the Ontario Energy Association (OEA)'s 2023 Report: ***Distribution Operator (DSO) Study***.

Building DSO capabilities is one of many outcomes enabled by grid modernization and provides an additional basis for Government to expedite the implementation of grid modernization plans in the short-term.

9. Further encourage consolidation in the LDC sector to enable energy transition investments

Hydro One has been a driver of utility consolidation, removing costs from the system while providing ratepayer protection in the process. However, numerous obstacles remain to the level of consolidation that will enable timely investments in the system to in turn enable the energy transition and electrification. The Province has a role to play and should continue to explore and implement policies that encourage continuous utility consolidation in Ontario, including its recent policy of suspending the transfer tax for a period of time. Consolidation will help to ensure that investments to enable electrification and maintain reliability are made more consistently.

10. Maintain a fair and competitive return for electric utilities to attract capital investment

Maintaining a fair return is cited in Ontario's Affordable Energy Future as a priority for natural gas, and it extends to electric utilities as well. A fair return is vital to the Government's growth agenda, ensuring that utilities can continue to attract the capital necessary to finance investments in growth, reliability and modernization. It also ensures large utilities can attract lowest-cost debt in public markets to minimize financing costs, which directly translates to lower bills.

Historical trends are no longer useful to predict fast-paced major shifts in demand due to the energy transition. Growth will occur based on product availability, consumer trends, demands from new load sources like data centres and policy decisions at all levels of government.

11. Enabling regulatory mechanisms: Deferral and variances accounts, and additional measures.

As we move toward electrification and IEP, there remains the potential for significant future uncertainty due to the rapid changes in the above-mentioned growth drivers. Hydro One submits that support from Government is needed, now and in the future, to maintain the flexibility required to align with an environment of Integrated Energy Planning and unprecedented load growth.

The pace of customer connections have materially increased throughout 2023 and 2024 to a level that is 3-5 times higher than the pace of connections seen over the previous five years. These increases are a direct consequence of the energy transition, decarbonization and complex computing. The pace will further intensify in the future with higher levels of electrification and energy transition.

As Government continues to pursue policy initiatives of economic development, increased generation and electrification, connections facilities will continue to compete for the limited approved capital expenditures recoverable in rates that transmitters and distributors have based on OEB approved system plans. To alleviate these pressures and ensure plans related to other key areas

of investment can be fulfilled with respect to the grid, regulatory accounts are required to record costs related to unplanned connection facilities that are needed as part of policy, economic and system planning objectives.

Additional supports might include making consequential regulatory or ratemaking framework changes, requiring further analysis and consideration.

c) Becoming an Energy Superpower

12. Begin targeted state-level political and stakeholder engagement to lock down partners
Hydro One supports the Government's goal to leverage opportunities outside of Ontario and agrees with the Government that "Ontario has the opportunity to use our competitive advantage to export clean energy and technology across the continent and beyond".[18]

13. Prepare for bilateral need assessments
We support the Government's initiative to create more interties/grid connections to create access to new markets for clean Ontario energy to the US. Hydro One can support the increase in the number of interties and we are prepared form partnerships to make this happen. There are imminent opportunities to advance interties, and we are ready to support Ontario's interests, including state-level political and stakeholder engagement in support of these opportunities.

5. Conclusion

Hydro One strongly supports the Government's objectives and creating the IEP to ensure the Province's needs are anticipated and met in a coordinated and timely way.

We agree that Ontario needs planning and regulatory frameworks that support building infrastructure and resources quickly and cost-effectively, and in a way that continues to promote Indigenous leadership and participation in energy projects.

The vision set out in *Ontario's Affordable Energy Future: The Pressing Case for More Power*, in conjunction with the recommendations herein, will not only ensure that the needed transmission is built faster but adapt our approach to planning and delivering power to meet the needs of today and the future. Hydro One looks forward to continued partnership with Government and our industry peers to see this done.

Hydro One appreciates this opportunity to provide our feedback regarding the Integrated Energy Planning process in Ontario. We are committed to working with the Ontario Government, regulators, Indigenous partners, industry stakeholders, and customers to achieve an energy system that is affordable, clean, and ready to power Ontario's growing economy – now and into the future.

[18] *Supra, note 1 at s. 3: Becoming an Energy Superpower*

APPENDIX "A": RESPONSES TO DISCUSSION QUESTIONS

Planning for Growth

1. *Building on the recommendations of the EETP's final report, what actions should be prioritized to enhance planning across natural gas, electricity, and other fuels?*

Coordinated planning across fuels should take place at the regional planning level, and encompass only the most material decisions so as to not delay fuel-specific planning processes which themselves must be more adaptable. We recognize the importance of local input and objectives; municipalities, through community energy plans, can inform cross-fuel planning decisions, including a perspective with regards to being a willing host for electricity supply projects. At the regional level, electricity and gas utilities can work to meet those objectives in a coordinated manner. Information sharing is critical to cross-fuel planning in the regional planning process to coordinate on load forecasting expectations and to explore non pipe/wires alternatives. In scenarios where high rates of electrification are expected, consideration can be given to cost-effectively upsizing electrical infrastructure as a Non-Pipe Alternative.

2. *The Government's priority is to ensure Ontario has the energy resources it needs to support growth. Are there opportunities to enhance the province's approach to procuring electricity generation, supply to better serve this priority?*

The bulk system planning process led by the IESO should evolve bring asset managers like Hydro One closer to the process. In Hydro One's experience, proactive engagement with asset owners like Hydro One results in better planning decisions and can support faster infrastructure development. We recommend that Hydro One be empowered to take on a larger role in bulk transmission planning, in continued partnership with the IESO. Hydro One has a deep technical understanding of the transmission system and should be entrusted to identify and advise on priority corridors in the province that link economically viable clusters of generation facilities with economic development zones or centres of demand to support more detailed decision making at the IESO. Proactive development at these locations to ensure demand is met at the time Ontarians need it.

The Government should also consider directing the IESO to explore partnering with LDCs to lead a procurement of DERs. For more on steps to enable DERs, see Hydro One's responses in the Affordable and Reliable Energy section, and in particular our answer to AaRE 5.

The Government should retain the authority to direct the IESO to secure resources or take other measures, as required to achieve broader policy objectives such as economic development, reliability, Indigenous Community participation (e.g., directive concerning the Oneida Battery Storage project).

3. *What actions should government consider to promote greater access to electricity and accelerate grid-connections that will support economic growth, connecting new homes, and electrifying transportation and heating?*

We recommend that regional planning evolve to become a more continuous activity. The current 5-year planning cycle has been adequate to plan proactively during times of lower growth, but is inadequate when plans must adapt to unexpected growth.

In an era of higher electrification, planning must evolve to be more adaptable and, in areas of especially high growth, to become continuous so as not to hinder economic growth or other development in the region. The IESO and Hydro One should retain dedicated staff to plan continuously in regions of especially high need. Affected utilities must be provided a funding mechanism to clear new incremental investment requirements that emerge outside of the traditional 5-year planning cycle.

In areas designated as being economically significant, further action can be taken. Hydro One and other impacted utilities should be tasked with developing immediate growth-enabling plans to be filed with the OEB for approval and funding, outside of formal rate proceedings. Guidance can be given to the OEB to adjudicate these plans efficiently. Hydro One has provided this advice under ERO-019-9300, and welcomes further dialogue with Government on how to design and implement this process.

Iterative and scenario based long-term planning provides a repeatable framework to assess and sensitize the impacts of policy objectives and potential energy transition enablers. Including high-growth, high-electrification forecast scenarios will reduce planning uncertainty and risk, increase investor confidence, and provide for a single set of outcomes across fuel sources.

4. *As the need for new transmission infrastructure continues to grow, what steps can government take to ensure that transmitters have the certainty they require to move forward with development work as soon as possible, while also ensuring that competitive pressures keep costs as low as possible?*

Hydro One has provided advice on this question in its submission to ERO-019-9300. Segments of that submission are reiterated here, and specifically recommendations in three areas:

1. Managing the Capital Contribution for Transmission Connections
2. Identifying and Establishing High Growth Areas & Opportunities for System Expansion
3. Utility Recovery of Incremental Connection Costs

All considerations of potential cost allocation frameworks must be guided by overarching principles of fairness, appropriate cost responsibility, and ratepayer protection.

Managing the Capital Contribution for Transmission Connections

When a Local Distribution Company (LDC) requires a new transmission connection to meet its load forecast, the rate impact experienced by the LDC's customers is often largely offset on the bill by the incremental load. However, Hydro One recognizes that small and mid-sized LDCs may face difficulties in raising capital for necessary infrastructure projects. In this regard, Hydro One makes the following

proposals to help manage and lower the capital contribution required from LDCs for their transmission connections:

- Lower the capital contribution by extending the revenue horizon for economic evaluation from 25 years to 40 years

- If a capital contribution is required, extend the payment period for the capital contribution from 5 years to 10 years

- If an LDC requires a new transmission line connection and the IESO's forthcoming Corridor Study determines that a corridor must be preserved for future transmission infrastructure where that line should be built, the transmitter may acquire the lands necessary for the construction of future network assets. This principle can also be extended to integrated infrastructure decisions made by government agencies whereby future electrification corridors are identified and preserved, for example, the Highway 413 corridor.

- Where the transmission connection is deemed to be in the public interest and the total benefits that can be realized are greater than the cost of the connection, any incremental amounts owed by the LDC for the transmission connection could be subsidized by transmission customers. A test to determine the public interest is set out in the materials below

Identifying and Establishing High Growth Areas and Opportunities for System Expansion

In addition to the above, the Ministry may wish to establish or identify high growth areas. The following are examples of the criteria the Ministry may use to identify high growth areas:

- Industries identified in the Powering Ontario's Growth report or similar document for different cost allocation treatment

- The area identified for intensification along the Metrolinx Rail corridor

- Areas where residential development projects are planned or where a significant amount of land has been permitted for new housing development

The Ministry could leverage any of its own policy objectives, IESO and regional planning recommendations, or recommendations made directly to the Ministry by utilities or the IESO to define and designate high growth areas. In addition, the Ministry could also consider different cost allocation methodologies where there are system expansion opportunities alongside a first-mover connection.

Utility Recovery of Incremental Connection Costs

Hydro One anticipates that changes to the cost allocation rules will result in an increase in connection requests. Rather than displace necessary planned work, Hydro One proposes the Ministry establish appropriate variance accounts for investments arising from the new Regulations. These are further described below.

Other Considerations

The cost of early proactive investment to maintain options for the future is far lower than the cost of catching up. Building critical infrastructure early can also attract economic opportunities and enable load growth as well as needed generation. Delaying investments can lead to missed economic opportunities and deteriorating reliability. A staged approach allows development work to proceed without committing to an unknown future.

To expedite timelines for future transmission assets, we recommend that Government instruct Hydro One to begin immediate development of no regret transmission projects. As the transmitter of choice for this important work, Hydro One would accelerate the planning process and achieve value for ratepayers through a competitive procurement process.

Ensuring access to the land corridors needed for project development will help maintain a more expedited pathway to bringing a project in-service. Moving to a portfolio approach to community engagement and environmental assessment work can also expedite the process for multiple projects within the same region. The Ontario Energy Board should employ uncertainty mechanisms for certain investments that the OEB can approve after to accelerate projects.

5. *What policy guidance should the government provide to the Ontario Energy Board (OEB) with respect to the long-term role of natural gas in Ontario's economy and opportunities for low-carbon alternatives in the gas system?*

The OEB should be guided or directed to regulate cross-fuel planning in the light-touch, high-value approach Hydro One recommends in its response to PfG-1 above, and be responsive to evolving needs of industry to plan and build infrastructure in a fashion consistent with government policy.

6. *How can the Government best support Indigenous leadership and participation in energy planning and projects?*

Prior eras of electrification have not properly served Ontario's Indigenous communities, which have the worst reliability and capacity and are often not even served by the grid at all. That must change. The IEP must ensure the energy system meets Indigenous communities' current and future energy needs, including the particular needs of remote communities. The energy transition presents an unprecedented opportunity for Economic Reconciliation, meaning the full economic participation of Indigenous peoples. It is essential that the IEP create meaningful opportunities for Indigenous participation. The IEP should be committed to true partnership and to increasing opportunities for Indigenous communities and leadership.

An early and integrated regional approach to Indigenous engagement is critical to working with Indigenous partners on transmission projects. A portfolio approach to transmission assessment, with improved coordination between Hydro One, the IESO and generators, can help enhance engagement.

It is critical the Ontario Government continue to support the energy aspirations of Indigenous communities. This includes support for Indigenous loan guarantees and capacity building for project participation. Hydro One recommends the Government continue supporting communities to remove diesel power and connect three-phase power to support the economic growth of Indigenous communities.

7. *How can provincial planning processes be enhanced to support high growth regions, ensure greater coordination between energy resources, and better integrate municipal, distributor and regional planning processes?*

Alignment on desired outcomes and planning assumptions are key to building the right infrastructure solutions. Iterative and scenario based long-term planning provides a repeatable framework to assess the impacts of policy objectives and potential energy transition enablers.

Currently it takes 5-10 years to build transmission. New industry, industrial electrification, heat electrification and data centers can result in anomalous load that is difficult to project. Large customers often express operation to go in-service for more than 1-3 years, as market conditions of their projects change quickly. Hydro One is a proven partner in meetings the needs of Ontarians and economic growth, and designating Hydro One with regional multi-project portfolios is the most immediate method of meeting these economic development demands.

Planning should be adaptive, nimble and inclusive with early engagement of Indigenous partners. Shift from reactive planning to a proactive planning approach that gives consideration to:

i. early Indigenous engagement
ii. economic indicators
iii. demand for future connections
iv. long-term demand scenarios (which identify regions/drivers such as high likelihood of electrification)
v. increased risk tolerance for building early in strategic areas
vi. recovery of costs for early project engagement to encourage better development of projects.

Municipal planning should also evolve. Varying processes and timelines for municipal plan approval and permit issuance create difficulties in planning, scheduling and significant cost uncertainty for both distributors and their customers. Under the current framework, utilities can be required to completely re-design projects up to six or seven months after their first proposal was submitted for review. In some cases, the municipality may use its authority under the Municipal Act to delay a “build” entirely (as may a stakeholder within the municipality’s public utility coordinating committee (“PUCC”) that is not amenable to resolving issues). Furthermore, municipal planners may have difficulty translating their plans into reliable electricity demand forecasts, resulting in over-forecasting.

Accordingly, municipal planning should be governed with provisions:

i. that require from (or prescribe for) municipalities and/or their public utility coordinating committees with approval authority for utility infrastructure ("PUCC"):

    a. that specify reasonable timelines within which all stakeholders must state and work to resolve their concerns on utility infrastructure proposals submitted for review;
    b. for unresolved issues, a dispute resolution process with timelines for completion; and,
    c. a final timeline for the PUCC's formal authorization, enabling approved projects to proceed.

Requiring municipal planners to use the OEB's municipal information form could also help. That document is meant to assist municipalities and distributors better understand each other's information needs and facilitate a more interactive approach between them. In Hydro One's experience, they are not always used. Alternatively, a forum equivalent to the broadband framework's Technical Assistance Team could be established to support municipalities and developers with technical guidance to translate zoning plans and development proposals into more reliable forecasts of their electricity capacity requirements.

8. *What cooperation opportunities exist across other jurisdictions to support energy trade, construction of transmission infrastructure (ex. pipelines and interties), and transportation electrification?*

Hydro One can assist in identifying opportunities for interconnections that can provide customer and system benefits. There should be a standing committee between Hydro One, Ontario Power Generation, the IESO, and Ministry of Energy and Electrification to provide a forum and have an ongoing discussion re: trade and interconnections. Currently, interconnections require Canada Energy Regulator authorizations, a process Ontario utilities have not engaged in in over 40 years. New interconnections to the United States also require Federal Energy Regulatory Commission approvals, a Presidential permit and US Army Corps of Engineer approvals to move forward. Going forward, Ontario and other State or Provincial Governments should consider making bilateral recommendations to Federal Governments regarding future intertie projects.

Recent proposed interconnection projects have been merchant transmission lines. The Ontario Government should consider designating interconnections as network transmission lines where reliability and cost benefits can be realized for customers at both sides of the interconnection.

9. *What types of technical information and forecasts would best support sector participants and energy consumers as the system is built out for growth and the economy increasingly electrifies?*

Hydro One supports greater insight into technical information and forecasts to support industry stakeholders and consumers throughout the process of electrification. Historical trends are no longer useful to predict major shifts in demand due to the energy transition. Growth will occur based on product availability, consumer trends, and municipal fuel decision making that may accelerate demand beyond

previous growth. Hydro One agrees with the proposal to incorporate technical reports. This should include or be informed by scenario analyses that establish “bounds of reasonableness” to reduce uncertainty in the sector planning, and ensure sector participants are prepared for a common set of potential futures.

Affordable and Reliable Energy

1. *What further steps should the Government take to enable households and businesses to manage and make informed decisions about their energy use?*

Hydro One Networks Inc. (Hydro One) supports increased empowerment of residential and business electricity consumers, enabling them to manage and make informed decisions regarding their energy use. A key element of growing consumer awareness is increasing education of available energy support, both from local distribution companies (LDCs) and Government, as well as incentivizing further action in this space.

LDCs, such as Hydro One, are ideally best positioned to deliver education campaigns on a variety of energy usage topics. Hydro One’s trusted relationship with our customers enables us to have tailored conversations regarding their potential energy savings options. By partnering with organizations like Hydro One, the Government can leverage LDC’s innovative programs to further enable households and businesses to make informed energy decisions. For example, Hydro One is upgrading our meters which will allow for more insightful engagements with customers to help them make smart energy choices.

For potential education campaign topics, Hydro One recommends that LDCs take a leadership approach in delivering the following information:

- Beneficial electrification (BE) initiatives including fuel switching options (i.e. from heating oil/propane to electric heat pumps);
- The benefits of electric vehicles (EVs) and how EV batteries can benefit the grid;
- The concept of the energy wallet, where consumers may spend more on electricity, but less on energy overall.

The Government has several active education campaigns that highlights how costumers can realize electricity savings. Hydro One encourages the Government to expand upon this good work to continue and continue to underscore the benefits of how customers can take advantage of and save money from electrification. Gradual uptake in support and buy-in from tax and ratepayers could be realized if more detailed information is shared on a regular basis regarding all Government investments in the energy space, including how these investments impact the consumer’s every day.

It may additionally be beneficial for the Government to launch an education campaign directed at contractors. Contractors are on the front lines of installing much of the innovative technology that can enable customers to participate in the energy transition, including heat pumps and electric vehicle

chargers. Greater awareness in the construction sector can hasten deployment of these electrification-focused technologies. Government is also encouraged to engage industry early in consultations and to provide ample time for response, in a manner that allows industry partners to collaborate on responses and advice. Longer runway times to respond to consultations or early consultations that are phased – rather than a one-time call out for feedback could help ensure Government initiatives are deployed as efficiently as possible. Engaging industry early and proactively on programmatic and policy design will be crucial in ensuring partners in the energy space are aligned on what is being done and how it's being done to best benefit the customers and the energy transition.

Examples of this can include:

- Educating electricians to properly size DERs to optimize performance and to not over design capacity requirements;

- Unlocking customer accessibility to DERs by designing incentives that make the energy transition more affordable, and to generate system benefits for all. This can be leveraged using the government's existing EE framework, specifically how it delivers cost-effective system benefits by incentivizing customers to participate in the electricity system; and

- Ensuring distributors and trades receive the education and training needed to lead to proper supply chain management practices, and to support customers in making informed choices.

1. *What actions could the government consider to ensure the electricity system supports customers who choose to switch to an electric vehicle?*

Hydro One supports government initiatives that encourage consumers to switch to EVs. The Government has made great strides in investing in Ontario's capacity to manufacture EVs. To complement these significant investments, the Government can continue to expand Ontario's EV charging network to ensure the people of Ontario can drive their EVs across the entire province. [Insert narrative about the importance of focusing on rural Ontario]

The Government could also consider mandating new build homes in Ontario be EV ready, for example by making 200-amp service mandatory for new build homes in Ontario. This would lower costs for homeowners interested in purchasing an EV, as it is significantly cheaper to install a 200-amp service from the outset compared to retrofitting after the fact. With EV adopting continuing to accelerate, the comparatively modest cost of requiring 200-amp service by default would not only benefit customer affordability regarding EVs but will additionally support broader electrification initiatives by, for example, supporting heat pump installation.

2. *What actions should Government consider that would empower customers to install innovative technologies to generate or store energy on-site to reduce costs and improve resiliency?*

Hydro One strongly supports the Government's initiative to encourage the deployment of DERs. Greater confidence in the widespread deployment of DERs can be aided through the development of distribution system operators (DSOs) and flexibility markets. Hydro One is uniquely positioned in Ontario's electricity sector to oversee flexibility markets, both in jurisdictions where Hydro One is the distributor and on behalf of smaller local distribution companies (LDCs). Flexibility markets can help optimize existing distribution and transmission assets and are therefore a key element to ensuring energy remains affordable for the people of Ontario during the process of electrification.

Consumers could be empowered to install DERs through education campaigns that span the value chain, including customers, manufacturers, distributors, trades and industry. Elements of these education campaigns can be led by LDCs like Hydro One, especially those targeted at customers. By leveraging existing communication channels that exist between Hydro One and our customers, we can relay information on the opportunities to earn income through DERs. Content of the campaigns could highlight the financial benefits customers could take advantage of through participating the Ontario's electricity market. The Government can complement these initiatives by providing LDCs with support and provide market mechanisms through the implementation of DER and DSO/flexibility market standards through the Ontario Energy Board (OEB) for additional certainty. Further empowerment can be derived through Government activation of the value chain, as outlined in the response above.

3. *What specific actions could position the Integrated Energy plan to best leverage distributed energy resources (DER) that enhance local and province wide grids to support energy system needs reliably and at the lowest cost?*

In *Ontario's Affordable Energy Future*, it's highlighted that, "[d]istribution grid throughout the province will need to modernize, utilizing and integrating innovative technologies that facilitate active monitoring of their systems." Hydro One concurs, and endorses the priorities for grid modernization that emphasize regulatory clarity, predictability and measures that accelerate grid innovation projects and enabling investments. We further recommend the Government go further, by establishing a framework and policy to accelerate foundational grid modernization investments. A rate rider and variance account, along with a requirement for participating LDCs to develop grid modernization strategies in their distribution system plans, would support such an outcome and still maintain appropriate OEB oversight.

Hydro One encourages the Ministry to consider advice on grid modernization in the OEA's Distribution System Operator Study and the EDA's Solving Grid-Lock report, both of which underscore the essential nature grid modernization plays in the future of electricity distribution.

4. *What policy or regulatory changes should Government consider to address financial risks and support adoption of DER in the long-term?*

Hydro One supports programs from the Government to reduce financial risks and support the adoption of DERs in the long run. One avenue to do this is to couple this initiative with others that have been previously announced.

To support electrification, the IESO should work in partnership with LDCs to procure DERs. Currently, LDCs are required to consider using DERs to develop Non-Wires Solutions that defer traditional capital investment. However, those mechanisms rely on local value opportunities only to encourage DER adoption in areas where they are useful for Non-Wires Solutions. A procurement targeted at DERs, executed through a partnership with LDCs, could encourage DERs at points of the grid where they have the greatest value, and made available to local Non-Wires Solutions when they are feasible. The Ontario Energy Association as tabled such a framework, and it should be pursued.
More generally, a longer-term view for DER integration within and between wholesale and local market integration signals to manufactures, distributors and those in the trades to invest in attaining that future. We can see the benefits from this type of arrangement from the existing Government support of the energy efficiency framework, which has proven that longer term Government commitments reduce unnecessary stop and starts from investors that are costly and introduce mistrust in the value chain.

5. *With the energy sector evolving and distributors considering new roles in serving customers, what barriers exist that limit local distribution companies from taking on new duties that could enable more efficient grid operations, leverage new technologies and further the integration of DERs?*

At present, there is no comprehensive framework to permit and fund many essential DSO capabilities required to affordably and reliably serve customers in the medium term and beyond, but which require action to commence in the immediate term. Jurisdictions with varying governance structures and rate making constructs have established frameworks for DSOs, and in doing so are creating pathways for DERs to integrate with wholesale and local energy markets more seamlessly. The Ontario Energy Association published a report with a preferred DSO model, now evolved to be termed the “Market Facilitator.” DSO roles and responsibilities should be assigned by the OEB to LDCs in a fashion consistent with that model.

Further regulatory policy may also be required, such as ensuring that the work of the IESO’s Transmission Distribution Coordination Working Group is embedded with in a regulatory framework. The OEB may also need to consult on how utilities are remunerated for providing DSO services. We the encourage the OEB to seek industry feedback on its approach to DSOs as soon as possible, through it

6. *What actions can the Government take to enhance collaboration between the OEB, the IESO, local distribution companies, industry stakeholders, and local communities to support the investment and integration of DER?*

For the energy transition to be affordable and timely, there needs to be an increase in collaboration between the OEB, the IESO, LDCs, stakeholders and communities. This is true for DER integration, but also for most elements of Ontario’s electrification goals.

For example, the Government should enhance coordination in a high DER future through the designation of connection ready enabling infrastructure where appropriate, such as express collector

lines for geographically centred, pooled generation rather than scattered resources that are difficult to control and expensive to develop. A purpose-built enabling collector that facilitates the connection of multiple generators makes implementation faster and less costly for all, plus manages power quality (PQ) issues much easier.

Another example is in prioritizing and coordinating policy development across the sector. Guidance through an IEP can allow for issues to be addressed and resolved in a more systematic fashion. DER-related policy currently spans Government, IESO and OEB mandates, and so Government policy direction can aid better sequencing of policy development. Greater clarity on the prioritization of goals and objectives from the Government will also allow stakeholders to focus on the most pressing issues first, but equal emphasis should be put on reprioritizing other work streams that are less vital to core objectives. As always, we encourage policy consultations to commence with clear "problem statements" agreed upon with industry to ensure conversations are focused and potential solutions more readily evaluated against clear objectives.

7. *What further actions could the Government take to maintain an affordable energy system for Ontarians throughout the energy transition?*

To meet rising demand, the province should continue to designate partners like Hydro One, who deliver projects on budget and on time. We have a proven track record of facilitating competitive procurement in developing transmission lines amongst construction partners. By continuing to work with Hydro One, the Government can ensure that Ontario will affordably meet its electricity needs for decades to come. Hydro One also recommends that the Government continue to encourage voluntary consolidation of Ontario's approximate 55 LDCs to realize efficiencies across Ontario's distribution systems by creating system efficiencies. Consolidation among contiguous utilities remains an effective mechanism to remove costs from the distribution sector. Many of the traditional incentives to encourage consolidation have been explored, such eliminating the transfer tax, reviewing the OEB's Mergers, Amalgamations, Acquisitions and Divestitures Handbook. More creative solutions to encourage further consolidation with contiguous utilities should be explored, such as assessing whether utilities have the capacity to meeting growth and reliability expectations.

Becoming an Energy Superpower

1. *What opportunities exist to further capitalize on Ontario's leadership and expertise in nuclear technology and nuclear innovation?*

2. *What opportunities should Ontario consider to leverage its position as a clean energy leader?*

Please see Key Recommendations 12 and 13, above.