

IESO Response to Stakeholder Feedback

Gas Phase-Out Impact Assessment – June 24, 2021

The IESO is embarking on an assessment of the implications of phasing out natural gas generation on the reliability, cost and operability of Ontario's power system. This assessment is intended to help inform discussions related to the future of natural gas generation from a grid reliability perspective.

The IESO invited stakeholders to provide comments and feedback on the posted presentation by June 17, 2021. The presentation materials and stakeholder feedback/questions submissions have been posted on the IESO stakeholder [engagement webpage](#) for this engagement.

The IESO received written feedback submissions and questions from 198 organizations and residents. The list of organizations and residents that submitted feedback or asked questions can be found on the engagement webpage. Please reference the material for specific feedback as the below information has been grouped into themes.

During the June 24th session, stakeholders sought clarity on if the IESO can set policy or if the assessment will result in a policy recommendation. The IESO would like to clarify that it does not have authority to set policy and this assessment is not a policy recommendation. It is intended to provide insight to build a common understanding of the challenges that would need to be addressed in any effort to lower emissions from Ontario's electricity generation supply.

One notable change in the assessment was the number of scenarios presented. As the IESO undertook this work, it became evident that scenarios 2 and 3 demonstrate significant cost increases without material emissions reductions. Given these challenges, and the fact that a complete phase-out of gas-fired generation has been the focus of public discussion that gave rise to this assessment, these scenarios were not fully developed.

For more information, please see the assessment. Please note that references to the term 'Base Case' in this IESO response document are references to the 2020 Annual Planning Outlook – Scenario 1, which is used as the base for this assessment. A link to this APO document is provided in the first bullet below.

For additional background, to learn more, or to connect with your local advisory group, please consider these resources:

- [Annual Planning Outlook](#) and [webpage](#)
- [Regional Planning and Community Engagement](#)

To stay informed with other relevant engagements, please see:

- [Enabling Resources Program](#)
- [Resource Adequacy Engagement](#)
- [Distributed Energy Resources \(DER\) Roadmap](#)

The following two sections are divided into 'feedback from stakeholders' and 'questions from stakeholders'.

Feedback from Stakeholders

This section is grouped into one general category followed by 12 additional themes.

General Comments on the Assessment

Feedback

Stakeholders submitted general comments on the assessment not directly linked to the themes that follow. These include:

- Change the lens of the assessment to Ontario's ability to achieve net-zero carbon emissions in the electricity sector, rather than focusing on the ability to phase out gas alone.
- The assessment should acknowledge other jurisdictions and follow suit with the US and/or the UK, including their targets to replace gas-fired generators and strategies to meeting those targets.
- Capacity auctions should be used to procure sufficient capacity at market prices. This auction should be held for future years allowing for clear price signals for the development of new resources and/or technologies.
- The Long Term Energy Plan should be considered.

IESO Response

The assessment was initiated in response to more than 30 Ontario municipal councils that passed resolutions calling for either the reduction of gas-fired emissions, or their complete elimination, by 2030. The objective of this engagement was to seek stakeholder input on the planned scope of IESO's assessment related to the reliability, operability, timing, cost and wholesale market issues that would need to be addressed if a phase-out were to occur. The final assessment includes the following:

- Identification of power system requirements;
- The role natural gas plays in our system;
- Discussion of potential resources to replace natural gas;
- The cost and reliability implications of a 2030 phase-out, including practicality challenges; and
- Electricity system opportunities for a decarbonized future.

The assessment does not include:

- IESO recommendations for policy decisions;
- Demand impacts from decarbonization of the economy; and
- Emission impacts resulting from other jurisdictions.

Although the above general feedback was considered out of scope and/or a deviation from the intended approach, it is valued and may be considered in future work, as applicable. Please see the Minister's Letter to IESO regarding the future of natural gas generation found [here](#). As part of this work the IESO will evaluate a moratorium on procurements of natural gas generating stations in Ontario and to develop a pathway to zero emissions in the electricity sector.

Regarding the competitive procurement suggestion using capacity auctions, the IESO remains committed to the use of competitive mechanisms, including capacity auctions, to meet Ontario's resource adequacy needs and understands that stakeholder input on the evolution of these mechanisms is critical. To facilitate competition, and provide business planning certainty, resource adequacy needs will be met through acquisition over three timeframes: short, mid and long-term. Please see the [Resource Adequacy Engagement webpage](#) for more information. It is within this engagement discussion that enhancements to the capacity auction are contemplated.

Theme 1 – Recommended scenario changes and additions

Feedback

Submissions included the following recommended scenario changes and additions:

- Use 2017 as the benchmark year to track emissions.

IESO Response: The initial approach included scenarios that contemplated emission reduction targets, but as noted above, these scenarios were not fully developed, narrowing the focus of the study to zero emissions by 2030.

Feedback

Scenarios 1 and 3 use 'new resources'. 'Existing resources' should be accommodated as well to account for carbon neutral fuels.

IESO Response: The assessment discussed and considered both non-emitting mature and emerging technologies, including carbon neutral fuels. As stated during the engagement, the IESO will be taking a conservative approach to a replacement resource mix, only considering resources that are fully developed and proven at scale.

Feedback

Scenarios should be added with various emission reduction targets rather than a complete phase-out.

IESO Response: The initial approach included scenarios that contemplated emission reduction targets, but as noted above, these scenarios were not fully developed. However, as recently [requested by the Minister of Energy](#), the IESO will develop a pathway to zero emissions in the electricity sector.

Feedback

Limit potential electricity import solutions to clean electricity only.

IESO Response: Scenario 1 includes 3,300 MW of year-round firm imports from Québec, a clean electricity system (see Themes 3 and 4 for further discussion). Source tracking of economic imports

from jurisdictions not 100% clean is out of scope, and these imports remained permitted in IESO's modeling.

Feedback

Scenarios should consider the market transition for fuel switching from other sectors.

IESO Response: Forming a high electrification demand scenario as a result of fuel switching was outside the scope of this assessment. The assessment does recognize that the results are only one part of the broader picture of emissions in Ontario. Ontario's electricity system can enable overall emissions reductions through electrification of other sectors, but only if it continues to be reliable, affordable and scalable to serve increased demand. The recognition of these kinds of challenges and opportunities has been the impetus for a great deal of work already underway to create a more flexible, transparent, affordable and resilient system that is positioned to handle decarbonization and other challenges.

Feedback

Prospects of a high electrification scenario above what is projected in the Annual Planning Outlook should be added.

IESO Response: Forming a high electrification demand scenario was outside the scope of this assessment. The IESO continually assess and reassess system needs in response to changing circumstances. The upcoming APO will incorporate forecasts that reflect the latest developments in current electrification policies, reflecting a trend towards increasing electricity demands. As well as a discussion on the uncertainties facing the system as trends begin to evolve. Following the APO, we will undertake a deeper dive into the potential for electrification to increase demand forecasts, taking into account a full set of variables that influence its growth

Feedback

The baseline scenario should be based on the assumption that natural gas assets operate to the end of their useful life.

IESO Response: This assessment has been scoped in response to more than 30 Ontario municipal councils calling for the complete phase out of natural gas generation in the province by 2030

Feedback

2040 or other timeframes should be used in all 3 scenarios to avoid any penalties from early termination of existing natural gas contracts or to align with the timeframe in the APO which is 2022-2042.

IESO Response:

This assessment has been scoped in response to more than 30 Ontario municipal councils calling for the complete phase out of natural gas generation in the province by 2030. Feedback

Consider a suite of the most cost-effective measures for eliminating GHGs in Ontario's electricity system. Exclusion of any technologies/resources should be justified as to why.

IESO Response: The assessment discussed and considered both non-emitting mature and emerging technologies, including carbon neutral fuels. As stated during the engagement, the IESO will be taking a conservative approach to a replacement resource mix, only considering resources that are fully developed and proven at scale. From here, the Scenario 1 resource mix was developed using a cost optimization model in consideration of resource characteristics and basic capacity, energy and operability adequacy requirements.

Feedback

Prepare a decarbonization cost curve for 2025 and 2030 showing the incremental system costs (if any) of decarbonization as the volume of greenhouse gas emissions are reduced (i.e. incremental system costs on the Y-axis and CO₂e on the X-axis, running from the status quo CO₂e to zero).

IESO Response: The IESO is not able to provide this exact analytical request. Please see the assessment study for quantification of costs and emissions.

Theme 2 – Distributed energy resources (DERs), various technologies or other options that can play a role in replacing natural gas facilities

Feedback

Stakeholders suggested the use of DERs, posed questions on the potential of certain technologies and suggested other options that could potentially fill the gap:

- Vehicle-to-grid integration including bidirectional EV charging
- Behind-the-meter generation
- Battery storage
- Conservation
- Combined heat and power
- Seasonal storage of otherwise surplus power from variable sources as high temperature heat in sand
- Demand response
- consider energy system integration and integration technologies more holistically

IESO Response: While some of these resources are generally unproven as to their ability to provide services similar to gas on a large scale, a number of initiatives are underway to move the ability of newer resources forward in supporting system reliability. The IESO continues to focus on innovation and enabling the increased participation of resources through a suite of engagement initiatives. Projects under the Enabling Resources umbrella are being launched to realize priority resource enablement opportunities, which to date include the Hybrid Integration Project, as well as the DER Roadmap engagements. In considering phasing out gas, the province will require resources that have similar proven characteristics and services, individually or in aggregate. Energy efficiency, energy

storage and demand response are all considered as part of the suite of options to displace natural gas.

For more information, please see the [final assessment](#).

Theme 3 – Increase imports from Hydro-Québec

Feedback

Stakeholders suggested that increasing imports from Hydro-Québec can play a role in replacing natural gas facilities.

IESO Response

Scenario 1 includes 3,300 MW of year-round firm imports from Québec. Firm imports from other jurisdictions were not considered.

Theme 4 – Upgrades to grid infrastructure and potential local solutions

Feedback

Feedback suggested that upgrading grid infrastructure, particularly near the borders with Québec, could allow for increased transmission into and across the province. Communities and municipalities could also potentially play a role in local solutions.

IESO Response

In addition to IESO's response under Theme 3, the assessment considers required reinforcements to the Ontario-Hydro Québec intertie facilities along with several internal transmission enhancements. To that end, much of the information in the 2014 "Review of Ontario Interties" report and the 2017 "Ontario-Québec Interconnection Capability" report remain fairly indicative of the scope of reinforcement, and was leveraged in the assessment.

[2014 Review of Ontario Interties](#)

[2017 Ontario-Québec Interconnection Capability](#)

Theme 5 – Federal government carbon emission targets and pricing

Feedback

Stakeholders suggested that federal carbon emission targets and pricing should be taken into account in the assessment. Furthermore, stakeholders differed in the opinion on if scenarios of carbon prices and policies should include only those announced by government or if extrapolations should be made in a scenario where generators are not exempt from some carbon prices.

Stakeholders also suggested the assessment should look more holistically at how the electricity system can contribute to meeting Canada's net-zero emission targets by 2050 through economy-wide electrification.

IESO Response

The Base Case¹ includes carbon pricing based on the federal regime at the time – \$50/tCO₂e in 2022, held constant thereafter, and with an OBPS benchmark of 370 tCO₂e/GWh. The Scenario 1 portfolio eliminates all natural gas by 2030 without regard for carbon pricing or alternative emissions targets.

On the point related to looking at how the electricity system can contribute to meeting Canada’s net-zero emission targets through economy-wide electrification, this was out of scope.

Theme 6 – Refurbishing Pickering nuclear generation units

Feedback

Feedback suggested that the Pickering nuclear generating station should not be retired, noting that this would help support the phase-out by lessening the need for additional generation. Stakeholder feedback suggested that in the past, costs prohibited this refurbishment however since then, costs may have decreased and associated capacity factors have increased. The ownership of the facility was also suggested to be transferred to a different owner.

IESO Response

The assessment does not consider extending Pickering NGS beyond its current end of life date, nor a change in ownership or operating regime as this is out of scope.

Theme 7 – Alternative approaches to reducing emissions from the natural gas generation fleet

Feedback

Stakeholders suggested a number of alternate approaches to reduce emissions, including:

- Carbon abatement technologies and whether carbon prices in combination with commodity pricing could justify the investment.
- Carbon capture storage and utilization
- Renewable natural gas
- Hydrogen blending
- Implementation of an emissions performance standard on all purchased natural gas used for electricity generation. This standard can ensure that the natural gas is produced using global best practices that reduce GHG emissions.

IESO Response

The assessment considers a number of alternate approaches and emerging technologies as part of the suite of options to reduce emissions and/or displace natural gas, with a focus on those that are

¹ Reference to the ‘Base Case’ in this document refers to the ‘Base Case’ from the 2020 Annual Planning Outlook (APO) report, Scenario 1.

sufficiently mature today – i.e., commercially feasible, scalable, and cost effective in the near-term, given the 2030 timeline. As the system operator, the maturity aspect is important in order to glean meaningful results and confidence in reliability.

Theme 8 – Cost of terminating natural gas generator contracts

Feedback

Stakeholders suggested that the cost of terminating existing natural gas generator agreements be evaluated and included in the assessment. This should not only include the stranded natural gas generation assets themselves but also pipelines and other infrastructure that may no longer be required.

IESO Response

Financial compensation to contract counterparties for facility retirement prior to contract expiry is included in scenario costs, as applicable, and is based on outstanding contract payments. The impact due to reduced use of utility infrastructure, including follow-on impacts, was outside of assessment scope.

Theme 9 – Consideration of impacts to wholesale market design and benefits accruing to ratepayers from the Market Renewal Project

Feedback

Stakeholders suggested the associated costs of phasing-out natural gas should be updated in terms of ratepayer value in the Market Renewal Program quantitative benefit's case.

IESO Response

The Market Renewal Program (MRP), and the accompanying Business Case, was a comprehensive assessment in 2019 that showed significant benefits to ratepayers, Market Participants and the IESO. Based on the ongoing developments of the gas-phase out engagement, it would be premature to update that assessment.

The Business Case for MRP showed not only significant financial benefits for ratepayers from reduced out of market payments and programs, there are also a wide range of benefits that include operational benefits for the IESO and participants, and the rebuilding of the foundation that will enable and accommodate the integration of new technologies in the future. These benefits were calculated over a 10-year timeframe, using conservative estimates, but the IESO expects those benefits to continue over a much longer timeframe.

Theme 10 – Appropriate authority to make a decision to phase-out natural gas

Feedback

Stakeholders sought clarity on who the appropriate authority is to make a policy decision to phase-out natural gas or any specific technology. A few stakeholders suggested this is a policy issue and as such, decisions should be made by government.

IESO Response

The IESO does not make policy decisions. The assessment is intended to provide objective analysis and to communicate information to policy-makers and others in order to make informed decisions. The assessment is not intended for the IESO to provide recommendations or to identify a preferred path forward.

Theme 11 – Consideration to include social costs, environmental costs or other costs in the assessment as well as benefits

Feedback

Some stakeholders stressed the assessment should exclusively focus on system needs, technology attributes, reliability impacts and cost estimates of continuing to leverage the existing natural gas-fired fleet.

While other stakeholders suggested that the assessment should include:

- Societal and environmental costs
- Other costs such as those to refurbish the existing nuclear generating units across the province
- Costs to acquire land if new resources are acquired in or around urban areas where supply is needed
- Benefits of job creation and economic benefits should be captured

IESO Response

The additional noted considerations fall outside of the IESO's mandate and core expertise. See IESO's response to *General Comments on the Assessment* for study scope.

Theme 12 – Advocating support for or against a phase-out of natural gas generation

Feedback

Stakeholders submitted their opinion that either a phase-out of natural gas should occur by 2030 or should not occur.

IESO Response

The assessment is intended to provide objective analysis and to communicate information to policy-makers and others in order to make informed decisions. The study is not intended for the IESO to provide recommendations or to identify a preferred path forward.

Questions from Stakeholders

Thank you to all stakeholders who submitted questions in their responses or during the engagement session. Some questions were answered during the live session (a recording is available [here](#)), some in the IESO response to feedback above, while the answer to others can be found in the assessment itself. The balance of questions are posted below with responses from the IESO.

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Q1: Scenario 2 potentially sends a conflicting message. Please clarify what market-based mechanisms the IESO is considering that are not public policy to drive higher gas prices thereby creating room for new clean energy project investments.

A1: Scenario 2 assumed no changes to the supply mix from the Base Case, with the intent to examine the impact of higher carbon costs and a declining emissions benchmark on natural gas production, imports and exports. As stated in the assessment and on page one of this document, this scenario was not fully developed.

Q2: Slide 26: Does the IESO have a target emission reduction in mind under this scenario or is the IESO contemplating to maintain the baseline emission profile for the electricity sector (as defined on slide 24)? As in Scenario 1, how does the IESO propose to define the alternatives to determine the "supply mix" to accomplish this objective?

A2: Scenario 3 examined potential pathways, using a similar portfolio based approach as Scenario 1, to lower electricity sector emissions forecasted in the Base Case, by 2030, and to an average of electricity sector emissions observed from 2016 to 2020 (4.4 Mt CO_{2e} per year). As stated in the assessment and on page one of this document, this scenario was not fully developed.

Q3: Clarification on the statement that the assessment is not intended to consider emission impacts resulting from other jurisdictions is required. Does this mean policy changes in other jurisdictions? Or does this mean greenhouse gas emission from other jurisdictions being affected by decisions made in Ontario, either positively or negatively? We request clarification on this statement so that we can properly understand the assessment.

A3: To forecast the impact of imports and exports on the Ontario system, the IESO models demand and supply in neighbouring jurisdictions and develops regional fuel price forecasts. It is expected that as Ontario moves to a lower emissions projection, so will our neighbours. Neighboring jurisdictions are evolving and policy changes are underway in the United States as they develop their own pathways to lowering emissions. However, these policy decisions have not been finalized and cannot be considered in the study. The study also does not consider how emissions in other jurisdictions may be affected in the future.

Q4: Clarification on the phrase "reduce emissions" is required. Does this mean to reduce emissions below the levels seen in the base line "an average of electricity sector emissions from 2016 to 2020 will be used to avoid single year fluctuations from external factors like weather".

A4: Please refer to A2.

Q5: How much could Ontario reduce its peak electricity demand (MW) and annual electricity consumption (MWh) by 2030 by investing in all cost-effective Conservation and Demand Management ("CDM")? Please make and state any assumptions necessary to provide a response. Please provide the answer in comparison to the current status quo. Please provide an answer based on the latest CDM potential study.

A5: By definition, all cost-effective CDM isn't necessarily achievable. That being said, the Scenario 1 portfolio includes 1,600 MW of incremental cost-effective Energy Efficiency, which is based on Scenario B of the 2019 Achievable Potential Study (APS), and 2,000 MW of incremental DR capacity, which is consistent with a similar modeling exercise performed for the 2016 Ontario Planning Outlook.

Q6: How much could Ontario reduce its peak electricity demand (MW) by 2030 by investing in cost-effective projects to increase storage and time shifting capabilities to Ontario's hydroelectric fleet?

A6: Storage technologies do not "reduce" peak demand, and may be discharged to meet a number of electricity system requirements. Studying opportunities to increase the capability of the existing hydroelectric fleet was outside the scope of this assessment.

Q7: How much could Ontario reduce its peak electricity demand (MW) and annual electricity consumption (MWh) by 2030 by incentivizing vehicle-to-grid or vehicle-to-home/business technology? Please assume that the million-mile batteries have resolved the current charge/discharge limitations.

A7: Incentive design for embedded load modifiers was outside of study scope.

Q8: How much would it cost to incentivize vehicle-to-grid/home/business installations with a combined capacity by 2030 of (a) 5,500 MW or (b) 11,000 MW?

A8: Incentive design for embedded load modifiers was outside of study scope.

Q9: What is the forecast annual output of gas plants to 2030 if the IESO put them last in the dispatch order whenever technically feasible? Please make and state any assumptions necessary to provide a response.

A9: The IESO currently administers Ontario's wholesale energy market to match supply and demand, with market participants submitting bids for electricity and offers to generate on a 5-minute basis. The supply curve suggested is inherently produced by IESO's Dispatch System Optimizer, which

considers these bids and offers, and other performance criteria, as well as transmission system limitations and cooptimization with the Operating Reserve market. Generators with the lowest offers (highly dependent on variable operating costs) are generally dispatched first, and generators with higher offers are brought on line sequentially as electricity demand increases. Gas-fired generators typically have the highest offers and are dispatched during the hours when demand for electricity is highest, or if output from variable generation is low. This competitive energy market is expected to persist into the future.

Q10: What is the forecast annual output of gas plants to 2030 if Ontario entered into an import agreement with Québec for as much cost-effective firm capacity and variable supply as could be imported via the interties?

A10: The Scenario 1 portfolio eliminates all-natural gas by 2030, and includes 3,300 MW of year-round firm imports from Québec. The assessment also notes the required transmission upgrades to enable this level of firm imports (please refer to Themes 3 and 4).

Q11: Will the increased costs to municipalities/homeowners/end users to meet GHG reduction targets be considered in the study?

A11: Capital investments, the impact to the annual cost of electricity service, and residential bill impacts were included in the assessment.

Q12: We expect wind and solar costs to continue to decrease. Will you consider that in your evaluation?

A12: Wind and solar project costs were based on industry average projections inclusive of cost declines.

Q13: Will the IESO's study be looking beyond 2030 in terms of its study (i.e., what may be doable by 2035, 2040, etc. to reach net-zero emissions power grid)? Will the IESO modeling be able to extrapolate the cost of a phase vs emissions into 2035?

A13: As this assessment is in response to motions by municipalities, the scope of the study is limited to 2030.

Q14: What level of capacity loss (in MW) due to decommissioned nuclear supply does the IESO have to make up for with natural gas?

A14: The shutdown of nuclear supply (i.e., the retirement of Pickering NGS), including impacts to resource adequacy, is considered in the IESO's [Annual Planning Outlooks](#), as applicable.

Q15: What is the current plan for natural gas fleet when their contracts expire?

A15: Natural gas plants with expiring contracts will be eligible to participate in competitive mechanisms per the [Resource Adequacy Framework](#), with the exception of those where a need exists that cannot be addressed in a practical and timely way through competitive processes.

Q16: "Recognizing that the policy-making power is with the Province, is there anything that precludes IESO from making a recommendation to the Province?"

A16: This report is not a plan, does not make any policy recommendations, and does not identify a preferred path forward. It is intended to provide insight to build a common understanding of the challenges that would need to be addressed in any effort to lower emissions from Ontario's electricity generation supply.

Q17: Can the IESO make a general comment about percentage (or MW) of gas that is primarily location driven - local needs vs. general peaking capacity for the province?

A17: A number of natural gas plants were sited considering locational value and reliability. These plants are discussed in the assessment.

Q18: The IESO developed the Ontario- Québec Interconnection Capability study in 2017 for the Deputy Minister of Energy. What additional information would another study reveal? Has anything changed since the study was completed?

A18: The assessment references the 2017 Ontario-Québec Interconnection Capability study as indicative of the scope of reinforcement required to enable further Quebec import capability. A refresh of the 2017 study was out of scope of this assessment. Through our Resource Adequacy Framework, the IESO will be procuring supply competitively through the 2020s. Quebec is an active participant in our energy and capacity markets. Our recent Capacity Auction procured 80 MW of supply from Quebec.

Q19: As Canada is funding research into advanced SMRs will you assess the possibility of ramping up these new SMRs to displace gas?

A19: The study acknowledges provincial and federal support of advanced SMRs and includes 300 MW of SMRs as part of the replacement resource mix under Scenario 1.

Q20: What areas of assessment will be weighted most heavily amongst the three scenarios when making a recommended pathway?

A20: This report is not a plan, does not make any policy recommendations, and does not identify a preferred path forward. It is intended to provide insight to build a common understanding of the

challenges that would need to be addressed in any effort to lower emissions from Ontario's electricity generation supply.

Q21: Would you consider a scenario that only includes emissions free imports?

A21: A scenario that only includes emissions free imports was not part of the intended scope. Scenario 1 includes 3,300 MW of firm imports from Québec only, with economic imports from other jurisdictions permitted absent any import emissions constraints.

Q22: Will capacity factors of resource types be factored into the study?

A22: Cost and performance characteristics of various candidate resource options, including capacity factors, were considered as part of the assessment.

Q23: Does the impact assessment differentiate between the role gas generation plays in delivering baseload versus load following power in its final product? The May 27, 2021 presentation anticipates the need for additional baseload capacity to compensate for the planned closure of the Pickering Generating Station as well as planned refurbishments at Darlington and Bruce, which could be filled by other, low carbon technologies like nuclear.

A23: The assessment identifies the scope of services that natural gas provides, and its forecast utility as part of the 2020 APO base case. This utility includes both flexibility due to intermittent resources on the system and swift changes in demand, and higher level output due to the retirement and refurbishment of nuclear facilities. The Scenario 1 resource mix eliminates all natural gas by 2030, with its capacity and energy replaced by non-emitting resources.

Q24: Will the assessment be used as a planning tool for the IESO that informs work already underway in the Annual Acquisition Report and/or the Annual Planning Outlook or will this remain as an exclusive snapshot limited to 2030?

A24: The study provides important learnings about the implications of phasing out gas and offers a sharper focus for discussions about how Ontario's grid can support the anticipated rapid increase of electrification in the province. The IESO, in partnership with stakeholders in the electricity sector and the broader economy, will develop a work plan to determine what's needed to prepare the grid for a decarbonized future. See [letter](#) from Minister of Energy for more information on next steps.

This work plan will outline the efforts needed to prepare the electricity system for decarbonization, aligned with stated policy goals and emission targets, to mitigate future risk to reliability and affordability. Ultimately, this collaborative effort will provide an informed and transparent approach to leveraging the electricity sector to address the issue.

Please note that the information and responses provided by the IESO herein are for information and discussion purposes only and are not binding on the IESO. This document does not constitute, nor

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