



Corporation of the County of Bruce  
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April 20, 2023

Hon. Todd Smith, Minister  
Ministry of Energy  
77 Grenville Street  
Toronto, ON  
M7A 2C1

Dear Minister Smith,

Bruce County supports the government of Ontario's goal to ensure that the building blocks are in place for an integrated energy plan that meets Ontario's energy needs, while maintaining reliability, affordability and our clean energy advantage. As a central part of the [Clean Energy Frontier](#), Bruce County knows both the environmental and economic importance of the energy sector in the daily lives of Ontarians.

Bruce County is host to Bruce Power, the world's largest operating nuclear power generating station, so we believe that we are well suited to provide comment on the ERO posting. The following are comments in response to the province's Environmental Registry of Ontario (ERO) Postings 019-6647 which seek feedback on the findings of the Independent Electricity System Operator's (IESO) *Pathways to Decarbonization* study.

The IESO Pathways to Decarbonization study ERO posting poses nine questions. Bruce County's response will specifically focus on Questions 1, 2, 5 and 9.

### Questions:

The Province of Ontario is seeking input on the appropriate regulatory requirements to achieve an accelerated infrastructure buildout. As a host community to Bruce Power, Bruce County is keenly aware of the importance of ensuring regulatory requirements are maintained and monitored to support safe and resilient communities. The Canadian Nuclear Safety Commission (CNSC) regulates new nuclear reactor designs and site preparation work and outlines a significant series of steps needed to access a license required for new nuclear construction. Site design considerations and environmental monitoring are all large parts of this process, and often take a significant amount of time. Current nuclear sites are required to undertake radiological and environmental monitoring programs. These programs are required to be completed on an ongoing basis to ensure compliance with many of the other licenses required to operate a nuclear facility. Not only are these important

studies but they provide a great opportunity to inform and expedite early-stage discussions for new nuclear licensing processes. In our community, Bruce Power continues to show, through their annual [environmental protection reports](#), that they are continually meeting all relevant Federal, Provincial, and regulatory requirements and legislation. Furthermore, they are doing more to measure and minimize their impact on the environment. As a result of this ongoing and robust study of existing nuclear sites in Ontario, Bruce County believes that the province should first consider existing nuclear sites as the primary location to invest in new power generation in order to meet the goals and scenarios outlined in *the Pathways to Decarbonization* report. Existing nuclear sites have the environmental data and strong safety record to demonstrate they can be tasked with siting new clean generation and storage infrastructure.

The Pathways to Decarbonization report notes that large infrastructure projects can take 10 to 15 years to build, however the planning, siting and environmental work needed to move these projects forward can hamper the goal of transitioning away from natural gas. The report recommends that these processes should begin immediately. We believe that Ontarians and Canadians are ready to see this investment in the energy sector as well. Recent polling commissioned by the Nuclear Innovation Institute found that approximately 60% of Canadians support beginning environmental and impact assessment process now to keep the door open for new nuclear generation in future years.

As a host community and a key part of Ontario's Clean Energy Frontier we believe it is time to start the conversation about investment in new nuclear generation. Existing sites, such as the site located in Tiverton, should be the first considered when looking at new nuclear projects. The use of these existing sites provides an opportunity to streamline not only the processes but the consultation that needs to occur. Areas like Bruce County have a high level of citizen engagement, knowledge of the industry and acceptance of large-scale energy projects due to the existing infrastructure that is in place. In fact, recent polling by the Nuclear Innovation Institute has shown that 73% of Canadians believe that nuclear power plants have been built and operated safely for 60 years<sup>1</sup>. Furthermore, Indigenous leaders and businesses are actively involved with projects on site and are partners for continued growth of the energy sector. This is demonstrated most clearly in polling conducted by Ipsos in Spring of 2022 that focused on the Clean energy Frontier region (Bruce, Grey and Huron Counties). The polling found that 86% of residents familiar with Bruce Power have a favourable opinion of the company while 92% of all residents believe that Bruce Power is involved in the community in a good way<sup>2</sup>. Bruce County believes that consulting early and often with the public and key stakeholders is an important part of any large infrastructure project in Ontario. Building on existing relationships between local governments, indigenous communities and the public in nuclear host communities, such as Bruce County, will assist the provincial government expedite the planning and siting of new nuclear generating facilities in Ontario.

<sup>1</sup> [Nuclear Innovation Institute, 2023](#)

<sup>2</sup> [Ipsos, 2022 - Bruce, Huron 7 Grey Counties Public Opinion Research Tracking](#)

Investing in new nuclear generation, particularly on existing sites, has the opportunity to enable the development of other energy opportunities such as hydrogen and other low-carbon fuels. Existing nuclear facilities rely on developed clusters of innovative companies, who provide a suite of supportive products and services to clean energy. These companies continue to learn and adapt to changing technology that would not only support the expedited construction of new nuclear projects, but the growth of additional energy projects enabled by these sites. Growth of hydrogen and other low-carbon fuels continues to be at the top of this list. There are many examples of businesses in Bruce County to support the growth of this type of energy source. The *Pathways to Decarbonization* report estimates capacity of an additional 15,000 MW of hydrogen capacity that could be supported through the growth of the nuclear sector.

### Summary

The IESO Pathways to Decarbonization Study provides the beginning of a roadmap for additional investment in the Energy Sector in Ontario. As a nuclear host community, Bruce County wishes to express support for the siting of new nuclear facilities in Ontario and for prioritizing Ontario's existing nuclear sites for consideration. Furthermore, we would like to ask the government to support expediency in requests from existing facilities to expedite the continued transition to Net Zero in Ontario.

Most sincerely,



Chris Peabody  
Warden  
Bruce County

<sup>1</sup> [Nuclear Innovation Institute, 2023](#)

<sup>2</sup> [Ipsos, 2022 - Bruce, Huron 7 Grey Counties Public Opinion Research Tracking](#)



## Committee Report

**To:** Councillor Steve Hammell, Chair and  
Members of the Planning and Development Committee

**From:** Claire Dodds  
Director of Planning and Development

**Date:** April 20, 2023

**Re:** Response to Independent Electricity System Operator's (IESO)  
Pathways to Decarbonization Study

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### Staff Recommendation:

That the draft response and the notice of motion from April 6, 2023 be circulated to Clerks/CAOs at local municipalities in Bruce County and other nuclear host communities in Ontario, as presented; and

That staff submit the comments as presented to the province through ERO Posting #019-6647, IESO Pathways to Decarbonation Study.

### Background:

On December 15, 2022, the Independent Electricity System Operator (IESO) released the "Pathways to Decarbonizations" (P2D) study. The Ministry of Energy is seeking feedback on the findings of the P2D study through the Environmental Registry of Ontario. The province outlined nine individual questions that they were seeking additional input on that spanned many different topics of the report related to the "no-regret" recommendations.

Council passed a motion on April 6<sup>th</sup>, 2023 directing staff to prepare comments in response to the ERO posting. County staff worked with staff from Nuclear Innovation Institute to prepare these comments.

The response focuses on three key questions from the ERO posting that are relevant to Bruce County:

- requested input on the opportunities streamlining regulatory approvals for new large infrastructure projects;
- consultation requirements with host and indigenous communities; and
- the process required to support investment in new and additional clean energy projects.

If Council is supportive of these comments, this letter will be circulated to local municipalities in Bruce County, as well as other nuclear host communities in Ontario. It will also be submitted through the ERO portal to be included as formal input on the study.

**Financial/Staffing/Legal/IT Considerations:**

There are no financial, staffing, legal or IT considerations associated with this report.

**Interdepartmental Consultation:**

The Planning and Development Department consulted with staff from the Nuclear Innovation Institute to assist in developing the attached comments. The CAOs office was also consulted in the preparation of these comments.

**Link to Strategic Goals and Elements:**

- Goal # 9 - Coordinated, concerted effort to advance our agenda
- B. Politicians and staff lobby associations and government in support of local policy needs.
  - C. Make political and staff participation in provincial and federal committees a priority

**Report Author:**

Jeff Loney  
Economic Development Manager

**Departmental Approval:**

Claire Dodds  
Director of Planning and Development

**Approved for Submission:**

Derrick Thomson  
Chief Administrative Officer

# IESO Pathways to Decarbonization Study

## Proposal details

### *Overview:*

Ontario already benefits from one of the cleanest electricity systems in the world, with over 90% of the electricity generated from emissions-free sources in 2021. While fossil fuels still make up a small amount of Ontario's total supply mix, the majority is a diverse mix of clean resources like nuclear, waterpower, wind, bioenergy and solar.

On October 7, 2021, in response to the Independent Electricity System Operator's (IESO) "Gas Phase-Out Impact Assessment" study which concluded that the decarbonization of the electricity system by 2030 was not technically or economically feasible, the Minister of Energy asked the IESO to evaluate a moratorium on the procurement of new natural gas-fired generation and develop an achievable pathway to zero emissions in the electricity sector. The IESO has called this report back to the Minister "Pathways to Decarbonization Study".

In the study, the IESO indicates that a moratorium on new natural gas generation is feasible following the completion of its current long-term procurements, which includes up to 1,500 megawatts (MW) of new natural gas capacity to meet supply needs in the mid-2020s. The moratorium assessment shows that most of the projected Ontario demand in 2035 can be met with the build out of non-emitting sources, but some natural gas will still be required post-2035 to address local needs and provide the services necessary to operate the system reliably.

The IESO also considered the pathway to a zero-emissions electricity system under a scenario with a high demand forecast and emitting generation constraints informed by the proposed federal Clean Electricity Regulation. The pathway assessment illustrates a system designed to meet projected demand peaks almost three times the size of today by 2050. To achieve this, the pathways assessment includes 69,000 megawatts of non-emitting supply and 5,000 megawatts of

conservation efforts, at an estimated capital cost of \$375 billion to \$425 billion, in addition to the current system and committed procurements.

While the moratorium and pathways assessments are not power system plans, the assessments provide insights into potential opportunities and challenges that Ontario faces in addressing future electricity system planning.

The Ministry of Energy is working strategically with its energy agencies and partners to ensure the building blocks are in place for an integrated energy plan that meets Ontario's energy needs and while maintaining reliability and our clean energy advantage, at the lowest cost to families and businesses. Critical initiatives, such as the IESO's Pathways to Decarbonization Study and the Minister's Electrification and Energy Transition Panel (the Panel), will help to inform the government's next steps towards its longer-term vision for an integrated energy system.

The Panel has been tasked with advising government on the highest value short-, medium- and long-term opportunities for the energy sector to help Ontario's economy prepare for electrification and the energy transition. The Panel is developing advice on how Ontario's energy policy and planning apparatus can foster efficient co-ordination across the energy sector. This advice will inform government as it looks to develop a future integrated energy plan. This future integrated energy plan will incorporate input from Ontario families and businesses, stakeholder groups and Indigenous communities.

### *The IESO's Report Recommendations:*

The IESO's report provides "no-regret" recommendations that reflect the scope and magnitude of the effort needed to support an orderly energy transition while maintaining a reliable and affordable electricity system for Ontarians.

These recommendations from the IESO include:

- The acceleration of current efforts to acquire new non-emitting supply, including the implementation of recent conservation and demand management directives.

- Beginning the planning and siting work for new nuclear, long-duration storage and waterpower facilities, as well as transmission infrastructure, to allow for faster implementation.
- Innovation and investment in low carbon fuels, such as clean hydrogen, as they are untested at scale. Further work and investment are needed to determine if they can replace some of the flexibility that natural gas currently provides the system.
- Galvanizing collaboration amongst stakeholders, including Indigenous communities.
- Ensuring that regulatory, approval and permitting processes are ready to manage future investment at scale.
- Establishing an open, transparent and traceable process to measure progress and demonstrate the results of decisions and actions taken along the way.

### *Consultation Questions:*

The Ministry of Energy is seeking feedback on the report and, in particular, the IESO's "no-regret" recommendations. We are particularly interested in comments and responses on the following questions:

1. The IESO's Pathways Study recommends streamlining regulatory, approval and permitting processes, citing that it can take five to 10 years to site new clean generation and transmission infrastructure.

What are your thoughts on the appropriate regulatory requirements to achieve accelerated infrastructure buildout? Do you have specific ideas on how to streamline these processes?

2. The IESO's Pathways Study recommends beginning work on planning and siting for new resources like new long-lived energy storage (e.g., pump storage), nuclear generation and waterpower facilities.



What are your expectations for early engagement and public or Indigenous consultations regarding the planning and siting of new generation and storage facilities?

3. The IESO's Pathways Study shows that natural gas-fired generation will need to continue to play an important role in the system for reliability in the short to medium term. The IESO's assessment shows that most of the projected Ontario demand in 2035 can be met with the build out of non-emitting sources, but some natural gas will still be required to address local needs and provide the services necessary to operate the system reliably.

Do you believe additional investment in clean energy resources should be made in the short term to reduce the energy production of natural gas plants, even if this will increase costs to the electricity system and ratepayers? What are your expectations for the total cost of energy to customers (i.e., electricity and other fuels) as a result of electrification and fuel switching?

4. The IESO's Pathways Study highlights emerging investment needs in new electricity infrastructure due to increasing electricity demand over the outlook of the study. The IESO pathway assessment illustrates a system designed to meet projected demand peaks almost three times the size of today by 2050, at an estimated capital cost of \$375 billion to \$425 billion, in addition to the current system and committed procurements. Please see supporting materials for illustrative charts on capacity factor and cost by resource type.

Are you concerned with potential cost impacts associated with the investments needed? Do you have any specific ideas on how to reduce costs of new clean electricity infrastructure?

5. The IESO's Pathways Study recommends that for a zero-emissions grid by 2050, investment and innovation in hydrogen (or other low-carbon fuels) capacity could be required to replace the flexibility that natural gas currently provides the electricity system.

Do you have any comments or concerns regarding the development and adoption of hydrogen or other low-carbon fuels for use in electricity generation? What are your thoughts on balancing the need for investments in these emerging technologies and potential cost increases for electricity consumers?

6. The IESO's Pathways Study recommends greater investment in new non-emitting supply, including energy efficiency programs.

Following the end of the current 2021-2024 energy efficiency framework how could energy efficiency programs be enhanced to help meet electricity system needs and how should this programming be targeted to better address changing system needs as Ontario's demand forecast and electrification levels grow?

7. The IESO's Pathways Study includes a scenario for over 650 MW of new large hydroelectric capacity to meet system needs in 2050.

A recently released assessment estimates that there may be potential to develop 3,000 to 4,000 megawatts of new hydroelectric generation capacity in northern Ontario and 1,000 megawatts in southern Ontario.

What are your thoughts on the potential for development of new hydroelectric generation in Ontario by private-, Indigenous- and government-owned developers?

While the capital costs for hydroelectric generation may be higher than nuclear, wind, solar, and natural gas, do you support investing in large scale hydroelectric assets that may operate for over a hundred years?

8. The IESO's Pathways Study suggest that significant transmission capacity will be needed to help balance intermittent sources of electricity (e.g., wind and solar) and to ensure cost-effective supply can be delivered to meet growing demands from electrification and economic growth.

Transmission will also be required to balance intermittent supply with dispatchable supply (such as natural gas and energy storage) and meet demand in regions with retiring assets.

What steps should be taken to ensure that transmission corridors can be preserved and lines can be built as quickly and cost effectively as possible?

9. Do you have any additional feedback on the IESO's "no-regret" recommendations?