

ONTARIO ENERGY BOARD

IN THE MATTER OF an Integrated Resource Planning ("IRP")
Proposal submitted to the OEB by Enbridge Gas Inc.

INTERROGATORIES OF
THE BUILDING OWNERS AND MANAGERS ASSOCIATION ("BOMA")
With Respect to the Expert Evidence submitted by Green Energy Coalition and
Environmental Defence.

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1 – Questions with respect to *Natural Gas Integrated Resource Planning in New York State and Ontario*, Guidehouse Inc., November 12, 2020 ("*Guidehouse*, 2020")

1-BOMA-1 (Issue 2 – What is the appropriate process and approach for incorporating IRP into Enbridge Gas's system planning process, including scope, timing, stakeholder consultation, approval process and evaluation)

Reference: Guidehouse, 2020, Section 8.2, Key Findings and Recommendations

Question:

- (a) The major reason that DSM became a function of the natural gas utilities in Ontario, even before the OEB legislation was revised to include it as an integral part of their business operations, was because of their direct relationship with customers. However, many of the recommendations suggest that the OEB and the IESO should working with stakeholders and customers. Please comment.

1-BOMA-2 (Issue 5 – What are industry best practices for IRP, and how are they applicable to the Ontario context?)

Ref: Guidehouse, 2020, Page 1, 2nd paragraph/Page 9, last paragraph

Preamble:

The analysis in our report focuses on the IRP experience of natural gas utilities in New York State, in particular, Consolidated Edison Inc. (Consolidated Edison Company of New York Inc. (CECONY); Orange and Rockland Utilities, Inc.; jointly referred to hereafter as “Con Edison”) and National Grid (National Grid US, including KeySpan Energy Delivery New York (KEDNY), KeySpan Energy Delivery Long Island (KEDLI), and Niagara Mohawk operating areas; referred to hereafter as “National Grid”). The analysis focuses on the CECONY and KEDNY/KEDLI operating areas, which have the most experience with these topics, but also includes details on current and future IRP activities by other New York State natural gas utilities.

New York State policymakers and the PSC have a history of promoting utility-supported energy efficiency programs to support the state’s environmental goals. In December 2018, the PSC adopted significantly accelerated utility energy efficiency targets under the governor’s New Efficiency: New York plan, which will double utility energy efficiency achievement over 2019 to 2025. These new regulatory requirements outline energy efficiency targets in terms of total trillion British thermal Units (TBtus) in site-level natural gas and electricity energy savings, including specific targets for incremental savings over previous commitments, 3% reduction in annual electricity sales, and new heat pump deployments. Furthermore, the PSC developed a

policy framework in 2015 for New York State utilities to demonstrate new technologies and test new business models under the New York Reforming the Energy Vision (NY REV) initiative. This framework for developing new utility business models has been cited as an example for how New York State utilities can explore IRP solutions such as heating electrification and solicitations for third-party programs that could reduce the need for traditional infrastructure investment.

Questions:

- (a) How long have the New York State utilities referenced in this report been engaged in Demand Side Management?
- (b) What are the annual results for each utility since that date?
- (c) When did each utility add an IRP function to its organization and why?

1-BOMA-3 (Issue 5 – What are industry best practices for IRP, and how are they applicable to the Ontario context?)

Ref: Guidehouse, 2020, Page 1, 3rd paragraph

Preamble:

Guidehouse prepared this report based on a document review of public reports and regulatory filings, as well as interviews with key staff at Con Edison and National Grid. The New York State Public Service Commission (PSC) has an ongoing proceeding to investigate and improve natural gas planning procedures in New York State, and may result in changes to the IRP processes in New York State. New York Department of Public Service (DPS) staff are expected to publish a whitepaper that outlines a proposal to modernize the gas system planning before November 16th, 2020.

Question:

- (a) Has the DSP staff report published the whitepaper on the modernization of gas system planning yet? If not, when it is expected?

1-BOMA-4 (Issue 5 – What are industry best practices for IRP, and how are they applicable to the Ontario context?)

Ref: Guidehouse, 2020, Page 2, 3rd Bullet

Preamble:

Deploying a diversity of IRP solutions is important to reduce risks in achieving the project goals. Smaller IRP projects may be able to achieve goals in a shorter timeline by expanding existing energy efficiency (EE) or DR programs, whereas larger IRP projects may be best suited for market solicitations and new program developments that have longer timelines.

Question:

- (a) Please provide a list of natural gas Demand Response (DR) programs which each of the utilities have delivered and provide the results of each program in absolute numbers as well as percentage of total annual sales.

1-BOMA-5 (Issue 5 – What are industry best practices for IRP, and how are they applicable to the Ontario context?)

Ref: Guidehouse, 2020, Page 4, Recommendations

Question:

- (a) Please provide definitions of the following terms relative to the New York State Utilities referenced: IRP Plans, IRP Programs, Energy Efficiency Programs, DSM Programs, DR Programs, Non Wires Alternative Programs, Non Pipeline Alternative Programs, Non-traditional Programs.

1-BOMA-6 (Issue 5 – What are industry best practices for IRP, and how are they applicable to the Ontario context?)

Ref: Guidehouse, 2020, Page 4, Recommendations, Paragraph 2

Preamble:

The OEB should work to more closely align and sequence the planning activities for gas supply, demand, infrastructure, energy efficiency (EE)/demand-side management (DSM), IRP, Utility System Plans (USPs) and other relevant matters, wherever possible. Developing an IRP framework that describes the importance of different planning activities and how the individual

activities inform the IRP planning process will allow for more consistent outcomes. For example, filings and related proceedings around gas supply, transportation planning, infrastructure maintenance, and EE/DSM will have relevance for identifying IRP needs and opportunities, and applying a logical sequencing can lead to a more consistent, up-to-date view of these matters for IRP planning.

Questions:

- (a) What is the reasoning behind having the Board design and sequence the planning activities for gas supply, demand, infrastructure, energy efficiency, demand side management, IRP, Utility System Plans, and other relevant matters?
- (b) What is the experience of New York DSP and New York gas utilities with respect to filings and related proceedings around gas supply, transportation planning, infrastructure maintenance and EE/DSM?

1-BOMA-7 (Issue 5 – What are industry best practices for IRP, and how are they applicable to the Ontario context?)

Ref: Guidehouse, 2020, Page 5, Recommendation 6

Preamble:

The OEB should develop the gas IRP framework to provide utilities with sufficient flexibility to quickly adjust program designs, budgets, implementation plans, and other processes to adapt the IRP programs to each situation. Furthermore, incentives such as Earnings Adjustment Mechanisms (EAMs) should be considered to incentivize innovative approaches that may lead to more targeted outcomes or greater demand reductions. The long-term effectiveness of EAMs remains to be seen due to the limited track record of these incentives.

Questions:

- (a) Please explain the similarities or differences with respect to Earning Adjustment Mechanisms and Shareholder Incentives.
- (b) How does each affect utility performance?

1-BOMA-8 (Issue 5 – What are industry best practices for IRP, and how are they applicable to the Ontario context?)

Ref: Guidehouse, 2020, Page 5, Recommendation 7

Preamble:

Should the OEB and the Independent Electricity System Operator (IESO) consider developing a specific electric Non-Wires Alternative (NWA) framework in the future, the OEB should consider aligning Gas IRP and Electricity IRP frameworks to share the cost and resource investments to develop operational processes, program design, benefit-cost analyses, and other aspects of either IRP proceeding.⁴ Within New York State, leveraging the experience of electric NWA when developing the gas Non-Pipeline Solution (NPS) programs allowed for easier understanding and launch by utility, regulatory, customers, and other stakeholders. Improved coordination across electric and gas utilities will allow for more transparent analysis of the benefits and costs to achieve future provincial policy objectives.

Question:

- (a) Given that the Board's jurisdiction over the IESO is limited to its fees submission, how would the Board be able to ensure that IRP frameworks and programs were coordinated?

1-BOMA-9 (Issue 5 – What are industry best practices for IRP, and how are they applicable to the Ontario context?)

Ref: Guidehouse, 2020, Page 8, Section 3.0

Preamble:

Integrated Resource Planning in New York State Overview

Question:

- (a) What is the current energy supply mix for each of the referenced New York Utilities compared to Ontario?

1-BOMA-10 (Issue 5 – What are industry best practices for IRP, and how are they applicable to the Ontario context?)

Ref: Guidehouse, 2020, Page 9, Paragraph 2

Preamble:

Downstate natural gas utilities, including Con Edison and National Grid, have seen significant demand growth in recent years driven by both population and economic growth in the service territory, but also by policy efforts to convert fuel oil heating customers to natural gas.

Question:

- (a) Did New York State ever have an “Off-Oil” program similar to the Canada Oil Substitution Program of 1980?

1-BOMA-11 (Issue 5 – What are industry best practices for IRP, and how are they applicable to the Ontario context?)

Reference: Guidehouse, 2020, Page 9, 3rd Paragraph

Preamble:

It is Guidehouse’s understanding that New York State policymakers have not made an explicit directive or policy announcement to date regarding the future of natural gas consumption within the state or restriction of further natural gas infrastructure. It is Guidehouse’s further understanding that major stakeholders including regulatory agencies, gas and electric utilities, and real estate developers all recognize the overall policy direction and trend towards greater electrification of buildings, transportation, and industry. Nevertheless, there has not been a coordinated effort to address questions around future gas infrastructure investment to serve new and existing customers, maintain system safety and reliability, and potentially recover costs for stranded assets in the future. Many anticipate that the CLCPA Climate Action Council as well as the PSC Future Gas Planning Proceeding (Section 3.3) will provide greater insight into these topics when completed.

Question:

- (a) How will the differences in Ontario’s policy with respect to community expansion for natural gas delivery impact IRP if New York State policy makers require no further expansion of natural gas infrastructure?

1-BOMA-12 (Issue 5 – What are industry best practices for IRP, and how are they applicable to the Ontario context?)

Reference: Guidehouse, 2020, Page 13, Section 4.0

Preamble:

In each case, the utilities initiated the development of the Gas IRP pilots and programs on an ad hoc basis in response to an urgent need to alleviate peak day capacity constraints, both today and in the near future. As detailed below, the utilities prepared funding requests, implementation plans, and other materials and submitted to the New York State (NYS) PSC for approval. This characterization includes analysis of the original petition, subsequent regulatory developments, and experience to date implementing the proposed solutions in these programs, where applicable. Described in greater detail below, most of these programs are in pilot phases, early years of deployment, or proposed ideas for future consideration.

Question:

- (a) By definition, how could IRP pilots and programs been developed without an integrated resource plan?

1-BOMA-13 (Issue 5 – What are industry best practices for IRP, and how are they applicable to the Ontario context?)

Reference: Guidehouse, 2020, Pages 15/16, Table 1 and Table 2

Preamble:

**Table 1. Summary of NPS Related Benefits and Costs from
 Original Con Edison BCA Handbook³⁹**

NPS Benefit Categories	NPS Cost Categories
Fixed and Variable Avoided Upstream Supply	Program Administration
Avoided Distribution Expense	Incremental Distribution
Reliability / Resiliency	Lost Utility Revenue
External Benefits	Participant NPS Cost
	Alternative Fuel Cost (e.g., Electricity)
	External Costs

**Table 2. Summary of NPS Related Benefits and Costs from
 Revised Con Edison BCA Handbook⁴⁰**

NPS Benefit Categories	NPS Cost Categories
Avoided Peaking Services	Program Administration
Avoided Pipeline and Storage Capacity Costs	Incremental On-System Capacity Expenses
Avoided Commodity Costs	Lost Utility Revenue
Avoided On-System Capacity Expense	Shareholder Incentives
Reliability / Resiliency	Incremental Participant NPS Cost
External Benefits (e.g., Avoided CO ₂ and Other Emissions, Land and Water Impacts)	Alternative Fuel Cost (e.g., Electricity)
	External Costs (e.g., Alternative Fuel CO ₂ and Other Emissions, Land and Water Impacts)

Question:

- (a) Please provide a combined table with 3 columns, including in the third column, the current use of benefit/costs categories required by the OEB's current requirements of Enbridge.

1-BOMA-14 (Issue 5 – What are industry best practices for IRP, and how are they applicable to the Ontario context?)

Reference: Guidehouse, 2020, Page 18, Section 4.1.2

Question:

- (a) The AMI benefits lists are predominantly related to smart metering of electricity.

What are the specific benefits to natural gas utilities and customers?

1-BOMA-15 (Issue 5 – What are industry best practices for IRP, and how are they applicable to the Ontario context?)

Reference: Guidehouse, 2020, Pages 52-58, Section 6 (Differences between Enbridge Gas and New York State Service Territories)

Question:

- (a) This table provides an excellent comparison between the jurisdictions, but it is not clear how these differences would affect IRP. Please elaborate.

2 – Questions with respect to *Best Practices for Gas IRP and Consideration of "Non-Pipe" Alternatives to Traditional Infrastructure Investments*, Chris Neme, Energy Futures Group, November 23, 2020 submitted on behalf of: Green Energy Coalition and Environmental Defence ("Neme, 2020") Exhibit M2.GEC-ED

2-BOMA-1 (Issue 2 – What is the appropriate process and approach for incorporating IRP into Enbridge Gas's system planning process, including scope, timing, stakeholder consultation, approval process and evaluation)

Ref: Exhibit M2.GEC-ED (Neme, 2020), Page 5, Section 1.3.1 Bullet 2

Preamble:

The IRP framework should require utilities to prepare and publish an annual T&D needs summary based on a rolling 10-year forecast of needs, the drivers behind those needs, whether the needs may be candidates for non-pipe solutions (and why or why not), and the status of consideration of non-pipe solutions for each identified need (see Figure 3 below for an example of this information). This kind of longer-term planning is commonly performed in jurisdictions that are seriously considering IRPAs.

Question:

- (a) How does this compare with the current Gas Supply Planning used by Enbridge given recent OEB changes to the requirements?

2-BOMA-2 (Issue 2 – What is the appropriate process and approach for incorporating IRP into Enbridge Gas's system planning process, including scope, timing, stakeholder consultation, approval process and evaluation)

Ref: Exhibit M2.GEC-ED (Neme, 2020), Page 6, Section 1.3.4, 3rd Bullet

Preamble:

The Gas IRP framework should establish a planning committee, modeled on Vermont's System Planning Committee, to secure input throughout the planning process from key stakeholders.

Question:

- (a) Please provide the terms of reference and membership of the Vermont's System Planning Committee.

2-BOMA-3 (Issue 2 – What is the appropriate process and approach for incorporating IRP into Enbridge Gas's system planning process, including scope, timing, stakeholder consultation, approval process and evaluation)

Ref: Exhibit M2.GEC-ED (Neme, 2020), Page 19, Section 4.2.2.2

Preamble:

In its 2018 analysis of the role efficiency potential could play in deferring gas infrastructure investments, ICF estimated that, based on the most recent provincial Market Potential Study ("MPS"), the maximum achievable potential for peak hour demand savings is "in the range of 1.2% of peak hour demand per year." ICF then noted that only about 17% of Union Gas planned facility investments and 14% of Enbridge planned investments had peak demand growth rates below 1.2% and suggested that meant that "DSM could potentially avoid a little less than 20% of the Gas Utilities' planned investments."

Questions:

- (a) Please provide your analysis of the differences between electricity IRP and natural gas IRP.
- (b) How are they treated in a combined utility?

2-BOMA-4 (Issue 2 – What is the appropriate process and approach for incorporating IRP into Enbridge Gas's system planning process, including scope, timing, stakeholder consultation, approval process and evaluation)

Ref: Exhibit M2.GEC-ED (Neme, 2020), Page 21, Section 4.2.3.2

Preamble:

As noted above, one shortcoming of ICF's analysis of the potential viability of non-pipe solutions is that it focused solely on the peak demand reduction potential from energy efficiency. While increased efficiency savings can sometimes be sufficient to defer a T&D investment, that will not always be the case. However, there are IRPA options other than geotargeted efficiency – including demand response programs; electrification of gas end uses with cold climate air source heat pumps,²¹ ground source heat pumps, heat pump water heaters, and other technologies; and local injection of compressed gas – that should also be considered.²² Any rules governing consideration of non-pipe solutions should require that all IRPA options be considered and that the IRPA plan chosen (if one or more combinations of IRPA options could cost-effectively defer a T&D investment) should represent the least cost mix of such options.²³

Question:

- (a) Traditionally, electricity demand side management has been based on replacing inefficient equipment with higher efficiency models and as a result, the standard practice is based on related data. Increasingly, there is more and more evidence that greater and longer lasting and less expensive natural gas savings result from overall performance improvement with respect to the integration of systems in buildings, homes, or industrial plants, tracked and measured by metered data rather than engineering estimates and assumptions. What is your opinion on how these advances will affect IRP?

2-BOMA-5 (Issue 5 – What are industry best practices for IRP, and how are they applicable to the Ontario context?)

Ref: Neme, 2020, Exhibit M2.GEC-ED

Preamble:

Vermont has long demonstrated its commitment to many of the principles and processes contained in Neme, 2020.

Questions:

- (a) Please provide a brief history exploring the options to replace traditional supply side approaches in Vermont.
- (b) Please provide the policy and government changes that supported these developments as well as a description of Vermont, its service territory/customer base, energy mix and results on the demand side compared with all forms of delivered energy.

2-BOMA-6 (Issue 5 – What are industry best practices for IRP, and how are they applicable to the Ontario context?)

Ref: Exhibit M2.GEC-ED (Neme, 2020), Page 6, Section 1.4.1

Preamble:

T&D peak demand forecasts that are based primarily on historical data will not reflect the effects of changes in scope or mix of system-wide efficiency programs or major changes in building codes or government efficiency standards for gas consuming equipment.

Experience in other jurisdictions suggests that more granular forecasting that accounts for such changes can significantly alter estimates of T&D needs.

The Gas IRP framework should require Enbridge to begin developing more granular forecasting capabilities and, in the interim, to make at least high-level adjustments to forecasts to account for major known changes to efficiency programs and/or codes and standards.

Questions:

- (a) Please define "more granular forecasting".
- (b) Please discuss the degrees of granularity that are appropriate for electricity forecasts and natural gas forecasts and provide your rationale.

2-BOMA-7 (Issue 6 – What screening criteria and methodology should be adopted to evaluate and compare IRP Alternatives (IRPAs) with one another and with facility projects?)

Ref: Exhibit M2.GEC-ED (Neme, 2020), Page 7, Section 1.5.1, Bullet 4

Preamble:

Individual customer demands for gas connection can be grounds for providing that connection, as long as the customer is prepared to pay for the full cost of their contribution to system costs and risks. However, if demand from a new customer would require T&D investment at a point in the system that serves many other customers, the utility should be required to consider non-pipe solutions. In addition, Enbridge should also proactively work with potential new customers to consider non-pipe alternatives early on, where that would reduce overall system costs and risks (e.g. heat pumps in new buildings).

Question:

- (a) Are GEC, ED, and its Expert Witness aware that Enbridge Gas Distribution has raised the issue of heat pumps, solar water heating, and distributed energy to the OEB at least since 2009, but without success? As recently as 2016, in its decision about Community Expansion, (EB-2016-2004), the Board ruled that: “the environmental groups have submitted that the utilities should be required to assess sustainable energy technologies for all community expansion projects. The OEB agrees with the position of OEB staff that utilities are primarily in the business of gas distribution and should not be required to provide detailed assessments of alternative technologies such as solar and geothermal as part of the community expansion applications.”