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Enbridge Gas Inc.
50 Keil Drive North,
Chatham, ON N7M 5M1
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VIA EMAIL and RESS

July 19, 2023

Nancy Marconi
Registrar
Ontario Energy Board
2300 Yonge Street, Suite 2700
Toronto, Ontario, M4P 1E4

Dear Nancy Marconi:

Re: Enbridge Gas Inc. (Enbridge Gas)
Ontario Energy Board (OEB) File No. EB-2022-0335
Integrated Resource Planning (IRP) Pilot Projects
Application and Evidence

Enclosed please find the application and evidence for the Parry Sound Pilot Project and the Southern Lake Huron Pilot Project, together referred to as the IRP Pilot Projects.

The above noted submission has been filed electronically through the OEB's RESS and will be made available on Enbridge Gas's website.

If you have any questions, please contact the undersigned.

Sincerely,

(Original Digitally Signed)

Brittany Zimmer
Sr. Advisor, Leave to Construct Applications

EXHIBIT LIST

A – ADMINISTRATION

Exhibit	Tab	Schedule	Contents of Schedule
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			Attachment 1 - Maps – Pilot 1 & Pilot 2

B – PROJECT NEED

Exhibit	Tab	Schedule	Contents of Schedule
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		2	IRP Framework Guiding Principles

C – ALTERNATIVES & PROJECT DESCRIPTION

Exhibit	Tab	Schedule	Contents of Schedule
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D – PROPOSED PROJECT

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			Attachment 7 – Economic Assumptions
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			Attachment 2 – Allocation 2025 IRP Operating & Capital Costs Account Balances
			Attachment 3 – Unit Rates for Disposition 2025 Operating & Capital Costs Account Balance
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F – STAKEHOLDERING

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F – STAKEHOLDERING

Exhibit	Tab	Schedule	Contents of Schedule
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ONTARIO ENERGY BOARD

IN THE MATTER OF the *Ontario Energy Board Act, 1998,* S.O. 1998, c. 15, Schedule B; and in particular section 36 thereof;

AND IN THE MATTER OF an application by Enbridge Gas Inc. for an order or orders approving the cost consequences of Integrated Resource Planning ("IRP") Plans for IRP Pilot Projects in the Town of Parry Sound, and the City of Sarnia and Town of Plympton-Wyoming.

APPLICATION

1. On July 22, 2021, the Ontario Energy Board ("OEB") issued the first iteration of the IRP Framework for Enbridge Gas Inc. ("Enbridge Gas" or the "Company") (EB-2020-0091, Appendix A). Section 12 of the IRP Framework states,

> "Enbridge Gas is expected to develop and implement two IRP pilot projects. The pilots are expected to be an effective approach to understand and evaluate how IRP can be implemented to avoid, delay, or reduce facility projects".

In accordance with the IRP Framework, Enbridge Gas hereby applies to the OEB pursuant to section 36 of the *Ontario Energy Board Act, 1998*, S.O. 1998, c. 15, Schedule B (the "Act"), for an Order or Orders approving the cost consequences of the IRP Plans for two "IRP Pilot Projects", including approval to record the associated costs in the IRP costs deferral accounts.

2. The IRP Pilot Projects are designed to implement demand-side IRP Alternatives ("IRPAs"), including enhanced targeted energy efficiency ("ETEE") programming and a residential demand response ("DR") program in combination with supply-side IRPAs in the communities of Parry Sound (the "Parry Sound Pilot Project") and the City of Sarnia and Town of Plympton Wyoming (the "Southern Lake

Huron Pilot Project") in order to mitigate identified system constraints and associated facility reinforcement projects (as discussed in Exhibits B and D). The Pilot Projects will provide learnings on the selected IRPAs regarding future IRPA design, performance and potential for scalability.

3. The Parry Sound Pilot Project proposes to implement a suite of ETEE programming for residential, commercial and industrial customers in the Town of Parry Sound, including an enhanced version of existing Demand Side Management ("DSM") offerings, a limited ETEE offering for electrification measures (featuring limited units of air source heat pumps and ground source heat pumps for residential only), and a new ETEE offering for Advanced Technologies (featuring limited units of simultaneous hybrid heating, gas heat pumps and thermal energy storage). Enbridge Gas also proposes to implement two supply-side IRPAs as part of the Parry Sound Pilot Project: (i) a negotiated increased pressure agreement from TC Energy ("TCE"); and (ii) CNG injection, to defer the system need during the Pilot Project term. The two supply-side IRPAs will ensure that Enbridge Gas can reliably meet system demand requirements (peak hour) while demand-side IRPAs (ETEE) are implemented and tested. The primary objectives of the Parry Sound Pilot Project are to develop an understanding of how ETEE programs impact peak hour flow/demand and to develop an understanding of how to design, deploy, and evaluate ETEE programs.

4. The Southern Lake Huron Pilot Project proposes to implement a suite of ETEE programming for residential, commercial and industrial customers in the City of Sarnia and the Town of Plympton-Wyoming, including an enhanced version of existing of DSM offerings with an increased focus on the commercial and industrial sector, as well as a residential DR program. Enbridge Gas also proposes to implement a supply-side IRPA as part of the Southern Lake Huron

Pilot Project: CNG injection, to defer the system need during the Pilot Project term. The supply-side IRPA will ensure that Enbridge Gas can reliably meet system demand requirements (peak hour) while demand-side IRPAs (ETEE and DR) are implemented and tested. The primary objectives of the Southern Lake Huron Pilot Project are to develop an understanding of how ETEE programs and DR programs impact peak hour flow/demand and to develop an understanding of how to design, deploy, and evaluate ETEE and residential DR programs.

5. Both Pilot Projects are proposed to be implemented with a term of 2023-2027, subject to the timing of receipt of a Decision and Order of the OEB approving the associated IRP Plans and their respective cost consequences (including accounting treatment). Enbridge Gas requests that the OEB issue its Decision and Order on the current Application by December 31, 2023, to allow sufficient time to develop, market and implement the demand-side programs in the Pilot Project areas in 2024 (see the proposed implementation schedule at Exhibit D, Tab 1, Schedule 1 and 2 for further detail). As described in Exhibit D, the Company requires at least four months, from the receipt of a Decision and Order of the OEB, to implement ETEE programming in the market. Additionally, the Company cannot commence with procurement of hourly metering devices for commercial and industrial customers in the Southern Lake Huron Pilot Project area until such time that the OEB approves the cost consequences of the Pilot Projects.

6. For ease of reference and to assist the OEB with preparation of the notice of application for the IRP Pilot Projects, a map of each of the IRP Pilot Project areas is included as Attachment 1 to this Exhibit.

7. If the OEB determines that it will conduct a hearing for this application, then Enbridge Gas requests that it proceed by way of written hearing in English.

8. Pursuant to section 36 of the Act, Enbridge Gas requests an Order or Orders of the OEB approving the cost consequences of the IRP Plans for the IRP Pilot Projects and the proposed accounting treatment to record costs of the same in the IRP costs deferral accounts for later disposition and recovery.[1] Additional details regarding Pilot Project costs, accounting and economics are set out in Exhibit E. Enbridge Gas is not seeking approval for other IRP Plan components contemplated by the OEB's IRP Decision such as the cost-benefit test (i.e. DCF+), incentives related to IRP alternatives and attribution of savings between IRP and Demand Side Management activities. Enbridge Gas will include evidence and proposals related to these items as part of the first non-pilot IRP Plan application. Enbridge Gas believes these issues do not need to be adjudicated as part of the IRP Pilot application.

9. To accommodate for uncertainty and flexibility in the Pilot Project budget, Enbridge Gas notes its understanding that the 25% cost adjustment threshold, as noted in the OEB's IRP Framework Decision,[2] will be applicable to the Pilot Projects, such that Enbridge Gas is not required to seek approval for cost adjustments within 25% of the total proposed Pilot Projects budget. Enbridge Gas notes its expectation that it will have flexibility in the allocation of annual budgets between the years included in the pilot term of 2023-2027. This flexibility will allow Enbridge Gas to be responsive to learnings and feedback and allow for adjustments to the program design as necessary.

10. Enbridge Gas requests that copies of all documents filed with the OEB in connection with this proceeding be served on it and on its counsel, as follows:

[1] EB-2020-0091 OEB Decision and Accounting Order (September 2, 2021), Schedule A; Deferral Account No. 179-385 and 179-386.
[2] EB-2020-0091, July 22, 2021, Appendix A, P.21

(a)	The Applicant:	Brittany Zimmer Senior Advisor, Leave to Construct Applications
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	Telephone:	(519) 436-5442
	E-Mail:	EGIRegulatoryProceedings@enbridge.com brittany.zimmer@enbridge.com
(b)	The Applicant's counsel:	David Stevens Aird and Berlis LLP
	Address:	Brookfield Place, P.O. Box 754 Suite 1800, 181 Bay Street Toronto, ON M5J 2T9
	Telephone:	(416) 863-1500
	Fax:	(416) 863-1515
	E-Mail:	dstevens@airdberlis.com

DATED at the City of Chatham, Ontario this 19th day of July 2023.

ENBRIDGE GAS INC.

(Original Digitally Signed)

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Brittany Zimmer,
Senior Advisor, Leave to Construct Applications

PILOT PROJECT MAPS

Figure 1 – Parry Sound Pilot Project Area

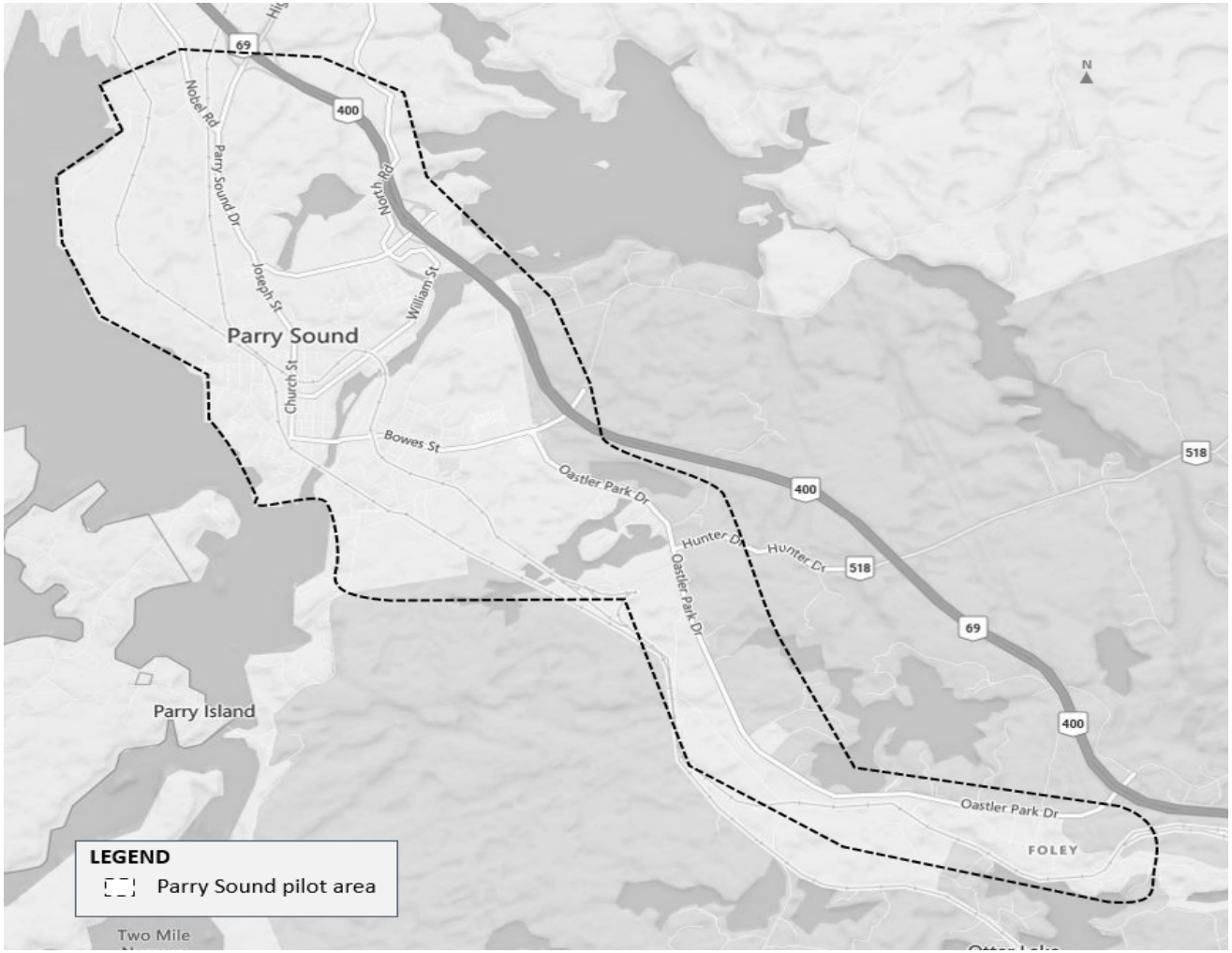
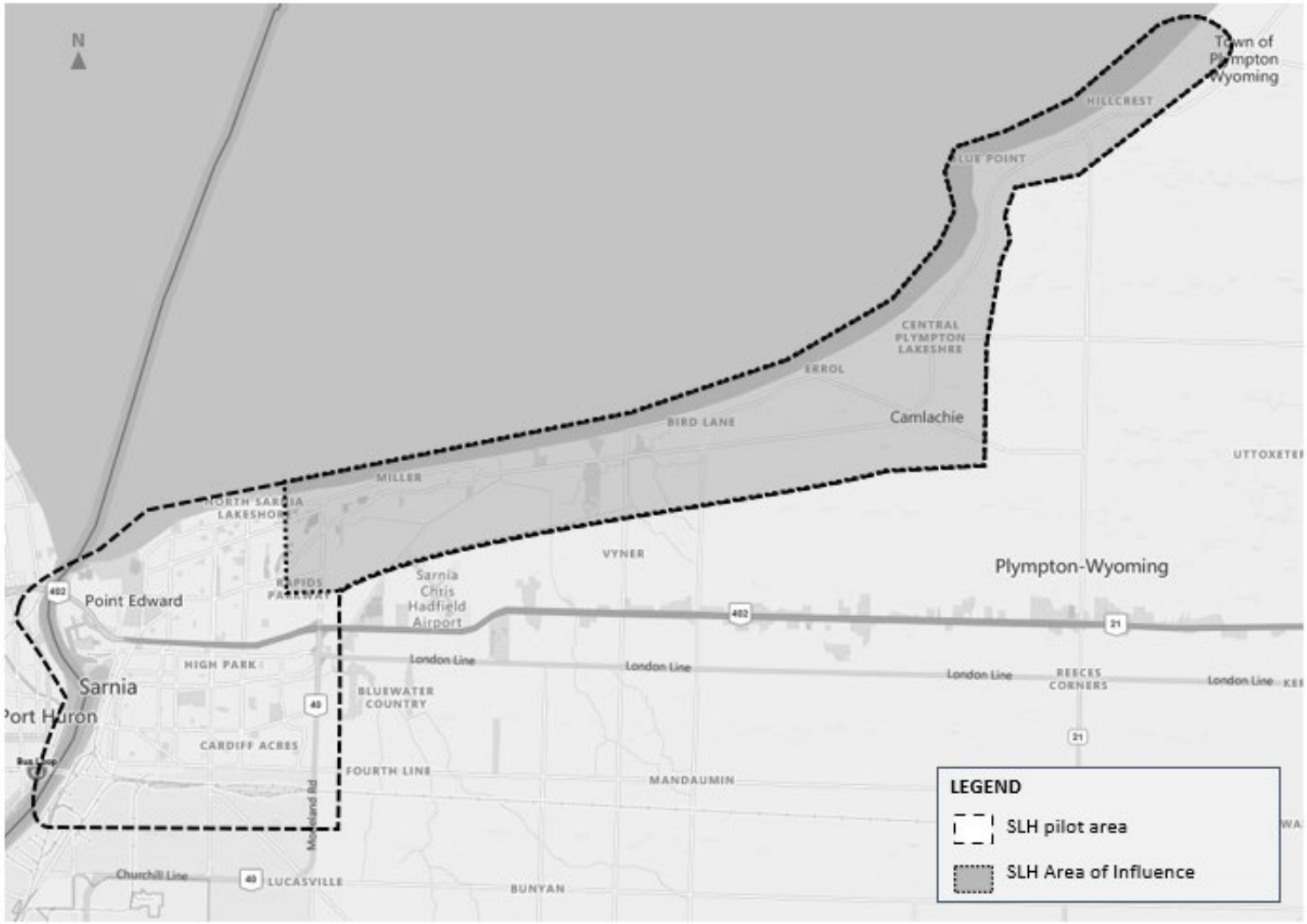


Figure 2 – Southern Lake Huron Pilot Project Area



PROJECT NEED

Pilot Projects Overview

1. Within Enbridge Gas's Integrated Resource Planning ("IRP") proposal (EB-2020-0091), the Company requested approval to develop and initiate two pilot projects to test components of its IRP proposal. In its Decision and Order on Enbridge Gas's IRP Proposal (whereby the OEB established an IRP Framework for Enbridge Gas), the OEB noted that there was universal support for Enbridge Gas's pilot project request amongst intervenors and agreed with the Company's proposed approach. The OEB further noted that pilot projects are an effective approach to understand and evaluate how IRP can be implemented to avoid, delay, or reduce facility projects, and directed Enbridge Gas to apply to the OEB for approval of the IRP pilot projects by providing similar information to that of future IRP Plan applications.[1]

2. Following the OEB's Decision on Enbridge Gas's IRP proposal, the Company developed specific objectives for the pilot projects (described in detail at Exhibit C, Tab 2, Schedule 1). Enbridge Gas then selected two Pilot Projects that were able to meet those objectives. The Company considered several criteria when selecting the projects, including, but not limited to:

   (i) that the underlying system need identified in the Company's Asset Management Plan ("AMP") pass the binary screening criteria as defined in the IRP Framework;
   (ii) that the pilot project(s) should be expected to materially avoid, defer or reduce the facility requirements to address the identified system need;
   (iii) that the pilot project(s) should enable effective data collection and measurement of impacts on system peak hour flow/demand; and
   (iv) that the pilot project(s) should include IRP alternatives ("IRPAs") with potential

[1] EB-2020-0091, Decision and Order, July 22, 2021, p. 90.

to be scalable and offer transferrable learnings.

3. As discussed in Exhibit C, Tab 1, Schedule 2, throughout the selection process Enbridge Gas engaged the IRP Technical Working Group ("TWG") to discuss key items such as: pilot project objectives, pilot project alternatives, pilot project selection criteria, and potential IRPAs. TWG members reviewed a draft version of the Company's current Application in June 2023, and Enbridge Gas understands that most members are supportive of most elements of the proposed Pilot Projects. Enbridge Gas expects that where a member of the TWG has concerns with one or more elements of the proposed Pilot Projects, they will make this known through the regulatory approval process.

4. Through this Application, pursuant to section 36 of the Act, Enbridge Gas is seeking an Order or Orders of the OEB approving the cost consequences of, including accounting treatment to record the associated costs in the IRP costs deferral accounts,[2] for the two proposed multi-year (2023-2027) Pilot Projects (the Parry Sound Pilot Project and the Southern Lake Huron Pilot Project).

5. Each Pilot Project will employ a mix of supply-side and demand-side IRPAs in distinct geographic areas enabling the Company to gather transferrable learnings regarding IRPA design, performance and potential for scalability, including insights on peak flow reductions resulting from different customer types and on the impact of varying program designs on the adoption rates of IRPAs. The Parry Sound Pilot Project is described in detail at Exhibit D, Tab 1, Schedule 1, and the Southern Lake Huron Pilot Project is described at Exhibit D, Tab 1, Schedule 2.

   The Parry Sound Pilot Project will include:

   - procurement of market-based supply;

[2] EB-2020-0091 OEB Decision and Accounting Order (September 2, 2021), Schedule A; Deferral Account No. 179-385 and 179-386.

- localized injection of CNG; and
- ETEE programming (consisting of an Enhanced DSM offering, a Limited ETEE offering for Electrification measures, and a Limited ETEE offering for Advanced Technologies).

The Southern Lake Huron Pilot Project will include:

- localized injection of CNG;
- ETEE programming (consisting of an Enhanced DSM offering); and
- DR programming.

6. The primary objectives of the Pilot Projects are twofold:

(i) ***Develop an understanding of how ETEE and DR programs impact peak hour flow/demand –*** This will be investigated for various groups of customers, and for various ETEE and DR program offerings. The learnings gained will help Enbridge Gas to evaluate and estimate the potential impact of such programming on other parts of its distribution system in the future, including to:

- quantify actual peak hour flow reductions (m^3/hr) resulting from ETEE and DR programming by customer type by comparing peak hour flow per customer prior to and after ETEE and DR programming is implemented; and
- evaluate DR event parameters on peak hour flow reductions and the adoption and persistence of customer participation in DR programming over time.

(ii) ***Develop an understanding of how to design, deploy, and evaluate ETEE and residential DR programs –*** The learnings that Enbridge Gas is seeking to gain in this regard include to:

- assess the impacts to participant uptake resulting from increased incentives for ETEE programming, which consists of a portfolio of measures;
- assess the effectiveness of various marketing/community engagement tactics to generate awareness of and to increase ETEE/DR program participation;

- understand differences in participant uptake within ETEE programming versus broad-based DSM programming;
- understand the costs of ETEE programming (incentives, delivery costs, promotion costs, administration costs) versus broad-based DSM programming;
- gather learnings on customer barriers and contractor installation and service barriers to adoption for all measures and DR to support wider market deployment in potential future IRP applications;
- gather initial learnings of the impact of electrification measures on the local electric grid via engagement with Local Distribution Companies ("LDCs") to support future integrated energy planning with the electric sector;
- understand the cost of DR programming (i.e., incentives, delivery, promotion, administration);
- understand better any ratepayer equity-related implications of investing in geographic-specific offerings of ETEE and DR programming.

7. Supply-side alternatives, including the procurement of market-based supply and localized CNG injection, will be used to defer the underlying system needs during the Pilot Projects, enabling Enbridge Gas to realize the primary objectives of the Pilot Projects; to gather transferrable learnings regarding IRPA design, performance and potential for scalability, including insights on peak flow reductions from the demand-side IRPAs implemented. Enbridge Gas will also gain learnings on the use of CNG as a longer-term supply-side alternative including the injection and usage of CNG as a peak shaving (a means to quickly and effectively supplement incremental system peak flows/demand exceeding the physical/hydraulic capabilities of the system for a limited period of time) alternative.

8. The total cost of the Parry Sound Pilot Project is $6.4 M. The total cost of the Southern Lake Huron Pilot Project is $6.6 M. Further detail on Pilot Project costs is provided at Exhibit E, Tab 1, Schedule 1. The primary objectives of the Pilot Projects set out

above is focused on gathering learnings and insights on the impacts of IRP alternatives to peak hour demand. Consistent with the OEB's encouragement, Enbridge should use the Pilot Projects as a testing ground for an enhanced DCF+ test[3]; however, due to the timing of the TWG's review of the enhanced DCF+ test[4] and the timing of the current application, the Company intends to present a three-stage enhanced DCF+ as part of its first full IRP Plan application for adjudication, not as part of the current Application. Instead, a Stage 1 DCF analysis was completed, the details of which are set out in Exhibit E.

9. Enbridge Gas will provide Pilot Project updates, key learnings, and outcomes to the OEB and stakeholders through the annual IRP Report that the Company files as part of its annual Non-Commodity Deferral Account Clearance and Earnings Sharing Mechanism application.[5]

10. The remainder of this Exhibit describes the systems and associated constraints/needs that will be targeted through the Pilot Projects.

Parry Sound System

11. The Enbridge Gas Parry Sound distribution system supplies natural gas to customers located in the Towns of Parry Sound, Orville and Seguin. The Parry Sound system receives natural gas supply directly from TC Energy ("TCE") via the TCE Mainline near Emsdale, Ontario. There are currently approximately 2,100 customers served by the Parry Sound system.[6] Schematics of the Parry Sound system are shown in Figure 1 and Figure 2 below.

[3] EB-2020-0091 (Appendix A), Integrated Resource Planning Framework for Enbridge Gas p.14
[4] The IRP TWG published a DCF+ Report May 30, 2023, that will help inform the DCF+ Test and the DCF+ Supplemental Guide (https://engagewithus.oeb.ca/28744/widgets/145882/documents/106273)
[5] EB-2020-0091 (Appendix A), Integrated Resource Planning Framework for Enbridge Gas p.22 (Monitoring and Reporting)
[6] The customers served by the Parry Sound system are general service customers. There are currently no contract class customers served by the Parry Sound system.

Figure 1 – Schematic of Parry Sound system

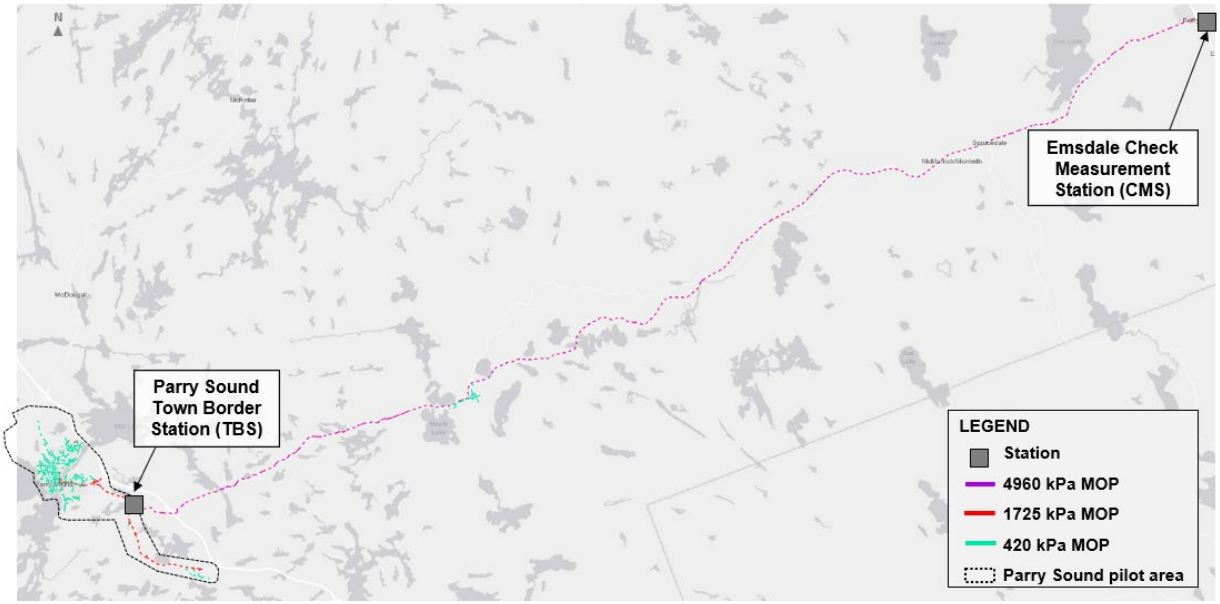
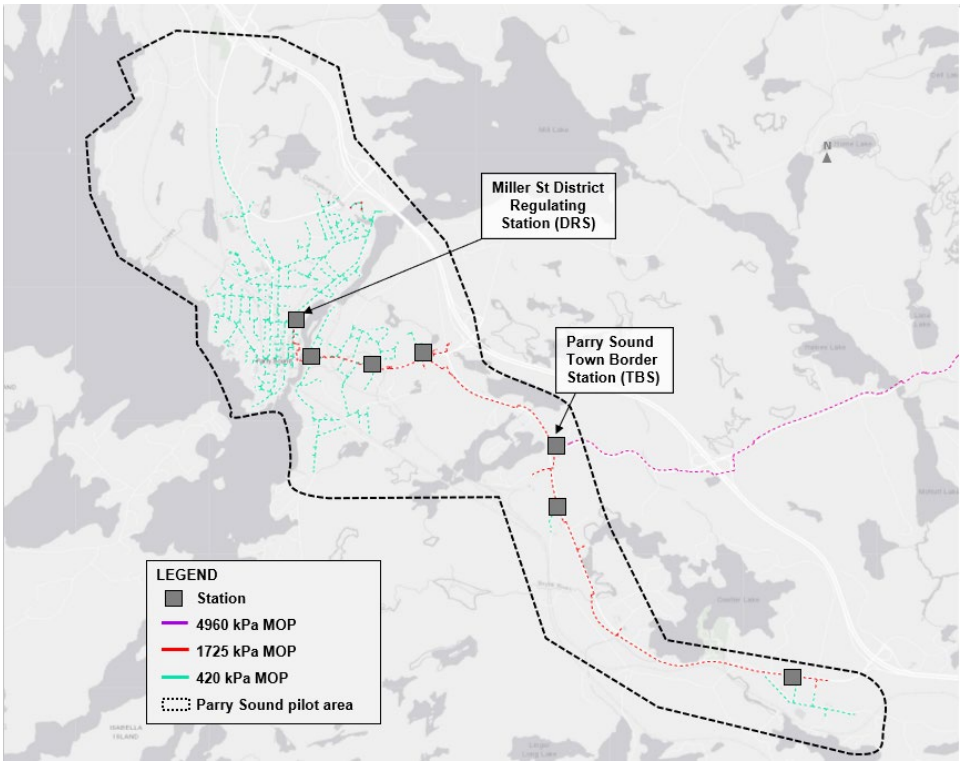


Figure 2 – Map of Parry Sound Pilot Area



12. As noted in Figures 1 and 2, the highest-pressure pipeline(s) serving the Parry Sound system is a 4960 kPa Maximum Operating Pressure ("MOP") system of approximately

11.6 km of Nominal Pipe Size ("NPS") 6 steel ("ST") pipeline and 50.1 km of NPS 4 ST pipeline. This high-pressure pipeline system is the only source of natural gas supply into the Town of Parry Sound. The high-pressure system begins at Emsdale Check Measurement Station ("CMS") and ends at the Parry Sound Town Border Station ("TBS") where pressure is reduced to a 1725 kPa MOP system consisting primarily of NPS 4 and NPS 2 ST pipelines. The 1725 kPa MOP system feeds six smaller pressure-reducing stations in the surrounding area which primarily feeds the Town of Parry Sound. The systems downstream of the 1725 kPa MOP system are 420 kPa MOP and consist primarily of NPS 4 and NPS 2 Polyethylene ("PE") pipelines. Located at the northern end of the 1725 kPa system, the Miller Street District Regulating Station ("DRS") feeds the majority of customers on this system. The Parry Sound system is heat sensitive and the peak/design condition occurs in the winter as most of the customers on this system are residential.

13. Enbridge Gas is currently utilizing a supply-side IRPA consisting of negotiated increased contracted pressure from TCE to avoid a system reinforcement[7]; however, TCE notified Enbridge Gas that the delivery pressures will be returned to their standard tariff pressure of 4,000 kPa for the Winter of 2023/24. As explained further in Exhibit D, Tab 1, Schedule 1, Enbridge Gas has requested a higher-pressure service from TCE to maintain the supply-side IRPA.

Parry Sound System Need

14. The Company's 2023-2032 AMP identified a need to address a system need/constraint in Parry Sound, to maintain the minimum inlet pressure and to support Parry Sound system growth in response to forecasted increased market/customer demand:

[7] A delivery pressure agreement was entered between TCE (formerly known as TransCanada Pipelines Limited) and Enbridge Gas (formerly known as Union Gas Limited) on July 10, 2017 for increased delivery pressure at Parry Sound.

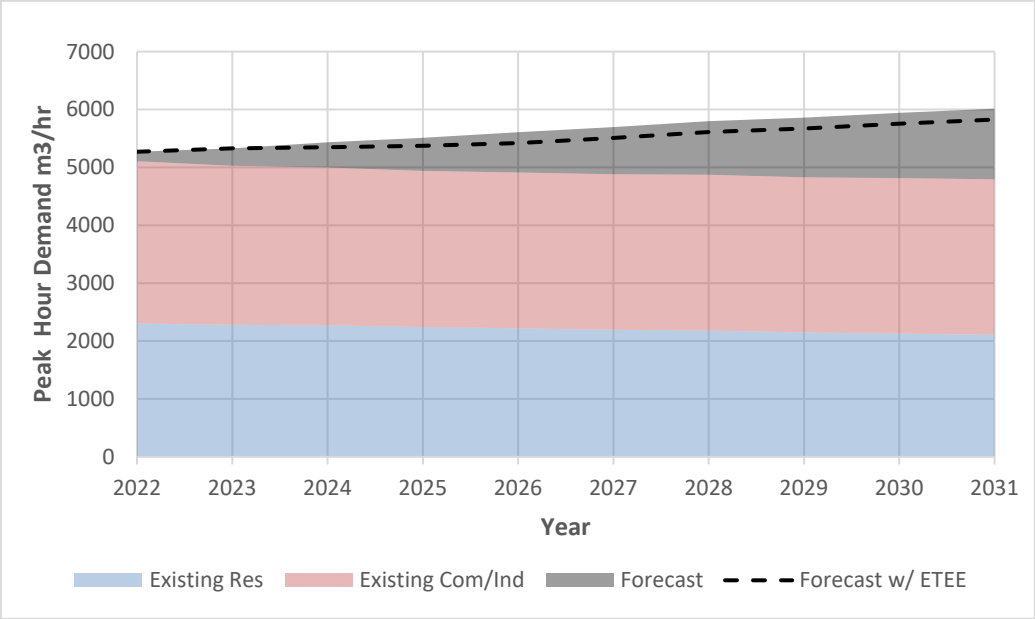
> This project was generated as part of Distribution Optimization Engineering's 2021 System Reinforcement Plan (SRP). 8.5 km of NPS 6 steel looping is required on the existing Parry Sound Lateral (4960 kPa) to maintain the minimum inlet into the Parry Sound TBS station and support the forecasted growth in Parry Sound. Without this project, the forecasted growth on the system would increase the likelihood that inlet pressures at Parry Sound TBS would drop below minimum operating limits. [8]

15. In the 2023-2032 AMP, the required in-service date to address the identified system need/constraint in the Parry Sound system is 2032.[9,10] However, that in-service date assumed that TCE would maintain the negotiated increased delivery pressure at Emsdale CMS until that time. As described above, TCE has subsequently notified Enbridge Gas that the delivery pressure at Emsdale CMS will be returned to the standard tariff pressure of 4,000 kPa by November 2023. As a result, system capacity on the Parry Sound system will be reduced and the timing of the need to address the system constraint has advanced relative to the estimate set out in the AMP.

16. The current 10-year forecasted peak hour demands for the Parry Sound System are shown in Figure 3.

[8] EB-2022-0200, Exhibit 2, Tab 6, Schedule 2, Appendix A, P. 26
[9] Since the 2023-2032 AMP was filed, Enbridge Gas has created an Unsteady State Modeling ("USM") (24 hour) model for the Parry Sound system. USM includes the hourly profile of customer flows and allows for changes in linepack (amount of gas in the pipes at any given time) to be utilized. Using this more detailed modeling approach, the timing of the system constraint (assuming TCE maintains the increased delivery pressure of 4,570 kPa at Emsdale CMS) is 2035.
[10] As the in-service date for the system need was identified for 2032, the capital associated with this project is considered unbudgeted and is not included in the Company's current 2024-2028 Rate Rebasing application and proceeding (EB-2022-0200).

Figure 3 – Parry Sound Forecast Peak Hour Demands



17. The 10-year System Reinforcement Plan ("SRP") customer forecast for new attachments for the Parry Sound System are shown in Table 1. This represents the new customers expected to be added to the system, and is not a net value.

Table 1: Parry Sound 10-Year Customer Attachment Forecast

Year	Residential Attachments	Commercial Attachments
2022	58	6
2023	55	7
2024	53	6
2025	58	7
2026	54	6
2027	47	6
2028	43	6
2029	40	5
2030	35	5
2031	29	5

18. As a result of the reduction in pressure at Emsdale CMS in 2025 and considering the anticipated Parry Sound system growth in response to forecasted increased market/customer demand, the minimum inlet pressure is now expected to be reached at the inlet to Parry Sound TBS in 2025 and at the inlet to Miller St DRS Parry Sound Station in 2030. System stations are designed to provide a set delivery pressure when the minimum inlet pressure is met. If the minimum inlets cannot be met, the delivery pressure to the downstream system will decrease. This could jeopardize Enbridge Gas's ability to reliably serve all the customers in this system under all conditions.

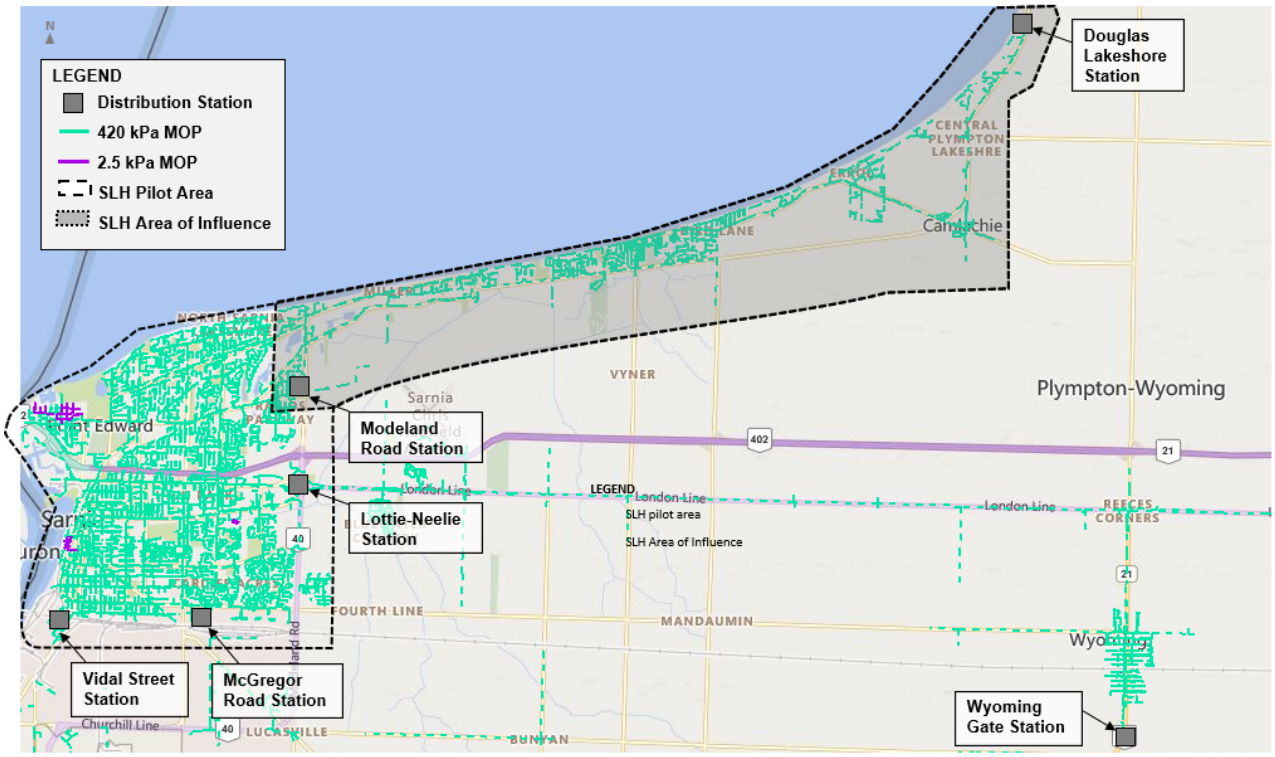
Southern Lake Huron System

19. The Enbridge Gas Southern Lake Huron distribution system supplies natural gas to customers located in the Lambton County area encompassing Sarnia, Plympton-Wyoming and surrounding areas. The Southern Lake Huron system receives gas from upstream higher pressure Enbridge Gas systems including the Sarnia Industrial system, the Petrolia system and the Hensall Transmission system. There are currently approximately 30,000 customers served by the Southern Lake Huron system.[11]

20. Schematics of the Southern Lake Huron system are shown in Figure 4 below.

[11] The customers served by the Southern Lake Huron system are general service customers. With the exception of 1 interruptible service contract class customer, there are no other contract class customers served by the Southern Lake Huron system.

Figure 4 – Map of Southern Lake Huron Pilot Area



21. As noted in Figure 4, the Southern Lake Huron system is a 420 kPa MOP system of approximately 776 kilometers of pipelines of various sizes ranging from NPS 1-1/4 to NPS 12, supplied by six primary pressure reduction (Distribution) stations. There is approximately 7 kilometers of low-pressure (2.5 kPa MOP) pipelines fed by the 420 kPa MOP systems. The Southern Lake Huron system is heat sensitive and the peak/design condition occurs in the winter as most of the customers on this system are residential.

22. The Southern Lake Huron Pilot Project area has a sub-region located in the northeast, identified in Figure 4 as the “SLH Area of Influence”, where changes in peak hour demand will most significantly impact the identified system constraint. Changes in peak hour demand within the remaining Southern Lake Huron Pilot Project area, referred to as “greater Southern Lake Huron”, will not significantly impact the identified system constraint.

Southern Lake Huron System Need

23. The Company's 2023-2032 AMP identified a growth project to address a system constraint in the SLH Area of Influence in response to forecasted increased market/customer demand:

> A new distribution station off of the existing 1,210 kPa system and a main extension to tie into the 420 kPa system north of Sarnia along the water is required.[12]

24. In the 2023-2032 AMP, the required in-service date to address the identified system need/constraint is 2032. However, based on the Company's current forecast of in-franchise demand growth and increasing peak period demands, the Southern Lake Huron system is expected to require reinforcement by 2025. The SLH Area of Influence is a long, stretched piping system, and therefore very sensitive to changes in peak period demands. As a result, the timing of the need to address the system need/constraint has advanced relative to the estimate set out in the AMP.

25. The current 10 year forecasted peak hour demands for the Southern Lake Huron System are shown in Figure 5 and for the SLH Area of Influence are shown in Figure 6.

[12] EB-2022-0200, Exhibit 2, Tab 6, Schedule 2, Appendix B, P. 83, Investment Code 30560

Figure 5 – Southern Lake Huron (Entire System) Forecasted Peak Hour Demands

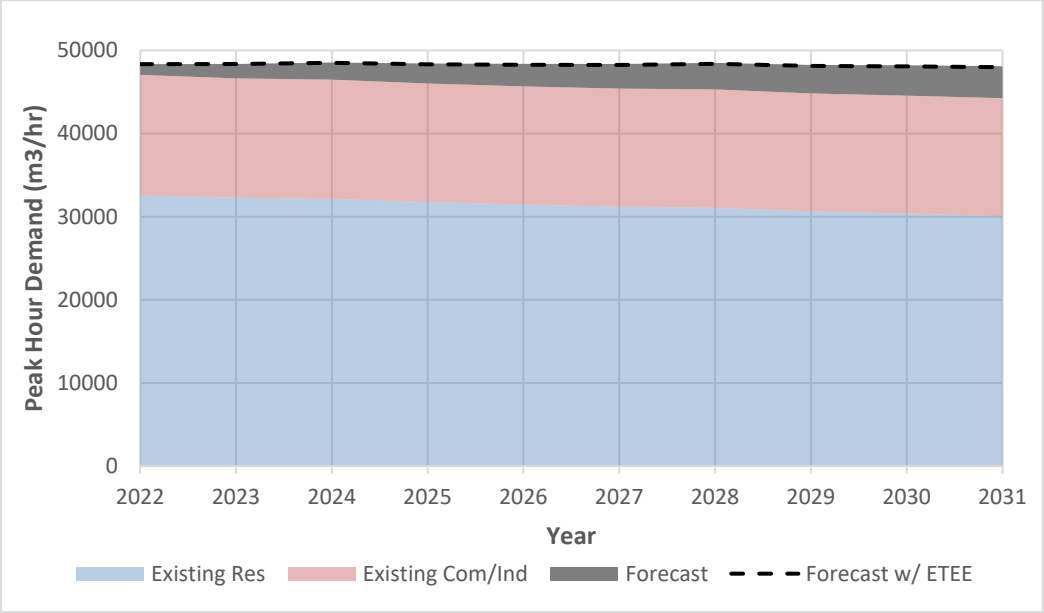
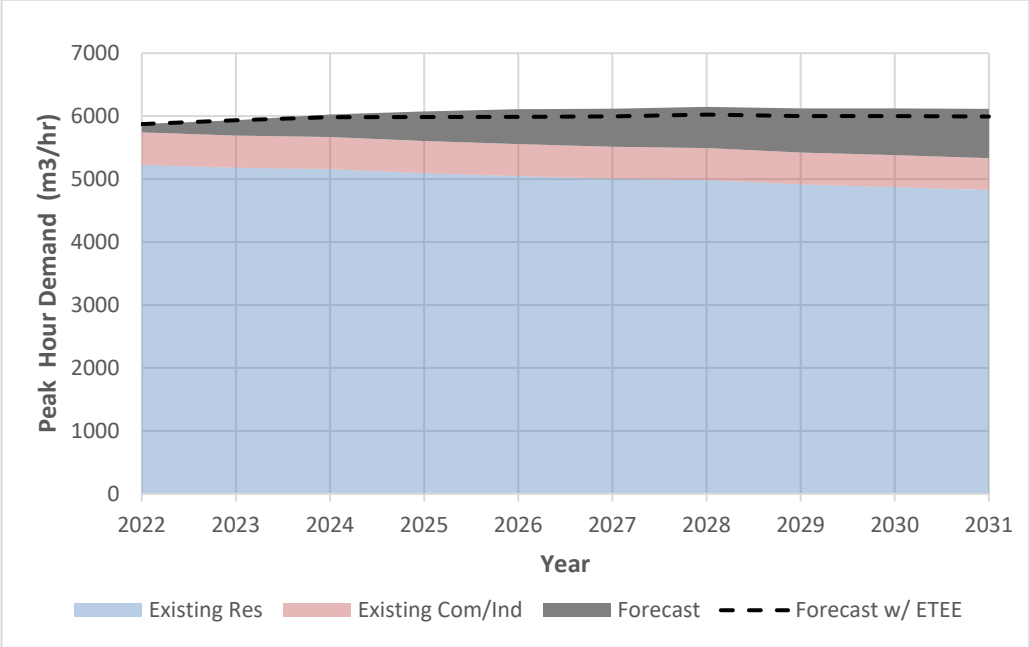


Figure 6 – Southern Lake Huron (Area of Influence) Forecasted Peak Hour Demands



26. The 10-year SRP customer forecast for new attachments for the Southern Lake Huron System are shown in Table 2. This represents the new customers expected to be added to the system, and is not a net value. Although the overall system demands do not increase significantly over the 10-year forecast, the local pipelines in the SLH Area of Influence are undersized due to the location of planned growth in the area and require reinforcement in order to maintain the hydraulic integrity of the overall system.

Table 2: Southern Lake Huron 10-Year Customer Attachment Forecast

Year	Residential Attachments	Commercial Attachments
2022	140	15
2023	139	17
2024	137	16
2025	135	16
2026	132	16
2027	127	15
2028	121	15
2029	115	14
2030	108	14
2031	103	13

27. The Company's 2023-2032 AMP also addressed a secondary system need/constraint in the SLH Area of Influence. This project, "Old Lakeshore Rd", involves the replacement of high-risk steel pipelines installed on or before 1970 as part of the vintage steel main program. The scope of this project includes the replacement of 1350 m of NPS 4 steel and 1090 m of NPS 2 steel distribution mains as well as 95 services.[13] The scope of this project is considered in the Southern Lake Huron Pilot Project as it falls within the SLH Area of Influence.

[13] EB-2022-0200, Exhibit 2, Tab 6, Schedule 2, Appendix B, P. 83, Investment Code 30313

28. The Company's 2023-2032 AMP also highlighted other pipe replacement projects in the greater Southern Lake Huron Pilot Project area. These were reviewed during the Pilot Project selection process but were not considered further as the potential peak hour reductions in the greater Southern Lake Huron area would not impact the project scope(s).

IRP FRAMEWORK GUIDING PRINCIPLES

1. In Sections 3 and 9 of the IRP Framework for Enbridge Gas (EB-2020-0091), the OEB set out guiding principles for IRP and directed Enbridge Gas to discuss how the IRP guiding principles have been addressed within each IRP Plan application. Furthermore, in Section 12, the OEB requested that Enbridge Gas's Pilot Project applications provide similar information and follow a consistent approach as future IRP Plan applications.

2. The OEB's IRP Framework for Enbridge Gas describes the guiding principles as follows:

    a. Reliability and Safety

    In considering IRPAs as part of system planning processes, Enbridge Gas's system design principles cannot be compromised, and the reliable and safe delivery of firm contracted peak period natural gas volumes to Enbridge Gas's customers must remain of paramount importance."[1]

    b. Cost-effectiveness

    IRPAs must be cost-effective (competitive) compared to Facility Alternatives and other IRPAs, including taking into account impacts on Enbridge Gas customers. [2]

    c. Public Policy

    IRP will be considered in a manner to ensure that it is supportive of and aligned with public policy, and in particular the OEB's statutory objectives for the natural gas sector.[3]

    d. Optimized Scoping

    Recognizing that reviewing IRPAs for every forecast infrastructure project would be extremely time intensive, binary screening should be undertaken, to

[1] EB-2020-0091, IRP Decision, Appendix A - IRP Framework, Section 3, p. 5
[2] EB-2020-0091, IRP Decision, Appendix A - IRP Framework, Section 3, p. 5
[3] EB-2020-0091, IRP Decision, Appendix A - IRP Framework, Section 3, p. 5

confirm which forecast need(s) should undergo evaluation of IRPAs, and to ensure a focus at the outset on efficient and effective IRPA investment.[4]

e. Risk Management

Economic risks associated with both Facility Alternatives and IRPAs in meeting system needs are evaluated and appropriately mitigated. Risks and rewards are allocated appropriately between Enbridge Gas and its customers.[5]

3. Enbridge Gas's assessment of the IRP guiding principles in the context of the Pilot Projects are described separately for each Pilot Project below. Enbridge Gas notes that not all IRP guiding principles are relevant to the Pilot Projects, as the primary objectives of the Pilot Projects are unique and differ from a traditional IRP Plan. The primary objectives of the Pilot Projects are described in Exhibit B, Tab 1, Schedule 1.

Parry Sound

Reliability and Safety

4. To ensure that reliable and safe delivery of natural gas volumes to Parry Sound customers during peak periods is maintained over the course of the Pilot Project term, Enbridge Gas proposes to implement reliable supply-side IRPAs. First, Enbridge Gas has secured a supply-side IRPA that will increase the inlet pressure from TCE at the Emsdale Station. The negotiated increased contracted pressure from TCE will enable Enbridge Gas to meet the peak period demands of Parry Sound customers until the proposed demand-side IRPAs are implemented and peak hour consumption in the Pilot Project area is reduced. If the demand-side IRPAs being implemented through the Pilot Projects are unsuccessful in achieving forecasted peak period reductions, Enbridge Gas will request to extend the agreement with TCE. If this is not feasible, Enbridge Gas will install a CNG injection system which will be utilized to ensure no distribution system service

[4] EB-2020-0091, IRP Decision, Appendix A - IRP Framework, Section 3, p. 5
[5] EB-2020-0091, IRP Decision, Appendix A - IRP Framework, Section 3, p. 5

interruptions occur.

Cost Effectiveness

5. Enbridge Gas has collaborated with the TWG in determining components of an enhanced DCF+ test; however, at this time the enhanced economic test has not been finalized. Enbridge Gas will file a proposed enhanced DCF+ test along with the DCF+ Supplemental Guide together with the first IRP Plan application in the future. The Company is not seeking any determination from the OEB regarding the draft enhanced DCF+ test or associated Supplemental Guide as part of the current Application.

6. Importantly, as described in Exhibit B, Tab 1, Schedule 1, the primary objectives of the Parry Sound Pilot Project are to gather transferrable learnings regarding demand-side and supply-side alternatives, rather than to address an existing system constraint using the most cost-effective alternative. Enbridge Gas intends to implement learnings from the Parry Sound Pilot Project (as they become available) into the enhanced DCF+ tests completed to support future IRP Plan applications.

7. Given the Pilot Project objectives and status of DCF+ development discussed above, Enbridge Gas has completed a DCF Phase 1 Test to support the Parry Sound Pilot Project, as found at Exhibit E, Tab 1, Schedule 1, Attachment 1.

Public Policy

8. The Parry Sound Pilot Project was considered in a manner that ensures it is supportive of and aligned with public policy, and in particular the OEB's statutory objectives Section 2, subsections 3 and 5 for the natural gas sector which state:[6]

[6] Section 2(3) and Section 2(5) of the OEB's statutory objectives for the natural gas section.

3. To facilitate rational expansion of transmission and distribution systems.

5. To promote energy conservation and energy efficiency in accordance with the policies of the Government of Ontario, including having regard to the consumer's economic circumstances.

5.1 To facilitate the maintenance of a financially viable gas industry for the transmission, distribution and storage of gas.

9. The Parry Sound Pilot Project includes the deployment of a supply-side IRPA which ensures the continued reliable and safe delivery of gas to customers, and ETEE, the latter of which enhances existing energy conservation (DSM) programs promoting energy efficiency that support provincial greenhouse gas emission targets in Ontario, as well as federal climate policies specifically through delivery of the jointly funded Enbridge Gas and NRCan Home Efficiency Retrofit Plus Program ("HER+").

Optimized Scoping

10. To efficiently assess the potential Pilot Projects, Enbridge Gas reviewed its 2023-2032 AMP and applied the binary screening criteria as directed in the OEB's IRP Decision and Order to identified system needs.[7] Following binary screening Enbridge Gas reviewed potential projects that:
    a. Could reasonably be expected to either materially or entirely avoid, defer or reduce the underlying system need/constraint identified in Enbridge Gas's AMP.
    b. Could enable effective data collection and measurement of the impact of IRPA investments on peak period (hourly) flows/demands.
    c. Could act as a "proof-of-concept" for as wide a variety of IRPAs as possible in the future, with emphasis placed onto IRPAs that have potential for scalability and readily transferrable learnings.

[7] EB-2020-0091, IRP Decision, Appendix A, Section 5.2, p.9

11. The Parry Sound Pilot Project met the criteria above and was selected as a Pilot Project. Please see Exhibit C, Tab 1, Schedule 2 for more details regarding the Pilot Project selection process.

Risk Management

12. The effectiveness of the demand-side IRPAs in the Parry Sound Pilot Project in reducing peak period (hourly) flows/demands and reducing, deferring or avoiding the baseline facility projects described in Exhibit C, Tab 1, Schedule 1, will be monitored and evaluated throughout the duration of the Pilot Projects. Changes to Pilot Project program design and delivery (ETEEs) will be undertaken as needed and in accordance with the thresholds set out in the IRP Framework and discussed in Exhibit E. The Pilot Project will inform the design of future IRP Plans, including how to minimize the level of economic risk of an IRP Plan should it be unable to deliver the load reduction required to address the system need.

Southern Lake Huron

Reliability and Safety

13. To ensure that reliable and safe delivery of natural gas volumes to Southern Lake Huron system customers during peak periods is maintained over the course of the Pilot Project term, Enbridge Gas proposes to implement a reliable supply-side IRPA in 2025, CNG injection. If the demand-side IRPAs being tested through the Southern Lake Huron Pilot Project are unsuccessful in achieving significant peak period reductions, Enbridge Gas will extend the CNG injection system to ensure no distribution system service interruptions occur.

Cost-effectiveness

14. Enbridge Gas has collaborated with the TWG in determining components of an enhanced DCF+ test; however, at this time the enhanced economic test has not been finalized. Enbridge Gas will file a proposed enhanced DCF+ test along with

the DCF+ Supplemental Guide together with the first IRP Plan application in the future. The Company is not seeking any determination from the OEB regarding the draft enhanced DCF+ test or associated Supplemental Guide as part of the current Application.

15. Importantly, as described in Exhibit B, Tab 1, Schedule 1, the primary objectives of the Southern Lake Huron Pilot Project are to gather learnings regarding demand-side and supply-side alternatives, rather than to address an existing system constraint using the most cost-effective alternative. Enbridge Gas intends to implement learnings from the Southern Lake Huron Pilot Project (as they become available and where possible) into the enhanced DCF+ tests completed to support future IRP Plan applications.

16. Given the Pilot Project objectives and status of DCF+ development discussed above, Enbridge Gas has completed a DCF Phase 1 Test to support the Southern Lake Huron Pilot Project, as found at Exhibit E, Tab 1, Schedule 1, Attachment 1.

Public Policy

17. The Southern Lake Huron Pilot Project was considered in a manner that ensures it is supportive of and aligned with public policy, and in particular the OEB's statutory objectives Section 2, subsections 3 and 5 for the natural gas sector which state:[8]

> 3. To facilitate rational expansion of transmission and distribution systems.
>
> 5. To promote energy conservation and energy efficiency in accordance with the policies of the Government of Ontario, including having regard to the consumer's economic circumstances.
>
> 5.1 To facilitate the maintenance of a financially viable gas industry for the transmission, distribution and storage of gas.

[8] Section 2(3) and Section 2(5) of the OEB's statutory objectives for the natural gas section.

18. The Southern Lake Huron Pilot Project includes the deployment of a DR program and ETEE, the latter of which enhances existing energy conservation (DSM) programs promoting energy efficiency that support provincial greenhouse gas emission targets in Ontario, as well as federal climate policies specifically through delivery of the jointly funded Enbridge Gas and NRCan Home Efficiency Retrofit Plus Program (HER+).

Optimized Scoping

19. To efficiently assess the potential Pilot Projects, Enbridge reviewed its 2023-2032 AMP and applied the binary screening criteria as directed in the OEB's IRP Decision and Order to identified system needs.[9] Following the binary screening Enbridge Gas reviewed potential projects that:
    a. Could reasonably be expected to either materially or entirely avoid, defer or reduce the underlying system need/constraint identified in Enbridge Gas's AMP.
    b. Could enable effective data collection and measurement of the impact that IRPA investments on peak period (hourly) flows/demands.
    c. Could act as a "proof-of-concept" for as wide a variety of IRPAs as possible in the future, with emphasis placed onto IRPAs that have potential for scalability and readily transferrable learnings.

20. The Southern Lake Huron Pilot Project met the criteria above and was selected as a Pilot Project. Please see Exhibit C, Tab 1, Schedule 2 for more details regarding the Pilot Project selection process.

Risk Management

21. The effectiveness of the demand-side IRPAs in the Southern Lake Huron Pilot Project in reducing peak period (hourly) flows/demands and reducing, deferring or

[9] EB-2020-0091, IRP Decision, Appendix A, Section 5.2, p.9

avoiding the baseline facility projects described in Exhibit C, Tab 1, Schedule 1, will be monitored and evaluated throughout the duration of the Pilot Projects. Changes to Pilot Project program design and delivery (ETEEs and DR) will be undertaken as needed and in accordance with the thresholds set out in the IRP Framework and discussed in Exhibit E. The Pilot Project will inform the design of future IRP Plans, including how to minimize the level of economic risk of an IRP Plan should it be unable to deliver the load reduction required to address the system need.

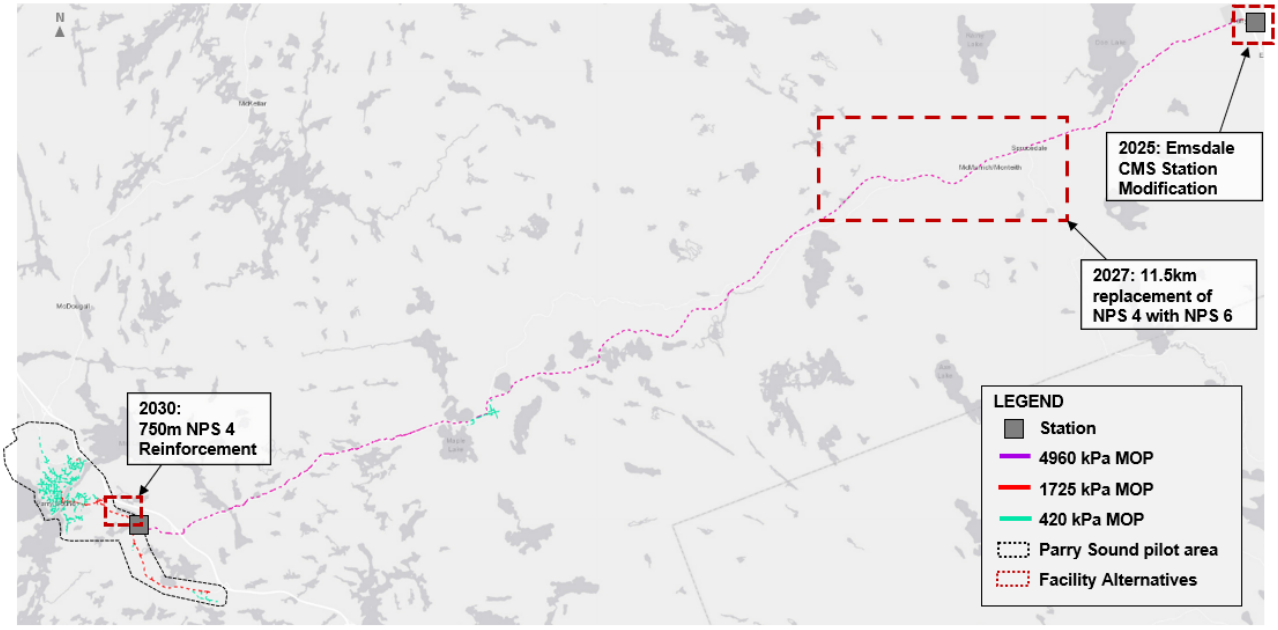
BASELINE FACILITY ALTERNATIVES

1. This section of evidence describes the updated baseline facility alternatives originally identified in the 2023-2032 AMP that would be required to meet the identified system needs as described in Exhibit B, Tab 1, Schedule 1, absent the proposed Pilot Projects. Ultimately, the Pilot Projects will test the effectiveness of demand-side (i.e., ETEE and DR programming) and supply-side (i.e., CNG injection) IRPA investments in terms of their ability to reduce peak period natural gas distribution system flows/demands sufficiently to avoid, delay or reduce the facilities that would otherwise be required to resolve the underlying system need(s)/constraint(s) identified in the AMP. The forecasted impact of the Pilot Projects on the scope and timing of the baseline facility alternatives is discussed within Exhibit D, Tab 1, Schedules 1 and 2.

Parry Sound

2. The total approximate capital cost for the Parry Sound baseline facility alternatives, which includes a station rebuild and 2 pipeline reinforcement projects, is $28.3 M. Details of the Parry Sound baseline facility alternatives respective scopes are set out below.

Figure 1 – Parry Sound Baseline Facility Projects



3. 2025 Station Modification: A station modification of the Emsdale CMS is required in 2025 to allow for the reduction of a pressure differential across the station. This allows for a higher outlet pressure from the station that will satisfy the required minimum inlet pressure to Parry Sound TBS. The capital cost of the 2025 baseline station modification is approximately $2.0 M.

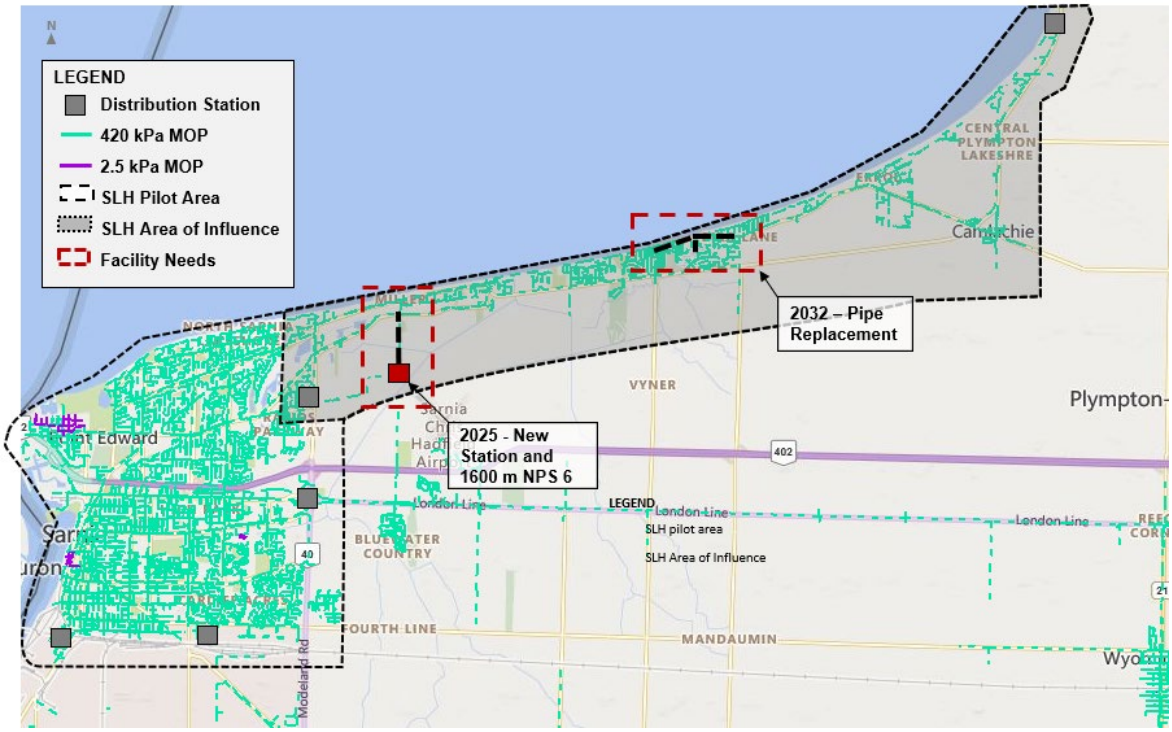
4. 2027 Pipeline Reinforcement: Approximately 11.5 km of NPS 6 steel 4,960 kPa MOP pipeline is required in 2027 to support Parry Sound system growth in response to forecasted increased market/customer demand. The proposed NPS 6 pipeline would replace and upsize a section of the existing NPS 4 pipeline(s) to provide more capacity commencing at the termination of the existing NPS 6 pipeline(s) and proceeding westward towards the town of Parry Sound. The capital cost of the 2027 baseline pipeline reinforcement is approximately $24.2 M.

5. 2030 Pipeline Reinforcement: Approximately 750 m of NPS 4 steel 1,725 kPa MOP pipeline is required in 2030 to support Parry Sound system growth in response to forecasted increased market/customer demand. The proposed NPS 4 pipeline would extend from the outlet of Parry Sound TBS northward. The capital cost of the 2030 baseline pipeline reinforcement is approximately $2.2 M.

Southern Lake Huron

6. The total approximate capital cost for the Southern Lake Huron baseline facility alternatives (located within the SLH Area of Influence), which includes construction of a new station, a pipeline reinforcement project and a pipeline replacement project, is $3.1 M. Details of the Southern Lake Huron baseline facility alternatives respective scopes are set out below.

Figure 2 – Southern Lake Huron Baseline Facility Projects



7. 2025 New Station Build & Pipeline Reinforcement: A new pressure reducing station at Michigan Line and Blackwell Sideroad off the upstream 1,210 kPa MOP system as well as approximately 1,600 m of 420 kPa MOP NPS 6 PE pipeline on Blackwell Sideroad from Michigan Line to Lakeshore Road is required in 2025 to support Southern Lake Huron system growth in response to forecasted increased market/customer demand. The capital cost of the 2025 baseline station build and pipeline reinforcement is approximately $1.5 M.

8. Pipeline Replacement in 2032: Approximately 2,500 m of NPS 2 and 4 ST 420 kPa MOP is required in 2032 due to the age and condition of the existing pipelines. The capital cost of the 2032 baseline pipeline replacement is approximately $1.7 M.

PILOT PROJECT ALTERNATIVES

1. Enbridge Gas considered a broad array of potential IRPAs, alone and in combination, when determining its Pilot Project objectives. Ultimately, the Company determined that the Pilot Projects would primarily be focused on gather transferrable learnings regarding IRPA design, performance and potential for scalability, including insights on peak flow reductions from demand-side IRPAs (i.e., ETEE and DR programs). Enbridge Gas also seeks to gain learnings on the use of CNG injection as a longer-term supply-side alternative. As a result, the primary objectives of the Pilot Projects are twofold (outlined in Exhibit B, Tab 1, Schedule 1):
   (i) Develop an understanding of how ETEE and DR programs impact peak hour flow/demand; and
   (ii) Develop an understanding of how to design, deploy, and evaluate ETEE and residential DR programs.

2. Enbridge Gas broadly considered the following criteria when reviewing the 2023-2032 AMP to develop a list of potential Pilot Projects and IRPAs with a high probability of meeting the objectives set out above:
   - The underlying system need/constraint identified should pass the binary screening assessment set out in the IRP Framework for Enbridge Gas established by the OEB.
   - Potential Pilot Projects should reasonably be expected to either materially or entirely avoid, defer or reduce that same underlying system need/constraint identified in Enbridge Gas's 2023-2032 AMP.
   - Potential Pilot Projects should enable effective data collection and measurement of the impact that IRPA investments have had on distribution system peak period flow/demand to enhance Enbridge Gas's understanding of how any such reduction will impact the need for future facility projects, supporting future investment into cost-effective IRPAs.

- Potential Pilot Projects should act as a “proof-of-concept” for selected IRPAs and should have potential for scalability and readily transferrable learnings.
- As Enbridge Gas is proposing to implement two Pilot Projects, one Pilot Project should be focused on addressing a single identified system need/constraint, and the other should attempt to address multiple identified system needs/constraints (e.g., reinforcement vs. reinforcement & integrity).

3. Potential Pilot Projects were then evaluated and ranked using a weighted average scoring matrix based on the following considerations for each criterion:
   - ***System configuration*** – The ability to isolate the distribution system area for the purpose of measuring and quantifying the impacts of IRPA investments is important. Physical/hydraulic characteristics to evaluate in this regard include number of feeds, number of system low points, sensitivity of system (i.e. long stretches of pipe).
   - ***Balanced customer mix and potential for scalability*** – Having a project-specific customer mix that is generally representative of the Company’s broader customer mix will contribute to learnings regarding IRPA scalability and transferability. Ideal projects will include a significant customer base and representative mix of general service customers (residential, commercial and low-income customers), and minimal seasonal customers.
   - ***Peak hourly flow data collection potential*** – The ability to measure and quantify the impacts of IRPAs on distribution system peak hour flows/demand is critical. The existence/availability of customer hourly measurement, as well as system flow measurement is highly beneficial in this regard.
   - ***Feasibility of supply-side IRPA implementation in the short-term*** – The ability to leverage supply-side alternatives as a short-term bridging solution to allow time for implementation of demand-side programs (e.g., ETEE and DR) is highly beneficial. Considerations in this regard include the viability of CNG injection, and applicability of market-based supply-side options.

- ***Feasibility of demand-side IRPA implementation*** – A target market with attributes (e.g., annual growth rate on the system, building vintages and past participation in DSM) indicating a high potential for successful implementation of ETEE and DR programming.

4. Table 1 below outlines the criteria and scoring matrix used to evaluate and rank the potential Pilot Projects, where a score of 1 indicates that a Pilot Project would inadequately satisfy the criterion and 5 indicates a Pilot Project would adequately satisfy the criterion.

Table 1 – Criteria and Scoring Matrix of Pilot Project Alternatives

		Multiple System Needs			Single System Need				
Criteria	**Weight**	**Southern Lake Huron**	**Ottawa**	**Brantford**	**Bayfield**	**Brooklin**	**Kemptville**	**Parry Sound**	**Southampton**
System configuration	15%	3	1	3	4	3	4	5	4
Balanced customer mix & potential for scalability	25%	4	5	4	2	2	3	2	2
Peak hourly flow data collection potential	25%	5	1	2	3	3	3	4	3
Feasibility of supply-side IRPA implementation in the short-term	15%	4	2	3	3	4	5	5	5
Feasibility of demand-side IRPA implementation	20%	3	1	2	5	2	3	4	2
Weighted Average	100%	**3.9**	2.2	2.8	3.3	2.7	3.5	**3.8**	3.0

5. The identified system needs under each category (i.e., Multiple vs. Single System Needs) that scored highest were selected to be the Pilot Projects; Southern Lake Huron and Parry Sound. While the other system needs identified were not selected as Pilot Projects, they will ultimately undergo an IRP assessment and, depending upon the outcomes of those assessments, may be included in future IRP plan applications.

6. Throughout the Pilot Project selection process, and in an iterative manner, Enbridge Gas sought and considered feedback from the TWG on the proposed Pilot Project

objectives, alternatives, selection criteria, potential IRPAs and the Company's rationale for the selecting the two Pilot Projects.

7. As noted in paragraph 2, the Company originally intended to select one pilot project focused on addressing a single identified system need/constraint, and a second pilot project focused on addressing multiple identified system needs/constraints. However, following pilot project selection, the Company re-assessed its distribution systems in both Pilot Project areas to better understand and estimate the potential impact of specific IRPAs and resulting reductions in peak hour flows/demand. Through this review, the Company determined that both Pilot Projects are expected to address multiple identified system needs.

Pilot Project 1 - Parry Sound

8. As noted in Table 1, Parry Sound scored highest in its category and therefore was selected as one of the Pilot Projects. The rationale supporting Enbridge Gas's decision follows:
   - ***System configuration*** – Parry Sound is a single-fed system consisting of a single (long-stretched) pipeline main supplied directly from a TCE mainline tap. This configuration provides an isolated system from which it is optimally possible to observe and measure the impacts of various IRPAs on distribution system peak period (hourly) flows/demand.
   - ***Balanced customer mix and potential for scalability*** – The customer base served by the Parry Sound system consists of a balanced mix of residential, commercial, and industrial customers. This customer mix is expected to foster transferable learnings.
   - ***Peak hourly flow data collection potential*** – Existing Parry Sound system station flow measurement is available at Emsdale CMS. While no existing hourly data measurement is available at the individual customer level, flow measurement at the gate station will enable analysis at the system level and can be used in conjunction

with the customer level data to determine the cumulative impact of IRPAs.

- ***Feasibility of supply-side IRPA implementation in the short-term*** – Two supply side options are available to the Parry Sound system to ensure that system reliability is maintained over the course of the Pilot Project: CNG injection, and a market-based supply-side IRPA. CNG injection is an optimal bridging solution as the CNG injection volumes required are relatively low. As discussed in Exhibit B, Enbridge Gas is also currently utilizing a market-based supply-side IRPA to increase the system feed pressure from TCE at Emsdale CMS in order to defer the need for additional system facilities.
- ***Feasibility of demand-side IRPA implementation*** – Review of Parry Sound residential demographics and market characteristics from census data indicates that the community is composed of a relatively older population and vintages of building stock when compared to provincial averages (see Table 2). This suggests that a greater percentage of buildings in the community are built to older efficiency standards, resulting in a greater potential for ETEE programming to impact peak period flows/demand. The community also includes a balanced mix of commercial customers that will support transferrable learnings.

Table 2 – Parry Sound Residential Demographics

Demographics [1]	**Parry Sound**	**Ontario**
StatsCanada Geographic Level	Parry Sound, Town [Census Subdivision]	[Province]
Population (2021)	6,879	14,223,942
Average Age	49.4	41.8
Median Age	53.2	41.6
Total Private Dwellings	3,200	5,491,200
Single-Detached House	1,715	2,942,990
% Single-Detached House	54%	54%
Average Household Size	2.0	2.6
Household Characteristics		
Owner	60%	68%
Renter	40%	31%
Median Total Income of Household (2020$)	$62,000	$91,000
Period of Construction		
Before 1960	41%	23%
1961-1980	29%	27%
1981 -1990	11%	13%
1991-2015	17%	31%
2016-2021	3%	7%

9. An additional consideration that led to the selection of Parry Sound as a Pilot Project is that the distribution system has become very sensitive to small changes in hourly demand, due to the long length of pipeline supplying it and the reduction in TCE delivery pressures anticipated to take effect in November 2025. The sensitivity of the system suggests that it is optimal for testing a variety of ETEE offerings as any reduction in peak hour realized could have a more significant impact on the underlying identified system need/constraint.

Pilot Project #2 - Southern Lake Huron

10. As noted in Table 1, Southern Lake Huron scored highest in its category and therefore was selected as one of the Pilot Projects. The rationale supporting Enbridge Gas's

[1] Statistics Canada – 2021 Census Profile - https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/details/page.cfm?Lang=E&SearchText=toronto&GENDERlist=1&STATISTIClist=1&DGUIDlist=2021A00053549032,2021A000235&HEADERlist=2,20,9,1,3

decision follows:

- ***System configuration*** – the SLH Area of Influence in the Southern Lake Huron system consists of a distribution system stretched along the shores of Lake Huron between two station feeds, as shown in Exhibit A, Tab 2, Schedule 1, Attachment 1. This system configuration provides a localized low-point and targeted area of focus, from which it is possible to observe and measure the impacts of various IRPAs on peak period flows/demand.
- ***Balanced customer mix & potential for scalability*** – the customer base served by the Southern Lake Huron system consists of a balanced mix of residential, commercial, and industrial customers. This customer mix is expected to foster transferable learnings.
- ***Peak hourly flow data collection potential*** – Existing automated meter reader ("AMR") technology via encoder receive transmitters ("ERT") are equipped on most residential and smaller commercial customers within the entire Southern Lake Huron area, enabling the Company to collect and transmit hourly interval data from customer meters and to quantify the impacts of the proposed IRPAs on distribution system peak period flows/demand, significantly reducing the time and costs associated with data collection. Additionally, the availability of existing ERTs in Southern Lake Huron makes it an optimal system to test a residential DR program.
- ***Feasibility of supply-side IRPA implementation in the short-term*** – CNG injection is available to the Southern Lake Huron system to ensure that system reliability is maintained over the course of the Pilot Project. CNG injection is an optimal bridging solution as the CNG injection volumes required are relatively low.
- ***Feasibility of demand-side IRPA implementation –*** Review of the residential demographics and market characteristics from census data indicates that the Town of Plympton-Wyoming has similar building vintages to, and the City of Sarnia has slightly older homes, in comparison to provincial averages (see Table 3, below) and therefore rank competitively against other identified system needs/constraints with regard to potential for ETEE programming to impact peak period

flows/demand and for transferrable learnings. These communities also include a balanced mix of commercial customers that will support transferrable learnings. A review of the 10-year customer attachment forecast for the Southern Lake Huron system indicates that the system has the lowest relative demand growth rate compared to other identified system needs, which is expected to increase the probability that peak period reductions achieved are sufficient to avoid the need for future facilities.

Table 3 – Sothern Lake Huron Residential Demographics

Demographics [2]	**Plympton-Wyoming**	**Sarnia**	**Ontario**
StatsCan Geographic Level	Plympton-Wyoming, Town [Census subdivision]	Sarnia, City (CY) [Census subdivision]	[Province]
Population (2021)	8,308	72,047	14,223,942
Average Age	43	44.8	41.8
Median Age	45.6	46	41.6
Total Private Dwellings	3,175	32,190	5,491,200
Single-Detached House	2,965	21,685	2,942,990
% Single-Detached House	93%	67%	54%
Average Household Size	2.6	2.2	2.6
			Household Characteristics
Owner	88%	68%	68%
Renter	12%	32%	31%
Median Total Income of Household (2020$)	$108,000	$77,500	$91,000
			Period of Construction
Before 1960	24%	36%	23%
1961-1980	32%	35%	27%
1981 -1990	10%	12%	13%
1991-2015	27%	15%	31%
2016-2021	6%	2%	7%

[2] Statistics Canada – 2021 Census Profile https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/details/Page.cfm?Lang=E&SearchText=camlachie&DGUIDlist=2021A00053538035&GENDERlist=1,2,3&STATISTIClist=1&HEADERlist=0

PILOT PROJECT DESCRIPTIONS

Parry Sound Pilot Project Overview

1. The primary objectives of the Parry Sound Pilot Project are to develop an understanding of how ETEE programs impact peak hour flow/demand and to develop an understanding of how to design, deploy, and evaluate ETEE programs, as detailed at Exhibit B, Tab 1, Schedule 1.

2. The Parry Sound Pilot Project will include:
   - Procurement of market-based supply;
   - Localized injection of CNG; and
   - ETEE programming.

3. Enbridge Gas has incorporated two supply-side IRPAs as part of the Parry Sound Pilot Project: (i) a negotiated increased pressure agreement from TCE; and (ii) CNG injection, to defer the identified system need/constraint during the Pilot Project term. The higher-pressure agreement from TCE and the use of CNG injection will ensure that Enbridge Gas can reliably meet the system demand requirements while the impacts to peak hour demand through demand-side IRPAs are being tested.

4. The primary focus of the Parry Sound Pilot Project will be on the implementation of ETEE programming. The suite of ETEE offerings for residential (including affordable housing), commercial and industrial customers in the Town of Parry Sound will include enhancement of existing DSM offerings for all market sectors, including a limited ETEE offering for electrification measures (residential only), and a limited ETEE offering for Advanced Technology.

5. While the OEB's first-generation IRP Framework for Enbridge Gas does not support funding for electric IRPAs the OEB acknowledges that, "This may be an element of IRP that will evolve as energy planning evolves, and as experience is gained with

the IRP Framework."[1] The proposed Parry Sound Pilot Project offers a unique opportunity to explore the potential applicability and feasibility of electricity-based IRP measures in an isolated environment that can help support future broad-based integrated resource planning efforts with local LDCs and the IESO. Consideration for broader implementation of electrification measures would require an update to the IRP Framework and further coordinated energy planning with the electric sector to ensure a holistic assessment of the impact these types of measures have on the respective grid and system.

6. As there will be an overlap between the ETEE programs proposed and the existing broad-based DSM programs offered by the Company, consideration for an attribution approach to the funding and results is required. As there is currently no established approach to attribution between ETEE and DSM programs, a simplified approach whereby all incentives contributed by Enbridge Gas through the Pilot Project's ETEE programs will be funded by the Pilot Project. It should be noted that a general policy on the approach to DSM-IRP attribution is anticipated to be considered as part of the Company's first stand-alone IRP Plan application.

7. The geographic scope for the Parry Sound Pilot Project ETEE programming will encompass Enbridge Gas customers (eligible Residential, Commercial, and Industrial general service customers) located in the community of Parry Sound. Please see Exhibit A, Tab 2, Schedule 1, Attachment 1, for a map of the Parry Sound Pilot Project Area.

8. The Parry Sound Pilot Project has a proposed term of 2023 to 2027. A timeline of major activities associated with the Pilot Project are shown in Table 1. The Company will require at least four months from OEB approval to implement ETEE programming in market and the timing of all aspects of the Pilot Projects is subject to

[1] EB-2020-0091, OEB Decision and Order (July 22, 2021), p. 35.

the ultimate date of receipt of a Decision and Order of the OEB approving the Company's current Application.

Table 1 – Parry Sound Pilot Project Timeline

PARRY SOUND PILOT PROJECT	2023			2024				2025				2026				2027		
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Regulatory																		
File Application																		
OEB Hearing (Estimated)																		
Data Collection																		
ERT/Hourly Measurement Installation																		
Collection of Hourly Data																		
TC Energy																		
Service Contract for Pressure Increase																		
Compressed Natural Gas (CNG)																		
CNG Set up																		
CNG Truck in Place																		
Enhanced Targeted Energy Efficiency (ETEE) [1]																		
Finalize and Setup Programming																		
Deliver Programming																		
Evaluate and Refine Program Design																		
Monitoring & Evaluation																		
Analyze Baseline Data																		
Analyze Post Implementation Data																		
Reporting																		
Pilot Updates in Annual Report																		
Pilot Report																		

Notes:

[1] Timing subject to date of OEB approval. At least four months after OEB approval is required to implement ETEE programs in the market.

Supply Side IRPA – TCE Pressure Agreement

9. As noted in Exhibit B, Tab 1, Schedule 1, Enbridge Gas is currently utilizing a supply-side IRPA consisting of negotiated increased pressure agreement from TCE to avoid a system reinforcement[2]. TCE notified Enbridge Gas that the delivery pressures will be returned to their standard tariff pressure of 4,000 kPa for the Winter of 2023/24. In response, Enbridge Gas requested that TCE develop a service with a rate or tariff so that Enbridge Gas could continue to rely upon the increased pressure service as an IRPA for the Parry Sound Pilot Project which would allow Enbridge Gas time to implement demand-side IRPAs to reduce peak hour demands. TCE has agreed to reinstate the higher-pressure agreement for two years up to the Winter of 2025/26. This higher-pressure will act as a supply-side IRPA that provides reliable service to meeting Enbridge Gas' customers' demands during peak periods. While TCE agreed to develop the service requested, there is no confirmed timetable to complete the service design. Therefore, Enbridge Gas has allocated placeholder costs for this service in the interim, as noted in Exhibit E, Tab 1, Schedule 1.

10. Enbridge Gas will continue to work with TCE on the development of a higher-pressure service with the intent of extending the contract beyond Winter 2024/25. If TCE cannot provide the higher-pressure service in the future, Enbridge Gas will install and implement an expanded CNG injection supply-side IRPA similar to that described below to continue to meet the distribution system peak period flows/demands of customers in Parry Sound.

Supply Side IRPA - CNG Injection

11. As noted above, Enbridge Gas will implement a CNG injection IRPA to meet the peak demands of its customers should TCE be unable to provide the higher-pressure service beyond Winter 2025/26. CNG injection will be used to "peak shave"

[2] A delivery pressure agreement was entered between TCE (formerly known as TransCanada Pipelines Limited) and Enbridge Gas (formerly known as Union Gas Limited) on July 10, 2017 for increased delivery pressure at Parry Sound.

and will not be the primary source of gas supply to the system. Peak shaving means that the CNG will only be flowing when minimum pressures cannot be maintained by the existing pipe and station facilities. This will limit the peak hour flow and total volume of CNG required.

12. CNG tube trailers are specialized trailers designed to transport CNG in large quantities. These trailers are designed to be durable, safe and efficient, and come in various sizes and capacities. CNG Pressure Reduction System ("PRS") equipment, also referred to as decanting trailers, is remotely monitored via technology to allow delivery of high-pressure gas from CNG tube trailers at specific temperatures and pressures to meet Enbridge Gas specifications. The PRS are equipped with natural gas boilers that pre-heat the gas before passing through the regulators which help to avoid the risk of freeze-offs.

13. Approximately 240 m^3/h of CNG volumes would be required to be injected at the Parry Sound distribution system in 2025 on a design day.[3] To reliably deliver the required CNG volumes, two CNG tube trailers with two smaller decanting trailers are proposed to be located on-site, where one trailer serves as the primary source of supply and the second trailer serves as a backup. Each trailer would have adequate supply to support peak demand independent of the other. A third trailer will be brought in if the system flows enough gas to deplete one of the two trailers. Trailer volumes, pressures and decanting of trailers will be remotely monitored to ensure continued safe and reliable operations.

14. Through the Pilot Project, Enbridge Gas will also gain learnings on the use of CNG injection as a longer-term supply-side alternative including the injection and usage of CNG as a peak shaving alternative.

[3] Depending on the precise CNG injection location selected, this volume could vary slightly.

Demand-Side IRPA - ETEE

15. A suite of ETEE offerings for residential (including affordable housing) and commercial/industrial customer sectors will be implemented in the Pilot Project area. Pilot Project offerings will leverage existing DSM programming approved by the OEB as part of Enbridge Gas's Application for Multi-Year Natural Gas Demand Side Management Plan 2022-2027 (the "2023-2025 DSM Plan Decision") (EB-2021-0002) where applicable, and will supplement the same with additional incentives, engagement, and/or marketing efforts to meet the specific objectives of the Pilot Project. Regardless of whether a Pilot Project ETEE offering aligns with an existing DSM program, customers in the Pilot Project area will continue to have full access to all other existing DSM programming. For example, the residential Smart Home offering is not in scope of the Pilot Project ETEE programming, but residential customers will continue to have access to this offering.

16. Although DSM programming will be leveraged (and enhanced) for IRP ETEE programming purposes as part of the Pilot Projects, there are key differences between the two. The objectives of the DSM Framework and IRP Framework are distinct from each other. As per the IRP Decision, "DSM is aimed at reducing annual natural gas usage, and IRP is aimed at reducing peak demand in specific geographic areas to replace infrastructure investment with an IRPA investment".[4] Furthermore, traditional DSM is focused on ensuring broad participation in the Company's service area, whereas ETEE is focused on programs that achieve a high penetration in a specific geography to reduce peak period system demands corresponding to an identified system constraint/need. This fundamental difference is expected to lead to ETEE requiring greater levels of funding per unit of energy savings targeted when compared to what traditional DSM would otherwise necessarily expend in the Pilot Project area.[5]

[4] EB-2020-0091, July 22, 2021, Decision and Order, P.56
[5] EB-2020-0091, October 15, 2020, Exhibit B, P.28

17. For both residential and commercial customers, the Pilot Project ETEE programming will include three 'advanced technologies', including: natural gas heat pumps, simultaneous hybrid heating and thermal energy storage. These advanced technologies are not currently part of the 2023-2025 DSM Plan as they are not yet commercialized or have only recently been commercialized. The advanced technologies are anticipated to be commercially ready for market adoption in 2023 and 2024.

18. Enbridge Gas has included these additional advanced technologies within the Pilot Project ETEE programming as they offer significant potential peak period flow/demand reductions as shown in Table 11. By including these advanced technologies, Enbridge Gas can gain a better understanding of their peak gas reduction potential, as well as the applicability or feasibility of incorporating these technologies more broadly as ETEE measures in the future.

Market Analysis

19. The delivery of energy efficiency programming is generally implemented on a customer sector basis (residential, commercial, multi-residential, and industrial). Enbridge Gas intends to implement its Pilot Project ETEE programming using this same customer sector approach. A sectoral summary of Enbridge Gas customers in the Parry Sound Pilot Project area is shown in Table 2.

Table 2 – Parry Sound Pilot Area Customer Sector Breakdown

Sector	Number of Customers	Number of Customers (%)	% of 2022 Weather Normalized Annual m^3 Load
Residential	1,654	78.8%	39.4%
Commercial	271	12.9%	51.4%
Multi-Residential	165	7.9%	4.1%
Industrial	9	0.4%	5.1%
Total	2,099	100%	100%

20. In the commercial and industrial sectors, most customers (98.1%) are relatively small natural gas consumers with estimated weather normalized consumptions below 100,000 m^3 annually, as shown in Table 3. Based on Enbridge Gas's broad-based energy efficiency experience, commercial and industrial customers with an annual consumption below 100,000 m^3 have lower energy efficiency program participation levels and smaller saving opportunities per energy efficiency project of a participant. Therefore, in communities like Parry Sound that have a high percentage of commercial and industrial customers with a lower annual load, more direct engagement effort and marketing is expected to be necessary to achieve the results required to sufficiently impact peak period flows/demands.

21. Within the large natural gas consumer segment (greater than 100,000 m^3 annual consumption), there is one institutional customer that accounts for a significant percentage of the system load in the Parry Sound Pilot Project area. Variations in energy demands from these types of consumers can fundamentally influence identified system needs/constraints. Further, in Enbridge Gas's experience, energy efficiency projects with large consumers typically provide the highest potential savings opportunity per project compared to small consumers. As such, special consideration for this institutional customer in the form of assistance from qualified Enbridge Gas staff will be given due to the impact this customer has on the Parry Sound distribution system.

Table 3 – Parry Sound Commercial and Industrial Sector Breakdown

Commercial / Industrial	Number of Customers	Number of Customers (%)	% of 2022 Weather Normalized Annual m^3 Load
Small (<25K $m^{3)}$	231	87%	25%
Medium (25K>100K m^3)	28	11%	26%
Large (>100k m^3)	5	2%	49%
Total	264	100%	100%

IRP ETEE Pilot Project Offerings of Existing Programming

22. Existing 2023-2025 DSM Plan programming has been effective in delivering broad-based energy savings across Enbridge Gas' franchise area. In many cases, the existing measures offered by the Company's broad-based DSM programs will overlap with the Pilot Project's ETEE program measures offered, albeit with potentially adjusted delivery approaches reflecting the differing objectives/considerations for ETEE programs (to reduce peak period/design demand in a specific geographic location) compared to DSM programs (to generate broad-based energy savings).[6] Leveraging existing offerings with enhanced offers specific to the geographic scope of the Pilot Projects, is expected to result in an overall reduction in ETEE programming costs relative to developing net new ETEE offerings. Further, this ETEE programming approach can build on the existing market awareness of DSM programming. The benefits of this approach will be examined as part of the Pilot Project. As explained further below, the broad-based DSM programs expected to have the greatest impact on peak demand reduction are those that have been considered to be supplemented with additional IRP ETEE incentives. The Company's expectations in this regard will also be examined as part of the Pilot Projects. The approach to the Pilot Projects ETEE offerings, including attribution of costs and savings between the Pilot Projects and existing broad-based DSM Programs, for each of the major customer sectors are discussed in the following sections.

Attribution Approach for the Pilot Projects

23. The Pilot Projects' ETEE program plans to leverage the existing DSM program, however, existing DSM programs operate and are governed under the DSM Framework. Under the DSM Framework, shareholder incentives for the Company are determined based on the results attributable to delivery of DSM programs. As

[6] EB-2020-0091, Decision and Order, July 22, 2021, P.56: "DSM is aimed at reducing annual natural gas usage, and IRP is aimed at reducing peak demand in specific geographic areas to replace infrastructure investment with an IRPA investment"

such, an approach to the attribution of funding and results between the Pilot Projects' ETEE programs and the Company's DSM programs is required and should be established in advance of the Pilot Projects' implementation. There is currently no established approach to attribution between ETEE and DSM programs. As per the OEB's 2023-2025 DSM Plan Decision, "…the details of the overlap and any implications will be reviewed by the OEB as part of the IRP Plan application made by Enbridge Gas".[7]

24. Enbridge Gas is proposing that all incentives contributed by Enbridge Gas through the Pilot Projects' ETEE programs (i.e. within the Pilot Project area) be funded by the Pilot Project and not by DSM programs. Accordingly, all results attributed to Enbridge Gas from the Pilot Projects' ETEE program will be entirely attributed to the Pilot Projects' ETEE program and not to DSM programs.

25. At this time, the approach explained below is applicable to the two Pilot Projects only. A general policy on the approach to DSM-IRP attribution is anticipated to be considered as part of the first stand-alone IRP Plan application filed by the Company.

26. For the purposes of illustrating the attribution approach for the Pilot Projects programs, Table 4 demonstrates a scenario of how attribution is currently managed without the implementation of the Pilot Projects programs. Table 5 demonstrates the same scenario but inclusive of the implementation of the Pilot Projects programs. The example in Table 5 refers to the Company's Home Efficiency Rebate Plus ("HER+") offering within its DSM program portfolio. The HER+ offering is a joint program in partnership with Natural Resources Canada's ("NRCan") Canada's Greener Homes Grant initiative. Attribution between NRCan and Enbridge Gas has been established as part of the Collaboration Agreement ("CA") and later approved

[7] EB-2021-0002, Decision and Order, November 15, 2022, P. 87

in the OEB's 2023-2025 DSM Plan Decision,[8] and generally follows an approach based on "percentage of total incentive dollars spent".

27. The illustrative examples in Tables 4 and 5 consists of the attic insulation measure, where insulation is increased from less than R12 to at least R50.[9] Without the implementation of the Pilot Projects, the incentives funded by NRCan and DSM are $1,800 and $550, respectively, for a total maximum customer incentive of $2,350. This results in an attribution split of approximately 77% to NRCan and 23% to the Company's DSM programs.

Table 4: Illustrative Attribution Example – HER+ Offering without Pilot Projects

Source of Funding	Customer Incentive	Customer Incentive Contribution %	Results Attribution
NRCan	$1,800	77%	77%
DSM (Enbridge Gas)	$550	23%	23%
Pilot Project (Enbridge Gas)	N/A	N/A	N/A
Total	$2,350	100%	100%

28. With the implementation of the Pilot Projects, an additional $550 will be provided by Enbridge Gas for this measure, for a total of $1,100, for a total maximum customer incentive of $2,900 Based on the above proposed attribution approach for the Pilot Projects, this results in an attribution split of approximately 62% to NRCAN and 38% to the Pilot Projects.

[8] EB-2021-0002, Decision and Order, November 15, 2022, Schedule E, P. 14
[9] The R-value is a measurement of insulation effectiveness. The higher the R-value, the greater reduction in energy loss for a building.

Table 5: Illustrative Attribution Example – HER+ Offering with Pilot Projects

Source of Funding	Customer Incentive	Customer Incentive Contribution %	Results Attribution
NRCan	$1,800	62%	62%
DSM (Enbridge Gas)	$0	0%	0%
Pilot Project (Enbridge Gas)	$1,100	38%	38%
Total	$2,900	100%	100%

29. As stated previously, there is an overlap of energy efficiency measures between DSM and ETEE programming. Not all measures that are included with DSM programs and offerings in the 2023-2025 DSM Plan are in scope for the Pilot Projects. The Pilot Projects will only stack additional incentives upon the specific 2023-2025 DSM Plan programs and offerings indicated in Table 6 below. The selection of DSM offerings that would receive enhanced IRP ETEE incentives was based on measures that are expected to have the greatest impact on distribution system peak hour flows/demand in each targeted customer sector. Providing an additional incentive for these DSM programs will also help Enbridge Gas determine the impact of enriched incentives (up until 100% of the energy efficiency project cost) on the incremental take up of the measures. The 2023-2025 DSM Plan programs and offerings that are not in scope for the Pilot Projects will continue to be available to customers within the Pilot Project area and will be funded through the DSM Plan budget.

Table 6 – Summary of DSM Offerings with IRP ETEE incentives

2023-2025 DSM Plan Program and Offerings	Pilot Project ETEE Customer Incentive Funding
Residential Program	**Yes**
Residential Whole Home	Yes
Residential Single Measure	No
Residential Smart Home	No
Low Income Program	**No**
Home Winterproofing	No
Affordable Housing Multi-Residential	No
Commercial Program	**Yes**
Commercial Custom	Yes
Prescriptive Downstream	Yes
Direct Install	Yes
Prescriptive Midstream	No
Industrial Program	**Yes**
Industrial Custom	Yes
Large Volume Program	**No**
Energy Performance Program	**No**
Building Beyond Code Program	**No**

Residential Sector

30. Enbridge Gas and NRCan have partnered to jointly fund an enhanced energy efficiency program for residential customers in Ontario through the HER+ offering. It is an offering that is designed to educate and encourage residential homeowners to apply an energy efficiency lens to all their home renovation projects thereby leading to deep savings. The Company proposes to leverage this existing residential program funding and program design and supplement with targeted engagement and additional incentives for selected residential measures within the Parry Sound Pilot Project area. The Company's focus on this sector is in-part driven by the expectation that residential space heating is a significant contributor to peak period flows/demands, as well that there exists a significant potential to affect this load through the specific residential measures being targeted.

31. More specifically, as part of the Pilot Projects ETEE HER+ offering, the following DSM residential building envelope measures have been selected for enhanced incentives due to their potential to impact peak hour demands through space heating load reductions.
    - Attic insulation
    - Wall insulation
    - Basement insulation
    - Exposed Floor insulation
    - Air sealing

32. As noted above, ETEE incentives will be available to residential customers within the Parry Sound Pilot Project area and will be delivered through the same channels as the existing HER+ offering in the DSM programming portfolio as approved in the 2023-2025 DSM Plan Decision.[10] The proposed enhanced incentives will only be available for select piloted measures as provided in Table 7.

33. Enbridge Gas proposes to provide an ETEE incentive for the measures outlined in Table 7 that doubles (i.e.,100% increase) the OEB-approved DSM maximum measure incentive amount.[11] Doubling the DSM maximum measure incentive amount results in a 23% to 27% increase over the total combined NRCan and OEB-approved DSM measure incentive amounts, depending on the measure. The intent of the ETEE HER+ offer is to provide as close to full cost incentive coverage for the selected measures as possible, however, the total incentive amount available to each customer is capped at 100% of the cost of the measure. In addition, the maximum total incentive available to participants in the ETEE-version of the HER+ offering is $15,000 (increased from $10,000 maximum for Enbridge Gas customers). The proposed enhanced incentives may be changed throughout the duration of the

[10] EB-2021-0002, Decision and Order, November 15, 2022, P. 18-33
[11] EB-2021-0002, Decision and Order, November 15, 2022, Schedule B.

Pilot Project due to changes in the incentive structure of the base HER+ offering or Pilot Project program design decisions. Changes to the incentive structure will be discussed with the TWG and reported on in the IRP Annual Report.

34. Targeted engagement and marketing activities within the Parry Sound Pilot Project area for residential customers will be undertaken to encourage increased awareness and offering uptake. Given the smaller residential market size in Parry Sound, there is an opportunity to target customers directly to drive participation in the ETEE program. Therefore, Enbridge Gas will explore the effectiveness of not only highly geo-targeted marketing spend for the Pilot Projects, but also grass-roots direct-to-customer marketing. Additionally, there is an opportunity to increase awareness and participation among local contractor networks, through the development of sales support materials. To optimize marketing effectiveness, a variety of creative imagery, messaging, tactics, and channels will be applied and evaluated based on driving interest and program participation. Campaigns will be optimized over time based on learnings. All marketing materials will direct prospects to a program-specific landing page on the Enbridge Gas website, which will serve as the central location for information about ETEE in Parry Sound.

Table 7 – Summary of HER+ Measures with Enhanced IRP Incentive

Pilot Project HER+ Measures	NRCan Incentive (A)	EGI DSM Plan Incentive (B)	HER+ Program Maximum Incentive (C = A + B)	EGI Pilot Project Additional Incentive (D)	Pilot Project HER+ Maximum Incentive (E = C + D)	EGI Pilot Project Funded Incentive (F = B + D)
Attic/Cathedral Insulation						
Increase attic insulation to at least R50 from less than R12	$1,800	$550	$2,350	$550	$2,900	$1,100
Increase attic insulation to at least R50 from greater than R12 up to R25	$600	$200	$800	$200	$1,000	$400
Increase attic insulation to at least R50 from greater than R25 up to R35	$250	$75	$325	$75	$400	$150
Increase cathedral/flat roof insulation to at least R-28 from R12 or less	$600	$200	$800	$200	$1,000	$400
Increase cathedral/flat roof insulation to at least R-28 from greater than R12 up to R25	$250	$75	$325	$75	$400	$150
Upgrade uninsulated cathedral ceiling/flat roof to at least R20 from R12 or less	$600	$200	$800	$200	$1,000	$400
Exterior Wall Insulation						
For adding insulation value of at least greater than R20 for 100% of building	$5,000	$1,750	$6,750	$1,750	$8,500	$3,500
For adding insulation value greater than R12 up to R20 to 100% of the building	$3,800	$1,200	$5,000	$1,200	$6,200	$2,400
For adding insultation value greater than R7.5 up to R12 for 100% of building	$3,300	$1,200	$4,500	$1,200	$5,700	$2,400
Exposed Floor Insulation						
For adding insulation value of at least R20 for entire exposed area (minimum area of 11 square meters or 120 square feet)	$350	$100	$450	$100	$550	$200
Basement Insulation						
For sealing and insulating at least 80% of basement header to a minimum R20	$240	$85	$325	$85	$410	$170
For sealing and insulating at least 50% of the entire basement slab by a minimum of R3.5	$400	$150	$550	$150	$700	$300
For adding insulation value greater than R22 to 100% of basement	$1,500	$500	$2,000	$500	$2,500	$1,000
For adding insulation value of R10 to R22 to 100% of basement	$1,050	$350	$1,400	$350	$1,750	$700
For adding insulation value of R10 to R22 to 100% of exterior crawl space wall area, including header	$1,300	$400	$1,700	$400	$2,100	$800
For adding insulation value of R10 to R22 to 100% of exterior crawl space wall area, including header	$1,040	$360	$1,400	$360	$1,760	$720
For adding insulation value greater than R24 to 100% of crawl space ceiling	$800	$250	$1,050	$250	$1,300	$500
Air Sealing						
Achieve base target	$550	$175	$725	$175	$900	$350
Achieve 10% or more above base target	$810	$240	$1,050	$240	$1,290	$480
Achieve 20% or more above base target	$1,000	$300	$1,300	$300	$1,600	$600

Commercial and Industrial Sector

35. The commercial and industrial sectors are generally more diverse when compared to the residential sector, and as such, approaches to the commercial and industrial sectors encompass a variety of offerings. Enbridge Gas is proposing to leverage its existing DSM Plan offerings for the commercial and industrial market sectors, with the addition of a localized/enhanced approach.

36. Participation from small and medium-sized commercial and industrial customers will be important to the success of the Parry Sound Pilot Project, given their contribution to Parry Sound system demand within the Pilot Project area. Accordingly, ETEE programming in this sector must provide additional support for these customers to overcome the participation barriers typically experienced, which generally include: a lack of capital for improvements, and a lack of time/expertise to assess energy options using in-house resources. These barriers can be addressed by enhancing the existing DSM commercial and industrial direct install offering. The direct install offering is a “turnkey” solution whereby contracted service providers proactively engage with targeted customers and provide technical expertise and installation of eligible prescriptive measures. Furthermore, service providers deduct the financial incentive Enbridge Gas provides from the final energy efficiency project cost, and customers only pay the balance. The Pilot Projects ETEE-version of the direct install offering for commercial and industrial customers will also leverage the existing downstream prescriptive offering for customers that are not interested in the direct install approach.

37. Energy efficiency solutions for commercial and industrial customers can vary significantly in terms of complexity and types of measures. For the more standard smaller customers noted above, the simpler prescriptive measure approach can be utilized, but for the typically larger complex buildings, more customized solutions may exist. As such, the Pilot Projects will also leverage Enbridge Gas’s existing

DSM commercial and industrial custom offering, which includes increased customer engagement along with the addition of enhanced incentives.

38. Similar to its proposed approach to residential ETEE, the Company's focus on commercial and industrial customers is in part driven by the expectation that space heating is a significant contributor to peak period flows/demands, as well that there exists a significant potential to affect this load through the specific measures being targeted.

39. As part of the ETEE programming for the commercial and industrial direct install and prescriptive offerings, the following measures will be initially included in the Pilot Project:
    - Air curtains – shipping door
    - Air curtains – pedestrian
    - Dock door seals
    - Destratification fans
    - Ozone laundry
    - Condensing makeup air unit
    - Demand control kitchen ventilation (DCKV)
    - Demand control ventilation (DCV)
    - Energy recovery ventilators (incl. multi-residential in-suite)
    - Heat recovery ventilators (incl. multi-residential in-suite)

40. As part of the ETEE programming for the commercial and industrial custom offering, measures with the potential to impact peak period (hourly) flows/demands will be targeted for Pilot Projects, including:
    - Measures with space heating end-use loads, and measures that can significantly reduce system peak period flows/demands (generally winter morning periods).

- Other end-uses that could significantly impact system peak period flows/demands may also be explored.

41. For the Parry Sound Pilot Project, small-medium-sized commercial and industrial customers will be classified as customers below 50,000 m^3 annualized gas consumption. Establishing this threshold will not restrict ETEE programming but will help guide effective targeting of programming for commercial and industrial customers. The targeted ETEE offerings for this segment will be focused on the existing direct install offering where the current in-market offering includes an incentive to cover a portion of both the equipment and installation costs of the energy efficiency project. For the Parry Sound Pilot Project targeted measures, the proposed ETEE-version of the direct install offering will cover up to 100% of the energy efficiency project costs (including the equipment and installation costs of the project). Full cost coverage of the energy efficiency projects seeks to address the identified barrier of a lack of capital known to impact the participation levels of this target market segment.

42. The cost coverage of the existing offering and the proposed enhanced Parry Sound Pilot Project ETEE offering for each of the measures is provided in Table 8.

43. One of the delivery and engagement approaches the Company proposes to deploy in this ETEE-version of the direct install offering is to have a more involved connection with local contractors and secure their interest and support to participate in the ETEE's promotion and delivery. Local contractors are typically more trusted by local businesses and residents, where these contractors are a known entity and likely have built relationships among the community that can support the promotion and uptake of the ETEE offerings. The approach for this small-medium segment will also include consultation and engagement with community-based organizations that understand the needs of businesses in the area and can support building program awareness. These are some of the delivery approaches the Company will be

considering in advance of moving forward into a more formalized planning phase following receipt of OEB approval.

Table 8 – Summary of Existing C/I DSM Measures with Enhanced IRP Incentive

Measure Name	Eligible Sectors	% of Cost Covered in Existing Direct Install Offer [1]	Estimated % of Cost Covered for the Pilot Project ETEE Offering
Air Curtain Shipping Door (Dock In): 8x8 to 10x10	All	Up to 90%	Up to 100%
Air Curtain Shipping Door (Drive Thru): 10x10 to 20x20	All	Up to 90%	Up to 100%
Dock Door Seals - Compression & Shelter: 8x8 8x10 10x10	All	Up to 100%	Up to 100%
Air Curtain Pedestrian Doors: Single, Double & w/Vestibule	All	N/A[2]	Up to 100%
Destratification Fans: 20 & 24 Ft Fans	All	N/A[2]	Up to 100%
Demand Control Kitchen Ventilation	All Commercial Kitchens	Up to ~85%	Up to 100%
Ozone Laundry	All Comm Laundry	N/A[2]	Up to 100%
Condensing Makeup Air (Constant, 2 speed & VFD)	All except Retail	N/A[2]	Up to 100%
Demand Control Ventilation	Office, Retail, select spaces in Hotel / Motel and Entertainment	N/A[2]	Up to 100%
Energy Recovery Ventilator	All including in-suite MURB	N/A[2]	Up to 100%
Heat Recovery Ventilator	All including in-suite	N/A[2]	Up to 100%

[1] Values as currently offered in market through DSM offerings. Values presented to provide an illustration of incentive enhancements proposals and subject to change.

[2] Measure is not currently available in Direct Install offer.

44. For the Parry Sound Pilot Project, large-sized commercial and industrial customers will be classified as customers above 50,000 m^3 annualized gas consumption. The ETEE programming for the large commercial and industrial segment will be focused on the existing custom offering that has been primarily delivered by Enbridge Gas energy solution advisors (“ESAs”). For the Parry Sound Pilot Project targeted measures, the ETEE-version of the custom offering proposes to provide enhanced incentives up to twice that of the existing DSM offering (up to 50-75% of the full

energy efficiency project costs including equipment and installation costs of the project) as described in Table 9. The delivery approach of this ETEE offering would require local ESAs employing customized marketing outreach and customer engagement strategies. The proposed enhanced incentives for the commercial and industrial ETEE programming may be changed at the discretion of Enbridge Gas throughout the duration of the Pilot Projects as a result of changes in the incentive structure of the existing commercial and industrial DSM offerings or Pilot Project program design decisions.

Table 9 – Summary of Existing C/I DSM Custom Offer with Enhanced IRP Incentives

Category	Current DSM Custom Offering [1]	Current DSM Custom Offering Incentive Maximum [1]	Pilot Project ETEE Custom Offering [2]	Pilot Project ETEE Custom Offering Incentive Maximum [2]
Custom - Commercial	$0.25 / m^3	50% of the Energy Efficiency Upgrade Costs or $100,000 per Project	$0.50 / m^3	50-75% of the Total Project Cost or $150,000 per Project
Custom - Industrial	$0.20 / m^3 for the up to 50K m3 saved; $0.10 / m^3 above 50K m^3 saved	50% of the Energy Efficiency Upgrade Costs or $200,000 per Project	$0.40 / m^3 for the up to 50K m3 saved; $0.20 / m^3 above 50K m^3 saved	50-75% of the Total Project Cost or $300,000 per Project
Energy Assessments	$1,500-$10,000 Varies by Previous Year Consumption	50% of Audit Costs	Maximum Incentive of $3,000-$20,000 (Double Current Offer)	75% of Audit Costs

[1] Values as currently offered in market through DSM offerings. Values presented to provide an illustration of incentive enhancements proposals and subject to change.
[2] Pilot Project ETEE Custom offering values are subject to change pending finalization of in-market delivery approach at the time of implementation.

45. The ETEE-version of the prescriptive offering will provide enhanced incentives up to twice that of the existing DSM offering. While it is anticipated that most commercial and industrial customers would take advantage of the ETEE direct install offering and the associated incentive levels since many of the measures under the existing DSM downstream prescriptive offering are captured under the ETEE-version of the

direct install offering (as shown in Table 9), the inclusion of an ETEE prescriptive downstream offering provides additional flexibility and choice for customers. The delivery of the ETEE-version of the prescriptive downstream offering would be covered by the delivery approaches described previously under the ETEE-version of the direct install and custom offerings.

46. Targeted engagement and marketing activities within the Parry Sound Pilot Project area for commercial and industrial customers will be undertaken to encourage increased awareness and offering uptake. With the small number of commercial and industrial customers located in Parry Sound, the optimal marketing opportunity is to target businesses through direct to customer communications outreach efforts. In addition, Enbridge Gas will consider generating program awareness and participation among local contractors and trade networks through targeted communication tactics. Different marketing tactics, design concepts, and channels will be tested between Parry Sound and Southern Lake Huron to determine their relative effectiveness in driving program participation. Over time, campaigns will be optimized based on learnings to leverage the most successful tactics. All marketing materials will direct prospects to program specific landing pages on the Enbridge Gas website, which will serve as the central location for information about direct install, prescriptive and custom offerings.

Affordable Housing Sector

47. Enbridge Gas energy efficiency offerings for the affordable housing market segment have historically experienced high levels of participation and success. The existing DSM affordable housing offerings under the 2023-2025 DSM Plan portfolio already provides no-cost programming for qualified Enbridge Gas customers located in the Parry Sound Pilot Project area. Affordable housing program offerings under the 2023-2025 DSM Plan portfolio will continue to be available and will remain funded through DSM. As such, the Company is not proposing to provide enriched incentives

to customers as part of ETEE for affordable housing programming as these programs are already no-cost to customers.

48. However, enhanced targeted marketing activities for existing DSM program offerings will be pursued in this sector as part of the Parry Sound Pilot Project. Enbridge Gas will consider geographically targeting this area with direct to customer communication tactics and marketing through various customer engagement activities. Furthermore, Enbridge Gas will explore opportunities to cross-promote Residential and Affordable Housing programs as applicable.

Limited ETEE Offering for Electrification Measures

49. On a limited participant basis, the Company proposes to offer additional incentives for cold climate air source heat pumps ("ccASHP") and ground source heat pumps ("GSHP") in the Pilot Project ETEE-version of the HER+ offering for Parry Sound. While the first-generation IRP Framework does not yet make provisions for Enbridge Gas to explicitly fund electric IRPAs, it acknowledges that, "This may be an element of IRP that will evolve as energy planning evolves, and as experience is gained with the IRP Framework."[12] The Company believes the Parry Sound Pilot Project offers a unique opportunity to evaluate the potential applicability and feasibility of electrification measures in an isolated environment. Enbridge Gas expects that broader implementation of electrification measures in the future will require integrated energy planning across energy sources, including discussion and engagement between Enbridge Gas and the electric sector, to ensure a holistic assessment of the impact of these types of measures on the respective grid and system. To support and inform such future works and collaboration, and to maximize the potential learnings resulting from the Pilot Projects, Enbridge Gas is proposing to include incentives for ccASHP and GSHP in conjunction with its ETEE-version of the HER+ offering.

[12] EB-2020-0091, OEB Decision and Order (July 22, 2021), p. 35.

50. The additional incentives for ccASHP and GSHP will be capped at 20 participants and 10 participants, respectively. It is expected the additional electrical load demand from these limited number of measures would not have a material impact to the local grid.

51. This limited ETEE offering will follow the same approach described in the Residential Sector Approach under the ETEE-version of the HER+ offering with the additional maximum measure incentive levels detailed in Table 10. As this limited offering is a component of the HER+ offering, most of the costs for the promotion and delivery are covered under the enhanced DSM offering. The Company also proposes to work closely with participants taking up this offering and the equipment installation contractors to better understand the experience with installing these systems in homes (e.g., upgrading electrical panel, comfort/reliability during very cold days, cost considerations etc.).

Table 10 – Summary of HER+ Electric Measures with Enhanced IRP Incentive

Pilot Project HER+ Measures	NRCan Incentive (A)	EGI DSM Plan Incentive (B)	HER+ Program Maximum Incentive (C = A + B)	EGI Pilot Project Additional Incentive (D)	Pilot Project HER+ Maximum Incentive (E = C + D)	EGI Pilot Project Funded Incentive (F = B + D)
Space Heating Heat Pump						
Install a ground source heat pump – full system.	$5,000	$1,500	$6,500	$3,500	$10,000	$5,000
Replace a ground source heat pump – heat pump unit only.	$3,000	$1,000	$4,000	$2,000	$6,000	$3,000
Install a complete ENERGY STAR certified new or replacement air source heat pump (ASHP) system or a variable capacity cold climate air source heat pump (ccASHP) system. The system must be intended to service the entire home.	$2,500	$750	$3,250	$1,750	$5,000	$2,500
Install a complete new or replacement variable capacity cold climate air source heat pump (ccASHP) system, intended to service the entire home.	$5,000	$1,500	$6,500	$3,500	$10,000	$5,000

Limited ETEE Offering for Advanced Technologies

52. As part of the ETEE programming, Enbridge Gas proposes to incentivize three technologies through an advanced technology ETEE offering within the Pilot Project:
    - Simultaneous hybrid heating
    - Natural gas heat pump
    - Thermal energy storage

53. The three advanced technologies have been evaluated against the following criteria to be included in the ETEE offering:
    - Can reduce system peak load
    - Can lower energy costs for customers
    - Can benefit a large number of customers
    - Are already or will be commercially available in Ontario before 2024 heating season

- Offer additional benefits such as resiliency, customer choice, and alignment with net-zero transition

54. In addition to helping Enbridge Gas achieve the Pilot Project objectives described in Exhibit B, Tab 1, Schedule 1, the inclusion of advanced technologies in the Pilot Project is intended to build further learnings to support wider market deployment in potential future IRP applications, through contractor installation and service experiences for these advanced technologies. Residential incentives for simultaneous hybrid heating, natural gas heat pumps and thermal energy storage will be capped at 40 participants, 20 participants and 40 participants, respectively. Incentives for commercial natural gas heat pumps will be capped at 5 participants.

55. For the three advanced technologies, Enbridge Gas is proposing to offer incentives in conjunction with its ETEE-version of the HER+ offering. Incentives have been derived similarly for each technology, with the approach of providing incentives such that the cost to homeowners for upgrading to one of these more advanced systems is comparable to the cost of replacement of their existing system (using a furnace and gas water heater as the baseline). The proposed incentives would cover up to 60% of the energy efficiency project costs (including equipment and installation costs of the project), utilizing a direct install delivery model for the region. The direct install delivery model is a turnkey solution whereby contracted service providers would engage with target customers, quote, and install an efficiency measure in their buildings where a financial incentive is paid directly to the contracted service provider. The key considerations for this incentive level include:
    - There has been minimum or no market awareness for these technologies, and the average household income in the Parry Sound Pilot Project area is lower than the provincial average, making affordability a high priority for program design.

- The historical adoption rate of energy efficiency measures in Parry Sound are lower than the provincial average, indicating that higher incentives are likely required to reach the market adoption rate sought.

56. The forecasted peak reduction possible through implementation of the advanced technologies as part of Parry Sound Pilot Project ETEE programming are included in Table 11. Additional information on each technology is further described in the sections below.

Table 11 – Summary of Advanced Technology Forecasted Peak Hour Reductions

Technology	Approx. Peak Reduction	Approx. Consumption Reduction
Simultaneous hybrid heating	30-40%	Up to 50%
Natural gas heat pump	20-25%	30-40%
Thermal energy storage	20%	Minimal

Simultaneous Hybrid Heating

57. Traditional hybrid heating systems use both gas heating equipment (i.e., air handling unit and water heater), electric heating equipment (i.e., ASHP) and a controller that switches between the two heating sources. Simultaneous hybrid heating uses a smart controller to optimize the operation of both gas equipment and electric equipment simultaneously, providing impactful reductions in energy consumption as well as emissions and cost.

58. With the integration of a smart controller with a high efficiency gas equipment and appropriately sized electric equipment, the simultaneous hybrid heating system can reduce natural gas distribution system peak period flow/demand up to 40% and save up to 50% in energy consumption and associated costs per household. These savings are a result of programming the controller to run electric ASHP at full capacity during peak heating hours (and not during peak electric hours) and utilizing

a new high efficiency gas heating system to provide supplementary (top up) heating as required.

59. Hybrid heating systems are currently being adopted across the province[13], and simultaneous hybrid heating systems have an opportunity to also be scalable. Hybrid heating systems are fully available in the market, but there remains room for ongoing innovation with smart controllers and optimizing operational efficiencies.

60. Similar to the Limited Electric Measures ETEE Offering, hybrid heating systems will switch heating load from gas to electric, and while the IRP Framework does not allow for incremental funding for electric IRPAs, the Company believes the Pilot Project would be an isolated environment in which electrification measures with respect to their potential future applicability and/or feasibility under IRP can be evaluated.

61. For the Parry Sound Pilot Project, Enbridge Gas is proposing to include a limited number of simultaneous hybrid heating systems in the ETEE offerings for the residential sector only.

Natural Gas Heat Pump

62. A natural gas heat pump ("GHP") is an air source heat pump powered by natural gas that can provide building space heating and cooling as well as domestic hot water ("DHW") heating. 3 types of GHPs are most common:
    - Gas engine driven vapor compression
    - Absorption
    - Thermal compression

[13] The Clean Home Heating Initiative is targeting 1500 units by early next year.

63. GHPs operate at greater than 100% efficiency. With the total delivered energy in the 120–160% efficiency range, GHPs can provide impactful reductions in energy consumption, hence significantly lowering GHG emissions as compared to conventional heating and cooling equipment. For residential homes, switching from a traditional natural gas furnace and hot water heater to a GHP can save approximately 30-40% on annual energy costs for homeowners. For commercial applications, gas heat pumps can replace boilers or integrate with a rooftop unit to provide high efficiency space heating and cooling, saving up to 50% of energy consumption.

64. Additionally, GHPs can help to reduce natural gas system peak period flow/demand for building space and DHW heating in comparison to natural gas furnaces and boilers, since the gas utilization efficiency of GHPs is expected to remain above 100% up to -30 degrees Celsius outdoor air temperature. Depending on the types of GHPs, peak demand can be lowered by up to 25%. Furthermore, these reductions in demand through efficiency improvement will not shift natural gas load to another fuel source (e.g., electricity).

65. Commercial GHPs are already commercialized, and residential models are expected to be commercially available in late 2023. As GHPs become more commercially available, there is potential for GHPs to replace traditional furnaces, boilers and water heaters in residential homes and commercial buildings, which would correspond to peak hour and annual system demand reductions.

66. As GHPs are relatively new to Canada, their cost is relatively high compared to natural gas furnaces and water heaters for residential homes. Incentives provided through the Parry Sound Pilot Project will help to offset the upfront cost of GHPs for customers, enabling them to benefit from the GHP technology in their early stages of market availability. With economies of scale, GHP equipment costs are expected to decline over time and market adoption is expected to increase.

67. For the Parry Sound Pilot Project, Enbridge Gas proposes to include a limited number of GHPs for both residential and commercial sectors.

Thermal Energy Storage

68. Thermal energy storage ("TES") uses a phase change material ("PCM") as the storage medium to store thermal energy that can be used later during natural gas system peak period flow/demand. Since TES uses PCM as the storage medium, the units are much smaller than traditional water heater tanks that hold a similar amount of energy

69. Depending on the size of the unit, TES can reduce natural gas peak period demand by up to 20% (the entire water heating load) by charging the storage medium with both hydronic gas equipment (boiler or tankless water heater) and off-peak electricity (pending approval of electric charging for TES via a smart controller similar to hybrid heating), and then dispatching that energy to offset domestic water heating. Participants can expect to see lower energy costs as a result of efficiency gains from the TES unit compared to traditional water heaters. When electric charging of TES is available, participants can also expect to see additional energy cost reductions as the smart controller can optimize charging of the system during off-peak times when electric energy is less expensive.

70. TES is currently commercially available for residential applications and can be programmed to achieve natural gas system peak shaving without impacting the comfort of customers. The TES also does not require electricity to run any pumps and can therefore be used for water heating in the event of a power grid outage.

71. Enbridge Gas is proposing to include TES in the ETEE offerings for the residential sector.

Impact of Pilot Projects on Baseline Facility Alternatives

72. Based on the proposed ETEE programming in the Parry Sound Pilot Project area, the budgeted number of participants and corresponding estimated peak hour savings are summarized in Table 12. The ETEE budgeted participation levels were developed by analyzing the customers in the Parry Sound Pilot Project area and setting target ETEE programming uptake levels for the relevant sectors based on the proposed ETEE delivery approaches and experience in the energy efficiency market. The ETEE peak hour reductions were estimated as a function of the participation levels, annual energy efficiency percentage savings by sector (assuming a 1:1 annual to peak percentage conversion where applicable), and peak design loads per customer by sector in this Pilot Project Area.

Table 12 – Summary of Estimated Peak Hour Savings by ETEE Program

	2024	**2025**	**2026**
ETEE - Enhanced DSM			
Budgeted Number of Participants	63	61	65
Estimated Peak Reduction - Cumulative (m^3/hr)	38.4	72.0	110.6
ETEE - Electrification Measures (ccASHP + GSHP)			
Budgeted Number of Participants	30		
Estimated Peak Reduction - Cumulative (m^3/hr)	30.9		
ETEE - Advanced Technology - Gas Heat Pump			
Budgeted Number of Participants	15	10	0
Estimated Peak Reduction - Cumulative (m^3/hr)	9.9	16.5	16.5
ETEE - Advanced Technology - Simultaneous Hybrid Heating			
Budgeted Number of Participants	8	16	16
Estimated Peak Reduction - Cumulative (m^3/hr)	3.8	11.4	19.1
ETEE - Advanced Technology - Thermal Energy Storage			
Budgeted Number of Participants	8	16	16
Estimated Peak Reduction - Cumulative (m^3/hr)	2.1	6.2	10.3

73. Based on the above estimated peak hour reductions resulting from the proposed ETEE programming, Enbridge Gas expects that the scope and timing of the baseline facility projects designed to address the underlying identified system need/constraint (as described in Exhibit C, Tab 1, Schedule 1) will be reduced and deferred. Accordingly, the facilities described below are expected to be required at the

conclusion of the Parry Sound Pilot Project, for a total cost of $23.4 M. The deferral of the baseline facility projects provides the opportunity to understand how the changes in the forecasted participant levels and peak hour reductions, in conjunction with hydraulic system modifications, changes to existing customer demands and the impact of Ontario's energy transition on Enbridge Gas's demand forecast could impact each project's future timing and scope.

74. The scope changes ultimately realized are dependent upon Parry Sound Pilot Project participant levels, realized system peak period (hourly) flow/demand reductions and location of the reductions. The timing and scope of the underlying identified system need/constraint will be reassessed throughout the Pilot Projects to understand whether facilities can be further deferred following the initial Pilot Project term. Where such assessment indicates that the baseline facilities can no longer be deferred, the Company will complete a thorough review of all facility and non-facility alternatives in order to select a preferred alternative. Additional details on evaluation, monitoring and reporting of the Pilot Projects results can be found in Exhibit D, Tab 1, Schedule 3.

75. Station Modification in 2027: A station modification of the Emsdale CMS in 2027 is required to allow for the reduction of pressure differential across the station. This allows for a higher outlet pressure from the station that will satisfy the required minimum inlet pressure to Parry Sound TBS. The capital cost of the station modification is $2.0 M.

76. Pipeline Reinforcement in 2029: Approximately 8.4 km of NPS 6 4,960 kPa MOP will be required in 2029 to meet Parry Sound system demand. The NPS 6 pipeline will replace a section of the existing NPS 4 pipeline starting at the termination of the existing NPS 6 on the Parry Sound system and proceeding westward towards the town of Parry Sound. The capital cost of the pipeline replacement in 2030 is $19.9M.

77. Pipeline Reinforcement in 2032: Approximately 450 m of NPS 4 1,725 kPa MOP will be required in 2032 to meet Parry Sound system demand. This pipeline would extend from the outlet of Parry Sound TBS to the north. The capital cost of the pipeline reinforcement in 2031 is $1.5 M.

PILOT PROJECT DESCRIPTIONS

Southern Lake Huron Pilot Project Overview

1. The primary objectives of the Southern Lake Huron Pilot Project are to develop an understanding of how ETEE and DR programs impact peak hour flow/demand and to develop an understanding of how to design, deploy, and evaluate ETEE and DR programs, as detailed at Exhibit B, Tab 1, Schedule 1.

2. The Southern Lake Huron Pilot Project will include:
    - Localized injection of CNG;
    - ETEE programming; and
    - DR programming.

3. Enbridge Gas has incorporated a supply-side IRPA as part of the Southern Lake Huron Pilot Project, where CNG injection will be leveraged to defer the identified system need during the Pilot Project term. The use of CNG injection will ensure that Enbridge Gas can reliably meet the system demand requirements while the impacts to peak hour demand through demand-side IRPAs are being tested.

4. The primary focus of the Southern Lake Huron Pilot Project will be on the implementation of ETEE and DR programming. The suite of ETEE and DR offerings for residential (including affordable housing), commercial and industrial customers in the Southern Lake Huron area will include:
    - Enhancement of existing DSM offerings within the SLH Area of Influence for all market sectors.
    - Enhancement of existing DSM offerings within the greater Southern Lake Huron system area for commercial and industrial customers that will support transferrable learnings from those market sectors.

- A residential DR program within the entire Southern Lake Huron Pilot Project area.

5. Similar to the Parry Sound Pilot Project, as there will be an overlap between the ETEE programs and the existing broad-based DSM programs offered by the Company, consideration for an attribution approach to the funding and results is required. As noted in greater detail in Exhibit D, Tab 1, Schedule 1, a simplified approach whereby all incentives contributed by Enbridge Gas through the Pilot Project's ETEE programs will be funded by the Pilot Project. It should be noted that a general policy on the approach to DSM-IRP attribution is anticipated to be considered as part of the Company's first stand-alone IRP Plan application.

6. The geographic scope for the Southern Lake Huron Pilot Project ETEE programming will encompass Enbridge Gas customers located in the City of Sarnia and the Town of Plympton-Wyoming in the County of Lambton. Please see Exhibit A, Tab 2, Schedule 1, Attachment 1 for a map of the Southern Lake Huron Pilot Project Area. Certain aspects of the ETEE programming (i.e., ETEE offerings for residential customers) will only be offered in the SLH Area of Influence as indicated in Exhibit A, Tab 2, Schedule 1, Attachment 1.

7. Compared to the limited geographic scope of residential ETEE offerings for the Southern Lake Huron Pilot Project, commercial and industrial ETEE offerings will be available to commercial and industrial customers throughout the Southern Lake Huron Pilot Project area. The reason for the difference is due to the small number of commercial and industrial customers in the SLH Area of Influence where a larger sample size is needed for this market sector, particularly with the diversity of end uses and buildings for commercial and industrial customers compared to residential customers. The broadening of the scope for commercial and industrial ETEE to the greater Southern Lake Huron Pilot Project area was supported by the TWG. As

noted by the TWG, the broader scope presents an opportunity to drive better understanding of the potential of commercial and industrial ETEE. As noted in Exhibit B, Tab 1, Schedule 1, changes in peak hour demand within the greater Southern Lake Huron area will not significantly impact any system needs.

8. The Southern Lake Huron Pilot Project has a proposed term of 2023 to 2027. A timeline of major activities associated with the Pilot Project are shown in Table 1. The Company will require at least four months from OEB approval to implement ETEE and DR programming in the market and the timing of all aspects of the Pilot Projects is subject to the ultimate date of receipt of a Decision and Order of the OEB approving the Company's current Application.

Table 1 – Southern Lake Huron Pilot Project Timeline

SOUTHERN LAKE HURON PILOT PROJECT	2023			2024				2025				2026				2027		
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Regulatory																		
File Application																		
OEB Hearing (Estimated)																		
Data Collection																		
Hourly Measurement Installation (Residential)																		
Hourly Measurement Installation (C/I)																		
Collection of Hourly Data																		
Compressed Natural Gas (CNG)																		
CNG Set up																		
CNG Truck in Place																		
Enhanced Targeted Energy Efficiency (ETEE) [1]																		
Finalize and Setup Programming																		
Deliver Residential ETEE																		
Deliver Commercial / Industrial ETEE																		
Evaluate and Refine Program Design																		
Demand Response (DR) [1]																		
Finalize and Setup Programming																		
Recruit Participants																		
Call DR Events																		
Evaluate and Refine Program Design																		
Monitoring & Evaluation																		
Analyze Baseline Data																		
Analyze Post Implementation Data																		
Reporting																		
Pilot Updates in Annual Report																		
Pilot Report																		

Notes:

[1] Timing subject to date of OEB approval. At least four months, after OEB approval, is required to implement ETEE programs in the market.

Supply Side IRPA - CNG Injection

9. Similar to the Parry Sound Pilot Project, CNG injection will be used to "peak shave" and will not be the primary source of gas supply to the Southern Lake Huron system. Please see Exhibit D, Tab 1, Schedule 1, for additional information on CNG Injection for the Pilot Projects.

10. Approximately 100 m^3/h of CNG volumes would be required to be injected at the Southern Lake Huron system low point (within the SLH Area of Influence) in 2024 on a design day.[1] To reliably deliver the required CNG volumes, two CNG tube trailers with two smaller decanting trailers are proposed to be located on-site, where one trailer serves as the primary source of supply and the second trailer serves as a backup. Each trailer would have adequate supply to support peak demand independent of the other. A third trailer will be brought in if the system flows enough gas to deplete one of the two trailers. Trailer volumes, pressures and decanting of trailers will be remotely monitored to ensure continued safe and reliable operations.

Demand-Side IRPA – ETEE

11. The ETEE offerings applicable to the various customer sectors of the Southern Lake Huron Pilot Project are identical in those described for the Parry Sound Pilot Project in Exhibit D, Tab 1, Schedule 1 subject to minor differences explained in the following sections.

Market Analysis

12. The delivery of energy efficiency programming is generally implemented on a customer sector basis (residential, commercial, multi-residential, and industrial). A sectoral summary of the Enbridge Gas customers in the SLH Area of Influence is

[1] Depending on the precise CNG injection location selected, this volume could vary slightly.

shown in Table 2. Most of the Southern Lake Huron system demand in the SLH Area of Influence is from residential customers.

Table 2 – Southern Lake Huron (Area of Influence) Customer Sector Breakdown

Sector	Number of Customers	Number of Customers (%)	% of 2022 Weather Normalized Annual System m^3 Load
Residential	4,086	97.2%	91.7%
Commercial	70	1.7%	5.5%
Multi-Residential	34	0.8%	0.3%
Industrial	11	0.3%	2.5%
Total	4,201	100%	100%

13. A sectoral summary of the Enbridge Gas customers across the entire Southern Lake Huron Pilot Project area is shown in Table 3. A much larger number of commercial and industrial customers (in terms of both customer count and percentage of demand) exist across the entire Pilot Project area.

Table 3 - Southern Lake Huron (Entire Pilot Area) Customer Sector Breakdown

Sector	Number of Customers	Number of Customers (%)	% of 2022 Weather Normalized Annual System m^3 Load
Residential	27,392	91.4%	64.7%
Commercial	1,921	6.4%	26.9%
Multi-Residential	565	1.9%	6.7%
Industrial	77	0.3%	1.7%
Total	29,955	100%	100%

IRP ETEE Pilot Project Offerings of Existing Programming

14. Existing DSM programming will be leveraged for ETEE offerings in the Southern Lake Huron Pilot Project. The parameters and approaches unique to the Southern Lake Huron Pilot Project in comparison to the Parry Sound Pilot Project are described in the following sections.

Residential Sector

15. The ETEE approach to the residential market sector for the Southern Lake Huron Pilot Project area is identical to the approach proposed for the Parry Sound Pilot Project, with the exception of the Limited ETEE Offering for Electrification measures (which does not form part of the proposed Southern Lake Huron Pilot Project). The ETEE residential offering for the Southern Lake Huron Pilot Project will be limited to the SLH Area of Influence. Some engagement and marketing activities may vary between the Southern Lake Huron Pilot Project and Parry Sound Pilot Project. For example, marketing initiatives for the ETEE residential offering will be geographically targeted to the SLH Area of Influence with a smaller sub-group of residential customers. Enbridge Gas will explore direct communications to this targeted customer segment. Additionally, there is an opportunity to promote the program to local service organizations and contractors through the development of targeted communications. Marketing tactics, design concepts, and channels will be evaluated and adapted over time to optimize overall performance of initiatives in driving participation.

Commercial and Industrial Sector

16. The ETEE approach to the commercial and industrial market sectors in the Southern Lake Huron Pilot Project area is identical to the approach proposed for the Parry Sound Pilot Project. The commercial and industrial ETEE offerings will be available to all general service commercial and industrial customers in the Southern Lake Huron Pilot Project area (not limited to the SLH Area of Influence). Due to the expected timing of commercial and industrial hourly data measurement installation in the area, ETEE programming for the commercial and industrial market sectors is not expected to be rolled out in the Southern Lake Huron Pilot Project until 2025. Additional details around the hourly measurement requirements can be found in Exhibit D, Tab 1, Schedule 3.

17. Some engagement and marketing activities may vary between the Southern Lake Huron Pilot Project and Parry Sound Pilot Project as the former has a larger group of commercial and industrial customers relative to the latter, impacting the associated cost effectiveness for outreach initiatives. Given the larger multitude of commercial and industrial customers in the Southern Lake Huron Pilot Project area to relation to the Parry Sound Pilot Project, Enbridge Gas will leverage business intelligence data to target and tailor campaign messaging to specific business types to test impact on driving results. Campaigns will be optimized over time based on learnings. Marketing efforts will target small and large commercial and industrial customers as well as contractors and trade networks.

Affordable Housing Sector

18. The ETEE approach to the affordable housing market sectors in the Southern Lake Huron Pilot Project area is identical to the approach proposed for the Parry Sound Pilot Project. As described in Exhibit D, Tab 1, Schedule 1, the Company is not proposing to offer enriched incentives to customers as part of ETEE for the affordable housing programming, but rather may enhance marketing activities for existing DSM program offerings (e.g., direct marketing strategies). Marketing objectives for the Affordable Housing customers in Southern Lake Huron Pilot Project area will focus on increasing local participation in the Home Winterproofing ("HWP") program. Enbridge Gas will consider geotargeting this area with direct to customer communications tactics. Furthermore, Enbridge Gas will explore opportunities to cross-promote Residential and Affordable Housing programs as applicable.

<u>Demand Side IRPA - Demand Response</u>

19. For the Southern Lake Huron Pilot Project, Enbridge Gas is proposing to offer a residential DR program in the Pilot Project area given that the majority of residential customers in this area are equipped with existing hourly measurement devices known as ERTs. The DR program will seek to understand the impact of shifting

hourly gas flows/demands during peak periods on the distribution system. The program is targeting residential customers in the Pilot Project area with natural gas central heating systems controlled by an eligible Wi-Fi-connected smart thermostat with DR capabilities (including, but not limited to devices manufactured by Ecobee, Google Nest, Emerson Sensi, and Honeywell). The program will apply a bring-your-own-device ("BYOD") approach, leveraging the existing smart thermostats of customers. Customers will be financially incented to enroll in the DR program in exchange for allowing Enbridge Gas to control their smart thermostat during the winter heating season; specifically, during peak demand response events. The geographic scope of the DR offering will include the entire Southern Lake Huron Pilot Project area as outlined in Exhibit A, Tab 2, Schedule 1, Attachment 1.

20. In addition to the market analysis of targeted customers located within the Southern Lake Huron Pilot Project area presented in Exhibit C, Tab 1, Schedule 2, it was also critical that the Company develop an understanding of the number of existing natural gas customers/services situated within the Pilot Project area with existing smart thermostats in order to accurately assess the potential number of DR program participants. Accordingly, the Company developed an estimate of existing customers in the Pilot Project area with eligible smart thermostats of 16% (see Table 4) using region-specific summarized data provided by thermostat manufacturers in 2022 (i.e., Google Nest, Ecobee, and Emerson Sensi).

21. To verify the reasonability of its estimate, the Company compared it to recent public statements made by the IESO and the province of Ontario,[2] which claim that there are approximately 600,000 smart thermostats in use in buildings across the province

[2] Ontario.ca - https://news.ontario.ca/en/backgrounder/1002356/ontario-to-provide-new-and-expanded-energy-efficiency-programs; The Energy Mix - https://www.theenergymix.com/2022/10/06/ontario-opens-new-programs-to-shave-peak-electricity-use/#:~:text=The%20IESO%20estimates%20there%20are,Energy%20Mix%20in%20an%20email

and nearly three-quarters (~75%) of those buildings are single family homes. Considering that the number of single-family homes (single detached, semi-detached, and row) in Ontario is 3,750,000,[3] the average number of single-family homes equipped with a smart thermostat is 12%.[4]

Table 4 – Summary of Estimated Smart Thermostats in Pilot Area

Area	Number of Single-Family Residential Customers	% Customers in Areas of the Total Customers in the Pilot Project Area	Estimated Number of Smart Thermostats	% Smart Thermostats Per Customers in Area
SLH Area of Influence	4,090	15%	800	20%
Greater Southern Lake Huron Area	23,310	85%	3,500	15%
Total	27,400	100%	4,300	16%

22. For the first year of the DR offering, an up-front enrollment incentive of $55 will be provided to customers that enroll to participate in the program. For every heating season the participant remains enrolled in the program and meets eligibility requirements (including participation in at least 50% of DR event hours each heating season), they will receive an additional $25 incentive. Enbridge Gas expects to call approximately 10 total DR events during the program's first heating season (2023/2024) depending on how cold the winter is. Registered participants who choose to consistently opt-out of DR events (e.g., by manually overriding temperature setbacks during DR event hours, or taking their thermostats offline during DR event hours) may be subject to removal from the offering. As the Company undertakes the DR offering and learns more about the market for gas

[3] Stats Canada - https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/details/page.cfm?Lang=E&SearchText=ontario&DGUIDlist=2021A00053538035,2021A00053538030,2021A000235&GENDERlist=1&STATISTIClist=1&HEADERlist=0
[4] (600,000 × 75%) ÷ 3,750,000 = 12%

demand response programming, there may be a need to adjust incentive levels to optimize uptake. The proposed Pilot Project budget accounts for such incentive flexibility (i.e., increased uptake over budgeted participation and incentive levels). Changes to the incentive levels will be discussed with the TWG and reported in the Company's IRP Annual Report.

23. DR events typically occur between November 1 and April 1, which aligns with the standard winter heating season for the Enbridge Gas distribution system. DR events for the DR offering are expected to take place at varying temperatures during the heating season which will support the establishment of a correlation between outdoor temperature and reheat from setback times. On days when DR events occur, the smart thermostat setpoint temperatures will be controlled (i.e., set at a specified setpoint) between midnight and noon and can be changed by up to 2 degrees Celsius more than once during the event. For example, a DR event may involve a 2-degree Celsius setback of the smart thermostat temperature for a duration of 3 hours between the hours of 7-10 a.m. in the morning.

24. A distributed energy resource management system ("DERMS") service provider will be contracted to support the delivery of this offering.[5]

25. Most of the DR program marketing activities are likely to be handled by the DERMS service providers and/or using the smart thermostat manufacturer user interface platforms (i.e., thermostat mobile apps). The DR offering may also be promoted by Enbridge Gas through traditional marketing activities within the Pilot Project area. Marketing initiatives for this area may explore omnichannel mass media approaches. Marketing tactics, design concepts, and channels will be evaluated and adapted

[5] A DERMS service provider is a firm that provides software services to facilitate and optimize the management and coordination of smart thermostats to ensure the effectiveness of DR events.

over time to optimize overall performance of initiatives in driving interest and participation.

26. To drive increased DR program participation and retention levels, Enbridge Gas may also consider implementing loyalty marketing initiatives (e.g., focused on recognizing and rewarding program participants).

27. Enbridge Gas understands that the IESO plans to roll out their residential BYOD demand response program province-wide in 2023. The IESO Residential DR program will target the summer electric peak cooling seasons whereas the Enbridge Gas DR program will target the winter gas peak heating seasons. Potential collaboration discussions are on-going between Enbridge Gas and the IESO including using the same DERMS service provider. Synergies associated with this collaboration may include DERMS provider system cost savings and increased shared participant uptake in overlapping target areas.

Impact of Pilot Projects on Baseline Facility Alternatives

28. Based on the proposed ETEE and DR programming in the SLH Area of Influence, the budgeted number of participants and corresponding estimated peak hour savings are summarized in Table 5. The ETEE budgeted participation levels were developed by analyzing the customers in the SLH Area of Influence and setting target ETEE programming uptake levels for the relevant sectors based on the proposed ETEE delivery approaches and experience in the energy efficiency market. The ETEE peak hour reductions were estimated as a function of the participation levels, annual energy efficiency percentage savings by sector (assuming a 1:1 annual to peak percentage conversion where applicable), and peak design loads per customer by sector in the Pilot Project area. The DR budgeted participation levels were developed by analyzing the customers in the SLH Area of Influence along with the estimated number of smart thermostats in the area. The DR

peak hour reductions were estimated based on values from jurisdictional scans adapted and applied to the customers in Pilot Project area.

Table 5 – Summary of Estimated Peak Hour Savings in SLH Area of Influence by Program

	2024	2025	2026
ETEE – Enhanced DSM			
Budgeted Number of Participants	101	109	109
Estimated Peak Reduction – Cumulative (m^3/hr)	19.5	47.6	74.3
Demand Response			
Budgeted Number of Participants	61	81	30
Estimated Peak Reduction – Cumulative (m^3/hr)	14.5	33.7	40.8

29. Based on the above estimated peak hour reductions from the proposed ETEE and DR programming, Enbridge Gas expects the timing for some of the baseline facility projects designed to address the underlying identified system need/constraint (as described in Exhibit C, Tab 1, Schedule 1) will be deferred. Accordingly, the facilities described below are expected to be required at the conclusion of the Southern Lake Huron Pilot Project, for a total cost of $3.25 M. While the projected scope of these facility projects is not expected to change materially at the conclusion of the Southern Lake Huron Pilot Project, it is important to note that scope changes are somewhat dependent upon Pilot Project participant levels, realized peak hour reductions and location of the reductions. The timing and scope of the underlying identified system need/constraint will be reassessed throughout the Pilot Project to understand whether facilities can be further deferred following the initial Pilot Project term. Where such assessment indicates that the baseline facilities can no longer be deferred, the Company will complete a thorough review of all facility and non-facility alternatives in order to select a preferred alternative. Additional details on evaluation, monitoring and reporting of the Pilot Projects results can be found in Exhibit D, Tab 1, Schedule 3.

New Station Build and Pipeline Reinforcement in 2027: There is no change in scope to this baseline facility. However, the timing of the project has been deferred until 2027. The capital cost of the baseline new station and pipeline reinforcement in 2027 is approximately $1.60 M.

Pipeline Replacement in 2032: There is no change in scope or timing to this baseline facility project. The capital cost of the baseline pipeline replacement in 2032 is approximately $1.65 M.

EVALUATION AND MONITORING

1. To inform on the objectives of the Pilot Projects, as defined in Exhibit B, Tab 1, Schedule 1, the following section details the required data collection and evaluation plans for each objective.

Objective #1 – Develop an understanding of how ETEE and DR programs impact peak hour flow/demand.

2. To support the peak hour impact evaluation of ETEE, Enbridge Gas is proposing hourly flow measurement be installed on all customers in the Pilot Project areas, where data will be collected for the duration of the Pilot Projects. Customers will be grouped by type and their peak hour flows will be estimated at the beginning and the end of the Pilot Project. The average flow change in customers that did not participate in ETEE (baseline) will be compared with the change in those that did participate. This difference will be the net impact of ETEE.

3. To support the peak hour impact evaluation of DR, the same flow measurement will be used to create hourly flow estimates at various temperatures. For customers participating in DR, their peak hourly flow estimates will be compared with the actual flow data on event days. The difference between estimated flows and actual flows for a group of participants will be the net impact of DR.

4. The data collection and monitoring details as well as data evaluation process, for ETEE and DR are respectively outlined below.

Data Collection and Monitoring – ETEE

5. In order to evaluate the impact of ETEE on peak hour flow, hourly flow measurement and data from customers in the Pilot Project areas is a critical component. Currently, actual flow data for individual customers is collected on a bi-monthly interval for billing

purposes which typically results in 6 readings per year. Enbridge Gas is proposing that the Pilot Projects have complete coverage of hourly flow measurement in both Pilot Project areas to ensure the largest possible sample size of customers is attained within specific groupings of customers. This will support the analysis of trends by customer type and allow for a more representative sample size that can be more easily extrapolated to Enbridge Gas's total franchise area. Having full coverage for baseline data will also ensure that any customers that participate in ETEE program will have a full range of data to be analyzed before and after implementation. Additionally, hourly customer flow data provides greater granularity of customer consumption at specific times of day, whereas bi-monthly data would average and trend customer habits over a wide range of degree days. Acquiring more frequent hourly data closer to the design day heating degree day, will provide more data allowing for higher confidence and better forecasted flow during colder temperatures.

6. Currently at a system level, daily to peak hour conversion factors and profiles are recalculated annually using actual hourly gate station flows. This unique non-dimensional profile represents all of the customers downstream of the gate stations combined. While this is a good representation of the entire customer group downstream of the gate station on systems, granularity at a customer level and their change in usage is unavailable. Further, new customers are added to the system each year and existing system customer's usage changes. This presents further challenges to the Company in its attempt to understand individualized trends when looking at overall system trends absent individual hourly metering.

7. In lieu of the typical bimonthly readings, hourly data from customer meters can be made available through either: i) Automated meter reading ("AMR") technology via encoder receiver transmitters ("ERTs"), which is primarily compatible with residential and smaller commercial meter sets, and/or ii) more advanced metering technology, which is ideal for larger commercial or industrial meter sets. The data can be collected

through receivers placed in vehicles that drive the meter routes, which will result in more frequent meter reading to download the additional data from ERTs, or via existing telecom infrastructure to allow for remote access.

8. In the Parry Sound Pilot Project area, there are no existing hourly measurement devices; therefore, installation of approximately 2,000 hourly measurement devices is required. The associated costs for Parry Sound hourly measurement are shown in Exhibit E, Tab 1, Schedule 1.

9. In the Southern Lake Huron Pilot Project area, most residential and small commercial customers are equipped with existing ERTs. These existing ERTs were previously only read at the same bi-monthly frequency but have presently been configured to start recording hourly data. Within the SLH Area of Influence, an additional installation of approximately 940 residential ERTs is required. In the remaining Sarnia area, additional installation of approximately 360 hourly measurement devices is required, primarily for the larger commercial and industrial customers. The associated costs for Southern Lake Huron hourly measurement are shown in Exhibit E, Tab 1, Schedule 1.

10. There are known supply chain issues with the procurement of hourly measurement devices, specifically longer leads times associated with equipment for larger commercial and industrial meter sets. As a result, additional time has been factored into the Pilot Project timelines to accommodate for the procurement and installation of hourly measurement. The anticipated start of the ETEE programming for commercial and industrial sector in the Southern Lake Huron Pilot Project is expected to begin in 2025 to ensure data collection and baseline data can be collected in 2024 prior to launching ETEE programming for this market segment.

11. Measurement should be in place the year prior to the implementation of ETEE to allow for baseline consumption levels to be established, and subsequently allow for a comparison against post implementation consumption levels to determine the change.

12. Customer hourly flow data will be continuously collected and recorded throughout the years to allow for the analysis of seasonality in flow changes. In the Parry Sound Pilot Project area, the entire system hourly flow data is available at Emsdale CMS through existing SCADA measurement. This can be utilized as a check for the total system flow with all hourly customer devices and to correlate specific customer peak reductions to overall system peak hour flow.

13. Weather data, including temperature and windspeed, will be utilized and matched against hourly customer flow to isolate the impact of weather on flows.

Data Analysis and Evaluation Plan - ETEE

14. Evaluation of the peak hourly flow reductions in the Pilot Project area will be split into two parts: i) an assessment of each customer's peak hourly forecasted design day flow before and after ETEE implementation, and ii) evaluation of how the peak hourly flow by customer grouping was impacted by ETEE. This evaluation will compare the change in flows of customers that did not participate in ETEE with the change in flows of customers that did participate.

Assessment of Peak Hourly Flow

15. Distribution systems are designed to provide safe and reliable service under peak hourly flow conditions that typically is associated with an extreme cold day that has been previously experienced. This is considered a design day heating degree day. The degree day calculation also requires the determination of the base temperature (temperature at which space heating starts), and the effect of wind speed on heat loss.

Since this design condition occurs infrequently, customer consumption data is not typically available at this specific condition and their raw data cannot be used for hydraulic design without additional analysis. Extrapolation of customer flow data to the local design day heating degree day is required to estimate total flows under this design condition.

16. A detailed hourly flow analysis will be performed on the customers profile, to determine base temperature (temperature at which space heating starts), the base flow (estimated flow when heating is not required), and the heating flow per degree day. This allows for an estimation of the peak hour flows that can be used for hydraulic modeling at any Degree Day. This analysis will be performed on customer data before and after implementation of ETEE programming.

17. Through review of the customer's peak hour flow profile over the duration of the Pilot Project term, noise and trends in individual customer gas usage will be identified where possible (short term variations in customer flow, examples being: customer being on vacation, business failing, temporary change in habits, etc.).

Analysis of ETEE impacts to Peak Hourly Flow

18. Peak hourly flow estimates as well as other data (including customer type, weather information, participation information for ETEE programming, etc.) will be used to perform an analysis on the impact of ETEE on peak hourly flow for customer groupings and measures type.

19. Customers that elect not to participate in ETEE programming in the Pilot Project area will form a control group for each customer type to determine changes to customer flow occurring from factors external to the Pilot Project ETEE programming. Examples of factors that could influence customer flow in the medium-long term include commodity pricing, changes in occupancy, customer habits, equipment and building

changes not related to ETEE programming. ETEE programming will replace select broad based DSM programs in the Pilot Project areas (see Exhibit D, Tab 1, Schedule 1) and participants of the remaining broad based DSM programs during the Pilot Project timeframe will be excluded from the control group, which will ensure that changes to peak hourly flow in the control group are not a result of broad based DSM programs.

20. For customers that participate in ETEE in the Pilot Project area, their calculated peak hourly consumption after ETEE will be compared to the base peak hourly consumption before ETEE. This information will be analyzed by groups of customers in each customer type. The average change will be compared with the control group to determine the averaged net impact.

21. Additional analysis can be completed on specific measures and groupings of measures and a consultant may be engaged depending on number of participants and the complexity.

Data Collection and Monitoring - DR

22. Similar to ETEE, customer hourly flow data and corresponding weather data is required in order to determine the impact of DR program on individual customer impacts relative to others on the system and on their combined peak hour usage. Unique to the DR program, thermostat data will also be collected from the relevant manufacturers if available.

Data Analysis & Evaluation Plan - DR

23. The DR evaluation will use the same analysis as ETEE which will be performed on customer flow data to determine the base temperature (temperature at which space heating starts), the base flow (estimate flow when heating is not required), and the

heating flow per degree day. This allows for an estimation of their typical hourly gas usage based on the actual weather conditions be compared with their actual consumption during DR events. DR events involve the adjustment of the smart thermostat temperature setpoint as discussed in Exhibit D, Tab 1, Schedule 2. The difference between these two values is the impact of DR on their flow at this degree day.

24. Data from the thermostat manufacturers (such as runtime, set points, heating stage etc.), if available, will be layered on top of hourly customer flow data to isolate and quantify base versus heating flow, and to more fully understand the impact of DR on total gas usage.

25. DR event data at various temperatures will be used to assess the relationship between outdoor temperature and reheat time required from setback temperature. This relationship is important to understand in order to help extrapolate the results to the design day heating degree day. Where a relationship exists, customers with different building sizes and vintages will be compared to look for trends that can be used to predict non-participant smart thermostat users behaviour.

26. Participants will be grouped together to evaluate the combined effect of staggering the initiation time of reheat from setback and how it can effect the morning peak system flows. Using event results from varying temperatures, an extrapolated prediction of design day heating degree day benefits will be assessed.

Objective #2 – Develop an understanding of how to design, deploy, and evaluate ETEE and residential DR programs

27. To support the programming evaluation of ETEE and DR, the evaluation plan will include process and outcome evaluation approaches. These approaches will include conducting surveys and interviews along with data analysis of financial and

participation results.

Monitoring and Evaluation Plan - ETEE

28. From a process evaluation perspective, ETEE participants will be engaged via market research to better understand participant perspectives on ETEE program design, including but not limited to the program participant journey and effectiveness of incentive levels as well as marketing and engagement initiatives. Interviews with key service providers, contractors, Pilot Project-engaged internal staff, and other key stakeholders (e.g. municipal staff) may be conducted to assess the program delivery implementation.

29. From an outcome evaluation perspective, financial spending and participation in ETEE programming will be tracked and assessed against the financial budgets and participation forecasts in this application for the respective Pilot Projects. These tracked ETEE values will also be assessed against broad-based DSM programming at an Enbridge Gas franchise scale (on a percentage basis or scaled-down approach) and in comparison to regions with similar demographics to the Pilot Project areas in the respective years of the Pilot Projects. Evaluation of the Pilot Project ETEE results in comparison to the same respective year DSM results will provide a generally consistent control of variables. Evaluation in comparison to the DSM results of previous years for the respective Pilot Project areas can also provide good insights, but higher variabilities in the program design and market conditions can exist.

30. The ETEE evaluation plan for the second objective will follow the schedule presented in Table 1 of Exhibit D, Tab 1, Schedule 1 for the Parry Sound Pilot Project and Table 1 of Exhibit D, Tab 1, Schedule 2 for the Southern Lake Huron Pilot Project.

Monitoring and Evaluation Plan – DR

31. From a process evaluation perspective, program participants will be engaged via surveys upon registration to better understand initial participant perspectives on DR program design including but not limited to participant characteristics, participation behaviours during events, and effectiveness of marketing initiatives. Program participants will also be surveyed at the end of each heating season windows to gauge participant satisfaction levels and gain insights for improvements. Interviews with the DERMS service providers, Pilot Project-engaged internal staff, and other key partners (e.g. IESO, municipalities) may be conducted to assess the program delivery implementation.

32. From an outcome evaluation perspective, DR program spending and participant levels will be tracked and assessed against the financial budgets and participation forecasts in this application for the DR programming. The incentive offers, program parameters, and engagement efforts may change through the duration of the Pilot Project and assessing the impact of these changes against participation levels and program spending will be key to understanding effective DR programming delivery.

33. The DR evaluation plan for the second objective will follow the schedule presented in Table 1 of Exhibit D, Tab 1, Schedule 2 for the Southern Lake Huron Pilot Project.

Reporting and Results

34. Enbridge Gas will provide Pilot Project updates and key learnings to the OEB and stakeholders through the IRP Annual Report that the Company files as part of its annual Non-Commodity Deferral Account Clearance and Earnings Sharing Mechanism application.[1]

[1] EB-2020-0091 (Appendix A), Integrated Resource Planning Framework for Enbridge Gas p.22 (Monitoring and Reporting)

35. As results become available on the primary objectives of the Pilot Project (understanding impact on peak hour flows, and understanding of how to design, deploy and evaluate ETEE and DR programs), these results will be reported to the OEB and stakeholders and subsequently integrated into future IRP plans. This will reduce the risk of these future IRP plans by ensuring program design and measures implemented will deliver a more consistent known peak hour savings, and the resultant impact on future facility need can be more closely estimated. Results will also inform better estimates on the costs of ETEE programing.

36. It is expected that the availability of peak hourly data may allow for a greater understanding of customer usage patterns by customer type and could provide insight that will support future system design and demand forecasting.

37. Based on the evaluation methods outlined above, where conclusions can be drawn on the Pilot Projects' impact on peak hour flow of specific customers groups, the need for detailed monitoring of individual customer hourly consumption data may not be required in future IRP Plans. This will provide cost savings on future IRP plans by reducing the amount of metrology required on those customers. In instances where the results are inconclusive, detailed monitoring of individual customer hourly consumption data may be required on a go-forward basis.

38. Upon conclusion of the Pilot Project term, the results from the Pilot Projects evaluation will be reviewed to determine next steps. Based on the total achieved peak hour flow reduction through the Pilot Projects, as well as any hydraulic system modifications, changes to customer demands, and updates to growth forecast, the baseline facility needs will be reassessed. Where such assessment concludes that there is a need for facilities that require an OEB Order granting Leave to Construct, or if the Company concludes that continued investment into IRPAs will reduce or defer the need for

facilities, Enbridge Gas may file another application (LTC or IRP Plan) with the OEB at that time.

PILOT PROJECT COSTS & ECONOMICS

1. This Exhibit provides a detailed overview of the Pilot Project costs and economic analysis that was completed. As explained in Exhibit B, the objectives and selection of the Pilot Projects centered around gaining learnings on ETEE and DR and not on the cost-effectiveness of the proposed IRP alternatives. While the OEB encouraged Enbridge Gas to use the Pilot Projects as a testing ground for an enhanced DCF+ test,[1] due to the timing of the TWG's review of the enhanced test[2] and the timing of the current Application, the Company will defer presenting a three-stage enhanced DCF+ test for adjudication until its first IRP Plan application. However, to assist the OEB in assessing the current Application, Enbridge Gas is providing a high-level cost benefit analysis in the form of a Stage 1 DCF analysis herein.

2. The total cost for the Pilot Projects (Parry Sound Pilot Project and Southern Lake Huron Pilot Project) over their proposed term of 2023-2027 is estimated to be $13.0 M. The total cost of the Parry Sound Pilot Project is $6.4 M and the total cost for the Southern Lake Huron Pilot Project is $6.6 M, as outlined below in Table 2 and Table 8 respectively. A further breakdown of the costs between operating and maintenance (O&M) and capital expense for the Pilot Projects are provided at Exhibit E, Tab 1, Schedule 1, Attachments 1 and 2. Amounts included in Total Direct O&M and Capital Costs in Attachments 1 and 2 (lines 9 and18 in Attachment 1 and line 2 and 7 in Attachment 2) represent the costs impacting the Stage 1 DCF economic evaluation. As discussed below, amounts below the Direct Costs lines have been excluded from the economic analysis.

3. Enbridge Gas notes its understanding that the 25% cost adjustment threshold, as

[1] EB-2020-0091, July 22, 2021, Appendix A, P. 24.
[2] The IRP TWG published a DCF+ Report May 30, 2023, that will help inform the DCF+ Test and the DCF+ Supplemental Guide (https://engagewithus.oeb.ca/28744/widgets/145882/documents/106273)

noted in the OEB's IRP Framework Decision[3], will be applicable to the Pilot Projects, such that Enbridge Gas is not required to seek approval for cost adjustments within 25% of the total proposed Pilot Projects budget. Enbridge Gas notes its expectation that it will have flexibility in the allocation of annual budgets between the years included in the pilot term of 2023-2027. This flexibility will allow Enbridge Gas to be responsive to learnings and feedback and allow for adjustments to the program designs as necessary.

4. As detailed in Exhibit D, Tab 1, Schedule 3, upon conclusion of the Pilot Projects, the performance of the IRPAs, as well as any future system changes that occur during the Pilot Projects term will be evaluated to reassess the underlying identified system needs/constraints. Where such assessment concludes that there is a need for facilities that require an OEB Order granting Leave to Construct, or if the Company concludes that continued investment into IRPAs will reduce or defer the need for facilities, then Enbridge Gas may file another application (LTC or IRP Plan) with the OEB at that time. There may be some lag between the final evaluation of the Pilot Project and the OEB's consideration of the subsequent IRP Plan application. In the interest of avoiding discontinuity in IRPA investments, Enbridge Gas is pro-actively proposing that should it determine that the Pilot Projects are effective and the preferred alternative to resolve a future identified system need/constraint, the OEB allow Enbridge Gas to rollover the budget from the previous full year of IRPA programming (2026) into 2027 (i.e. replacing the proposed 2027 budget as proposed in this Application), pending the OEB's determination of the subsequent IRP Plan application (which might also include a limited LTC application). Enbridge Gas will keep the OEB and the TWG informed of the Company's plans in advance of the end of the Pilot Projects term.

[3] EB-2020-0091, July 22, 2021, Appendix A, P.21

Parry Sound Project Costs

5. As detailed in Table 1, the total cost of the Baseline Parry Sound facility project is estimated to be $28.3 M.

Table 1 - Summary of Parry Sound Baseline Facility Costs

Line No.	Timing	Facility	Description	Facility Cost ($)
1	2025	Station	Modifications at Emsdale Station to reduce pressure differential	$2.0 M
2	2027	Pipe	11.5 km of NPS 6 4960 kPa MOP	$24.2 M
3	2030	Pipe	750 m of NPS 4 1725 kPa MOP	$2.2 M

6. By contrast, the total cost of the Parry Sound IRP Plan is estimated to be $29.6 M. This includes the costs associated with this IRP Pilot Project application (including the Direct Pilot IRPAs and Pilot Learnings costs), as well as the estimated required facility costs anticipated at the conclusion of the Pilot Project in 2027. As detailed in Table 2, the total cost for the Parry Sound Pilot Project is estimated to be $6.4 M, excluding overheads.[4] The costs (both O&M and capital in nature) are subdivided into:
    i) Direct Pilot IRPA (Line 1): Costs totaling $5.2 M associated directly with the IRPAs implemented as part of the Parry Sound Pilot Project, which are included in the project economics; and,
    ii) Pilot Learnings (Line 7): Costs totaling $1.2 M associated with obtaining learnings critical to fulfilling the Pilot Project objectives, as outlined in Exhibit B, Tab 1, Schedule 1, which are excluded from the project economics.

[4] Overheads associated with Pilot Project costs can be found Exhibit E, Tab 1, Schedule 1, Attachment 2

Table 2 - Summary of Parry Sound Pilot Project Budget

Line No.	Particulars ($)	2023	2024	2025	2026	2027	Total
1	**Direct Pilot IRPA**						
2	Supply Side IRPA (O&M)	150,000	150,000	177,000	177,000	177,000	831,000
3	Supply Side IRPA (Capital)	-	-	70,000	-	-	70,000
4	Demand Side IRPA (O&M)	-	1,359,300	1,181,000	945,900	-	3,486,200
5	Other (O&M)	55,000	187,500	187,500	187,500	187,500	805,000
6	**Total Direct Pilot IRPA**	**205,000**	**1,696,800**	**1,615,500**	**1,310,400**	**364,500**	**5,192,200**
7	**Pilot Learnings**						
8	Data Collection & Analysis (O&M)	6,000	138,500	58,500	58,500	58,500	320,000
9	Hourly Metering & Installs (Capital)	878,000	-	-	-	-	878,000
10	**Total Pilot Learnings**	**884,000**	**138,500**	**58,500**	**58,500**	**58,500**	**1,198,000**
11	**Total Pilot**	1,089,000	1,835,300	1,674,000	1,368,900	423,000	6,390,200

Direct Pilot IRPA Costs

7. The total Direct Pilot IRPA Costs for the Parry Sound Pilot Project is $5.2 M, and is summarized in Exhibit E, Tab 1, Schedule 1, Attachments 1 and 2 (Lines 9 and 2, respectively). Additional details and breakdown of the proposed budget for each category are provided below.

8. Supply-side IRPA costs include the proposed budget for TCE and CNG injection:
   (i) TCE – Enbridge Gas has provided estimated costs as a placeholder for any potential service agreement with TCE to provide higher pressures into the Parry Sound system. Additional explanation supporting the budget components can be found in Exhibit D, Tab 1, Schedule 1.
   (ii) CNG – Includes costs associated with rental of CNG injection trailer, procurement of temporary lease of lands and capital costs associated with tie-ins to the existing system. Additional explanation supporting the budget components can be found in Exhibit D, Tab 1, Schedule 1.

9. Demand-side IRPA costs include the proposed budget for various ETEE

programming. Table 3 provides a breakdown of the budgets by ETEE program, and is further categorized by incentive, promotion & delivery, and administrative costs. Explanation supporting the budget components can be found in Exhibit D, Tab 1, Schedule 1.

Table 3 - Breakdown of ETEE Budget by Program ($)

Line No.	Particulars ($)	2024	2025	2026	Total
1	**ETEE - Enhanced DSM**				
2	Incentive Cost	200,000	189,000	205,000	594,000
3	Promotion & Delivery	488,000	433,000	383,000	1,304,000
4	Administrative Cost	20,600	18,700	17,600	56,900
5	**Enhanced DSM Total**	708,600	640,700	605,600	1,954,900
6	**ETEE - Electrification Measures**				
7	Incentive Cost	150,000	-	-	150,000
8	Promotion & Delivery *	20,000	-	-	20,000
9	Administrative Cost	-	-	-	-
10	**Electrification Measures Total**	170,000	-	-	170,000
11	**ETEE - Advanced Technology**				
12	Incentive Cost	334,800	386,400	244,800	966,000
13	Promotion & Delivery	131,900	138,200	85,600	355,700
14	Administrative Cost	14,000	15,700	9,900	39,600
15	**Advanced Technology Total**	480,700	540,300	340,300	1,361,300
16	**Total ETEE Program**	**1,359,300**	**1,181,000**	**945,900**	**3,486,200**

*Note: Majority of Promotion & Delivery cost is captured under ETEE - Enhanced DSM.

10. For illustrative purposes, a high-level cost comparison of the ETEE offerings (cost per estimated peak hour reduction for each offering) is summarized in Table 4.[5] It is expected there may be higher costs associated with the Advanced Technology offerings in comparison to Enhanced DSM offerings, as they are net new measures and in the early stages of market adoption. Explanation supporting the budgets and

[5] Both ETEE costs and peak hour reductions are being studied as part of this Pilot Project and the calculated values below are based on initial estimates.

estimated savings can be found in Exhibit D, Tab 1, Schedule 1.

Table 4 - Comparison of Cost ($) per Estimated Peak Hour Reduction (m3/hr)

Line No.	ETEE Offering	$ per m^3 Peak reduction ($/$m^3$/hr)[6]
1	Enhanced DSM	$17,700[7]
2	Advanced Technology - Gas Heat Pump	$28,300
3	Advanced Technology - Simultaneous Hybrid Heating	$31,500
4	Advanced Technology - Thermal Energy Storage	$24,700

11. For the Limited ETEE Offering for Electrification Measures, the corresponding cost per estimated peak hour reduction is calculated at $5,501 per m^3/hr. However, this is not a true representation of the cost per peak hour reduction as the promotion and delivery costs are predominantly captured under Enhanced DSM as it is expected to be delivered in combination with the other HER+ measures. Additionally, this cost does not take into consideration or reflect the impact on the electric grid and associated costs. Further coordinated energy planning and discussion with the electric sector would be required to fully quantify such impacts.

12. Other Costs include:
    (i) Stakeholdering - Costs associated with community engagement and stakeholdering to support the Pilot Projects. Additional explanation to support this budget item can be found in Exhibit F, Tab 1, Schedule 1.
    (ii) Administrative/Legal – Costs associated with third-party/external support of the Pilot Projects and the current Application (i.e., application development and OEB hearing process).
    (iii) Incremental FTE – Costs associated with incremental full-time employees required

[6] Values presented are cumulative budgets of ETEE offerings and based on estimated peak hour reduction at the end of the Pilot Project term.
[7] Calculation for Enhanced DSM HER+ measures do not include the portion of incentive costs provided by NRCan.

to support the implementation, monitoring and/or data analysis of the Pilot Projects across the duration of the Pilot Project term.

Pilot Learnings Costs

13. The total Pilot Learnings costs for the Parry Sound Pilot Project are $1.2 M, and is summarized in Exhibit E, Tab 1, Schedule 1, Attachments 1 and 2 (Lines 10 and 3, respectively). Additional details and a breakdown of the proposed budget for O&M and Capital are provided below.

14. Pilot Learnings Costs include the proposed budget for incremental items that support obtaining learnings that are critical to not only achieving the Pilot Project objectives, but also to the success of future non-pilot IRP Plans. As such, these incremental costs have been excluded from the economic analysis. These types of costs may also be required in future non-pilot IRP Plans to support the success of future IRP investments, and Enbridge Gas hopes to gain a better understanding of the magnitude of such costs through the Pilot Projects.

15. Total Pilot Learnings O&M costs include:
    (i) Data Collection & Analysis – Data collection costs include hourly data collection via increased meter reading frequency, as well as deployment of market research surveys. It also includes associated external/third-party consultant costs with a placeholder estimate for consultant support in completing analysis of hourly data. These activities will support the initial development of the methodology and process for completing analysis on peak hour impact from ETEE and will be leveraged to support future IRP assessments, investments and IRP Plans. Additional explanation supporting this budget item can be found in Exhibit D, Tab 1, Schedule 3.

16. Total Pilot Learnings Capital costs include:
    (i) Hourly Metering Costs & Installs – Capital costs associated with procurement of hourly metering equipment and installation of equipment onto customer meter sets within the Parry Sound Pilot Project area. To support the objectives of the Pilot Project, full coverage of hourly flow measurement has been proposed within the Pilot Project area to ensure the largest possible sample size of customers can be obtained for analysis. The associated learnings from the Pilot Projects will help to inform IRP-related metrology/measurement requirements going forward. Additional explanation supporting this budget item can be found in Exhibit D, Tab 1, Schedule 3.

Estimated Future Facility Costs Post-Pilot

17. Based on the estimated peak hour reductions from the proposed ETEE program, the scope and the timing of the baseline facility projects will be reduced and deferred. The facilities required and their associated timing and costs following the conclusion of the Parry Sound Pilot Project are estimated to be $23.4 M as set out in Table 5 below.

18. The facility scope reduction and deferment resulting from the proposed Parry Sound Pilot Project is a benefit to ratepayers as the Pilot Project's costs are lower over the next three years compared to the estimated costs of the baseline facility alternative. In addition, to the extent that changes to Parry Sound system forecasted peak hour consumption occur on an actual basis, deferral of facility investment via the proposed Pilot Project will enable Enbridge Gas to more precisely design future facilities. However, deferral of facility investment carries some risks, such as if the IRPAs proposed do not reduce Parry Sound distribution system peak period flows/demands as forecast, if actual peak period demands significantly exceed the Company's forecast, or if market-driven prices for materials required for facilities (e.g., steel) increases significantly over the course of the Pilot Project term.

Table 5 - Summary of Parry Sound's Required Future Facility Costs Post-Pilot

Line No.	Timing	Facility	Description	Facility Cost ($)
1	2027	Station	Modifications at Emsdale Station to reduce pressure differential	$2.0 M
2	2029	Pipe	8.4 km of NPS 6 4960 kPa MOP	$19.9 M
3	2032	Pipe	450 m of NPS 4 1725 kPa MOP	$1.5 M

Parry Sound Project Economics

19. The purpose of this section of evidence is to discuss the Stage 1 DCF economic analysis of the Parry Sound alternatives (facility and IRPA). The OEB encouraged Enbridge Gas to, and it will, use the Pilot Projects as a testing ground for an enhanced DCF+ test [8]; however, due to the timing of the TWG's review of the enhanced test[9] and the timing of the Pilot Project Application, the Company will defer presenting a three-stage enhanced DCF+ until its first IRP Plan application, where Enbridge Gas will seek adjudication of the DCF+ test.

20. Stage 1 consists of a DCF analysis specific to Enbridge Gas, which assesses the economic benefits and costs from the rates perspective and indicates whether the project is likely to result in future increases to utility rates. All incremental cash inflows and outflows resulting from the project are identified. A net present value ("NPV") is calculated for both the IRP Plan, which consists of both the Pilot Project IRPA costs and the future required facilities, and the Baseline Facility Alternative. The Stage 1 results for both the IRP Plan and the Baseline Facility Alternative are compared to the "status quo" or "do nothing" scenario to determine the economic feasibility based on

[8] EB-2020-0091, July 22, 2021, Appendix A, P. 24.
[9] Enbridge Gas is currently developing of an enhanced DCF test to be applied to IRPA project evaluations. The proposed enhancements will be presented to the OEB as part of the first non-pilot IRP application by way of an IRP DCF+ Supplemental Guide. The IRP TWG published a DCF+ Report May 30, 2023, that will help inform the DCF+ Test and the DCF+ Supplemental Guide (https://engagewithus.oeb.ca/28744/widgets/145882/documents/106273)

approved rates, and the results are then compared to one another to determine which alternative is optimal.

Stage 1 – Project Specific Discounted Cash Flow Analysis

21. The Stage 1 DCF analysis for the Pilot Project can be found at Exhibit E, Tab 1, Schedule 1, Attachment 3 for the Baseline Facility Alternative and Attachment 4 for the IRP Plan. NPVs for each of the Parry Sound alternatives are summarized in Table 6:

Table 6
Stage 1 NPV Calculation

Line No.	Particulars ($ millions)	Stage 1 NPV
	Parry Sound Alternatives	
1	Baseline Facility Alternative	$ (21.4)
2	IRP Plan	$ (18.6)

22. A summary of the key input parameters, values and assumptions used in the Stage 1 DCF analysis can be found at Exhibit E, Tab 1, Schedule 1, Attachment 7.

23. Incremental cash outflows include all estimated incremental project costs. Total costs included in the analysis can be found on Line 9 of Attachment 1 for O&M and Line 2 of Attachment 2 for capital. As outlined in Attachment 2, indirect overhead is not included within cash outflows.

Southern Lake Huron Project Costs

24. As detailed in Table 7, the total cost of the Baseline Southern Lake Huron facility project is estimated to be $3.1 M.

Table 7 - Summary of Southern Lake Huron Baseline Facility Costs

Line No.	Timing	Facility	Description	Facility Cost ($)
1	2025	Pipe	1600m NPS 6 420kpa MOP	$0.9 M
2	2025	Station	New Station at Michigan Line	$0.6 M
3	2032	Pipe	Replacement of 2.5km NPS 2 and 4 420kPa MOP	$1.7 M

25. By contrast, the total cost of the Southern Lake Huron IRP Plan is estimated to be $9.8 M. This includes the costs associated with this IRP Pilot Project application (including the Direct Pilot IRPAs and Pilot Learnings costs), as well as the estimated required facility costs anticipated at the conclusion of the Pilot Project in 2027. As detailed in Table 8, the total cost for the Southern Lake Huron Pilot Project is estimated to be $6.6 M, excluding overheads[10]. The costs (both O&M and capital in nature) are subdivided into:
    i) Direct Pilot IRPA (Line 1): Costs totaling $3.1 M associated directly with the IRPAs implemented as part of the Southern Lake Huron Pilot Project, which are included in the project economics; and,
    ii) Pilot Learnings (Line 7): Costs totaling $3.5 M associated with obtaining learnings critical to fulfilling the Pilot Project objectives, as outlined in Exhibit B, Tab 1, Schedule 1, which are excluded from the project economics. These learnings / fulfilling the pilot project objectives is not only critical to the Pilot Projects but also to all future non-pilot IRP plans.[11]

[10] Overheads associated with Pilot Project costs can be found Exhibit E, Tab 1, Schedule 1, Attachment 2
[11] This includes an ETEE offering targeting the commercial and industrial segment and a residential DR program (extension of the DR program from the Area of Influence) for the purpose of gaining additional learnings within these market segment and programs. As indicated in Exhibit B, Tab 1, Schedule 1, changes in peak hour demand as a result of these two offerings will not impact the system constraint/need, as they're being offered outside of the SLH Area of Influence. However, because some hourly metering already exists, extending these two offerings beyond the SLH Area of Influence will provide valuable learnings for future non-pilot IRP Plans. As such, the costs associate with targeting this area are excluded from the project economics.

Table 8 - Summary of Southern Lake Huron Pilot Project Budget ($)

Line No.	Particulars ($)	2023	2024	2025	2026	2027	Total
1	**Direct Pilot IRPA**						
2	Supply Side IRPA (O&M)	-	167,000	167,000	167,000	-	501,000
3	Supply Side IRPA (Capital)	-	70,000	-	-	-	70,000
4	Demand Side IRPA (O&M)	-	561,900	605,900	550,100	6,400	1,724,300
5	Other Costs (O&M)	55,000	187,500	187,500	187,500	187,500	805,000
6	**Total Direct Pilot IRPA**	55,000	986,400	960,400	904,600	193,900	3,100,300
7	**Pilot Learnings**						
8	Demand Side IRPA (O&M)	-	273,600	886,100	855,000	35,800	2,050,500
10	Data Collection & Analysis (O&M)	30,000	162,500	82,500	82,500	82,500	440,000
11	Hourly Metering & Installs (Capital)	382,000	598,200	-	-	-	980,200
12	**Total Pilot Learning**	412,000	1,034,300	968,600	937,500	118,300	3,470,700
13	**Total Pilot**	**467,000**	**2,020,700**	**1,929,000**	**1,842,100**	**312,200**	**6,571,000**

Direct Pilot IRPA Costs

26. The total Direct Pilot IRPA costs for the Southern Lake Huron Pilot Project is $3.1 M, and is summarized in Exhibit E, Tab 1, Schedule 1, Attachments 1 and 2 (Lines 18 and 7, respectively). Additional details and breakdown of the proposed budget for each category are provided below.

27. Supply-side IRPA costs include the proposed budget for CNG injection, which includes costs associated with rental of CNG injection trailers, procurement of temporary lease of lands and capital costs associated with tie-ins to the existing system. Additional explanation supporting the budget components can be found in Exhibit D, Tab 2, Schedule 1.

28. Demand-side IRPA costs include the proposed budget for various ETEE and DR programming. Table 9 provides a breakdown of the budgets by ETEE and DR program within the SLH Area of Influence, and is further categorized by incentive, promotion & delivery, and administrative costs. Explanation supporting the budget components can be found in Exhibit D, Tab 2, Schedule 1.

Table 9 - Breakdown of ETEE and DR Budget in Area of Influence ($)

Line No.	Particulars ($)	2024	2025	2026	2027	Total
1	**Area of Influence - ETEE**					
2	Incentive Cost	272,700	295,000	291,700	-	859,400
3	Promotion & Delivery	135,200	177,700	152,700	-	465,600
4	Administrative Cost	6,100	7,100	6,700	-	19,900
5	**Total Area of Influence - ETEE**	414,000	479,800	451,100	-	1,344,900
6	**Area of Inluence SLH - DR**					
7	Incentive Cost	5,100	8,900	7,600	6,200	27,800
8	Promotion & Delivery	138,500	113,500	88,500	-	340,500
9	Administrative Cost	4,300	3,700	2,900	200	11,100
10	**Total Area of Influence DR**	147,900	126,100	99,000	6,400	379,400
11	**Total Demand Side IRPA**	**561,900**	**605,900**	**550,100**	**6,400**	**1,724,300**

29. For illustrative purposes, a high-level cost comparison of the ETEE and DR offerings (cost per estimated peak hour reduction for each offering is summarized in Table 10.[12] Explanation supporting the budgets and estimated savings can be found in Exhibit D, Tab 2, Schedule 1.

Table 10 - Comparison of Cost ($) per Estimated Peak Hour Reduction (m^3/hr)

Line No.	Demand Side IRPA Programs in Area of Influence	$ per m^3 Peak reduction ($/$m^3$/hr)[13]
1	ETEE - Enhanced DSM	$18,110[14]
2	DR	$9,300[15]

[12] Both ETEE costs and peak hour reductions are being studied as part of this Pilot Project and the calculated values below are based on initial estimates.
[13] Values presented are cumulative budgets of ETEE or DR programs and based on estimated peak hour reduction at the end of the Pilot Project term.
[14] Calculation for Enhanced DSM HER+ measures do not include the portion of incentive costs provided by NRCan.
[15] Values presented for Demand Response programming may not reflect the true costs of this alternative as costs and peak reductions do not persist for multiple years in the same way energy efficiency measures do and require on-going DR programming.

30. Other costs include:
    (i) Stakeholdering - Costs associated with community engagement and stakeholdering to support the Pilot Projects. Additional explanation to support this budget item can be found in Exhibit F, Tab 1, Schedule 1.
    (ii) Administrative / Legal – Costs associated with third-party/external support of the Pilot Projects and the current Application (i.e., application development and OEB hearing process).
    (iii) Incremental FTE – Costs associated with incremental full-time employees required to support the implementation, monitoring and/or data analysis of the Pilot Projects across the duration of the Pilot Project term.

Pilot Learnings Costs

31. The total Pilot Learnings costs for the Southern Lake Huron Pilot Project is $3.5 M, and is summarized in Exhibit E, Tab 1, Schedule 1, Attachments 1 and 2 (Line 19 to 21 and Line 8 respectively). Additional details and a breakdown of the proposed budget for O&M and capital costs are provided below.

32. Pilot Learnings costs include the proposed budget for incremental items that support obtaining learnings that are critical to not only achieving the Pilot Project objectives, but also to the success of future non-pilot IRP Plans. As such, these incremental costs have been excluded from the economic analysis. These types of costs may also be required in future non-pilot IRP Plans to support the success of future IRP investments. Enbridge Gas hopes to gain a better understanding of the magnitude of these costs going-forward through the Pilot Projects.

33. The total Pilot Learnings O&M Costs for the Southern Lake Huron Pilot Project are $2.5 M, as detailed in Exhibit E, Tab 1, Schedule 1, Attachment 1 (Lines 19 to 21), and includes:

(i) *Demand Side IRPA* – Costs associated with ETEE and DR programs offered in the greater Southern Lake Huron area, outside the SLH Area of Influence, for additional learnings, where changes in peak hour demand in this area will not impact any system needs. Table 11 provides a further breakdown of the ETEE and DR budgets, categorized by incentive, promotion & delivery, and administrative costs. Explanation supporting the budget components can be found in Exhibit D, Tab 1, Schedule 2.

Table 11 - Breakdown of Pilot Learnings ETEE and DR Budget for Greater Southern Lake Huron ($)

Line No.	Particulars ($)	2024	2025	2026	2027	Total
1	**Greater SLH - ETEE**					
2	Incentive Cost	-	302,000	319,400	-	621,400
3	Promotion & Delivery	65,000	369,000	354,000	-	788,000
4	Administrative Cost	1,000	10,100	10,100	-	21,200
5	**Total Greater SLH - ETEE**	66,000	681,100	683,500	-	1,430,600
6	**Greater SLH - DR**					
7	Incentive Cost	29,100	51,500	44,000	35,800	160,400
8	Promotion & Delivery	172,500	147,500	122,500	-	442,500
9	Administrative Cost	6,000	6,000	5,000	-	17,000
10	**Total Greater SLH - DR**	207,600	205,000	171,500	35,800	619,900
11	**Pilot Learnings Demand IRPA**	**273,600**	**886,100**	**855,000**	**35,800**	**2,050,500**

(ii) *Data Collection & Analysis* – Data collection costs include hourly data collection via increased meter reading frequency, as well as deployment of market research surveys. It also includes associated external/third-party consultant costs with a placeholder estimate for consultant support in completing analysis of hourly data. These activities will support the initial development of the methodology and process for completing analysis on peak hour impact from ETEE and will be leveraged to support future IRP assessments, investments and Plans. Additional

explanation supporting this budget item can be found in Exhibit D, Tab 1, Schedule 3.

34. The total Pilot Learnings Capital Costs for the Southern Lake Huron Pilot Project is $1.0 M, as summarized in Exhibit E, Tab 1, Schedule 1, Attachment 2 (Line 8), and includes:

(i) *Hourly Metering Costs & Installs* – Capital costs associated with procurement of hourly metering equipment and installation of equipment onto customer meter sets within the Southern Lake Huron Pilot Project area; where 2023 costs are associated with the hourly metering required for the SLH Area of Influence, and 2024 costs are associated with hourly metering required in the Greater Southern Lake Huron Pilot Project area (specifically for commercial and industrial customers). To support the objectives of the Pilot Project, full coverage of hourly flow measurement has been proposed within the entire pilot area to ensure the largest possible sample size of customers can be obtained for analysis. The associated learnings from the Pilot Projects will help to inform IRP-related metrology/measurement requirements going forward. Additional explanation supporting this budget item can be found in Exhibit D, Tab 1, Schedule 3.

Estimated Future Facility Costs Post-Pilot

35. Based on the estimated peak hour reductions from the proposed ETEE and DR program, the timing of the baseline facility projects will be deferred. The facilities required and their associated timing and costs following the conclusion of the Southern Lake Huron Pilot Project area estimated to be $3.2 M as set out in Table 12 below.

36. The facility deferment resulting from the proposed Southern Lake Huron Pilot Project is a benefit to ratepayers as the Pilot Project's costs are lower over the next three years compared to the estimated costs of the baseline facility alternative. In addition, to the extent that changes to Southern Lake Huron system forecasted peak hour consumption occur on an actual basis, deferral of facility investment via the proposed Pilot Project will enable Enbridge Gas to more precisely design future facilities. However, deferral of facility investment carries some risks, such as if the IRP alternatives proposed do not reduce Southern Lake Huron distribution system peak period flows/demands as forecast, or if market-driven prices for materials required for facilities (e.g., steel) increases significantly over the course of the Pilot Project term.

Table 12 - Summary of Southern Lake Huron Required Future Facility Costs Post-Pilot

Line No.	Timing	Facility	Description	Facility Cost ($)
1	2027	Pipe	1600m NPS 6 420kpa MOP	$0.9 M
2	2027	Station	New Station at Michigan Line	$0.7 M
3	2032	Pipe	Replacement of 2.5km NPS 2 and 4 420kPa MOP	$1.7 M

Southern Lake Huron Project Economics

37. The purpose of this section of evidence is to discuss the Stage 1 DCF economic analysis of the Southern Lake Huron alternatives (facility and IRPA). As described in greater detail above, the Company will defer presenting a three-stage enhanced DCF+ until the first IRP Plan application, where Enbridge Gas will seek adjudication of the DCF+ test.[16]

[16] Enbridge Gas is currently developing an enhanced DCF test to be applied to IRPA project evaluations. The proposed enhancements will be presented to the OEB as part of the first non-pilot IRP application by way of an IRP DCF+ Supplemental Guide. The IRP TWG published a DCF+ Report May 30, 2023, that will help inform the DCF+ Test and the DCF+ Supplemental Guide (https://engagewithus.oeb.ca/28744/widgets/145882/documents/106273)

38. Stage 1 consists of a DCF analysis specific to Enbridge Gas, which assesses the economic benefits and costs from the rates perspective and indicates whether the project is likely to result in future increases to utility rates. All incremental cash inflows and outflows resulting from the project are identified. A NPV is calculated for both the IRP Plan, which consists of both the Pilot Project IRPA costs and the future required facilities, and the Baseline Facility Alternative. The Stage 1 results for both the IRP Plan and the Baseline Facility Alternative are compared to the "status quo" or "do nothing" scenario to determine the economic feasibility based on approved rates, and the results are then compared to one another to determine which alternative is optimal.

Stage 1 – Project Specific Discounted Cash Flow Analysis

39. The Stage 1 DCF analysis for the Pilot Project can be found at Exhibit E, Tab 1, Schedule 1, Attachment 5 for the Baseline Facility Alternative and Attachment 6 for the IRP Plan. NPVs for each of the Southern Lake Huron Project alternatives are summarized in Table 13:

Table 13

Stage 1 NPV Calculation

Line No.	Particulars ($ millions)	Stage 1 NPV
	Southern Lake Huron Alternatives	
1	Baseline Facility Alternative	$ (1.4)
2	IRP Plan	$ (3.3)

40. A summary of the key input parameters, values and assumptions used in the Stage 1 DCF analysis can be found at Exhibit E, Tab 1, Schedule 1, Attachment 7.

41. Incremental cash outflows include all estimated incremental project costs. Total costs included in the analysis can be found on Line 18 of Attachment 1 for O&M and Line 7 of Attachment 2 for capital. As outlined in Attachment 2, indirect overhead is not included within cash outflows.

Operating & Maintenance Costs

Line No.	Particulars ($000)	2023	2024	2025	2026	2027	Total
	Parry Sound IRPA						
	Supply Side Alternative						
1	TC Energy [1]	150.0	150.0	-	-	-	300.0
2	CNG	-	-	177.0	177.0	177.0	531.0
	Demand Side Alternative						
3	ETEE - Enhanced DSM	-	708.6	640.7	605.6	-	1,954.9
4	ETEE – Advanced Technology	-	480.7	540.3	340.3	-	1,361.3
5	ETEE – Electrification Measures	-	170.0	-	-	-	170.0
	Other O&M						
6	Stakeholdering	12.5	-	-	-	-	12.5
7	Administrative / Legal	42.5	-	-	-	-	42.5
8	Incremental FTE	-	187.5	187.5	187.5	187.5	750.0
9	Total Direct O&M Costs	205.0	1,696.8	1,545.5	1,310.4	364.5	5,122.2
	Pilot Learnings O&M Costs						
10	Data Collection & Analysis	6.0	138.5	58.5	58.5	58.5	320.0
11	Total Parry Sound O&M Costs	$ 211.0	$ 1,835.3	$ 1,604.0	$ 1,368.9	$ 423.0	$ 5,442.2
	Southern Lake Huron IRPA						
	Supply Side Alternative						
12	CNG	-	167.0	167.0	167.0	-	501.0
	Demand Side Alternative						
13	ETEE - Enhanced DSM (Area of Influence)	-	414.0	479.8	451.1	-	1,344.9
14	Demand Response (Area of Influence)	-	147.9	126.1	99.0	6.4	379.4
	Other O&M						
15	Stakeholdering	12.5	-	-	-	-	12.5
16	Administrative / Legal	42.5	-	-	-	-	42.5
17	Incremental FTE	-	187.5	187.5	187.5	187.5	750.0
18	Total Direct O&M Costs	55.0	916.4	960.4	904.6	193.9	3,030.3
	Demand Side Alternative						
19	ETEE - Commercial/Industrial (Greater SLH - C/I)	-	66.0	681.1	683.5	-	1,430.6
20	Demand Response (Greater SLH - Res)	-	207.6	205.0	171.5	35.8	619.9
	Pilot Learnings O&M Costs						
21	Data Collection & Analysis	30.0	162.5	82.5	82.5	82.5	440.0
22	Total Southern Lake Huron O&M Costs	$ 85.0	$ 1,352.5	$ 1,929.0	$ 1,842.1	$ 312.2	$ 5,520.8
23	Total IRP Pilot O&M Costs	$ 296.0	$ 3,187.8	$ 3,533.0	$ 3,211.0	$ 735.2	$ 10,963.0

[1] As TC Energy costs are applicable and the same in both Facility Alternative and IRP Plan, the costs were not included in the economic analysis.

Line No.	Particulars ($000)	Capital Costs 2023	2024	2025	2026	2027	Total
	Parry Sound IRPA						
	Supply Side Alternative						
1	CNG	-	-	70.0	-	-	70.0
2	Total Direct Capital Costs	-	-	70.0	-	-	70.0
	Pilot Learnings Capital Costs						
3	Hourly Metering Costs & Installs	878.0	-	-	-	-	878.0
4	Indirect Overheads	230.0	-	17.0	-	-	247.0
5	Total Parry Sound Capital Costs	$ 1,108.0	$ -	$ 87.0	$ -	$ -	$ 1,195.0
	Southern Lake Huron IRPA						
	Supply Side Alternative						
6	CNG	-	70.0	-	-	-	70.0
7	Total Direct Capital Costs	-	70.0	-	-	-	70.0
	Pilot Learnings Capital Costs						
8	Hourly Metering Costs & Installs	382.0	598.2	-	-	-	980.2
9	Indirect Overheads	100.0	166.0	-	-	-	266.0
10	Total Southern Lake Huron Capital Costs	$ 482.0	$ 834.2	$ -	$ -	$ -	$ 1,316.2
11	Total IRP Pilot Capital Costs	$ 1,590.0	$ 834.2	$ 87.0	$ -	$ -	$ 2,511.2

Parry Sound - IRP Pilot - Facility
DCF Analysis
InService Date: Nov 1, 2025

Project Year ($000's)	Project Total	1	2	3	4	5	6	7	8	9	10
Operating Cash Flow											
Revenue:	8,444	-	-	10	37	70	100	128	153	174	193
Expenses:											
O & M Expense	(2,323)	-	-	(5)	(14)	(23)	(31)	(38)	(44)	(50)	(55)
Municipal Tax	(2,264)	-	-	(1)	(3)	(12)	(50)	(51)	(53)	(58)	(59)
Income Tax	(914)	-	2	10	7	66	(5)	(9)	(8)	(18)	(21)
Net Operating Cash Flow	2,943	-	2	14	26	101	15	29	48	49	58
Capital											
Incremental Capital	(32,220)	-	(492)	(3,029)	(1,749)	(21,036)	(1,639)	(638)	(2,219)	(445)	(298)
Change in Working Capital	(3)	-	-	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Total Capital	(32,223)	-	(492)	(3,030)	(1,750)	(21,037)	(1,639)	(638)	(2,219)	(446)	(298)
CCA Tax Shield											
CCA Tax Shield	7,721	-	-	36	80	405	394	388	388	385	368
Net Present Value											
PV of Operating Cash Flow	1,039	-	2	12	22	81	11	21	33	32	36
PV of Capital	(26,189)	-	(468)	(2,744)	(1,508)	(17,258)	(1,280)	(474)	(1,569)	(300)	(191)
PV of CCA Tax Shield	3,737	-	-	32	67	324	300	282	267	253	230
Total NPV by Year	(21,414)	-	(467)	(2,699)	(1,418)	(16,853)	(968)	(171)	(1,269)	(15)	75

Project NPV **(21,414)**

Parry Sound - IRP Pilot - Facility
DCF Analysis
InService Date: Nov 1, 2025

Project Year ($000's)	Project Total	11	12	13	14	15	16	17	18	19	20
Operating Cash Flow											
Revenue:	8,444	209	224	235	238	238	238	238	238	238	238
Expenses:											
O & M Expense	(2,323)	(59)	(63)	(65)	(65)	(65)	(65)	(65)	(65)	(65)	(65)
Municipal Tax	(2,264)	(60)	(61)	(62)	(62)	(62)	(62)	(62)	(62)	(62)	(62)
Income Tax	(914)	(24)	(27)	(29)	(30)	(30)	(30)	(30)	(30)	(30)	(30)
Net Operating Cash Flow	2,943	66	74	80	82	82	82	82	82	82	82
Capital											
Incremental Capital	(32,220)	(275)	(272)	(128)	-	-	-	-	-	-	-
Change in Working Capital	(3)	(0)	(0)	(0)	-	-	-	-	-	-	-
Total Capital	(32,223)	(275)	(272)	(128)	-	-	-	-	-	-	-
CCA Tax Shield											
CCA Tax Shield	7,721	351	334	317	299	281	264	248	233	219	206
Net Present Value											
PV of Operating Cash Flow	1,039	39	42	43	42	40	38	36	35	33	31
PV of Capital	(26,189)	(168)	(158)	(71)	-	-	-	-	-	-	-
PV of CCA Tax Shield	3,737	209	189	171	153	137	123	110	98	88	79
Total NPV by Year	(21,414)	80	73	143	195	177	161	146	133	121	110

Project NPV **(21,414)**

Parry Sound - IRP Pilot - Facility
DCF Analysis
InService Date: Nov 1, 2025

Project Year ($000's)	Project Total	21	22	23	24	25	26	27	28	29	30
Operating Cash Flow											
Revenue:	8,444	238	238	238	238	238	238	238	238	238	238
Expenses:											
O & M Expense	(2,323)	(65)	(65)	(65)	(65)	(65)	(65)	(65)	(65)	(65)	(65)
Municipal Tax	(2,264)	(62)	(62)	(62)	(62)	(62)	(62)	(62)	(62)	(62)	(62)
Income Tax	(914)	(30)	(30)	(30)	(30)	(30)	(30)	(30)	(30)	(30)	(30)
Net Operating Cash Flow	2,943	82	82	82	82	82	82	82	82	82	82
Capital											
Incremental Capital	(32,220)	-	-	-	-	-	-	-	-	-	-
Change in Working Capital	(3)	-	-	-	-	-	-	-	-	-	-
Total Capital	(32,223)	-	-	-	-	-	-	-	-	-	-
CCA Tax Shield											
CCA Tax Shield	7,721	194	182	171	161	151	142	134	126	118	111
Net Present Value											
PV of Operating Cash Flow	1,039	30	28	27	26	24	23	22	21	20	19
PV of Capital	(26,189)	-	-	-	-	-	-	-	-	-	-
PV of CCA Tax Shield	3,737	70	63	56	50	45	40	36	32	29	26
Total NPV by Year	(21,414)	100	91	83	76	69	64	58	53	49	45

Project NPV **(21,414)**

Parry Sound - IRP Pilot - Facility
DCF Analysis
InService Date: Nov 1, 2025

Project Year ($000's)	**Project Total**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**
Operating Cash Flow													
Revenue:	8,444	238	238	238	238	238	238	238	238	238	238	238	238
Expenses:													-
O & M Expense	(2,323)	(65)	(65)	(65)	(65)	(65)	(65)	(65)	(65)	(65)	(65)	(65)	(65)
Municipal Tax	(2,264)	(62)	(62)	(62)	(62)	(62)	(62)	(62)	(62)	(62)	(62)	(62)	(62)
Income Tax	(914)	(30)	(30)	(30)	(30)	(30)	(30)	(30)	(30)	(30)	(30)	(30)	(30)
Net Operating Cash Flow	2,943	82	82	82	82	82	82	82	82	82	82	82	82
Capital													
Incremental Capital	(32,220)	-	-	-	-	-	-	-	-	-	-	-	-
Change in Working Capital	(3)	-	-	-	-	-	-	-	-	-	-	-	-
Total Capital	(32,223)	-	-	-	-	-	-	-	-	-	-	-	-
CCA Tax Shield													
CCA Tax Shield	7,721	104	98	92	87	82	77	72	68	64	60	56	172
Net Present Value													
PV of Operating Cash Flow	1,039	18	17	16	16	15	14	13	13	12	12	11	11
PV of Capital	(26,189)	-	-	-	-	-	-	-	-	-	-	-	-
PV of CCA Tax Shield	3,737	23	21	18	17	15	13	12	11	9	8	8	22
Total NPV by Year	(21,414)	41	38	35	32	30	27	25	23	22	20	19	33

Project NPV **(21,414)**

Parry Sound - IRP Pilot - IRPA
DCF Analysis
InService Date: Nov 1, 2025

Project Year ($000's)	Project Total	1	2	3	4	5	6	7	8	9	10
Operating Cash Flow											
Revenue:	8,444	-	-	10	37	70	100	128	153	174	193
Expenses:											
O & M Expense	(3,128)	(55)	(188)	(192)	(202)	(210)	(31)	(38)	(44)	(50)	(55)
Supply Side IRPA Costs	(531)	-	-	(177)	(177)	(177)	-	-	-	-	-
Demand Side IRPA Costs	(3,486)	-	(1,359)	(1,181)	(946)	-	-	-	-	-	-
Municipal Tax	(1,596)	-	-	(1)	(2)	(4)	(5)	(12)	(39)	(39)	(40)
Income Tax	160	15	410	409	342	89	(7)	41	(18)	(22)	(21)
Net Operating Cash Flow	(138)	(40)	(1,137)	(1,133)	(948)	(232)	58	119	51	63	77
Capital											
Incremental Capital	(25,912)	-	-	(393)	(316)	(1,484)	(3,108)	(17,149)	(1,219)	(362)	(1,471)
Change in Working Capital	(3)	(3)	(75)	(0)	11	47	18	(0)	(0)	(0)	(0)
Total Capital	(25,916)	(3)	(75)	(393)	(305)	(1,437)	(3,090)	(17,149)	(1,220)	(362)	(1,472)
CCA Tax Shield											
CCA Tax Shield	6,134	-	-	6	11	18	34	198	346	338	332
Net Present Value											
PV of Operating Cash Flow	(1,919)	(39)	(1,056)	(1,002)	(798)	(185)	44	86	35	41	48
PV of Capital	(19,321)	(3)	(72)	(356)	(263)	(1,179)	(2,412)	(12,742)	(863)	(244)	(943)
PV of CCA Tax Shield	2,689	-	-	6	9	14	26	144	239	222	207
Total NPV by Year	(18,551)	(42)	(1,127)	(1,352)	(1,051)	(1,350)	(2,343)	(12,512)	(588)	19	(687)

Project NPV **(18,551)**

Parry Sound - IRP Pilot - IRPA
DCF Analysis
InService Date: Nov 1, 2025

Project Year ($000's)	Project Total	11	12	13	14	15	16	17	18	19	20
Operating Cash Flow											
Revenue:	8,444	209	224	235	238	238	238	238	238	238	238
Expenses:											
O & M Expense	(3,128)	(59)	(63)	(65)	(65)	(65)	(65)	(65)	(65)	(65)	(65)
Supply Side IRPA Costs	(531)	-	-	-	-	-	-	-	-	-	-
Demand Side IRPA Costs	(3,486)	-	-	-	-	-	-	-	-	-	-
Municipal Tax	(1,596)	(45)	(45)	(45)	(45)	(45)	(45)	(45)	(45)	(45)	(45)
Income Tax	160	(28)	(31)	(33)	(34)	(34)	(34)	(34)	(34)	(34)	(34)
Net Operating Cash Flow	(138)	77	85	92	94	94	94	94	94	94	94
Capital											
Incremental Capital	(25,912)	(243)	(167)	-	-	-	-	-	-	-	-
Change in Working Capital	(3)	(0)	(0)	(0)	-	-	-	-	-	-	-
Total Capital	(25,916)	(244)	(167)	(0)	-	-	-	-	-	-	-
CCA Tax Shield											
CCA Tax Shield	6,134	326	309	292	275	258	243	228	214	201	189
Net Present Value											
PV of Operating Cash Flow	(1,919)	46	48	49	48	46	44	42	40	38	36
PV of Capital	(19,321)	(149)	(97)	(0)	-	-	-	-	-	-	-
PV of CCA Tax Shield	2,689	194	175	157	141	126	113	101	90	81	72
Total NPV by Year	(18,551)	91	127	207	189	172	156	142	130	118	108

Project NPV **(18,551)**

Parry Sound - IRP Pilot - IRPA
DCF Analysis
InService Date: Nov 1, 2025

Project Year ($000's)	Project Total	21	22	23	24	25	26	27	28	29	30
Operating Cash Flow											
Revenue:	8,444	238	238	238	238	238	238	238	238	238	238
Expenses:											
O & M Expense	(3,128)	(65)	(65)	(65)	(65)	(65)	(65)	(65)	(65)	(65)	(65)
Supply Side IRPA Costs	(531)	-	-	-	-	-	-	-	-	-	-
Demand Side IRPA Costs	(3,486)	-	-	-	-	-	-	-	-	-	-
Municipal Tax	(1,596)	(45)	(45)	(45)	(45)	(45)	(45)	(45)	(45)	(45)	(45)
Income Tax	160	(34)	(34)	(34)	(34)	(34)	(34)	(34)	(34)	(34)	(34)
Net Operating Cash Flow	(138)	94	94	94	94	94	94	94	94	94	94
Capital											
Incremental Capital	(25,912)	-	-	-	-	-	-	-	-	-	-
Change in Working Capital	(3)	-	-	-	-	-	-	-	-	-	-
Total Capital	(25,916)	-	-	-	-	-	-	-	-	-	-
CCA Tax Shield											
CCA Tax Shield	6,134	178	167	157	148	139	131	123	115	109	102
Net Present Value											
PV of Operating Cash Flow	(1,919)	34	32	31	29	28	27	25	24	23	22
PV of Capital	(19,321)	-	-	-	-	-	-	-	-	-	-
PV of CCA Tax Shield	2,689	65	58	52	46	41	37	33	30	26	24
Total NPV by Year	(18,551)	99	90	83	76	69	64	58	54	49	46

Project NPV **(18,551)**

Parry Sound - IRP Pilot - IRPA
DCF Analysis
InService Date: Nov 1, 2025

Project Year ($000's)	Project Total	31	32	33	34	35	36	37	38	39	40	41	42
Operating Cash Flow													
Revenue:	8,444	238	238	238	238	238	238	238	238	238	238	238	238
Expenses:													
O & M Expense	(3,128)	(65)	(65)	(65)	(65)	(65)	(65)	(65)	(65)	(65)	(65)	(65)	(65)
Supply Side IRPA Costs	(531)	-	-	-	-	-	-	-	-	-	-	-	-
Demand Side IRPA Costs	(3,486)	-	-	-	-	-	-	-	-	-	-	-	-
Municipal Tax	(1,596)	(45)	(45)	(45)	(45)	(45)	(45)	(45)	(45)	(45)	(45)	(45)	(45)
Income Tax	160	(34)	(34)	(34)	(34)	(34)	(34)	(34)	(34)	(34)	(34)	(34)	(34)
Net Operating Cash Flow	(138)	94	94	94	94	94	94	94	94	94	94	94	94
Capital													
Incremental Capital	(25,912)	-	-	-	-	-	-	-	-	-	-	-	-
Change in Working Capital	(3)	-	-	-	-	-	-	-	-	-	-	-	-
Total Capital	(25,916)	-	-	-	-	-	-	-	-	-	-	-	-
CCA Tax Shield													
CCA Tax Shield	6,134	96	90	85	80	75	70	66	62	58	55	52	158
Net Present Value													
PV of Operating Cash Flow	(1,919)	21	20	19	18	17	16	15	15	14	13	13	12
PV of Capital	(19,321)	-	-	-	-	-	-	-	-	-	-	-	-
PV of CCA Tax Shield	2,689	21	19	17	15	14	12	11	10	9	8	7	20
Total NPV by Year	(18,551)	42	39	36	33	31	28	26	24	23	21	20	32

Project NPV **(18,551)**

Southern Lake Huron - IRP Pilot - Facility
DCF Analysis
InService Date: Nov 1, 2025

Project Year ($000's)	Project Total	1	2	3	4	5	6	7	8	9	10
Operating Cash Flow											
Revenue:	10,351	-	-	9	36	71	104	135	164	191	219
Expenses:	-										
O & M Expense	(2,770)	-	-	(2)	(10)	(19)	(28)	(36)	(44)	(51)	(59)
Municipal Tax	(755)	-	-	(3)	(11)	(13)	(14)	(15)	(16)	(17)	(18)
Income Tax	(1,826)	-	-	3	(4)	(10)	(16)	(22)	(28)	(33)	(38)
Net Operating Cash Flow	5,000	-	-	7	11	29	46	62	76	91	105
Capital											
Incremental Capital	(4,454)	-	(130)	(1,721)	(304)	(300)	(292)	(288)	(281)	(277)	(290)
Change in Working Capital	-	-	-	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Total Capital	(4,454)	-	(130)	(1,721)	(304)	(300)	(292)	(288)	(282)	(278)	(290)
CCA Tax Shield											
CCA Tax Shield	1,056	-	-	28	31	34	35	37	39	41	43
Net Present Value											
PV of Operating Cash Flow	1,687	-	-	6	9	23	35	45	53	59	65
PV of Capital	(3,545)	-	(124)	(1,559)	(262)	(246)	(228)	(214)	(199)	(187)	(186)
PV of CCA Tax Shield	499	-	-	25	26	27	26	27	27	27	27
Total NPV by Year	(1,359)	-	(124)	(1,528)	(227)	(196)	(167)	(143)	(119)	(100)	(93)

Project NPV **(1,359)**

Southern Lake Huron - IRP Pilot - Facility
DCF Analysis
InService Date: Nov 1, 2025

Project Year ($000's)	**Project Total**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Operating Cash Flow											
Revenue:	10,351	246	272	291	297	297	297	297	297	297	297
Expenses:	-										
O & M Expense	(2,770)	(66)	(73)	(78)	(79)	(79)	(79)	(79)	(79)	(79)	(79)
Municipal Tax	(755)	(19)	(20)	(20)	(20)	(20)	(20)	(20)	(20)	(20)	(20)
Income Tax	(1,826)	(43)	(47)	(51)	(52)	(52)	(52)	(52)	(52)	(52)	(52)
Net Operating Cash Flow	5,000	118	132	142	145	145	145	145	145	145	145
Capital											
Incremental Capital	(4,454)	(288)	(283)	-	-	-	-	-	-	-	-
Change in Working Capital	-	(0)	(0)	(0)	(0)	-	-	-	-	-	-
Total Capital	(4,454)	(288)	(284)	(0)	(0)	-	-	-	-	-	-
CCA Tax Shield											
CCA Tax Shield	1,056	45	47	47	44	41	39	36	34	32	30
Net Present Value											
PV of Operating Cash Flow	1,687	70	74	76	74	71	67	64	61	58	55
PV of Capital	(3,545)	(176)	(165)	(0)	(0)	-	-	-	-	-	-
PV of CCA Tax Shield	499	27	27	25	22	20	18	16	14	13	12
Total NPV by Year	(1,359)	(78)	(63)	101	97	91	85	80	75	71	67

Project NPV **(1,359)**

Southern Lake Huron - IRP Pilot - Facility
DCF Analysis
InService Date: Nov 1, 2025

Project Year ($000's)	Project Total	21	22	23	24	25	26	27	28	29	30
Operating Cash Flow											
Revenue:	10,351	297	297	297	297	297	297	297	297	297	297
Expenses:	-										
O & M Expense	(2,770)	(79)	(79)	(79)	(79)	(79)	(79)	(79)	(79)	(79)	(79)
Municipal Tax	(755)	(20)	(20)	(20)	(20)	(20)	(20)	(20)	(20)	(20)	(20)
Income Tax	(1,826)	(52)	(52)	(52)	(52)	(52)	(52)	(52)	(52)	(52)	(52)
Net Operating Cash Flow	5,000	145	145	145	145	145	145	145	145	145	145
Capital											
Incremental Capital	(4,454)	-	-	-	-	-	-	-	-	-	-
Change in Working Capital	-	-	-	-	-	-	-	-	-	-	-
Total Capital	(4,454)	-	-	-	-	-	-	-	-	-	-
CCA Tax Shield											
CCA Tax Shield	1,056	28	27	25	24	22	21	20	18	17	16
Net Present Value											
PV of Operating Cash Flow	1,687	53	50	48	45	43	41	39	37	35	34
PV of Capital	(3,545)	-	-	-	-	-	-	-	-	-	-
PV of CCA Tax Shield	499	10	9	8	7	7	6	5	5	4	4
Total NPV by Year	(1,359)	63	59	56	53	50	47	44	42	40	37

Project NPV **(1,359)**

Southern Lake Huron - IRP Pilot - Facility
DCF Analysis
InService Date: Nov 1, 2025

Project Year ($000's)	Project Total	31	32	33	34	35	36	37	38	39	40	41	42
Operating Cash Flow													
Revenue:	10,351	297	297	297	297	297	297	297	297	297	297	297	297
Expenses:	-												
O & M Expense	(2,770)	(79)	(79)	(79)	(79)	(79)	(79)	(79)	(79)	(79)	(79)	(79)	(79)
Municipal Tax	(755)	(20)	(20)	(20)	(20)	(20)	(20)	(20)	(20)	(20)	(20)	(20)	(20)
Income Tax	(1,826)	(52)	(52)	(52)	(52)	(52)	(52)	(52)	(52)	(52)	(52)	(52)	(73)
Net Operating Cash Flow	5,000	145	145	145	145	145	145	145	145	145	145	145	124
Capital													
Incremental Capital	(4,454)	-	-	-	-	-	-	-	-	-	-	-	-
Change in Working Capital	-	-	-	-	-	-	-	-	-	-	-	-	4
Total Capital	(4,454)	-	-	-	-	-	-	-	-	-	-	-	4
CCA Tax Shield													
CCA Tax Shield	1,056	15	14	14	13	12	11	11	10	9	9	8	25
Net Present Value													
PV of Operating Cash Flow	1,687	32	30	29	28	26	25	24	23	22	21	20	16
PV of Capital	(3,545)	-	-	-	-	-	-	-	-	-	-	-	1
PV of CCA Tax Shield	499	3	3	3	2	2	2	2	2	1	1	1	3
Total NPV by Year	(1,359)	35	34	32	30	28	27	26	24	23	22	21	20

Project NPV **(1,359)**

Southern Lake Huron - IRP Pilot - IRPA
DCF Analysis
InService Date: Nov 1, 2025

Project Year ($000's)	Project Total	1	2	3	4	5	6	7	8	9	10
Operating Cash Flow											
Revenue:	10,351	-	-	9	36	71	104	135	164	191	219
Expenses:											
O & M Expense	(3,575)	(55)	(188)	(190)	(197)	(206)	(28)	(36)	(44)	(51)	(59)
Supply Side IRPA Costs	(501)	-	(167)	(167)	(167)	-	-	-	-	-	-
Demand Side IRPA Costs	(1,724)	-	(562)	(606)	(550)	(6)	-	-	-	-	-
Municipal Tax	(748)	-	-	(1)	(2)	(6)	(14)	(15)	(16)	(17)	(18)
Income Tax	(1,003)	15	243	253	233	44	(16)	(22)	(27)	(33)	(38)
Net Operating Cash Flow	2,800	(40)	(674)	(702)	(647)	(104)	46	61	76	90	104
Capital											
Incremental Capital	(4,569)	-	(70)	(299)	(369)	(1,833)	(292)	(288)	(281)	(277)	(290)
Change in Working Capital	(4)	(3)	(44)	(2)	2	35	9	(0)	(0)	(0)	(0)
Total Capital	(4,573)	(3)	(114)	(301)	(366)	(1,797)	(282)	(288)	(282)	(278)	(290)
CCA Tax Shield											
CCA Tax Shield	1,106	-	-	6	10	39	39	41	43	45	47
Net Present Value											
PV of Operating Cash Flow	(264)	(39)	(625)	(620)	(544)	(83)	35	44	53	59	65
PV of Capital	(3,521)	(3)	(108)	(273)	(316)	(1,475)	(220)	(214)	(199)	(187)	(186)
PV of CCA Tax Shield	495	-	-	5	9	31	29	30	30	29	29
Total NPV by Year	(3,290)	(42)	(733)	(888)	(851)	(1,527)	(156)	(140)	(117)	(98)	(92)

Project NPV **(3,290)**

Southern Lake Huron - IRP Pilot - IRPA
DCF Analysis
InService Date: Nov 1, 2025

Project Year ($000's)	Project Total	11	12	13	14	15	16	17	18	19	20
Operating Cash Flow											
Revenue:	10,351	246	272	291	297	297	297	297	297	297	297
Expenses:											
O & M Expense	(3,575)	(66)	(73)	(78)	(79)	(79)	(79)	(79)	(79)	(79)	(79)
Supply Side IRPA Costs	(501)	-	-	-	-	-	-	-	-	-	-
Demand Side IRPA Costs	(1,724)	-	-	-	-	-	-	-	-	-	-
Municipal Tax	(748)	(20)	(21)	(21)	(21)	(21)	(21)	(21)	(21)	(21)	(21)
Income Tax	(1,003)	(43)	(47)	(51)	(52)	(52)	(52)	(52)	(52)	(52)	(52)
Net Operating Cash Flow	2,800	118	131	141	145	145	145	145	145	145	145
Capital											
Incremental Capital	(4,569)	(288)	(283)	-	-	-	-	-	-	-	-
Change in Working Capital	(4)	(0)	(0)	(0)	(0)	-	-	-	-	-	-
Total Capital	(4,573)	(288)	(284)	(0)	(0)	-	-	-	-	-	-
CCA Tax Shield											
CCA Tax Shield	1,106	48	50	49	46	44	41	39	36	34	32
Net Present Value											
PV of Operating Cash Flow	(264)	70	74	76	74	71	67	64	61	58	55
PV of Capital	(3,521)	(176)	(165)	(0)	(0)	-	-	-	-	-	-
PV of CCA Tax Shield	495	29	28	27	24	21	19	17	15	14	12
Total NPV by Year	(3,290)	(76)	(62)	103	98	92	86	81	76	72	67

Project NPV **(3,290)**

Southern Lake Huron - IRP Pilot - IRPA
DCF Analysis
InService Date: Nov 1, 2025

Project Year ($000's)	Project Total	21	22	23	24	25	26	27	28	29	30
Operating Cash Flow											
Revenue:	10,351	297	297	297	297	297	297	297	297	297	297
Expenses:											
O & M Expense	(3,575)	(79)	(79)	(79)	(79)	(79)	(79)	(79)	(79)	(79)	(79)
Supply Side IRPA Costs	(501)	-	-	-	-	-	-	-	-	-	-
Demand Side IRPA Costs	(1,724)	-	-	-	-	-	-	-	-	-	-
Municipal Tax	(748)	(21)	(21)	(21)	(21)	(21)	(21)	(21)	(21)	(21)	(21)
Income Tax	(1,003)	(52)	(52)	(52)	(52)	(52)	(52)	(52)	(52)	(52)	(52)
Net Operating Cash Flow	2,800	145	145	145	145	145	145	145	145	145	145
Capital											
Incremental Capital	(4,569)	-	-	-	-	-	-	-	-	-	-
Change in Working Capital	(4)	-	-	-	-	-	-	-	-	-	-
Total Capital	(4,573)	-	-	-	-	-	-	-	-	-	-
CCA Tax Shield											
CCA Tax Shield	1,106	30	28	27	25	23	22	21	19	18	17
Net Present Value											
PV of Operating Cash Flow	(264)	52	50	48	45	43	41	39	37	35	34
PV of Capital	(3,521)	-	-	-	-	-	-	-	-	-	-
PV of CCA Tax Shield	495	11	10	9	8	7	6	6	5	4	4
Total NPV by Year	(3,290)	63	60	56	53	50	47	45	42	40	38

Project NPV **(3,290)**

Southern Lake Huron - IRP Pilot - IRPA
DCF Analysis
InService Date: Nov 1, 2025

Project Year ($000's)	Project Total	31	32	33	34	35	36	37	38	39	40	41	42
Operating Cash Flow													
Revenue:	10,351	297	297	297	297	297	297	297	297	297	297	297	297
Expenses:													
O & M Expense	(3,575)	(79)	(79)	(79)	(79)	(79)	(79)	(79)	(79)	(79)	(79)	(79)	(79)
Supply Side IRPA Costs	(501)	-	-	-	-	-	-	-	-	-	-	-	-
Demand Side IRPA Costs	(1,724)	-	-	-	-	-	-	-	-	-	-	-	-
Municipal Tax	(748)	(21)	(21)	(21)	(21)	(21)	(21)	(21)	(21)	(21)	(21)	(21)	(21)
Income Tax	(1,003)	(52)	(52)	(52)	(52)	(52)	(52)	(52)	(52)	(52)	(52)	(52)	(52)
Net Operating Cash Flow	2,800	145	145	145	145	145	145	145	145	145	145	145	145
Capital													
Incremental Capital	(4,569)	-	-	-	-	-	-	-	-	-	-	-	-
Change in Working Capital	(4)	-	-	-	-	-	-	-	-	-	-	-	-
Total Capital	(4,573)	-	-	-	-	-	-	-	-	-	-	-	-
CCA Tax Shield													
CCA Tax Shield	1,106	16	15	14	13	13	12	11	10	10	9	9	27
Net Present Value													
PV of Operating Cash Flow	(264)	32	30	29	28	26	25	24	23	22	20	20	19
PV of Capital	(3,521)	-	-	-	-	-	-	-	-	-	-	-	-
PV of CCA Tax Shield	495	4	3	3	3	2	2	2	2	1	1	1	3
Total NPV by Year	(3,290)	36	34	32	30	29	27	26	24	23	22	21	22

Project NPV **(3,290)**

IRP Pilot Projects - Parry Sound and Southern Lake Huron
InService Date for all alternatives: 01-Nov-2025

Stage 1 - Listing of Key Input Parameters, Values and Assumptions ($000'S)

Discounting Assumptions	
Project Time Horizon	40 years commencing at facilites in-service date of 01 Nov 25
Discount Rate	Incremental after-tax weighted average After Tax Cost of Capital 5.07%
Key DCF Input Parameters, Values and Assumptions	
Net Cash Inflow:	
Incremental Revenue:	
Distribution customer rates	0.136970 $/ M3 / month applied to Contract Demand 0.231620 $ / M3 applied to general service volume
Operating and Maintenance Expense	Estimated incremental cost
Incremental Tax Expenses:	
Municipal Tax	Estimated incremental cost
Income Tax Rate	26.50%
CCA Rates:	
CCA Classes: (CCA Class / CCA Rate)	Declining balance rates by CCA class:
Land - -	
Mains - Metallic 51 6%	
Customer Services & Meters 51 6%	
Cash Outflow:	
Incremental Capital Costs Attributed	Refer to Exhibit E, Tab 1, Schedule 1, Tables 1/2/5
Change in Working Capital	5.051% applied to O&M

COST ALLOCATION AND RECOVERY

1. In the IRP Decision[1], the OEB approved two IRP Costs deferral accounts for the period 2021 to 2023. In Enbridge Gas's 2024 Rebasing Application, Enbridge Gas proposed to continue the IRP Costs deferral accounts in 2024 and through the 2025 to 2028 IR term as the accounts are still required to support IRP.[2] The two IRP Costs deferral accounts are:
    - The IRP Operating Costs Deferral Account (179-385) records incremental IRP general administrative costs, as well as incremental operating and maintenance costs and ongoing evaluation costs for approved IRP plans.
    - The IRP Capital Costs Deferral Account (179-386) records the actual annual revenue requirement of project costs eligible to be capitalized for inclusion in rate base as part of approved IRP plans where Enbridge Gas owns and operates the IRPA.

2. Enbridge Gas proposes to include the IRP Pilot Project costs in the IRP Costs deferral accounts because the project costs are incremental to the costs that support Enbridge Gas's 2023 current-approved and 2024 proposed rates.[3]

3. Enbridge Gas proposes to include the IRP Pilot operating costs for both the Parry Sound Pilot Project and the Southern Lake Huron Pilot Project in the IRP Operating Costs Deferral Account and the actual annual revenue requirement for the IRP Pilot capital costs for both the Parry Sound Pilot Project and the Southern Lake Huron Pilot Project in the IRP Capital Costs Deferral Account. Enbridge Gas will bring forward actual balances in the IRP Costs deferral accounts annually with

[1] EB-2020-0091.
[2] EB-2022-0200, Exhibit 9, Tab 1, Schedule 2, page 2.
[3] There are no IRP Pilot Project costs included in the forecast of operating or capital costs supporting Enbridge Gas's 2024 Rebasing (EB-2022-0200) application.

its Non-Commodity Deferral Account Clearance and Earnings Sharing Mechanism application.

4. The IRP Decision[4] requires cost allocation to be included in an IRP Plan application. Enbridge Gas's proposal for the cost allocation of the Pilot Project costs is outlined further below.

Project Costs

5. The Parry Sound Pilot Project includes a combination of supply-side (CNG, and TCE contracted pressures) and demand-side (ETEE) and project specific IRPA costs.[5] The Southern Lake Huron Pilot Project includes a combination of supply-side (CNG) and demand-side (ETEE, and DR) and project specific IRPA costs.[6] A summary of the costs for the Parry Sound Pilot Project and the Southern Lake Huron Pilot Project is provided in Table 1.

[4] EB-2020-0091, Decision and Order, July 22, 2021, page 87.
[5] Exhibit D, Tab 1, Schedule 1.
[6] Exhibit D, Tab 1, Schedule 1.

Table 1
Summary of IRP Pilot Project Costs

Line No.		2023	2024	2025	2026	2027	2028	Total
		(a)	(b)	(c)	(d)	(e)	(f)	(g)
	Parry Sound Project							
1	Operating Costs (1)	211	1,835	1,604	1,369	423	-	5,442
2	Capital Costs (2)	1,108	-	87	-	-	-	1,195
3	Total	1,319	1,835	1,691	1,369	423	-	6,637
	Southern Lake Huron Project							
4	Operating Costs (1)	85	1,353	1,929	1,842	312	-	5,521
5	Capital Costs (2)	482	834	-	-	-	-	1,316
6	Total	567	2,187	1,929	1,842	312	-	6,837
7	Total Pilot Costs	1,886	4,022	3,620	3,211	735	-	13,474

Notes:
(1) Exhibit E, Tab 1, Schedule 1, Attachment 1.
(2) Exhibit E, Tab 1, Schedule 1, Attachment 2.

6. Operating costs of the IRP Pilot Projects will be recorded in the IRP Operating Costs Deferral Account and the annual revenue requirement associated with capital costs of the IRP Pilot Projects will be recorded in the IRP Capital Costs Deferral Account. The annual revenue requirement associated with the capital costs is provided at Attachment 1. The expected balance in the IRP Costs Deferral Accounts is provided in Table 2.

Table 2
IRP Costs Deferral Account Balances

Line No.		2023	2024	2025	2026	2027	2028
		(a)	(b)	(c)	(d)	(e)	(f)
	IRP Operating Costs Deferral Account (1)						
1	Parry Sound Project	211	1,835	1,604	1,369	423	-
2	Southern Lake Huron Project	85	1,353	1,929	1,842	312	-
3	Total	296	3,188	3,533	3,211	735	-
	IRP Capital Costs Deferral Account (2)						
4	Parry Sound Project	(58)	117	113	123	121	119
5	Southern Lake Huron Project	(25)	58	135	133	131	129
6	Total	(84)	175	248	256	252	249
7	Total IRP Costs Deferral Account Balance	212	3,362	3,781	3,467	988	249

Notes:
(1) IRP Operating Costs Deferral Account balance for the Parry Sound and Southern Lake Huron Pilot Project operating costs per Table 1, line 1 and line 4, respectively.

(2) IRP Capital Costs Deferral Account balance for the Parry Sound and Southern Lake Huron Pilot Project capital costs relate to the revenue requirement on the capital cost per Exhibit E, Tab 1, Schedule 2, Attachment 1. The revenue requirement was calculated based on the capital costs per Table 2, which include overheads, as provided at Exhibit E, Tab 1, Schedule 1, Attachment 2.

Cost Allocation

7. Enbridge Gas proposes to allocate the IRP Operating Costs and the IRP Capital Costs deferral account balances related to the Parry Sound Pilot Project to Union North rate classes in proportion to the system peak and average day demands, excluding the demands of customers who are served by sole use mains. The proposed cost allocation methodology is consistent with the allocation of joint use mains in the Union North rate zone in Union's 2013 OEB-approved Cost Allocation Study.[7] The proposed cost allocation methodology is the same as the allocation methodology that would be used for the majority of the assets that would be

[7] EB-2011-0210, Exhibit G3, Tab 2, Schedule 21.

installed under the Parry Sound Baseline Facility Project (described at Exhibit C, Tab 1, Schedule 1).

8. Enbridge Gas proposes to allocate the IRP Operating Costs and the IRP Capital Costs deferral account balances related to the Southern Lake Huron Pilot Project to Union South in-franchise rate classes in proportion to Union South design day demands, excluding design day demands served directly off transmission lines. The proposed cost allocation methodology is consistent with the allocation of distribution mains in the Union South rate zone in Union's 2013 OEB-approved Cost Allocation Study. The proposed cost allocation methodology is the same as the allocation methodology that would be used for the majority of assets that would be installed under the Southern Lake Huron Baseline Facility Project (described at Exhibit C, Tab 1, Schedule 1).

9. Enbridge Gas has proposed harmonized cost allocation methodologies in the2024 Rebasing application that are different than the cost allocation methodologies described above. If the OEB approves cost allocation methodologies that are different than described in this Application, Enbridge Gas may propose a change to the allocation methodology as part of the Non-Commodity Deferral Account Clearance and Earnings Sharing Mechanism application where disposition is requested for actual IRP Pilot Project costs.

Bill Impacts

10. Enbridge Gas has provided an illustration of the largest annual bill impact of the IRP Pilot Projects for a typical customer in each rate zone based on the year 2025. The 2025 balance of $3.781 million is the largest IRP Pilot Project deferral balance between 2023 and 2028 as provided in Table 2.

11. The typical residential customer bill impact associated with disposition of the 2025 IRP Costs deferral account balances for the Pilot Projects is:
    - No impact for a residential customer consuming 2,400 m^3 in the EGD rate zone.
    - A charge of $1.35 for a residential customer consuming 2,200 m^3 in the Union North rate zone.
    - A charge of $0.89 for a residential customer consuming 2,200 m^3 in the Union South rate zone.

12. The estimated unit rate and bill impact associated with the disposition of the 2025 IRP Costs deferral account balances for typical customers by rate class is provided at Attachment 3 and Attachment 4, respectively.

IRP Capital Costs Revenue Requirement - Parry Sound Pilot Project

Line No.	Particulars ($000s)	2023	2024	2025	2026	2027	2028
		(a)	(b)	(c)	(d)	(e)	(f)
	Incremental Rate Base Investment						
1	Capital Expenditures (1)	1,108	-	87	-	-	-
2	Average Rate Base	137	1,089	1,067	1,109	1,074	1,039
	Incremental Revenue Requirement Calculation:						
	Return on Incremental Rate Base: (2)						
3	Long-term Debt Interest	5	44	43	44	43	42
4	Short-term Debt Interest	(0)	(0)	(0)	(0)	(0)	(0)
5	Preference Shares	0	1	1	1	1	1
6	Equity	4	35	34	36	35	33
7	Total Return on Incremental Rate Base	10	80	78	81	78	76
	Incremental Operating Expenses:						
8	Depreciation Expense (3)	3	32	34	35	35	35
9	Total Incremental Operating Expenses	3	32	34	35	35	35
	Incremental Income Taxes:						
10	Return on Equity and Preference Shares (line 5 + line 6)	5	36	35	37	35	34
	Utility Timing Differences						
11	Add: Depreciation Expense (line 8)	3	32	34	35	35	35
12	Less: Current Year Tax Deductions	(204)	(54)	(64)	(52)	(49)	(46)
13	Taxable Income (line 10 + line 11 + line 12)	(197)	14	5	19	21	23
14	Income Taxes Before Gross Up (line 13 x 26.5%) (4)	(52)	4	1	5	6	6
15	Total Incremental Income Taxes After Gross Up (line 14 / (1-26.5%) (4) (5)	(71)	5	2	7	8	8
16	Total Incremental Revenue Requirement (line 7 + line 9 + line 15)	(58)	117	113	123	121	119

Notes:

(1) Capital expenditures including indirect overheads per Exhibit E, Tab 1, Schedule 1, Attachment 2.

(2) The return on rate base is calculated based on Union's 2013 Board-approved capital structure:

Capital Structure	Component %	Cost Rate	Return Component
Long-term Debt	61.30%	6.53%	4.00%
Short-term Debt	-0.03%	1.31%	0.00%
Preference Shares	2.74%	3.05%	0.08%
Equity	36.00%	8.93%	3.21%
Total	100.00%		7.30%

(3) Depreciation expense at Board-approved depreciation rates.

(4) Enbridge Gas's current provincial and federal tax rate is equal to 26.5%.

(5) Incremental taxes related to utility timing differences are negative if the capital cost allowance deduction in arriving at taxable income exceeds the provision of book depreciation in the year.

IRP Capital Costs Revenue Requirement - Southern Lake Huron Pilot Project

Line No.	Particulars ($000s)	2023	2024	2025	2026	2027	2028
		(a)	(b)	(c)	(d)	(e)	(f)
	Incremental Rate Base Investment						
1	Capital Expenditures (1)	482	834	-	-	-	-
2	Average Rate Base	60	920	1,271	1,235	1,198	1,161
	Incremental Revenue Requirement Calculation:						
	Return on Incremental Rate Base: (2)						
3	Long-term Debt Interest	2	37	51	49	48	46
4	Short-term Debt Interest	(0)	(0)	(0)	(0)	(0)	(0)
5	Preference Shares	0	1	1	1	1	1
6	Equity	2	30	41	40	39	37
7	Total Return on Incremental Rate Base	4	67	93	90	87	85
	Incremental Operating Expenses:						
8	Depreciation Expense (3)	1	25	37	37	37	37
9	Total Incremental Operating Expenses	1	25	37	37	37	37
	Incremental Income Taxes:						
10	Return on Equity and Preference Shares (line 5 + line 6)	2	30	42	41	40	38
	Utility Timing Differences						
11	Add: Depreciation Expense (line 8)	1	25	37	37	37	37
12	Less: Current Year Tax Deductions	(89)	(152)	(65)	(61)	(57)	(54)
13	Taxable Income (line 10 + line 11 + line 12)	(86)	(96)	14	17	19	22
14	Income Taxes Before Gross Up (line 13 x 26.5%) (4)	(23)	(25)	4	4	5	6
15	Total Incremental Income Taxes After Gross Up (line 14 / (1-26.5%) (4) (5)	(31)	(35)	5	6	7	8
16	Total Incremental Revenue Requirement (line 7 + line 9 + line 15)	(25)	58	135	133	131	129

Notes:

(1) Capital expenditures including indirect overheads per Exhibit E, Tab 1, Schedule 1, Attachment 2.

(2) The return on rate base is calculated based on Union's 2013 Board-approved capital structure:

Capital Structure	Component %	Cost Rate	Return Component
Long-term Debt	61.30%	6.53%	4.00%
Short-term Debt	-0.03%	1.31%	0.00%
Preference Shares	2.74%	3.05%	0.08%
Equity	36.00%	8.93%	3.21%
Total	100.00%		7.30%

(3) Depreciation expense at Board-approved depreciation rates.

(4) Enbridge Gas's current provincial and federal tax rate is equal to 26.5%.

(5) Incremental taxes related to utility timing differences are negative if the capital cost allowance deduction in arriving at taxable income exceeds the provision of book depreciation in the year.

Allocation
2025 IRP Operating & Capital Costs Account Balance

Line No.	Particulars	Allocator		Allocation ($000s)				
				Operating Costs		Capital Costs		
		Union North Joint Use Mains (1)	Union South Distribution Demand (2)	Parry Sound (3)	Southern Lake Huron (4)	Parry Sound (3)	Southern Lake Huron (4)	Allocation Total
		(a)	(b)	(c)	(d)	(e)	(f)	(g)
	EGD Rate Zone							
1	Rate 1	-	-	-	-	-	-	-
2	Rate 6	-	-	-	-	-	-	-
3	Rate 9	-	-	-	-	-	-	-
4	Rate 100	-	-	-	-	-	-	-
5	Rate 110	-	-	-	-	-	-	-
6	Rate 115	-	-	-	-	-	-	-
7	Rate 125	-	-	-	-	-	-	-
8	Rate 135	-	-	-	-	-	-	-
9	Rate 145	-	-	-	-	-	-	-
10	Rate 170	-	-	-	-	-	-	-
11	Rate 200	-	-	-	-	-	-	-
12	Rate 300	-	-	-	-	-	-	-
13	Total EGD Rate Zone	-	-	-	-	-	-	-
	Union North Rate Zone							
14	Rate 01	35	-	568	-	40	-	608
15	Rate 10	11	-	177	-	13	-	190
16	Rate 20	27	-	435	-	31	-	466
17	Rate 25	4	-	70	-	5	-	74
18	Rate 100	22	-	354	-	25	-	379
19	Total Union North Rate Zone	100	-	1,604	-	113	-	1,717
	Union South Rate Zone							
20	Rate M1	-	31,063	-	1,234	-	86	1,320
21	Rate M2	-	11,510	-	457	-	32	489
22	Rate M4	-	2,539	-	101	-	7	108
23	Rate M5	-	44	-	2	-	0	2
24	Rate M7	-	2,142	-	85	-	6	91
25	Rate M9	-	-	-	-	-	-	-
26	Rate M10	-	-	-	-	-	-	-
27	Rate T1	-	813	-	32	-	2	35
28	Rate T2	-	443	-	18	-	1	19
29	Rate T3	-	-	-	-	-	-	-
30	Total Union South Rate Zone	-	48,554	-	1,929	-	135	2,064
31	Total In-Franchise (5)	100	48,554	1,604	1,929	113	135	3,781

Notes:
(1) Union North joint use mains allocation is in proportion to forecast 2024 Union North peak and average design day demands, excluding large industrial. 2024 forecast used as the 2025 forecast not available at the time of filing the Application.
(2) Union South distribution demand allocation is in proportion to forecast 2024 Union South in-franchise design day demands, excluding demands served directly off transmission lines. 2024 forecast used as the 2025 forecast not available at the time of filing the Application.
(3) Allocated in proportation to column (a).
(4) Allocated in proportation to column (b).
(5) The total balance in columns (c) to (f) from Exhibit E, Tab 1, Schedule 2, Table 2.

Unit Rates for Disposition
2025 IRP Operating & Capital Costs Account Balance

Line No	Particulars	Account Balance for Disposition (1) ($000s)	2024 Forecast Usage (2) (10^3m^3)	Billing Units	Unit Rate for Disposition
		(a)	(b)	(c)	(d) = (a/b*100)
	EGD Rate Zone				
1	Rate 1	-	5,001,027	10^3m^3	-
2	Rate 6	-	4,795,693	10^3m^3	-
3	Rate 9	-	-	10^3m^3	-
4	Rate 100	-	27,429	10^3m^3	-
5	Rate 110	-	1,068,281	10^3m^3	-
6	Rate 115	-	381,873	10^3m^3	-
7	Rate 125	-	824,971	10^3m^3	-
8	Rate 135	-	52,646	10^3m^3	-
9	Rate 145	-	15,714	10^3m^3	-
10	Rate 170	-	323,254	10^3m^3	-
11	Rate 200	-	188,852	10^3m^3	-
12	Rate 300	-	-	10^3m^3	-
13	Total EGD Rate Zone	-			
	Union North Rate Zone				
14	Rate 01	608	989,005	10^3m^3	0.0615
15	Rate 10	190	327,974	10^3m^3	0.0579
16	Rate 20	466	929,101	10^3m^3	0.0501
17	Rate 25	74	126,831	10^3m^3	0.0587
18	Rate 100	379	1,076,378	10^3m^3	0.0352
19	Total Union North Rate Zone	1,717			
	Union South Rate Zone				
20	Rate M1	1,320	3,255,132	10^3m^3	0.0406
21	Rate M2	489	1,319,376	10^3m^3	0.0371
22	Rate M4	108	593,899	10^3m^3	0.0182
23	Rate M5	2	59,493	10^3m^3	0.0032
24	Rate M7	91	789,737	10^3m^3	0.0115
25	Rate M9	-	90,073	10^3m^3	-
26	Rate M10	-	-	10^3m^3	-
27	Rate T1	35	431,289	10^3m^3	0.0080
28	Rate T2	19	5,005,643	10^3m^3	0.0004
29	Rate T3	-	249,200	10^3m^3	-
30	Total Union South Rate Zone	2,064			
31	Total In-Franchise	3,781			

Notes:
(1) Exhibit E, Tab 1, Schedule 2, Attachment 2, column (g).
(2) 2024 forecast usage used as the 2025 forecast usage not available at the time of filing the Application.

Bill Impacts for Typical Small and Large Customers
2025 IRP Operating & Capital Costs Account Balance

Line No.	Particulars	Unit Rate for Disposition (1) (cents/m³)	Annual Volume		Bill Impact ($)
		(a)	(b)	(c)	(d)
	EGD Rate Zone				
1	Rate 1 - Residential	-	2,400	m³	-
2	Rate 6 - Heating & Other Uses	-	22,606	m³	-
3	Rate 6 - General Use	-	43,285	m³	-
4	Rate 100 - Small	-	339,188	m³	-
5	Rate 110 - Small	-	598,568	m³	-
6	Rate 110 - Average	-	9,976,121	m³	-
7	Rate 115 - Small	-	4,471,609	m³	-
8	Rate 125 - Average	-	2,315,000	m³/d	-
9	Rate 135 - Average	-	598,567	m³	-
10	Rate 145 - Average	-	598,568	m³	-
11	Rate 170 - Average	-	9,976,121	m³	-

Notes:
(1) Exhibit E, Tab 1, Schedule 2, Attachment 3, column (d).

Bill Impacts for Typical Small and Large Customers
2025 IRP Operating & Capital Costs Account Balance

Line No.	Particulars	Unit Rate for Disposition (1) (cents/m³)	Annual Volume		Bill Impact ($)
		(a)	(b)	(c)	(d)
	Union North Rate Zone				
1	Rate 01 - Residential	0.0615	2,200	m³	1.35
2	Rate 10	0.0579	93,000	m³	54
3	Rate 20 - Small	0.0501	3,000,000	m³	18,051
4	Rate 20 - Large	0.0501	15,000,000	m³	90,254
5	Rate 25 - Average	0.0587	2,275,000	m³	1,335
6	Rate 100 - Small	0.0352	27,000,000	m³	114,108
7	Rate 100 - Large	0.0352	240,000,000	m³	1,014,293
	Union South Rate Zone				
8	Rate M1 - Residential	0.0406	2,200	m³	0.89
9	Rate M2	0.0371	73,000	m³	27
10	Rate M4 - Small	0.0182	875,000	m³	1,908
11	Rate M4 - Large	0.0182	12,000,000	m³	26,167
12	Rate M5 - Small	0.0032	825,000	m³	26
13	Rate M5 - Large	0.0032	6,500,000	m³	205
14	Rate M7 - Small	0.0115	36,000,000	m³	49,794
15	Rate M7 - Large	0.0115	52,000,000	m³	71,925
16	Rate M9 - Small	-	6,950,000	m³	-
17	Rate M9 - Large	-	20,178,000	m³	-
18	Rate T1 - Small	0.0080	7,537,000	m³	7,248
19	Rate T1 - Average	0.0080	11,565,938	m³	11,122
20	Rate T1 - Large	0.0080	25,624,080	m³	24,641
21	Rate T2 - Small	0.0004	59,256,000	m³	2,677
22	Rate T2 - Average	0.0004	197,789,850	m³	8,936
23	Rate T2 - Large	0.0004	370,089,000	m³	16,720
24	Rate T3	-	272,712,000	m³	-

Notes:
(1) Exhibit E, Tab 1, Schedule 2, Attachment 3, column (d).

STAKEHOLDER ENGAGEMENT

Overview

1. Within Enbridge Gas's IRP Proposal, Enbridge Gas requested approval of its three-component stakeholder engagement process including project-specific targeted consultation and engagement initiatives for IRPAs or IRP Plans.[1] The targeted engagement proposal included stakeholders from the specific geographic area relevant to the IRPA. This Exhibit outlines targeted engagement conducted specific to the Pilot Projects.

Stakeholder Engagement

2. Prior to the Pilot Project selection process, Enbridge Gas presented the preliminary Pilot Project information to the Technical Working Group ("TWG") [2], where Enbridge Gas defined the objectives and general criteria that it would use to guide the Pilot Project selection process. The selection criteria described in Exhibit C, Tab 1, Schedule 2, then formed the basis for a 'Pilot Evaluation Criteria and Scoring Matrix' that was applied to potential Pilot Project options.

3. Enbridge Gas also conducted initial stakeholder engagement sessions with the local municipalities, local electric distribution companies ("LDC"), Hydro One and the Independent Electricity System Operator ("IESO"). Within these engagement sessions, Enbridge Gas provided an overview of the Pilot Projects and sought input that helped confirm the forecasted system needs were appropriate. In addition, Enbridge Gas held one-on-one sessions with the municipalities and LDCs to discuss system constraints and the potential for program coordination on IRPAs. Further details regarding Enbridge Gas's stakeholder engagement for each Pilot Project are provided below.

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[1] EB-2020-0091, Decision and Order, July 22, 2021, P. 63
[2] Natural Gas Integrated Resource Planning (IRP) | Engage with Us (oeb.ca)

4. During Pilot Project implementation, Enbridge Gas plans to conduct community-level targeted engagement with residents, businesses and interested community members in the Parry Sound and Southern Lake Huron areas. The various IRPA programs may be refined if required based on input received from stakeholders.

Parry Sound Stakeholder Engagement:

5. Enbridge Gas held a meeting on December 15, 2022, with representatives from the Municipality of Parry Sound, Lakeland Power Distribution, IESO, and Hydro One. The objective of this meeting was to provide a description of the Parry Sound Pilot Project, introduce key concepts and personnel, and ensure Enbridge Gas was connecting with the appropriate individuals in each organization. After a presentation from Enbridge Gas, discussion topics included confirmation of Enbridge Gas's regional needs and growth projects for the area. Initial feedback suggested that Enbridge Gas's customer addition forecasts are aligned with other regional planners.

6. Follow-up meetings were held on February 22 and March 8, 2023, with smaller, more focused groups that included IESO, Hydro One, Parry Sound municipal staff and Lakeland Power to continue the review and discuss Enbridge Gas's Parry Sound system demand forecast and the associated system needs. Municipal staff indicated that based on historical trends, approximately 50 homes and 6 commercial additions are forecasted per year over the next 10-year horizon, with a declining trend over that timeframe. However, they also noted there has been an observed increase in growth and development within past two years that exceeds the historical growth trends. This aligned with Enbridge Gas's forecast and recent observed growth in the area.

7. Enbridge Gas has also already begun stakeholder engagement initiatives to engage the local Parry Sound community. An open house session was held on May 10, 2023 at the Charles W Stockey Centre & Bobby Orr Hall of Fame in Parry Sound. During

this open house event Enbridge Gas had ten attendees from the Town of Parry Sound, an environmental conservation and ecological organization and private citizens. Feedback received ranged from concern over natural gas supply and capacity issues and how growth plans submitted by the municipality are factored into the forecast, to opportunities to promote more energy efficiency, interest in the IRP offers and concern over energy affordability.

8. Following the stakeholder discussions and the community engagement event, Enbridge Gas provided a presentation on the IRP Pilot Projects at the Town of Parry Sound council meeting on June 20, 2023, and July 4, 2023. A resolution was passed that indicated Council's support for Enbridge Gas' IRP Pilot Project in Parry Sound and is included as Attachment 1 to this Exhibit.

9. Enbridge Gas has developed a Parry Sound pilot specific web page[3] to provide members of the community access to information and updates on the Pilot Project, and a forum to provide comments through a "Have your say" function. The open house materials are also available on the webpage. All future stakeholder engagement initiatives, such as a potential webinar including dates and times, will be published on the Pilot Projects' web pages,[4] these events will be promoted locally using channels such as digital ads on social media and online news publications, and at local arenas.

10. By taking a variety of approaches to engagement sessions and outreach efforts, the Company expects it will learn which approaches (i.e., in-person, project materials available on web site, webinar, or a combination of) are most effective at reaching audiences. Learnings may also indicate that all types of engagement sessions and outreach efforts are required, as they may target and reach different demographics.

[3] Parry Sound Pilot Project - Regional Planning & Engagement | Enbridge Gas
[4] Parry Sound Pilot Project - Regional Planning & Engagement | Enbridge Gas

Southern Lake Huron Stakeholder Engagement:

11. Enbridge Gas held a meeting on January 16, 2023, with representatives from the Municipalities of the City of Sarnia, County of Lambton and the Town of Plympton – Wyoming, and the IESO. The objective of this initial meeting was to provide a description of the Southern Lake Huron Pilot Project, introduce key concepts and personnel, and ensure Enbridge Gas was connecting with the appropriate individuals in each organization. After a presentation from Enbridge Gas, discussion topics included confirmation of Enbridge Gas's regional needs and growth projects for the area. Initial feedback suggested that Enbridge Gas's customer addition forecasts are aligned with other regional planners.

12. Follow-up meetings were held on February 15, 22 and 23, 2023 with additional staff from the Town of Plympton – Wyoming, City of Sarnia, and Bluewater Power (the local LDC serving the region), IESO and Hydro One to continue the review and discuss Enbridge Gas's Southern Lake Huron system demand forecast and the associated system needs. Municipal staff indicated that historical trends forecasted approximately 20-30 residential homes per year. However, they also noted there has been an observed increase in growth and development since COVID which have significantly exceeded the historical growth trends. This aligned with Enbridge Gas's forecast and recent observed growth in the area.

13. Enbridge Gas has also already begun stakeholder engagement initiatives to engage the local communities of the City of Sarnia, the County of Lambton, and the Town of Plympton – Wyoming. An open house session was held on May 17, 2023 at the Camlachie Community Center in Camlachie. During the South Huron Lakes open house event Enbridge Gas had six attendees from the municipality, business organization and private citizens. Feedback and conversations from this event centered around the IRPA program offerings and general interest in demand side

management programs available to agriculture customers.

14. Following the stakeholder discussions and the community engagement event, Enbridge Gas provided a presentation on the IRP Pilot Projects at the City of Sarnia council meeting on June 12, 2023, and at the Town of Plympton-Wyoming council meeting on June 28, 2023 and July 12,2023. Both the City of Sarnia and town of Plympton-Wyoming have passed a resolution indicating Councils' support for Enbridge Gas' IRP Pilot in Southern Lake Huron, they are included at Attachments 2 and 3 to this Exhibit.

15. Enbridge Gas has also developed a South Huron Lake pilot specific web page[5] to provide members of the community access to information and updates on the Pilot Project, and a forum to provide comments through a "Have your say" function. The open house materials are also available on the webpage. Any future stakeholder engagement initiatives such as a potential webinar, including dates and times, will be published on the Pilot Projects' web pages[6], and events will be promoted using digital ads on social media channels and online news publications, and at local arenas.

16. Similarly, to the Parry Sound Pilot project Enbridge Gas anticipates that by taking a variety of approaches to engagement sessions and outreach efforts, the Company expects to learn which approaches (i.e., in-person, project materials available on web site, webinar, or a combination of) are most effective at reaching audiences. Learnings may also indicate that all types of engagement sessions and outreach efforts are required, as they may target and reach different demographics.

Regional Planning Website:

17. Throughout the term of the Pilot Projects, Enbridge Gas will maintain a presence on its

[5] Southern Lake Huron Pilot Project - Regional Planning & Engagement | Enbridge Gas
[6] Southern Lake Huron Pilot Project - Regional Planning & Engagement | Enbridge Gas

Regional Planning Web Pages where stakeholders interested in the Parry Sound and Southern Lake Huron Pilot Projects can log on to check on the status of the Projects, view any updates, and/or submit comments. When stakeholders register for updates, they will be notified of updates via email. Links to the Regional Planning Web Pages can be found below:

- Parry Sound Project: https://www.enbridgegas.com/sustainability/regional-planning-engagement/parry-sound-project
- Southern Lake Huron Project: https://www.enbridgegas.com/sustainability/regional-planning-engagement/southern-lake-huron-project

9.5.2

TOWN OF Parry Sound

THE CORPORATION OF THE TOWN OF PARRY SOUND
RESOLUTION IN COUNCIL

NO. 2023 – 094

DIVISION LIST	YES	NO
Councillor **G. ASHFORD**	___	___
Councillor **J. BELESKEY**	___	___
Councillor **P. BORNEMAN**	___	___
Councillor **B. KEITH**	___	___
Councillor **D. McCANN**	___	___
Councillor **C. McDONALD**	___	___
Mayor **J. McGARVEY**	___	___

DATE: July 4, 2023

MOVED BY:

SECONDED BY:

CARRIED: ✓ **DEFEATED:** _____ **Postponed to:** _____

Whereas the purpose of Enbridge Gas' Integrated Resource Planning (IRP) Parry Sound Pilot Project is to test and better understand the impacts that enhanced targeted energy efficiency (ETEE) has on reducing the natural gas system's peak period demand; and

Whereas ETEE involves offering targeted energy efficiency programs that support a reduction in peak period natural gas demands; and

Whereas the learning's from this Pilot Project will lead to better decision making and informed system development, and shape asset management planning for years to come; and

Whereas the Pilot Project represents an opportunity for the Town of Parry Sound to participate in the energy transition in Ontario; and

Whereas participating customers in Parry Sound will benefit through enhanced energy efficiency programming that can help reduce consumption and potentially lower energy bills;

Now Therefore, the Council of the Corporation of the Town of Parry Sound hereby supports Enbridge Gas' Integrated Resources Planning (IRP) Parry Sound Pilot Project.

Mayor Jamie McGarvey

THE CORPORATION OF THE CITY OF SARNIA
City Clerk's Department
255 Christina Street N. PO Box 3018
Sarnia ON Canada N7T 7N2
519-332-0330 (phone) 519-332-3995 (fax)
519-332-2664 (TTY)
www.sarnia.ca clerks@sarnia.ca

June 20, 2023

Chris Ripley
Manager of Integrated Resource Planning
Enbridge Gas Inc.
50 Keil Drive North
Chatham, Ontario N7M 5M1

RE: Southern Lake Huron Integrated Resource Planning Pilot Project Letter of Support

The purpose of this letter is to confirm that at its meeting held on June 12, 2023, Sarnia City Council adopted the following resolution:

> ***That Sarnia City Council supports the Southern Lake Huron Integrated Resource Planning Pilot Project.***

Sincerely,

Amy Burkhart
City Clerk

The Town Of
PLYMPTON-WYOMING

Chris Ripley
Enbridge Gas
50 Keil Drive North
Chatham, Ontario, N7M 5M1

DELIVERED VIA EMAIL to: David.Moffat@enbridge.com

July 14th 2023

Re: Southern Lake Huron Integrated Resource Planning Pilot Project

Dear Chris,

Please be advised that at the Regular Council Meeting on July 12th 2023, the Town of Plympton-Wyoming Council passed the following motion, supporting Enbridge Gas and the Southern Lake Huron Integrated Resource Planning Pilot Project:

Motion 2
Moved by Councillor John van Klaveren
Seconded by Councillor Alex Boughen
That Council direct staff to send a letter of support to Enbridge for the Southern Lake Huron IRP Pilot Project.

Carried.

If you have any questions, please do not hesitate to contact me by phone or email at dgiles@plympton-wyoming.ca.

Sincerely,

Denny Giles
Deputy Clerk
Town of Plympton-Wyoming

STAKEHOLDERING – INDIGENOUS CONSULTATION

1. In Enbridge Gas's opinion, the current decision before the OEB to approve the cost consequences of the Pilot Projects does not trigger the duty to consult. However, consistent with Enbridge Gas's Indigenous Peoples Policy and commitment to engagement with Indigenous groups, Enbridge Gas sent email notification of the IRP pilot areas to Indigenous groups located within ten kilometers of the pilot areas. Accordingly, notifications were sent to Aamjiwnaang First Nation, Chippewas of Kettle and Stony Point First Nation and Wasauksing First Nation. Attachment 1 to this Exhibit contains a log of correspondence and associated attachments for the Pilot Projects.

2. In addition, Enbridge Gas also notified Indigenous groups in all operating regions of the Regional Engagement sessions held in April and May 2023, which included both the Northern and Southwest Regions where these pilot projects are located, in case these Indigenous groups had an interest in participating in the sessions.

Enbridge Gas Indigenous Engagement Log

Log updated as of July 14, 2023

Aamjiwnaang First Nation (AFN)					
Line Item	**Date**	**Method of Engagement**	**Summary of Enbridge Gas Inc. ("Enbridge Gas") Engagement Activity**	**Summary of Community's Engagement Activity**	**Issues or Concerns raised and how addressed by Enbridge Gas including any substantive Attachments**
1.0	April 4, 2023	Email	An Enbridge Gas representative emailed the Aamjiwnaang First Nation (AFN) representative to advise of the Integrated Resource Plan pilot occurring within the City of Sarnia and Municipality of Plympton-Wyoming. The email contained a link directing AFN to the Enbridge Gas website for more information. The Enbridge Gas representative offered to set up a meeting to discuss the pilot project and provide more information in general.		Please see line-item attachment 1.0
1.1	June 13, 2023	Email	An Enbridge Gas representative emailed the AFN representative to advise that the website for the pilot project has been updated with the slides from the Open House, updated map and more information on IRP in general. The Enbridge Gas representative provided the website link. The Enbridge Gas representative offered to set up a meeting to discuss the pilot project and provide more information in general.		Please see line-item attachment 1.1
Chippewas of Kettle and Stony Point First Nation (CKSPFN)					
2.0	March 14, 2023	Email	An Enbridge Gas representative emailed the Chippewas of Kettle and Stony Point (CKSPFN) representative to advise of the Integrated Resource Plan pilot occurring within the City of Sarnia and Municipality of Plympton-		Please see line-item attachment 2.0

			Wyoming. The email contained a link directing CKSPFN to the Enbridge Gas website for more information. The Enbridge Gas representative offered to set up a meeting to discuss the pilot project and provide more information in general.		
2.1	June 13, 2023	Email	An Enbridge Gas representative emailed the CKSPFN representative to advise that the website for the pilot project has been updated with the slides from the Open House, updated map and more information on IRP in general. The Enbridge Gas representative provided the website link. The Enbridge Gas representative offered to set up a meeting to discuss the pilot project and provide more information in general.		Please see line-item attachment 2.1
Wasauksing First Nation (WFN)					
3.0	March 14, 2023	Email	An Enbridge Gas representative emailed the Wasauksing First Nation (WFN) representative to advise of the Integrated Resource Plan pilot occurring within the Town of Parry Sound. The email contained a link directing WFN to the Enbridge Gas website for more information. The Enbridge Gas representative offered to set up a meeting to discuss the pilot project and provide more information in general.		Please see line-item attachment 3.0
3.1	June 12, 2023	Email	An Enbridge Gas representative emailed the WFN representative to advise that the website for the pilot project has been updated with the slides from the Open House, updated map and more information on IRP in		Please see line-item attachment 3.1

			general. The Enbridge Gas representative provided the website link. The Enbridge Gas representative offered to set up a meeting to discuss the pilot project and provide more information in general.		

Line-item attachment 1.0

From: Lauren Whitwham
To: Matt Stone
Subject: Enbridge IRP: Southern Lake Huron
Date: Monday, April 3, 2023 12:11:08 PM

Hi Matt,

I'm not sure who would be interested in this at Aamjiwnaang but I wanted to pass it along.

Enbridge Gas is looking to develop an understanding of how to design, deploy and evaluate enhanced targeted energy efficiency (ETEE) and demand response (DR) programs and to recognize how ETEE & DR impacts peak hour demands.
This pilot project is located within the City of Sarnia and Municipality of Plympton-Wyoming. Information on the pilot project can be found here:
https://www.enbridgegas.com/sustainability/regional-planning-engagement/southern-lake-huron-project
I just noticed the map of this project looks like it is within Aamjiwnaang First Nation and this is not the case. This is an error on Enbridge's part. The pilot does not extend past Churchill and we will work on making adjustments to correct.
Enbridge Gas is required (as directed in the EB-2020-0091 IRP Framework Proceeding) to apply to the OEB for approval of the IRP pilot Projects. Enbridge Gas currently plans to file the application to the OEB on May 15.

If you are interested in learning more or having a meeting to discuss the pilot project further, please let me know.

Thanks,
Lauren

Lauren Whitwham
Senior Advisor, Community & Indigenous Engagement, Eastern Region

Public Affairs, Communications & Sustainability

Line-item attachment 1.1

From: Lauren Whitwham
To: Cathleen O"Brien; Courtney Jackson; lrosales@aamjiwnaang.ca
Subject: Updated website: Enbridge IRP: Southern Lake Huron
Date: Tuesday, June 13, 2023 9:39:52 AM

Good morning,

As this pilot process is within close proximity to Aamjiwnaang First Nation, I wanted to provide some updated information on the Southern Lake Huron pilot process.

The website for the Southern Lake Huron Pilot project has been updated with the slides from the Open House, an updated map and more information on what IRP is. The slides are two large to attached to the email so I encourage you to review them on the website.

This pilot will take place on individual Enbridge Gas customers homes.

Southern Lake Huron Pilot Project - Regional Planning & Engagement | Enbridge Gas

Enbridge Gas is required (as directed in the EB-2020-0091 IRP Framework Proceeding) to apply to the OEB for approval of the IRP pilot Projects. Enbridge Gas currently plans to file the application to the OEB in the coming month.

If you are interested in learning more or having a meeting to discuss the pilot project further, please let me know.

Thanks,
Lauren

Line-item attachment 2.0

From: Lauren Whitwham
To: Consultation
Cc: Emily Ferguson
Subject: Enbridge IRP: Southern Lake Huron
Date: Tuesday, March 14, 2023 8:43:54 AM

Hi there,

I wanted to make you aware of an Integrated Resource Planning alternative that is being proposed by Enbridge Gas.

Enbridge Gas is looking to develop an understanding of how to design, deploy and evaluate enhanced targeted energy efficiency (ETEE) and demand response (DR) programs and to recognize how ETEE & DR impacts peak hour demands.
This pilot project is located within the City of Sarnia and Municipality of Plympton-Wyoming.
Information on the pilot project can be found here:
https://www.enbridgegas.com/sustainability/regional-planning-engagement/southern-lake-huron-project
Enbridge Gas is required (as directed in the EB-2020-0091 IRP Framework Proceeding) to apply to the OEB for approval of the IRP pilot Projects. Enbridge Gas currently plans to file the application to the OEB on May 15.

If you are interested in learning more or having a meeting to discuss the pilot project further, please let me know.

Thanks,
Lauren

Lauren Whitwham
Senior Advisor, Community & Indigenous Engagement, Eastern Region

Public Affairs, Communications & Sustainability

Line-item attachment 2.1

From: Lauren Whitwham
To: Consultation
Cc: verna.george@kettlepoint.org
Subject: Updated website: Enbridge IRP: Southern Lake Huron
Date: Tuesday, June 13, 2023 9:15:00 AM

Good morning,

Three Fires Group had expressed an interest for information about the Enbridge Gas Integrated Resource Planning pilots/projects. As this pilot process is within close proximity to Kettle and Stony Point First Nation, I wanted to provide some updated information on the Southern Lake Huron pilot process.

The website for the Southern Lake Huron Pilot project has been updated with the slides from the Open House, an updated map and more information on what IRP is. The slides are two large to attached to the email so I encourage you to review them on the website.

Southern Lake Huron Pilot Project - Regional Planning & Engagement | Enbridge Gas

Enbridge Gas is required (as directed in the EB-2020-0091 IRP Framework Proceeding) to apply to the OEB for approval of the IRP pilot Projects. Enbridge Gas currently plans to file the application to the OEB in the coming month.

If you are interested in learning more or having a meeting to discuss the pilot project further, please let me know.

Thanks,
Lauren

Line-item attachment 3.0

From: Sarah Crowell
To: lands@wasauksing.ca
Cc: council5@wasauksing.ca
Subject: Parry Sound, pilot project
Date: Tuesday, March 14, 2023 10:45:12 AM

Hi there,

I wanted to make you aware of an Integrated Resource Planning alternative that is being proposed by Enbridge Gas.
This pilot project will cover the homes and businesses of Enbridge Gas customers in the Town of Parry Sound. Information on the pilot can be found at:
https://www.enbridgegas.com/sustainability/regional-planning-engagement/parry-sound-project
Enbridge Gas is looking to develop an understanding of how to design, deploy and evaluate enhanced targeted energy efficiency (ETEE) and demand response (DR) programs and to recognize how ETEE & DR impacts peak hour demands.

Enbridge Gas is required (as directed in the EB-2020-0091 IRP Framework Proceeding) to apply to the OEB for approval of the IRP pilot Projects. Enbridge Gas currently plans to file the application to the OEB on May 15.

If you are interested in learning more or having a meeting to discuss the pilot project further, please let me know.

Miigwetch,
Sarah

Sarah O'Donnell Crowell
Senior Advisor, Community & Indigenous Engagement, Northern Ontario

Public Affairs, Communications & Sustainability
Enbridge Inc.

Cell: 705-507-3980 | sarah.crowell@enbridge.com
1211 Amber Drive, Thunder Bay, Ontario P7B 6M4
Safety. Integrity. Respect. Inclusion.

Line-item attachment 3.1

From: Sarah Crowell
To: lands@wasauksing.ca
Subject: Parry Sound pilot project update
Date: Tuesday, June 13, 2023 9:58:07 AM

Good morning,

As this pilot project is within close proximity to Wasauksing First Nation, I wanted to provide some updated information on the Parry Sound pilot project. Please share with others who may be interested as well.

The website for the Parry Sound Pilot project has been updated with the slides from the Open House, an updated map and more information on what IRP is. The slides are too large to attach to the email so I encourage you to review them on the website.

Parry Sound Pilot Project - Regional Planning & Engagement | Enbridge Gas

Enbridge Gas is required (as directed in the EB-2020-0091 IRP Framework Proceeding) to apply to the OEB for approval of the IRP pilot projects. Enbridge Gas currently plans to file the application to the OEB in the coming month.

If you are interested in learning more or having a meeting to discuss the pilot project further, please let me know.

Miigwetch, and have a great day!
Sarah