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December 14, 2023

Ms. Nancy Marconi
Registrar
Ontario Energy Board
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2300 Yonge Street
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DELIVERED BY EMAIL

Dear Ms. Marconi

RE: EB-2022-0157-Leave to Construct Application- Panhandle Regional Expansion Project-Enbridge Gas Inc.

Please find attached the submissions of the Ontario Greenhouse Vegetable Growers in the above noted proceeding.

Yours very truly,

Michael R. Buonaguro
Encl.

EB-2022-0157

Leave to Construct Application-Panhandle Regional Expansion Project

Enbridge Gas Inc.

Submissions of the Ontario Greenhouse Vegetable Growers

December 14, 2023

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Summary

1. These are the submissions of the Ontario Greenhouse Vegetable Growers ("OGVG") with respect to the application by Enbridge Gas Inc. ("Enbridge") for leave to construct the proposed Panhandle Regional Expansion Project (the "Project") pursuant to s. 90(1) of the *Ontario Energy Board Act, 1998*, S.O. 1998, c. 15, Sched. B (the "OEB Act").

2. OGVG respectfully submits that Enbridge has established that the Project is in the public interest, such that, pursuant to s. 96(1) of the OEB Act, the Ontario Energy Board (the "OEB"), is required to grant leave to construct the Project. In OGVG's view:

    a) the need for added transmission capacity has been clearly established; in fact, projected growth will exceed Enbridge's transmission capacity in the Panhandle region, despite the added capacity associated with the Project, in the winter of 2029/30 or earlier;

    b) the Project is the preferred alternative, particularly in light of the immediate need for 89 TJ/day of added capacity in 2024 and 2025 driven by new natural gas fired generation related loads[1], and in light of the continued projected growth beyond the winter of 2029/30;

    c) the Project is clearly in the public interest because of the various factors highlighted by Enbridge in its evidence pursuant to the OEB's E.B.O. 134 framework; and

    d) the Project should be granted leave to construct without requiring Enbridge to supplement the Project related revenue through the imposition of a contribution in aid of construction ("CIAC") or similar mechanism.

3. A material portion of the demand for incremental capacity that cannot currently be accommodated by Enbridge is from greenhouse operators, many of whom are or will be members of OGVG as the trade organization that licences and represents the interests of greenhouse tomato, green pepper, and cucumber operations in Ontario.[2]

4. Accordingly, on behalf of both existing and potentially new greenhouse vegetable growers in the Panhandle region, OGVG is generally in agreement with Enbridge's submissions in support of its application. Consequently, to the extent possible, OGVG's submissions are intended to be incremental to the submissions of Enbridge. In addition, while OGVG generally agrees that the proposed new load related to natural gas fired generators and contract rate customers other than greenhouse operators are similarly well

[1] JT 1.23; while this exhibit contains confidential information that is redacted, the information with respect to generator load is public.

[2] OGVG notes that its members include only greenhouse vegetable growers, and that while, for example, greenhouse flower and cannabis growers seeking natural gas capacity in the Panhandle region will have overlapping interests with OGVG's members, there are differences between greenhouse vegetable growers and other greenhouse operations and OGVG does not purport to directly represent those interests.

established, OGVG will focus its submissions on issues in the application as applied to greenhouse operators.

Statutory Framework for the Application

Sections 90 and 96(1) of the OEB Act

5. OGVG believes it is useful to explicitly recognize that this application falls under ss. 90 and 96(1) of the OEB Act, and that under those sections Enbridge is required to seek leave of the OEB to construct the Project and the OEB is required to grant leave to construct if it determines that that Project is in the public interest:

> *If, after considering an application under section 90, 91 or 92 the Board is of the opinion that the construction, expansion or reinforcement of the proposed work is in the public interest, it shall make an order granting leave to carry out the work. (emphasis added)*[3]

6. With respect to what is in the "public interest" OGVG believes that the structure provided by E.B.O. 134, which has underpinned the OEB's analyses of leave to construct applications for transmissions projects since 1987, continues to be an appropriate analytical framework.

7. In OGVG's respectful submission E.B.O. 134's 3-stage analysis accommodates all the factors that are or may be relevant to a determination as to whether a proposed transmission project is in the "public interest".

8. OGVG does not have the benefit of reviewing other parties' submissions on the appropriate analysis of the public interest under s. 96(1) of the OEB Act as it applies to s. 90 applications. However, based on some of the questions asked of Enbridge and OGVG's witness through the hearing process, it appears to OGVG that at least some intervenors may assert that the OEB need only apply stage 1 of the OEB's analytical framework to the Project in order to determine whether the Project is in the public interest, and based on that narrow analysis ask the OEB to require that new load/customers provide a CIAC or be subject to a similar mechanism in order to eliminate any apparent subsidy from existing ratepayers towards the cost of the Project.

9. Assuming one or more parties assert that the analysis of the public interest should be restricted to a stage 1 analysis and that stages 2 and 3 of the E.B.O. 134 framework should effectively be ignored, OGVG makes the following submissions as to why such a

[3] *Ontario Energy Board Act, 1998,* S.O. 1998, c. 15, Sched. B, s. 96(1). OGVG notes that under the predecessor Ontario Energy Board acts a similar requirement for leave to construct hydrocarbon transmission lines and a similar requirement that the OEB determine that the project is in the "public interest" existed; see for example s. 48 (8) under the *Ontario Energy Board Act*, R.S.O. 1980, c. 332. The only change between the predecessor sections and the prevailing section is that the OEB is now required to grant leave if the proposed line is in the public interest, whereas under the now defunct *Ontario Energy Board Act* the power to grant leave remained discretionary.

narrowing of the scope of the public interest determination should not be entertained.

10. Stage 1 of the E.B.O. 134 analysis compares the incremental cost of a proposed project against the incremental revenue to be collected from the new load/customers that the project enables to determine the extent to which existing customers may be notionally "subsidizing" the cost of the project.

11. In OGVG's view stage 1 of the analysis is concerned not with the "public interest", but rather a subset of the "public interest". More specifically, in OGVG's view stage 1 of the analysis only considers the existing "ratepayer interest" and cannot, on its own, be said to represent an analysis of the "public interest" as required by s. 96(1) of the OEB Act.

12. In making this submission OGVG notes that by comparison, for applications for leave to construct under s. 92 of the OEB Act, the scope of the "public interest" is narrowed by operation of s. 96(2) of the OEB Act:

> *In an application under section 92, the Board shall only consider the following when, under subsection (1), it considers whether the construction, expansion or reinforcement of the electricity transmission line or electricity distribution line, or the making of the interconnection, is in the public interest:*
>
> *1. The interests of consumers with respect to prices and the reliability and quality of electricity service.*[4]

13. To be clear, this narrowing of the scope of the public interest does not apply to Enbridge's application under s. 90 of the OEB Act; it is only referenced here to emphasise that the "public interest", in the context of a s. 90 application, is necessarily broader than the interests of consumers of natural gas as ratepayers with respect to price, reliability and quality of natural gas service.

14. This is why, in OGVG's view, the E.B.O. 134 framework goes beyond its stage 1 analysis to consider more than just the notional rate impact on existing consumers of natural gas; it goes on to review the impacts of the Project on the full public interest.

15. As will be discussed later in these submissions, it is OGVG's view that the combined benefits of the Project as evaluated under stages 2 and 3 of the E.B.O. framework far outweigh any perceived shortfall in the revenue collected from new load/customers under the stage 1 analysis.

[4] *Ontario Energy Board Act, 1998,* S.O. 1998, c. 15, Sched. B, s. 96(2).

The Need for the Project is Well Established

16. OGVG respectfully submits that Enbridge has fully and fairly set out the need for firm natural gas service to enable greenhouse operators to build new and/or expand existing greenhouse operations in the Panhandle region.

17. If adequate firm natural gas capacity is made available, there will be material growth in the greenhouse industry in southern Ontario[5], growth that is, as will be discussed in relation to Enbridge's stage 3 analysis, specifically desired by a wide range of stakeholders.

18. Without adequate firm natural gas capacity material growth in the greenhouse sector in the Panhandle region will effectively stall and likely shift to other jurisdictions with the needed natural gas infrastructure.[6]

19. While greenhouse operators constantly seek out ways to make their operations more energy efficient and sustainable, the alternatives to firm natural gas service to meet the combined heating, cogeneration and carbon dioxide supplementation needs of the industry are simply not economically feasible by comparison, a conclusion put forward not only by Enbridge and OGVG's witness Dr. Petro but also agreed to by the Environmental Defence witness Dr. McDiarmid.[7]

20. OGVG submits that the federal government recognizes the importance of natural gas to the greenhouse sector through its emissions policy, insofar as it provides an 80% exemption from fuel charges to qualifying greenhouses that use natural gas for heating and carbon dioxide supplementation for their operations.[8]

21. AIRM Consulting Ltd., ("AIRM") a 3rd party consulting firm retained by OGVG, conducted the Ontario Growth and Sustainable Prosperity Study (2023) (the "Growth Study") to provide OGVG and its members with an enterprise risk management framework. The Growth Study examines the interplay between the risks and opportunities facing the greenhouse vegetable sector in Ontario and provides a holistic set of recommendations to help drive growth and prosperity. The Growth Study is produced in its entirety at Exhibit J3.8 and covers a wide range of topics; in relation to the realized and potential growth potential of the industry, the industry's efforts to evolve greenhouse operations into net zero compliance while utilizing natural gas, and the challenges, specific to their energy needs, that greenhouse operators face, AIRM made the following comments:

[5] Exhibit J3.8 attachment 1, Ontario Growth and Sustainable Prosperity Study (2023), page iv.
[6] Exhibit K3.2, pages 1, 3.
[7] Transcript Volume 2, pages 106-108.
[8] See https://www.canada.ca/en/revenue-agency/services/forms-publications/forms/l404.html to view the exemption certificate for greenhouses operators.

The greenhouse vegetable sector in Ontario is experiencing remarkable growth, with new facilities being built and upgraded at a rate comparable to constructing an automotive factory every three years. For example, the Stellantis EV Battery plant in Windsor represents a substantial private investment of $5 billion, creating 3,000 jobs. In contrast, the greenhouse vegetable sector has the potential to attract over $6 billion in investments with government assistance, leading to the creation of more than 32,000 jobs within a similar timeframe. Moreover, the greenhouse vegetable sector continuously attracts substantial investments, surpassing the frequency of new automotive plant establishments, where typical investments hover around $500 million. Both industries are significant contributors to Canada's economy. Despite facing challenges, they have demonstrated resilience and dedication in driving economic growth through strategic investments in advanced technologies and sustainable practices.

. . .

The greenhouse industry in Ontario is at the forefront of sustainable agriculture, actively working towards reducing its carbon footprint and adopting sustainable practices. Many greenhouse operators are utilizing renewable energy sources like solar panels and geothermal systems to power their operations, promoting the development of renewable energy in the region. The industry is also adopting precision farming techniques and automated systems that control lighting, temperature, and humidity to optimize crop growth and conserve energy. This technology-driven approach is particularly relevant to greenhouse vegetable production, where precision farming helps to optimize resource use and reduce waste. Recycling systems like rainwater harvesting, greywater recycling, and composting are being implemented to minimize waste and reduce water consumption.

Moreover, many greenhouse operators are exploring carbon offset programs and markets to sell carbon credits and offset their emissions. This generates additional income for the industry while supporting the development of sustainable energy and low-carbon projects. The OGVG Hydrogen Integrated Greenhouse Studies is a prime example of the industry's innovative approach to sustainable agriculture. By identifying optimal CO2 levels and modeling blended fuel ratios, growers can ensure crops receive the optimal dose of CO2 while not producing any further CO2 beyond the net-zero threshold.

. . .

> *Greenhouses require significant energy for heating, lighting, and equipment used in the production process. As the Canadian greenhouse vegetable industry moves towards lit production, the energy demand is increasing. Access to reliable electricity is essential for the industry's efficient operation. Although many greenhouse operations in Ontario use natural gas to heat their facilities, the government is pushing for a transition towards electric heating. However, feasibility remains a challenge due to factors such as lack of electricity, insufficient infrastructure, and high electricity costs. These issues must be addressed to successfully transition the industry to sustainable energy sources. Infrastructure and utilities such as transportation, energy, water, and natural gas pipelines are critical for the growth of the greenhouse industry in Ontario, ensuring efficient and sustainable operations.(emphasis added)*[9]

22. In short, and as OGVG believes is adequately demonstrated through the Growth Study and through the testimony of Dr. Petro as OGVG's Energy, Infrastructure and Environment Director, the greenhouse industry in southern Ontario is not frivolous in its request for firm natural gas capacity. The greenhouse sector in southern Ontario is a sophisticated industry, utilizes cutting edge technology including with respect to its energy needs, and is fully engaged in ensuring that their operations are sustainable in the context of the energy transition facing Ontario, Canada, and the world.

The Difference Between the Need for Transmission Capacity at the System Peak and Efforts to Reduce Annual Consumption Through Demand Side Management

23. Much of the discussion around the specifics of greenhouse operations in southern Ontario revolve around options for reducing or replacing natural gas consumption.

24. As noted by Enbridge greenhouse operators in the Panhandle region are active participants in Enbridge's demand side management programming:

> *MR. MacPHERSON: If I can add to Mrs. Wade's comments. The greenhouses are one of our most successful industrial DSM segments. I think just even in this year we have more than 80 projects underway. We have had participation almost universally from every greenhouse, including we had last year a temporary program to double the incentive. That has become permanent. So programs to improve building envelope and efficiency, buildings to encourage growers to build more efficient greenhouses.*
>
> *And we have, over time, observed that technology improve, and I will give this as a rough number, but a few years ago, a number of years ago, a greenhouse might typically use 130 cubic metres per hour per acre, and now we are seeing that number approaching 80 cubic metres per hour per*

[9] Exhibit J3.8 attachment 1, Ontario Growth and Sustainable Prosperity Study (2023), pages iv, vi, vii.

> *acre. So there's been substantial improvements, new -- lots of innovation in the sector and the building -- I guess, let me put it this way. They are very motivated to build efficient greenhouses. It's an important cost in their operation. I mean, the plants are number one, but energy and CO2 control are huge, huge considerations.*[10]

25. As an energy intensive undertaking, greenhouse operators are motivated to reduce their natural gas consumption as much as possible. As highlighted by OGVG on its website, greenhouse operators actively seek out alternatives to natural gas consumption where feasible.[11]

26. However, the consequences of the loss of heating and carbon dioxide supply to greenhouses operators are so catastrophic that access to firm natural gas supply has become essentially a precondition to investment in new greenhouse acreage in southern Ontario, as explained by Dr. Petro in his evidence.[12] While it is prudent for greenhouse growers to seek to reduce their natural gas consumption as much as possible, it is critical that at the coldest times of the year greenhouses have firm, reliable access to the heating and carbon dioxide supplementation their crops require, a need that is best served by firm natural gas service.[13]

27. By way of example, OGVG notes that despite the investment of one large greenhouse vegetable grower in the Panhandle region into the collection and use of biomass as a secondary source of both heat and supplemental carbon dioxide, that same grower continues to rely on natural gas as its primary source for both needs.[14] That same grower provided its own letter of support for the Project, noting that its plans for greenhouse expansion in the region are ". . . contingent upon being able to access the utilities, including natural gas that modern greenhouses require".[15]

28. As described in detail in Enbridge's evidence the planning for transmission facilities revolves around a single concept, the system peak, which is the maximum demand for natural gas on the system, usually occurring during the coldest day of the year based on the predominant use of natural gas for heating.[16] As described by Enbridge, although it actively works with greenhouse operators on reducing their overall natural gas consumption through their demand side management programs, those programs do not necessarily impact the need for

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[10] Transcript Volume 2 pages 140-141.
[11] ED Evidence, page 7, referencing Ontario Greenhouse Vegetable Growers. (n.d.) Case Studies. Retrieved from https://www.ogvg.com/_files/ugd/5ef796_e27e9eab784c4482b7bd162404e12897.pdf , and https://www.ogvg.com/_files/ugd/5ef796_35340c3b90d1431d9eb30f76261d867e.pdf .
[12] Exhibit K3.2, page 3.
[13] Exhibit K3.2, page 3.
[14] Transcript Volume 3 page 135.
[15] Exhibit B, Tab 1, Schedule 1, Attachment 4, page 4.
[16] Exhibit B, Tab 2, Schedule 1, page 4.

firm natural gas capacity at the system peak.[17] In other words, it is entirely possible to continuously seek to lower a greenhouse operations annual consumption of natural gas, while at the same time maintaining the same need for natural gas transmission capacity at the system peak.

Alternatives to the Project

29. OGVG's interest is in ensuring that the required firm natural gas capacity is made available when required and in the most economically efficient way possible. Accordingly, OGVG has no preconceived interest in the proposed Project as opposed to some other solution that does not require the construction of new transmission assets.

30. However, based on the projected load requirements it appears to OGVG that the proposed Project is the most economic option for meeting the near-term capacity requirements on the system. In fact, OGVG remains concerned that even with the new capacity provided by the Project Enbridge will be facing capacity shortfalls as early as the winter of 2029/30, even earlier if any of the capacity requests that Enbridge says it did not include in its forecast materialize.[18]

31. Accordingly, OGVG is concerned that planning for meeting the capacity requirements in 2029/30 should be underway now, particularly given the lead time it appears is required to implement IRP related solutions. OGVG asked Enbridge about the projected 2029/2030 shortfall and Enbridge suggested that they could likely meet that need using a supply side solution; while that may be feasible, OGVG suggests that the forecast growth in the Panhandle region may warrant immediate consideration for extensive and prolonged IRP related activity to offset the projected growth in contract demand and, hopefully, obviate the need for further transmission reinforcements in the region.

The Project is in the Public Interest

32. What follows are OGVG's submissions with respect to Enbridge's analysis of the Project's economics under the E.B.O. 134 3 stage framework with a view to determining whether the Project is in the public interest.

Stage 1 Analysis under E.B.O. 134

33. Enbridge's stage 1 analysis under E.B.O 134 compares the incremental cost of the Project against the incremental transmission revenue associated with the new capacity over a 40-year horizon to determine, notionally, the burden on existing ratepayers of the Project. Based on these parameters Enbridge calculates a NPV of ($150M) for the Project.[19]

34. Within the context of the overall 3 stage analysis under E.B.O. 134 the ($150M) shortfall in revenue is more than offset by the benefits calculated by Enbridge under stages 2 and

[17] Technical Conference Transcript Volume 1, pages 175-176.
[18] Transcript Volume 1 pages 147-148.
[19] Exhibit E, Tab 1, Schedule 5, page 1.

3. Even so, OGVG respectfully submits that the stage 1 analysis underestimates the revenue from new load/customers, and that including the full revenue from new load/customers improves the results materially.

Enbridge's Stage 1 Analysis Understates the Benefits of the Project-Storage and Distribution Related Revenue

35. Enbridge confirmed that although not accounted for in its stage 1 analysis, the addition of new load/customers because of the Project attracts not only incremental transmission revenue, but also incremental storage and distribution related revenue.[20]

36. With respect to storage related revenue, Enbridge confirmed that adding new load/customers provides incremental storage revenue without adding any incremental storage related costs.[21] In terms of the materiality of that incremental revenue, OGVG notes that the gross transmission revenue associated with the Project peaks at year 7 at $9.246M per year[22]; by comparison the gross storage revenue associate with the Project peaks in year 7 at $2.11M[23]. Because there are no incremental storage related costs this means that, in OGVG's view, the gross revenue from the Project is understated by at least 22%.[24]

37. In OGVG's view that incremental storage related revenue is a material benefit of the Project that should be captured, either directly in the stage 1 analysis or as part of the overall 3 stage analysis.

38. Similarly, Enbridge confirmed that adding new load/customers because of the Project provides incremental distribution revenue, although in the case of distribution revenue there will be incremental distribution costs incurred by Enbridge to connect the new load/customers to their local distribution systems.[25]

39. In terms of the materiality of the incremental gross distribution revenue, Enbridge confirmed that the incremental gross distribution revenue is forecast to peak in year 7 at $7.367M[26]; in other words, the incremental gross distribution revenue is 79.6% of the incremental gross transmission revenue, representing a potentially significant benefit to existing ratepayers that has not been accounted for at any stage of Enbridge's analysis.

40. Having said that, OGVG recognizes that the incremental gross distribution revenue will first need to be accounted for against incremental distribution costs, i.e. the cost of the distribution infrastructure required to connect the new load/customers. For some

[20] Exhibit I.OGVG.4_2023 c) and d).
[21] Exhibit I.OGVG.4_2023 a).
[22] Exhibit E, Tab 1, Schedule 4, page 1.
[23] Exhibit I.OGVG.4_2023 c).
[24] To be clear, the storage related revenue benefit to existing ratepayers would manifest itself through lower storage related rates once the new load/customers are added to Enbridge's customer base for the purposes of cost allocation and rate design.
[25] Exhibit I.OGVG.4_2023 b).
[26] Exhibit I.OGVG.4_2023 d).

customers that cost may be immaterial, i.e. if they are located near existing distribution assets that have sufficient incremental capacity to serve them. For other customers the cost may be material, i.e. if a distribution line of significant length needs to be built to connect the customer to the distribution system.

41. OGVG asked Enbridge to estimate the cost of the distribution infrastructure that would be needed to connect the new load/customers served by the Project; Enbridge responded that it could not provide that estimate as the required facilities have not yet been designed or constructed.[27] This means that at this point it is not possible to accurately forecast the net benefit of the incremental distribution revenue associated with the Project after accounting for the funding of the required new distribution assets.

42. However, OGVG respectfully submits, it remains likely that there will be a material benefit from that incremental distribution revenue even after accounting for the incremental distribution costs based on several factors:

    i) over 94% of the new load/customers are large contract customers,

    ii) under the OEB's existing E.B.O. 188 guidelines as modified by EB-2020-0094, Enbridge allocates the costs of new distribution infrastructure to contract customers based on their capacity requirements on the new assets using an hourly allocation factor (HAF) and ensures that each such customer, at a minimum, fully funds its share of the distribution costs either through a long-term contract for distribution service, a capital contribution, or a combination of both, and

    iii) most contract customers can satisfy their HAF related obligation through a contract term of less than 20 years, and in many instances less than 10 years, with any distribution revenue collected from that customer beyond the term of their contract providing a benefit to existing customers.[28]

43. Accordingly, while it is not possible to quantify the precise benefit to existing customers because of incremental distribution revenue associated with the Project, it is almost certain that there will be a material incremental benefit to existing ratepayers because of incremental distribution revenue from new load/customers beyond what is needed to fund the required distribution costs.

[27] Exhibit I.OGVG.4 b)

[28] Transcript Volume 3, page 29. By way of example, OGVG notes that in two successive Leamington area distribution reinforcement projects, both of which connected greenhouse customers, the projects achieved a Profitability Index of 1.0 in year 14 (EB-2012-0431, schedule 9) and year 9 (EB-2016-0013, schedule 8) respectively, demonstrating that the distribution assets were fully funded relatively quickly, with distribution revenue collected from the connected customers beyond years 14 and 9 respectively increasing the profitability of the projects beyond 1.0 to the benefit of existing ratepayers.

Combined Impact of Incremental Storage and Distribution Revenue on Stage 1 Analysis

44. For illustrative purposes OGVG calculated the impact of adding:

    a) the storage revenue associated with the new load/customers from the Project, after accounting for income taxes on that revenue, and

    b) the distribution revenue associated with the new load/customers from the Project, after accounting for incomes taxes on that revenue and on the assumption that the first 10 years of that net revenue was used to offset distribution costs.

45. Based on those two additions the NPV for the Project changes from ($150M) to ($75M), a material reduction in the forecast revenue shortfall, and a material increase in the forecast net benefit from the Project to the public interest, an increase realized specifically by existing ratepayers.[29]

The Stage 1 Analysis does not Capture the Benefit of Adding New, Large, Long-Term Users of Natural Gas to the Enbridge System

46. Related to the unquantified benefit of increased storage and distribution revenue from new load/customers, there is the further unquantified benefit of adding new load/customers to the Enbridge system in the face of (potentially) material declines in load/customers from other sectors.

47. As discussed at length in Enbridge's 2024 Cost of Service application there is a concern that as customers that have the resources to shift entirely off natural gas service through complete electrification the cost of natural gas service to customers that remain will increase as the load/customer base over which Enbridge's costs are allocated decreases.

48. Assuming that there is a material exodus from the system, particularly with respect to residential consumers that have the ability to switch entirely to electricity (and aside from the fact that, absent the implementation of exit fees, such customers need not be directly concerned about natural gas rate impacts once they exit the system), the addition of greenhouse related load/customers to the Enbridge system is a benefit to remaining customers that is not captured in the present form of the stage 1 analysis, as those new greenhouse customers will have costs allocated to them in rates that, absent the addition of those new loads/customers, would have been allocated to remaining customers.

[29] OGVG used the spreadsheet provided by Enbridge at Exhibit I.ED.8 Attachment 1 as updated to October 3, 2023, with the storage and distribution revenue forecasts provided at Exhibit I.OGVG.4_2023. The income tax rate of 26.5% was taken from Exhibit E, Tab 1, Schedule 3. The net storage revenue was included in years 1-40; the net distribution revenue was included from years 11-40 on the assumption that the net distribution revenue from years 1-10 was required to offset incremental distribution costs. OGVG recognizes that the contribution of distribution revenue will likely be either more or less then assumed in this calculation depending on the actual level of incremental distribution spending is necessary to connect the new load/customers. For example, assuming incremental distribution revenue starting at year 16 instead of year 11 changes the net shortfall from ($75M) to ($88.5M).

49. In other words, adding new load/customers to replace departing customers will help avoid the "death spiral" impact on existing customers that remain on Enbridge's system.

50. In OGVG's view there is a real possibility that the long term economic health of the Enbridge natural gas system, both from the perspective of Enbridge and its customers, could rely in part on the replacement of existing load/customers that leave the system with new load/customers, like greenhouse customers, who have a sustained interest in accessing firm natural gas service from Enbridge because of its reliable and efficient role in meeting their heating, cogeneration and carbon dioxide supplementation needs. As described by AIRM, greenhouse operators are pursuing the goal of achieving not only net zero emissions in their operations using natural gas with potential participation in the carbon credit market as a source of income for the industry, making greenhouses, possibly, the ideal natural gas customer for providers like Enbridge into the future.

The 40-Year Revenue Horizon

51. OGVG expects that some parties may argue that in the stage 1 NPV analysis the OEB should reduce the projected revenue horizon from 40 years to 20 years, in part based on the notion that the assumed service life of the Project of 40 years exceeds the "likely" actual service life given concerns over energy transition issues. In OGVG's view submissions seeking to reduce the revenue horizon fail to consider the resulting inconsistency in the stage 1 analysis.

52. The revenue projection under the stage 1 analysis has two components:

    i) it assumes that existing rates, without the inclusion of the Project costs, will be applied to new load/customers, and

    ii) it applies those rates over a revenue horizon of 40 years.

53. In this case existing rates are Enbridge's January 1, 2023 rates, which include all assets in rate base using "status quo" service lives as opposed to "energy transition" impacted service lives that have been truncated using an Economic Planning Horizon or similar mechanism.

54. In OGVG's view the use of a 40-year revenue horizon for transmission projects[30] matches the assumed asset lifespans embedded in status quo rates, such that there is no

[30] OGVG recognizes that for the purposes of depreciation the economic lifespan of transmission assets is usually more than 40 years, such that the use of a 40-year horizon already truncates the revenue stream from the project even though it has the potential to earn revenue beyond 40 years. OGVG notes, however, that the net present value for any revenue earned in year 41 based on the application of status quo rates is already, based on Enbridge's calculations, discounted to a factor of approximately .1, and continues to diminish beyond year 41, such that the resulting impact of matching the revenue horizon to the longer physical lifespan of the assets beyond 40 years, is *de minimus*.

inconsistency between the treatment of the revenue stream imputed to new load/customers and the economic lifespan of the assets underpinning the Project. That consistent treatment means that if, in the future, the OEB imposes an Economic Planning Horizon or similar mechanism to accelerate the recovery of rate base in view of energy transition concerns, there is no issue of having underestimated the revenue from new load/customers in the initial stage 1 analysis.

55. If, however, the revenue horizon for the Project is truncated to, for example, 20 years based on energy transition concerns while still applying January 2023 rates (which have not been impacted by energy transition concerns) there will exist an inconsistency in that the revenue from new load/customers will have been materially underestimated if and when an Economic Planning Horizon or similar mechanism is applied to the assets that underpin Enbridge's 2023 status quo rates.[31]

56. To put it more simply, the current methodology consistently assumes the status quo for both the projected revenue from existing rates and the lifespan of the new project in relation to energy transition, i.e. both the existing assets and the proposed new assets are assumed to have "normal" economic lifespans. Materially truncating the revenue horizon introduces inconsistent treatment between existing assets and the proposed new assets, an inconsistency which materially undervalues the revenue from new load/customers particularly if and when the OEB changes the treatment of existing assets.

Stage 2 Analysis under E.B.O. 134

Theoretical Stage 2 Analysis for Greenhouse Operations

57. Specific to the forecast new load from greenhouse operations OGVG notes that Enbridge did not forecast any stage 2 benefits resulting from the differential between serving that new load using natural gas and serving that new load using electricity and other substitutes. Enbridge did not provide such an analysis because access to natural gas is not, for the greenhouse operations in southern Ontario, simply a less expensive option for planned expansions, it is a precondition for expansion. In other words, it is not the case that there will several thousand acres of greenhouse operations expansion that would prefer to access natural gas; without natural gas access that expansion will not occur.

58. Enbridge could have, nevertheless, calculated the economic benefit to new greenhouse operations based on the differential between running those operations assuming access to firm natural gas service and running those operations based on electricity and other alternatives, including, importantly, the need to purchase, ship and store supplemental carbon dioxide.

59. Having said that, OGVG agrees with Enbridge that it is likely more appropriate to

[31] OGVG notes that it made a similar observation in Enbridge's 2024 Cost of Service application (EB-2022-0200) with respect to proposals to reduce the revenue horizon used for the economic analysis of distribution projects for small/residential customers, see EB-2022-0200, Submissions of OGVG, September 19, 2023, pages 7-9.

acknowledge that access to natural gas for greenhouse operations, particularly to the extent that it is used to provide supplemental carbon dioxide to greenhouse crops, is so critical that greenhouse development will generally require access to firm natural gas service from Enbridge before committing to invest in new greenhouse operations in the Panhandle region. Accordingly, as proposed by Enbridge, the impact of the Project on the viability of future greenhouse operations expansion can be appropriately considered under stage 3 of the E.B.O. 134 analysis.

Stage 3 Analysis under E.B.O. 134

The Project Produces Quantifiable Economic Benefits for Ontario

60. Enbridge calculates that the incremental spending of $289.1M on the Project has a quantifiable benefit through capital investment and ongoing income and municipal taxes in the order of $257M, along with the unquantified impact associated with the creation of approximately 1093 jobs.[32] OGVG notes that this benefit alone exceeds any calculated revenue shortfall under the stage 1 analysis.

The Project Enables Material Local Investment in Infrastructure Spending and Job Creation in the Greenhouse Sector

61. As proposed by Enbridge, rather than account for the economic benefit of access to natural gas to greenhouse operations under the stage 2 analysis, the role of the Project as a precondition to greenhouse operation expansion in southern Ontario is proposed to be recognized as a stage 3 benefit.[33]

62. Based on the information provided to Enbridge directly from the greenhouse operations seeking near term access to natural gas service in the Panhandle region, Enbridge has estimated the total capital investment in greenhouse operations associated with the Project to be $4.5 billion, along with the creation of approximately 6,900.[34]

63. Enbridge did not attempt to quantify the economic benefit to Ontario resulting from the greenhouse related investments, primarily because it is not intimately familiar with the specifics of that investment in the same way it is familiar with its own spending directly on the Project.[35] However, Enbridge did agree that the benefit of the greenhouse related investments, which are forecast to exceed the incremental cost of the Project by 1557%, are likely to at a minimum equal the Project related benefit of $257M.[36]

64. OGVG respectfully submits that the estimate of $257M, which itself exceeds any net shortfall in direct project revenue under the stage 1 analysis, is likely to be much higher.

[32] Exhibit E, Tab 1, Schedule 7, page 1
[33] Exhibit E, Tab 1, Schedule 1, pages 5-7.
[34] Exhibit E, Tab 1, Schedule 1, page 6.
[35] Transcript Volume 1, pages 144-146.
[36] I.OGVG.5 a).

65. Enbridge notes that greenhouse operations growth is connected to increased awareness of the importance of food security and affordability.[37] As noted by Dr. Petro, Ontario exports help to stabilize the North American market.[38] AIRM commented on the growing concern with respect to food security in the Growth Report:

> *Ontario's greenhouse vegetable sector plays an important role in promoting food security, helping to feed a growing population. The resulting impacts from the COVID-19 pandemic and other international trade disruptions have shown the importance of domestic self-reliance in food production, providing a local source of fresh sustainable food throughout the year.*[39]

66. OGVG respectfully submits that, between the economic benefit of the Project both directly and as a precondition to greenhouse expansion in the region and the positive impact on food security, it is not surprising that various entities directly representing the public interest fully endorse the Project. The endorsements of these entities provided in the Enbridge evidence speak for themselves, but OGVG believes it is useful to briefly note that the Project is supported by the following entities as set out in Exhibit B, Tab 1, Schedule 1, Attachment 3:

a) the Chatham-Kent Chamber of Commerce,
b) the City of Windsor,
c) the County of Essex,
d) Invest WindsorEssex.
e) the Leamington District Chamber of Commerce,
f) the Municipality of Chatham-Kent,
g) the Municipality of Lakeshore,
h) the Town of Kingsville,
i) the Windsor-Essex Regional Chamber of Commerce.

67. In OGVG's submission this widespread and unequivocal support for the Project is grounded in the recognition of the Stage 3 benefits the Project enables and demonstrates that the "public interest" requirement that s. 96(1) of the OEB Act imposes has been met.

68. OGVG would also respectfully note that the growth of the greenhouse sector is, simultaneously, a material consideration in the planning for electrical infrastructure in the Panhandle region. By way of example, OGVG notes the following from the IESO's 2021 planning document for the "west of London" area, which includes the Panhandle region:

[37] Exhibit B, Tab 1, Schedule 1, page 5.
[38] Exhibit J3.7.
[39] Exhibit J3.8 attachment 1, Ontario Growth and Sustainable Prosperity Study (2023), page i.

> *Electricity demand in Windsor-Essex and the Chatham-Kent area (referred to as the "Focus Area") within WOL is growing at a rapid pace. This growth has been driven by strong indoor agricultural growth, mainly vegetable greenhouses, as well as in part, cannabis, specifically through existing greenhouses switching to lit indoor facilities, expansion of greenhouse facilities, and supplemental load to support the agricultural sector. The agricultural sector demand in the Focus Area is expected to increase from a winter peak of roughly 500 MW today to 2,300 MW in 2035 – this is the electrical equivalent of adding a city the size of Ottawa. Due to this rapid growth, planning in southwestern Ontario has been occurring on a continuum over the last five years. In 2019, the IESO released the 2019 Windsor-Essex bulk study, which made recommendations for supplying this growing demand. This report is the latest in a line of ongoing analysis at the bulk system and regional level.*[40]

69. Accordingly, OGVG respectfully submits, the failure of greenhouse sector growth in the Panhandle region if incremental firm natural gas service is not made available will likely have a material impact on the course of the IESO's ongoing planning for the electrical system, ranging from reconsidering the need for infrastructure to meet greenhouse requirements, to revising the extent to which the IESO can rely on greenhouse cogeneration projects for local embedded generation of electricity.

Contributions in Aid of Construction

70. OGVG expects that at least some intervenors may agree that Enbridge should be granted leave to construct the Project, but only in conjunction with a requirement that new load/customers accessing the incremental capacity provided by the Project provide a CIAC to eliminate any subsidy from existing customers towards the cost of the Project.

71. While OGVG cannot know with certainty the basis upon which some parties may attempt to calculate such an CIAC, either globally or on a customer by customer basis, OGVG expects such submissions to be based on a calculation of a CIAC amount similar in nature to how, under E.B.O. 188 with respect to distribution projects, Enbridge is required to meet a certain Profitability Index for each distribution project, and that any shortfall between the cost of the project and the forecast revenue from new load/customers (calculated in a similar fashion to how Enbridge calculates the net present value of a transmission project under stage 1 of the E.B.O. 134 framework) would become the responsibility of the new load/customers either through an up-front CIAC or through the application of a system expansion charge or temporary connection surcharge over a term of up to 40 years.

72. OGVG objects to the imposition of a CIAC or similar requirement on new load/customers seeking access to the incremental capacity provided by the Project for several reasons.

[40] Exhibit K1.7, tab 8, page 1, from the IESO document "Need for Bulk System Reinforcements West of London", November 2021.

The Project is in the Public Interest

73. The expansion of Enbridge's transmission system has been governed by the E.B.O. 134 framework for more than 30 years. Under that framework the OEB has consistently approved transmission expansion projects based on an economic analysis that considers benefits beyond the direct rate related revenue that a proposed project will attract when determining whether a project should be granted leave to construct. As noted by OGVG earlier in this submission, this broader view of the economics of a proposed transmission project is consistent with the statutory obligation to consider whether a proposed project is in the public interest, rather than focus inappropriately on ratepayer interests only.

74. With respect to the proposed Project, as has been the case with similar historical projects that have been granted leave to construct, the overall economics are overwhelmingly to the benefit of the public interest, such that no supplemental revenue through a CIAC or similar mechanism should be required. Put another way, while the NPV of the Project based on the associated transmission revenue from new load/customers appears as a $150M shortfall that is notionally to be funded by existing ratepayers, the broader benefits of the Project, including stage 2 benefits in the form of savings to customers as a result of access to natural gas and stage 3 benefits in the form of local capital investment in the order of $4.5B and associated job creation dwarfs the notional $150M in notional revenue shortfall, a shortfall that OGVG has asserted is overstated in any event as the result of a failure to recognize additional incremental storage and distribution revenue associated with the Project.

75. The specific customers seeking transmission capacity were asked about the possibility of having to pay a CIAC in order to secure capacity on the Project, and the general sentiment was to reject the notion that such a payment should be required.[41] This is not surprising, given that the most recent transmission project in the area of similar scope, the Panhandle Reinforcement Project (EB-2016-0186), was approved by the OEB without the need for any CIAC. Like the Panhandle Reinforcement Project the proposed Project, when viewed through the lens of the OEB's 3 stage test under E.B.O. 134, provides overwhelmingly net positive economic benefits such that it is a boon to the public interest as opposed to being a burden, a conclusion that OGVG has noted is reflected in the widespread support provided on the public record from stakeholders in the Panhandle region.

It is Appropriate for all Customers to Contribute to the Cost of Transmission Assets They Share

76. Transmission assets like the proposed Project are not fairly characterized, in OGVG's view, as incremental assets built specifically to serve the needs of specific customers. Transmissions assets like the proposed Project are necessary to provide equitable access to natural gas service for all the customers in a broad area. The need for the Project is the result of the combined desire for transmission capacity from both existing and new

[41] Exhibit I.STAFF.25, Attachment 1, Page 1.

load/customers; unlike distribution assets, the bulk of which are used or useful only to specific customers (i.e. the meters and service lines that serve individual customer connections) or a small subset of customers (i.e. distribution lines that serve a very localized area) transmission assets provide capacity that can be used to serve any of the customers or potential customers in a large geographic area.

77. In the present case the need for the Project is driven not only by unmet demand for capacity, but also by the desire of existing customers to continue to hold onto the capacity they have been allocated. When existing customers in the region turn back the capacity that is currently reserved for them, that release of capacity can be taken up by new load/customers anywhere within the area served by the Panhandle system. It is the shared nature of the use of a transmission system by all customers in a large area, combined with the flexibility to reallocate capacity on that system amongst those customers that, in OGVG's view, distinguishes transmission assets from distribution assets and justifies the existing policy against routinely imposing CIACs or other funding requirements in connection with transmission projects.

There is no Undue Burden on any Individual, Group or Class as a Result of the Project

78. The OEB specifically determined in E.B.O. 134 that some level of subsidy in rates was acceptable, and has reaffirmed this finding in its filing guidelines for transmission projects as recently as February 2013:

> *The Board continues to hold the opinion that it is appropriate for existing customers to subsidize, through higher rates, financially non-sustaining extensions that are in the overall public interest if the subsidy does not cause an undue burden on any individual, group or class.*[42]

79. The caveat as expressed in the both the E.B.O. 134 decision and the affirming 2013 filing guidelines is that the subsidy must not "cause an undue burden on any individual, group or class." To that end, OGVG notes the following:

    a) the overall economics of the Project are overwhelming positive on a net basis; while there will notionally be some subsidy from existing customers embedded in rates to fund the Project, those same customers will receive the benefits of the Project that flow outside of rates, which include job creation, income and municipal tax revenue, and material economic investment in the local economy; and

    b) the actual level of the subsidy as calculated by Enbridge is, relative to similar projects where no undue burden was found, modest. For the Project the delivery rate impact ranges from .2% to 5%, with the 5% impact being experienced by large T2 customers in the legacy Union South Rate Zone.[43] By comparison, the

[42] E.B.O. 134, paragraph 6.79, affirmed in the OEB's Filing Guidelines on the Economic Tests for Transmission Pipeline Applications, EB-2012-0092, page 3.
[43] Exhibit I.IGUA.2 Attachment 1, page 2.

delivery rate impact approved for the Panhandle Reinforcement Project (EB-2016-0186) ranged from .1% to 27.7%, with the 27.7% impact being experienced by large T2 customers.[44]

80. Accordingly, based on recent precedent, it appears to OGVG that there is no undue rate impact on any individual, group, or class associated with the Project that the OEB would, in the normal course, consider to be of concern in the context of a transmission project that it has determined is in the public interest to construct.

81. Beyond a general view that a CIAC or similar mechanism is not necessary, OGVG notes that there is no policy from the OEB as to exactly how a CIAC or similar mechanism should be calculated and implemented when dealing with a transmission project of the size and scope that is presented in this application. In OGVG's view, as was its view in Enbridge's 2024 Cost of Service Proceeding, changing the policy underpinning the OEB's approach to the economic analysis should be done in a comprehensive manner in a proceeding designed to review the full scope of the issues in question. That caution should be exercised is highlighted when one considers just some of the issues that would need to be resolved, i.e.:

    a) properly accounting for the storage and distribution related revenue benefits that the Project enables,

    b) the proper way, if at all, to reflect energy transition related impacts on the assumed economic lives for both the new and existing assets when considering changes to the economic analysis under stage 1,

    c) how to quantify and credit the economic benefits that flow to the public as a result of a transmission project outside of rates against any CIAC, and

    d) how to reconcile issues of fairness as they relate to, for example, accounting for load/customers that are added to the system through other measures, i.e. supply-side contracts, IRP projects, turnback etc., that do not require facilities but whose load nevertheless contributes to the overall system peak that drives the need for reinforcement projects.

The Impact of a CIAC or Similar Mechanism on Greenhouse Operators

82. OGVG's witness Dr. Petro was asked about the willingness of greenhouse operators seeking new capacity through the Project to possibly pay a CIAC to secure that capacity. Dr. Petro could not, in fairness, speak directly about the willingness or capacity of any individual greenhouse operator to pay a CIAC for transmission capacity. He could only

[44] EB-2016-0186, Exhibit J1.2 Attachment 1. OGVG has cited the delivery rate impact ranges for the Union South rate zone only for both projects, since the costs for both projects are, under the prevailing cost allocation methodology, allocated to the Union South rate zone. Also, in both cases, OGVG has excluded consideration of the M5 and M9 classes as they have very few customers; in any event the rate impact in those classes were either negligible or negative.

note that greenhouse operators are "price-takers", and that he could not predict what any individual greenhouse operator would do based on the individual economics of each operation.[45]

83. Generally speaking, however, and in response to questions about the finances underpinning greenhouse operations, Dr. Petro was able to confirm that greenhouse operations typically have a debt-to-equity ratio of approximately 75%/25%.[46] In OGVG's view the additional obligation of a CIAC or similar payment of any significance may impact the ability of many greenhouse operators to finance their projects, given that they are already, typically, going to be heavily leveraged to fund the capital investment to build their operation.

Conclusion

84. For all these reasons OGVG respectfully submits that the proposed Project is in the public interest and therefore should be granted leave to construct pursuant to s. 96(1) of the OEB Act, without the imposition of a CIAC or similar requirement.

ALL OF WHICH IS RESPECTFULLY SUBMITTED THIS 14th DAY OF DECEMBER 2023

[45] Transcript Volume 3, page 171.
[46] Exhibit J3.9.