ONTARIO ENERGY BOARD

IN THE MATTER OF the Ontario Energy Board Act, 1998, S.O. 1998, c. 15, (Schedule B)(the "Act")

AND IN THE MATTER OF an Application by Enbridge Gas Inc. for an order granting leave to construct in the City of Ottawa, under section 90 of the Act.

AND IN THE MATTER OF an Application by Enbridge Gas Inc. for an order approving the forms of Working Area Agreement and Transfer of easement agreement, under section 97 of the Act.

FINAL ARGUMENT
OF THE
SCHOOL ENERGY COALITION

March 24, 2022

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TABLE OF CONTENTS

1 GENERAL COMMENTS 3

1.1 INTRODUCTION 3
1.2 THE CONTEXT OF THIS LEAVE TO CONSTRUCT 3
1.3 SUMMARY OF SUBMISSIONS 6

2 NO URGENT INTEGRITY CONCERNS 8

2.1 BACKGROUND 8
2.2 WHAT DOES THE EVIDENCE SAY? 8
2.3 OTHER EVIDENCE RELATED TO INTEGRITY CONCERNS 10
2.4 CONCLUSION ON URGENCY 12

3 DECLINING DEMAND 13

3.1 SUMMARY 13
3.2 EVIDENCE OF THE CUSTOMERS 13
3.3 EVIDENCE OF THE APPLICANT 17
3.4 ANALYSIS 20

4 THE REPAIR OPTION 22

4.1 SUMMARY 22
4.2 REPAIR HAS BEEN ADOPTED IN THE PAST BY EGI 22
4.3 REPAIR OPTION LESS EXPENSIVE 23
4.4 RISKS OF THE REPAIR OPTION 24

5 REPAIR VS. REPLACEMENT 25

5.1 INTRODUCTION 25
5.2 EGI SHOULD ALIGN ITS STRATEGY WITH ITS CUSTOMERS' STRATEGIES 25
5.3 WHAT SHOULD THE OEB ORDER? 26

6 OTHER MATTERS 29

6.1 COSTS 29

1 GENERAL COMMENTS

1.1 *Introduction*

1.1.1 On March 2, 2021 the Applicant Enbridge Gas Inc. ("Enbridge", "EGI" or the "Applicant") filed an Application for leave to construct Phases 3 and 4 of the St. Laurent Replacement pipeline. The Application was placed in abeyance at the request of the Applicant, and on September 10, 2021 an updated Application was filed.

1.1.2 The Application proposes the construction of Phase 3 of the St. Laurent Replacement pipeline in 2022, and Phase 4 in 2023, at a forecast cost of $134.0 million including abandonment costs[1]. The average useful life of the assets is estimated to be in excess of forty years[2].

1.1.3 If approved, SEC estimates that revenue requirement will be increased by $12 million per year after the initial tax shield is used up.

1.1.4 The case included extensive interrogatories from the parties, plus evidence from customers who are substantial users of gas from the subject line. There was also a two-day technical conference. There was no ADR or oral hearing.

1.1.5 No Argument-in-Chief was filed by the Applicant. This is the Final Argument of the School Energy Coalition.

1.1.6 The Board will be aware that some of the customer and environmental groups who intervened in this proceeding have worked together throughout the proceeding to avoid duplication, including sharing ideas, positions, and drafts, and co-sponsoring evidence. That has continued in the argument phase. We have been assisted in preparing this Final Argument by that co-operation amongst parties.

1.1.7 SEC has organized this Final Argument to follow the logical flow of our submissions.

1.2 *The Context of this Leave to Construct*

1.2.1 There are two important contexts within which the OEB is considering this Application.

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[1] Ex. D/1/1, p. 10.
[2] EB-2021-0148, Ex. B/2/1, App. E, p. 1 ($1,998 depreciation/$$84,980 average rate base = 42.5 years). The evidence of the EGI witnesses was that it will not be depreciated in full until 2077, which would be 55 years [Tr.1:103].

1.2.2 ***Approval is Expected.*** To the best of our knowledge, the OEB has not refused a pipeline leave to construct application from Enbridge or its predecessors in the last twenty years. While we have not looked at all applications, we have not been able to find one in which approval was not granted. If there were any, they were few and far between[3].

1.2.3 This is actually quite understandable. For a long time, demand for natural gas has been growing in Ontario. Natural gas prices have been relatively low compared to other energy sources, and the Ontario economy has been consistently strong. There was a continuing expectation that demand would grow, and gas distribution infrastructure would have to grow and be renewed to keep pace.

1.2.4 In addition, most Enbridge LTC applications include analysis of integrity concerns, which are presented as implicitly a safety issue[4]. If the OEB were to deny approval for a new pipeline, and an incident subsequently arose, the OEB would (perhaps even rightly) be criticized for being the proximate cause of that incident. The safer solution, when dealing with a substance as volatile as natural gas, is to err on the side of caution.

1.2.5 Thus, when Enbridge files an LTC application, they expect that the OEB will approve it. There will be a hearing, and alternatives will be reviewed, and perhaps conditions will be imposed, but ultimately if the utility says they have to do it, the OEB is not expected to overrule them.

1.2.6 None of this is criticism of the OEB. Most people in the same situation, faced with continuous demand growth, and at least some evidence of integrity concerns, would approve Enbridge's proposals to put more pipe in the ground.

1.2.7 ***Our Lower Carbon Future.*** Against this backdrop, the other important context is that Ontario and Canada are moving relentlessly toward a net zero future. Carbon emissions are already being taxed, with substantial increases scheduled for the foreseeable future. Government policies at all levels have established goals and plans to reduce GHG emissions.

1.2.8 Perhaps more important, businesses are responding to the expectations of their stakeholders, and governments, by designing and implementing their own plans to reduce their carbon footprint. Public sentiment has turned against fossil fuels in a

[3] We note that in EB-2005-0001 and a number of other cost of service proceedings, the OEB did refuse to approve the full amount of Enbridge capital budgets. This left it up to the Applicant to prioritize its capital spending within a smaller envelope. This is not quite the same as saying "You're telling us you have to replace this specific pipe. We are not going to approve that."
[4] But not in this case: I.STAFF.6, Attach. 1.

trend that appears to be accelerating, not moderating[5].

1.2.9 SEC expects that other parties, particularly the environmental groups, will provide more analysis in their Final Arguments about the lower carbon future that seems to be inevitable. There are lots of environmental and social reasons why this is a good thing, and should be supported by regulators like the OEB.

1.2.10 For schools, however, in the context of this proceeding this is a rates issue rather than an environmental issue. This is about who gets left holding the bag, forced to pay for forty year assets that cannot really be utilized, or at least fully utilized, twenty years after they are put in the ground. The fixed cost of all that infrastructure being built today will be borne by someone[6], and as demand for fossil fuel space and water heating declines, the unit cost for those still dependent on natural gas will likely increase dramatically.

1.2.11 Schools have less of a problem with this game of hot potato than some other customer groups. As the OEB saw in the evidence in this proceeding[7], school boards are already establishing policies that a) ensure that new buildings will be net zero when built, and b) implement plans to retrofit existing buildings over time to reduce or eliminate fossil fuel use. The same is true of a number of other customer groups that have a long term view of their energy use.

1.2.12 Conversely, two customer groups are probably most at risk. First, residential customers are often not in a financial position to change their space and water heating system until it is too late to avoid high costs (or exit fees). While new builds will move away from natural gas, as is planned in Quebec[8], retrofits can still be costly for the average homeowner. Second, some large industrial customers do not have an alternative to fossil fuels, as carbon is a necessary part of their products or processes. To avoid the high fixed costs of distribution infrastructure, they may need to revert to alternative delivery methods.

1.2.13 ***Context Matters***. Enbridge has only one way to grow its business: put new pipe in the ground. In the five years 2017-2021, EGI (and its predecessors) added $5.2 billion of capital assets. In the five years 2022-2026, it plans to add $7.3 billion of capital assets, an increase of almost 40%[9]. The vast majority of those assets are System Renewal or other gas distribution infrastructure, just like the St. Laurent

[5] Does anyone think that individuals will be buying cars with internal combustion engines ten years from now, let alone twenty? Transport Canada's current goal is that 100% of light duty vehicles sold in 2040 will be non-emitting.
[6] Enbridge is clear that it will not be their shareholders.
[7] Sponsors-1.1-Energy Probe-4(g)&(h).
[8] Sponsors-1-FRPO-5
[9] EB-2021-0148, Exhibit B/2/1, p. 5-6.

project proposed in this Application.

1.2.14 Unless the lower carbon future is not real[10], at some point this escalation of future ratepayer liabilities will have to stop. That difficult task is the responsibility of the regulator, the OEB. The contextual question in this case is whether that "at some point" is now, or it can be put off further into the future.

1.2.15 SEC believes that this project presents the OEB with an opportunity to put the brakes on, without any significant risk to customers or the system on which they currently rely. In short, the OEB is in this case in a position to make a decision consistent with the lower carbon future that we know is coming, while still respecting the integrity concerns that make LTC approvals so highly probable in most cases.

1.3 ***Summary of Submissions***

1.3.1 The positions of SEC as set out in this Final Argument can be summarized as follows:

1.3.2 ***Urgency.*** There is no urgent need to replace this pipeline. The moderate leak history continues to be well under control, and repairs have been managing the pipeline's condition successfully. The forecast for future leaks is also low, and manageable in the same way. The asset has an excellent score on the Applicant's Asset Health Index. No evidence has been filed that this project has to proceed now.

1.3.3 ***Demand Will Decline.*** Major customers have provided evidence to the OEB that they will be reducing their reliance on fossil-based gas as part of their net zero strategies. This is consistent with policies of governments at all levels, and commitments made by Canada to other nations.

1.3.4 ***Repair Option is the Cheaper Option.*** The evidence of the Applicant is that continuing to repair this pipeline is less expensive, at least in the near term, than replacing it.

1.3.5 ***The OEB's Decision is Asymmetrical.*** The lower risk regulatory option in this situation is to select the Repair Option rather than the Replacement Option.

1.3.6 If the OEB approves the Enbridge proposal to implement the Replacement Option, ratepayers will be on the hook for $134 million of additional costs over the next

[10] And therefore the government policies pursuing that lower carbon future are also not realistic and should be ignored.

forty years[11]. This is known, and there is no flexibility. Once this option is selected, you can't go back. If the City of Ottawa and other customers succeed in weaning themselves from fossil-based gas use, these assets will be stranded. Simple as that.

1.3.7 On the other hand, if the OEB opts for the Repair Option, known costs are lower. Further, the question of whether the plans of customers to reduce reliance on natural gas are merely "aspirational", as Enbridge claims, or are real, will start to be answered. If the City and other customers are wrong, then Enbridge can seek to replace this pipeline five or ten years from now[12], having lost nothing and taken no significant risks in the meantime. If the customers (and the governments whose policy they are following) are right, a major capital cost will have been avoided permanently.

1.3.8 ***Board Directions.*** SEC therefore believes that the OEB should order as follows:

(a) ***Deny Approval.*** Leave to construct Phases 3 and 4 of the St. Laurent Replacement pipeline should be denied, because the evidence does not show that they are needed at this time.

(b) ***Repair Option***. The Applicant should implement the Repair Option, and report at the time of its rebasing on the status of this pipeline.

(c) ***Future Replacement.*** If the Applicant in the future seeks to revive this project, it must

(i) File a study showing a detailed forecast of average and peak demand on the pipeline for the full useful life of the proposed new assets, including consideration of the gas reduction plans of all major customers; and

(ii) Demonstrate that it has done a complete review of all actions, including IRP, that it can take to support gas reductions by its customers relying on this pipeline, and has implemented all those actions that are cost-effective.

[11] Or whatever the ultimate cost is, including any cost overruns, OM&A capitalization, etc.
[12] Whether as currently proposed, or with a smaller size because of declining demand.

2 NO URGENT INTEGRITY CONCERNS

2.1 *Background*

2.1.1 The Applicant has stated that this project needs to be completed within three years[13], and in fact is rushing to get it done before the end of 2022[14].

2.1.2 However, the Applicant has provided no credible evidence as to the urgency of the integrity issues. SEC's conclusion from the evidence provided is that the only reason this is being pursued at this time is that it is in the Applicant's capital plan and they want to get it done[15]. We have been unable to find any empirical evidence that this must be done soon[16].

2.2 *What Does the Evidence Say?*

2.2.1 Integrity is most easily measured by leaks and inspections.

2.2.2 ***Leak History.*** We would have expected a history of problems if this replacement proposal is actually urgent. The opposite is true.

2.2.3 In fact, there has been one leak on this pipeline in the last ten years[17]. On a more detailed basis, the St. Laurent section of the pipeline has had no leaks since 2007, and the same is true of the Sandridge section. The Highway 417 section had one leak[18].

2.2.4 Leaks are also classified as hazardous or non-hazardous. It appears that the one leak that arose was not hazardous.

2.2.5 That conclusion can be extended into the future. Enbridge forecasts that, for the period 2021-2030 there will be one leak[19], i.e. no acceleration of leaks. Note that this is a statistical analysis[20], not an actual forecast based on the condition of the asset.

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[13] Ex. B/1/1, p. 12-12, para. 23
[14] Tr1: 167
[15] Tr.1:145-150, 152, 154, 157-159.
[16] In this regard, we have had an opportunity to review the FRPO Final Argument, in draft and final, and we are in agreement with the submissions they present.
[17] I.FRPO.14.
[18] I.EP.11, p. 4. These are only corrosion leaks, since damage-driven leaks are not related to the pipeline integrity, but to external forces. In short, all pipelines have dents.
[19] I.EP.13. See also Tr.1:137-8.
[20] I.STAFF.6(b).

2.2.6 Despite the low probability of a leak in the near term, the Applicant describes in some detail the terrible consequences that could arise from a single leak[21]. This is repeated a number of times in the evidence, but the witnesses in the Technical Conference later put this in context:

> *"MR. MURDOCH: And, no, I think in that respect, yeah, we have definitely taken a conservative approach when we evaluated the overall likelihood, and I think, yeah, conservative approach that we use in our calculation was we assumed that 1 percent would require -- of a leak would require that kind of drastic emergency shutdown...*
> *So it is one of those numbers that is very difficult to quantify. So Enbridge does believe that we have been very conservative when we did assume that it was a 1 percent rate would result in the need for the complete shutdown of the pipeline for the repair."[emphasis added]*

2.2.7 ***Inspections.*** The other way that integrity can be assessed is through physical inspections, whether through integrity digs or through in-line inspections. Enbridge has rejected both in this case.

2.2.8 The prefiled evidence includes an inspection report from PureHM that includes recommendations for how to keep this pipeline in good shape. The fifth recommendation is to carry out integrity digs at locations of concern and carry out repairs as required[22].

2.2.9 The Applicant decided not to follow this recommendation[23]. The rationale appears to have been that they had already decided to replace the pipeline, so integrity digs were not necessary.

2.2.10 The other approach is in-line inspections, including the potential for robotic inspections to assess this specific pipeline. This was discussed at some length in the Technical Conference[24], and the entire discussion is worth reading.

2.2.11 SEC summarizes that discussion as follows. We (EGI) did an assessment whether we could use robotic inspections on this pipeline, and concluded that we could not. No report was done, and there is no documentation of that analysis.

2.2.12 Pressed on this, the Applicant agreed to see what information/documentation it

[21] I.STAFF.6(b)
[22] Ex. B/1/1, Attach 8, p. 21.
[23] Tr.1:25.
[24] Tr.1:37-63.

could provide on this decision. That is set out in JT1.6. Essentially, EGI rejected one ILI crawler because of the high pressure on this pipeline, but scheduled an inspection with another crawler. That inspection was cancelled when EGI soured on the technology[25].

2.2.13 The result of all this is that the Applicant has presented no evidence from inspections that this pipeline is deteriorating.

2.2.14 SEC therefore concludes that, based on the two most common methods of assessing integrity, leak history and inspections, EGI has made no serious attempt to meet its onus of demonstrating that there is an integrity issue here.

2.3 ***Other Evidence Related to Integrity Concerns***

2.3.1 EGI has three other sources of information that can relate to integrity concerns: age, quantitative risk assessment, and asset health index.

2.3.2 ***Age***. The most obvious reason to replace this pipeline is that it is old, about 62 years for most of it[26].

2.3.3 While pipelines generally have an assumed life of 40 years[27], that is actually an "at least" figure. Many pipelines last longer than that.

2.3.4 For example, the Applicant recently replaced the London Lines, more than 50 km of pipe in the London area that was installed starting in 1935[28]. There are other relatively old pipes throughout the system, and they are still operating properly.

2.3.5 The "need" to accelerate spending to replace older pipe is not new. It comes up again and again in Enbridge proceedings. A good example is the proposal in 2005 to spend more to replace cast iron and bare steel mains as quickly as possible. The rationale was, as here, integrity concerns. There, as here, the OEB heard about the terrible impacts on customers if the work wasn't done.

2.3.6 The OEB rejected the Applicant's proposal for this spending increase, saying in part[29]:

> *"The acceleration of the bare steel and cast iron mains replacement program from 8 years to 3 years accounts for a significant portion of the*

[25] They had a communications problem using it in another location, and decided not to use it on St. Laurent.
[26] I.EP.11
[27] I.EP.13, p. 3.
[28] EB-2020-0192, Ex. B/1/1, p. 3 et seq.
[29] EB-2005-0001, Decision with Reasons, p. 11.

> *increase in the capital budget for 2006. It is clear from the evidence that senior management intervened to accelerate the program and to increase the budget accordingly as a result of a change in its tolerance for the risks associated with managing this aging mains stock…*
>
> *Enbridge also suggested that an acceleration of the replacement program was justified because the anticipated decrease in the number of system leaks had not materialized…*
>
> *Similarly, Enbridge was unable to document any specific concerns on the part of the primary regulator of pipeline integrity in Ontario, the Technical Safety Standards Authority, with its 8 year replacement program."*

2.3.7 SEC believes that the sentiment in that decision – show us evidence that you need to spend this extra money – is exactly right. EGI has the onus here to show that there are legitimate concerns backed by evidence. Just saying that the pipeline is old is not sufficient, especially in the context of a) no history of problems, and b) decisions not to investigate further.

2.3.8 It should be noted that the Applicant claims there has been "evidence of deteriorating pipeline conditions since 2006[30]" on this line. Since then there has been one leak, with no shutdown of service.

2.3.9 ***Quantitative Risk Assessment***. Another way to show the need to replace this might be the Enbridge Gas Standard Operational Risk Matrix. OEB Staff asked for that analysis, but EGI advised that it was not yet in place when this project was being decided[31].

2.3.10 EGI then went on to produce the "results" of a risk analysis[32], without actually going through the risk analysis process. Those results show "Medium" risks for all scenarios in the next twenty years, except for "Customer Loss", rated as "High" if it happened in the winter.

2.3.11 Of course, to produce that table EGI made two important assumptions. First, it assumed that most risks and balancing factors should be ignored. It was, instead, a "partial/limited" analysis. Second, EGI <u>assumed</u> that there would be a "service shutdown" on the part of the line that serves the most customers.

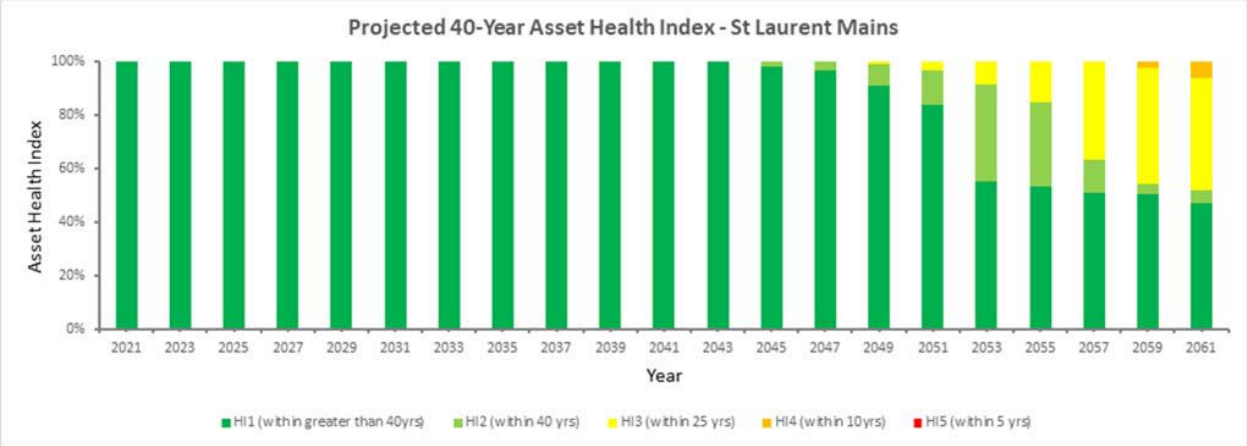
[30] I.STAFF.4, p. 4.
[31] I.STAFF.4, (a) and (b).
[32] Ibid.

2.3.12 There does not appear to be any probabilistic assessment done as part of this process.

2.3.13 SEC submits that this does not provide any evidence that there is a significant risk here.

2.3.14 ***Asset Health Index.*** EGI also has an Asset Health Index, which essentially rates pipes into five categories that reflect time to expected failure[33]. The top category (dark green) is the best asset health. The results for the St. Laurent pipeline show that it remains in the top category until 2042, when some parts of the pipeline start to get allocated to the lesser categories.

2.3.15 The forecast AHI results for St. Laurent are reproduced below:



2.3.16 This is inconsistent with an urgent need to replace this pipeline.

2.4 ***Conclusion on Urgency***

2.4.1 SEC submits that the evidence provided by the Applicant does not support the need to replace this pipeline right now. In fact, the most reliable evidence provided – leak history and asset health index – demonstrates that this pipeline does not need to be replaced[34] in the next few years.

[33] Ex. B/1/1, p. 40, Table 10.
[34] While likely tangential to this issue, it is also worth noting that, even with the delay in this proceeding, so that the nine month timeline to complete this project is no longer available in 2022, the Applicant wants to "get this done" in 2022. It will add crews, and perhaps even use its contingency, to make that happen. Asked about this at the Technical Conference [Tr.1:162-7], the EGI witnesses ultimately had only one reason for why that was necessary. That reason? It was already delayed for one year due to their siting issues.

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3 DECLINING DEMAND

3.1 *Summary*

3.1.1 Major customers that rely on the St. Laurent pipeline have provided evidence to the OEB that they, and others in the same community, have an active and comprehensive plans to reduce and eventually eliminate their reliance on fossil-based gas.

3.1.2 The Applicant has said, in response:

(a) The plans of the City of Ottawa, Ottawa Community Housing, and others to get to net zero by 2050 or earlier are "aspirational" only, and in particular their expectation of electrification of thermal requirements is not feasible.

(b) In fact, both average and peak natural gas demand will increase in Ontario.

(c) In any case, future demand reductions are not relevant for a pipeline that is replacing an existing pipeline, with no increase in capacity.

3.1.3 SEC submits that this is a failure of the Applicant to plan properly.

3.2 *Evidence of the Customers*

3.2.1 SEC, Pollution Probe and the City of Ottawa jointly sponsored evidence[35] describing plans by the City of Ottawa, Ottawa Community Housing, and others to get to net zero GHG emissions, and through the City and its programs to get the full community to net zero. The evidence discusses reductions in fossil gas demand for many of the largest customers currently relying on the St. Laurent pipeline. Those reductions are essential if those customers are to get to net zero[36].

3.2.2 ***City of Ottawa.*** The City has approved a detailed plan entitled Energy Evolution. Its twin goals are a) reduce emissions by the City to zero by 2040, and b) reduce collective emissions from all persons in the Ottawa community to zero by 2050[37]. This is consistent with the international commitments of the Canadian government.

[35] Sponsor's Evidence.
[36] See e.g. I.Sponsors.1/2.EGI.7, which shows that more than 82% of the City's GHG emissions are from natural gas.
[37] Ibid, p. 4.

3.2.3 The City's plan is not a pie in the sky wish list. Rather, it contains a detailed roadmap showing not only where they want to go, but how they will get there in a timely manner and at reasonable cost.

3.2.4 The City will, in their final argument, provide a broader summary of their plan. However, SEC wants to point out that it is not just an idea, and not in any way "aspirational". In fact, it has thought through most of the issues, including:

(a) How to implement electrification of thermal loads (including 25% geothermal[38]).

(b) Interaction of building efficiency with peak demands (including the greater ability of buildings to retain thermal energy if they are well insulated, thus reducing peak vulnerabilities[39]).

(c) Electricity requirements to reflect the carbon in the electricity system[40], and reduced renewable generation and storage needs if the bulk system is decarbonized[41].

(d) The use of district heating, with greater efficiency than today, and eventually no net GHGs, to displace less efficient building by building combustion systems[42].

(e) The significant impact of window replacements in the retrofit component of the plan[43].

(f) The unique challenges that arise in making heritage buildings more efficient.

(g) Co-ordination with the federal government's own plan to become net zero.

(h) Programs and public outreach necessary to ensure that non-public buildings and other uses also move to net zero in a timely manner[44].

(i) Secondary impacts that drive up the use of fossil gas for heating, such as the traffic patterns in the OC Transpo garage, and how to address them.

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[38] Sponsors' Evidence, pp. 4-7, 36-37, 58-59, 73, 113-114; 2.1-Staff-2(c)
[39] Sponsors' Evidence, pp. 4-7, 124-128.
[40] Ibid, pp. 135-139
[41] Tr.2:42.
[42] Ibid, pp.4, 177; JT.2.8
[43] Sponsors' Evidence, pp. 7-8, 124-128, 179, 221, 222-225
[44] Sponsors' Evidence, p. 5-6.

(j) Need for some combustion products, including biogas and hydrogen, and the ways the City can source those products to achieve the necessary volumes.

3.2.5 The above are just a few of the highlights that have been considered in the Energy Evolution Plan.

3.2.6 It should be noted that this is not all future possibilities. It includes many items that have already been funded, and many of which have been started.

3.2.7 ***Ottawa Community Housing.*** The Sponsors' Evidence also includes the forecast by Ottawa Community Housing that it will reduce its current approximately 8 million cubic meters of fossil gas use in its almost 6,000 dwelling units to zero by 2040[45].

3.2.8 As with the City, this work has already started.

3.2.9 ***Other Community Loads.*** The largest load on the St. Laurent pipeline is the Cliff Street district heating plant. Construction is already underway to convert that plant from steam to hot water, and to get some of the necessary hot water from Gatineau, where it is electrically heated[46]. The combined effect should be to reduce the fossil gas load from Cliff Street by 87%[47].

3.2.10 The OEB also heard that other major users, like Bruyere Continuing Care (operator of large local healthcare facilities) and the University of Ottawa also have active plans to reduce their fossil gas use and eventually get to net zero[48].

3.2.11 Asked in an interrogatory about local school boards, SEC sought information from its members, and was advised that new schools are being built to use less fossil gas, or none at all, and even the number of schools that use any fossil gas is declining over time[49].

3.2.12 The witnesses also noted that many other organizations, public and private, are implementing net zero strategies that will reduce their use of fossil gas[50].

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[45] At p, 8.
[46] 2.1-Staff-5.
[47] Ibid; Sponsors' Evidence p. 7.
[48] At p. 9.
[49] I.Sponsors.EP.4(g)(h). We note that this is generally true throughout the province.
[50] And the Town of Gatineau, which is proposed to use about a third of the gas from the St. Laurent pipeline, has a plan to reduce its fossil gas use by 35% by 2030: I.FRPO.5. Among other things, new homes in Quebec will, by that time, be prohibited from heating space or water with fossil based combustion fuels.

3.2.13 ***Context of these Plans***. The reductions of carbon that are happening already in Ottawa are happening in many other places around the world. This is not a local government off on a tree-hugging frolic.

3.2.14 It is important to understand that it is the policy of the government of Canada, enshrined in law, that Canada will reach net zero by 2050[51]. However much people may be cynical about environmental legislation by political bodies, the federal government has made a formal net zero commitment, and established legal requirements for the government to follow to get there. It can't be completely ignored.

3.2.15 Another example of the kinds of things that are happening elsewhere is the material from the International Energy Agency filed by Environmental Defence[52]. That material, while decrying the limited progress in many parts of the world to reduce fossil gas use, nonetheless shows that fossil gas use is declining, particularly as it relates to thermal energy for buildings.

3.2.16 It should be noted that the recommendation of the IEA on how to get to net zero by 2050 is actually significantly more aggressive than the Energy Evolution plan of the City of Ottawa[53]. The City's plan achieves the goal without some of the more drastic changes that are proposed by the IEA.

3.2.17 Another useful example, and perhaps instructive for the OEB in its analysis of the issues, is the Future of Gas proceeding currently going on in Massachusetts[54]. Last week, for example, the utilities filed their individual Net Zero Enablement plans[55],

3.2.18 While the plans of the utilities are, in the words of one of the direct participants, "namby-pamby", they generally still make the commitment to provide energy on a net zero basis by 2050. National Grid, the largest of the utilities, for example says that it will continue to use its gas distribution infrastructure, but with zero fossil gas at that time. National Grid also states that on the electric side it proposes "*a system which would require at least a doubling of today's electric capacity to fully electrify the heating service it currently provides*"[56].

3.2.19 SEC notes that proposals from the non-utility stakeholders will follow, and in all likelihood be less protective of the existing gas pipeline infrastructure.

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[51] *Canadian Net-Zero Emissions Accountability Act,* S.C. 20-21, C-22, which received Royal Assent on June 29, 2021.
[52] KT2.2.
[53] Tr.2:34.
[54] Mass. Department of Public Utilities, Docket D.P.U. 20-80. https://thefutureofgas.com/
[55] https://thefutureofgas.com/sep.
[56] National Grid Net Zero Enablement Plan, March 18, 2022.

3.2.20 Whatever the plan that arises in Massachusetts, it is clear that regulator is moving away from fossil gas. This is because the Department of Energy and Environmental Affairs has implemented the Massachusetts Decarbonization Roadmap 2050[57], which includes a target to end fossil gas use.

3.2.21 These are just a few examples that put the City of Ottawa (as well as Ottawa Community Housing, the University of Ottawa, the local schools and hospitals, and many other current fossil gas users) not out on the fringe, but in the mainstream of public policy in this area[58].

3.2.22 It is easy to try to dismiss plans like Energy Evolution by calling them "aspirational". When plans like these are rapidly becoming the norm, it is less credible to treat them as if they don't matter.

3.3 ***Evidence of the Applicant***

3.3.1 On the other side, the Applicant EGI appears to be in net zero denial.

3.3.2 ***The Applicant's Mindset.*** In preparing for this proceeding, for example, EGI did stakeholdering. None of that stakeholdering involved investigating the future natural gas needs of the customers[59].

3.3.3 That is not surprising. The Applicant's view is that, if there is no expected increase in demand on a pipeline, the future demand is irrelevant[60]. Thus, EGI freely admits that the plans of the City and many other important customers to reduce their annual and peak demand were not taken into account in determining whether to replace the St. Laurent pipeline[61].

3.3.4 This is despite the fact that part of the work on Energy Evolution was funded by EGI, and the Applicant was actively engaged in the process[62].

3.3.5 Then, when the Sponsors proposed to file evidence that annual and peak demand on the St. Laurent pipeline was going to decline during its planned lifetime, the

[57] https://www.mass.gov/doc/ma-2050-decarbonization-roadmap/download
[58] We note that the City of Toronto's Net Zero strategy, passed by council December 15, 2021, targets net zero by 2040. The Toronto plan includes a number of similar initiatives to those that can be found in Energy Evolution. There are many cities all over the world with similar plans.
[59] Ex. B/1/1, p. 12-12, para. 23
[60] Tr.1:189-90.
[61] Tr.1:192.
[62] Sponsors' Evidence: 47-48, 169, 224-225, 236

Applicant wrote the OEB opposing the proposed evidence, saying[63]:

> *"As expressed by SEC, such factual anecdotal evidence of individual customers without any technical evidence related to the Project does not advance the decision making process of the OEB and as such is irrelevant."*

3.3.6 To paraphrase EGI, "If this pipeline is needed now, it doesn't matter whether it is needed in the future".

3.3.7 The basis of this, however, is even more concerning than simply closing of the eyes. The Applicant's view is that both annual demand and peak demand will be increasing over the current planning period, despite efforts by parties like the City to reduce their gas use[64].

3.3.8 All of this leads the Applicant to say that this new pipeline, when it reaches the end of its useful life in 2077 (!), will still be used and useful at that time[65]. No probabilistic analysis of the use of the pipeline during its life has been done[66], and no other evident has been provided that this is the case.

3.3.9 ***Response to the Sponsors' Evidence.*** EGI did file responding evidence[67] that disputed the plans of the City and other customers. In that evidence, EGI made essentially three points:

(a) The Energy Evolution plan is only "aspirational", a hoped-for but not a realistic future[68].

(b) The peak demand reductions are not sufficient to even reduce the size of the pipeline[69].

(c) The planned electrification of thermal loads would require 1.64 GW of additional electrical generation, transmission and distribution capacity, more than the current peak electrical demand in Ottawa[70].

3.3.10 On the first point, SEC notes that the Energy Evolution plan is a detailed plan, with

[63] Letter from the Applicant to the OEB, January 7, 2022, p. 2.
[64] JT.1.19, p. 2.
[65] Tr.1:103.
[66] Tr.1:105.
[67] Responding Evidence.
[68] At p. 2.
[69] At p. 4.
[70] At p. 5.

costing and careful analysis of the challenges presented. This is described in Section 3.2 of this Final Argument, and is evidence from the plan itself as set out in the Sponsors' Evidence.

3.3.11 On the second point, the Applicant only looks at a few of the demand reductions, adds them up, and says that they represent only 6% of the peak demand of the St. Laurent pipeline[71].

3.3.12 This assumes that these are the only reductions that will arise. The Energy Evolution plan is a plan to get to net zero for Ottawa as a whole, not just the buildings owned by the City. EGI conveniently forgets the schools, and hospitals, and universities, as well as the many buildings of the federal government (which has the same net zero goal), and the Gazifiere demand that will be subject to strict Quebec rules.

3.3.13 Indeed, an admission that just the City buildings alone (plus Cliff Street) amount to a 6% reduction in the demand on this pipeline is indicative of how impactful these changes could be.

3.3.14 That leaves the 1.64 GW. This was the subject of considerable discussion at the Technical Conference[72], with the Applicant refusing to provide a witness who could support the calculation, then walking back its importance by saying it is not a claim that this much additional electrical capacity is required.

3.3.15 What EGI actually said was the following[73]:

> *"In other words, electricity generation, transmission and/or distribution infrastructure amounting to up to double the current peak demands for the City of Ottawa (served via Hydro Ottawa) or more than half of the generation capacity of the Pickering Nuclear Generating Station would need to be built and placed into service in order to eliminate the St. Laurent pipeline system."[emphasis added]*

3.3.16 This is factually incorrect (in fact, not even close), and that is known to EGI[74]. To the best of our knowledge, this evidence has not been withdrawn or corrected. In SEC's submission, it should be ignored. EGI had the onus to support it. They chose not to do so, despite many requests, and it turns out it does not support the conclusion EGI proposed, as quoted above.

[71] At p. 4.
[72] See. Tr.1:109-122.
[73] Responding Evidence, at p. 5.
[74] JT1.27.

3.3.17 There is some evidence of the true additional electricity needs associated with Energy Evolution. During the course of examination of the Sponsors' witnesses, Environmental Defence filed KT2.3, a spreadsheet attempting to correct the erroneous calculation by EGI.

3.3.18 That calculation showed that the peak electricity capacity required to replace fossil gas as per Energy Evolution is not 1,640 MW, as EGI claimed, but either 370 MW or 255 MW, depending on which of two sets of assumptions was used.

3.3.19 While the witnesses could not provide an expert opinion on those calculations, since they were not qualified as expert witnesses, they did confirm that the 370 MW capacity requirement is consistent with the Energy Evolution plan. They noted that the 255 MW capacity requirement is not currently consistent with the plan (because it assumes certain technologies not currently in the plan), but that the plan's requirements might be closer to that when it is next modelled in 2025[75].

3.3.20 What that says is that, to replace the St. Laurent pipeline, the Energy Evolution plan may need to increase generation, transmission and distribution capacity in Ottawa by 17% to 28% over the next decades. That is the only evidence currently available to the OEB on the feasibility of electrification of thermal loads under the Energy Evolution plan.

3.3.21 ***Conclusion.*** The Applicant starts from the point of view that fossil gas use is going to continue to increase indefinitely into the future, and as a result there is never a risk that a new pipeline built today will no longer be a good idea. This caused EGI to ignore any alternatives that would remove the risk of stranding of this asset.

3.3.22 Then, faced with major customers telling the OEB their plans, the Applicant attacked their evidence by labelling it "aspirational", by making an incorrect claim that peak demand would not be significantly reduced, and by providing a calculation of the requirements for electrification that is a) wrong, and b) not even something they are prepared to support.

3.4 ***Analysis***

3.4.1 There is no doubt that fossil gas use is going to decline over the lifetime of the proposed new pipeline. That conclusion must be true, unless the plans of governments at all levels, as well as international organizations and many private companies and individuals, are all wrong. EGI wishing that were not true does not

[75] JT2.4(A).

make it so. Fossil gas use is going to decline[76].

3.4.2 From the point of view of the OEB, therefore, the question is whether as regulator it should ignore the policies and programs of federal and local governments and many other entities, or it should instead question the appropriateness of the proposals of this utility.

3.4.3 As noted below, SEC believes that there is a solution that gives due effect to the policies and programs of governments and others, without ignoring the problem for which the Applicant has proposed a solution. That is dealt with in the next two sections of this Final Argument.

[76] Whether that should be the case is a debate for another forum. SEC is not arguing that fossil gas use should decline, a normative or policy position. SEC is arguing that, based on all of the evidence from many sources, fossil gas use will in fact decline. This is a forecast, not a target.

4 THE REPAIR OPTION

4.1 ***Summary***

4.1.1 The Applicant contemplates two options to address their integrity concerns. The "Repair Option" is to repair leaks on a reactive basis[77], and not replace the pipeline at this time.

4.1.2 Even though the Repair Option[78] has a much lower NPV than the Replacement Option, EGI has rejected the Repair Option on qualitative grounds[79].

4.2 ***Repair Has Been Adopted in the Past by EGI***

4.2.1 ***Status Quo.*** EGI has been repairing the St. Laurent pipeline in reaction to leaks and external factors since first identifying integrity concerns in 2006. For example, various repairs were done in 2006, 2013, and 2014[80]. It is clear that continuing to repair the pipeline is a viable approach.

4.2.2 ***Option Rejected.*** In rejecting the Repair Option, the Applicant has distinguished two variations of that option.

4.2.3 The first variation of the Repair Option is repair and retrofit. The concept is that the Applicant will spend about $30 million to retrofit the pipeline for in-line inspection[81], allowing it to continually verify the condition of the pipeline. That way, the risk of any major leak requiring a shutdown is avoided. Problems would be identified before they became serious.

4.2.4 The repair and retrofit option was rejected by EGI because they concluded that, after spending the money on the retrofit, they would still find very quickly that it would be necessary to replace the pipeline due to its deteriorating condition. Therefore, the $30 million cost of the retrofit would be wasted[82], and they would still have to spend the money on the new pipeline.

4.2.5 The repair only option was rejected because EGI forecast that within the next twenty years the integrity problems would generate an unacceptable level of risk.

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[77] Tr.1:134, 19-20
[78] As characterized by EGI, which as noted below is not the appropriate approach.
[79] See I.STAFF.5, and discussion below.
[80] Ex. B/1/1, p.14-15, para.27
[81] Ibid, p.39, para.57.
[82] I.STAFF.5, p. 3. The Applicant admits that this was a qualitative assessment, not based on empirical evidence or probabilistic analysis.

While this does not appear to be consistent with their evidence in the near term, as seen in our analysis in Section 2 of this Final Argument, twenty years from now the pipeline would be more than 80 years old, or roughly the same age as London Lines was when it was finally replaced.

4.3 ***Repair Option Less Expensive***

4.3.1 ***EGI Calculations.*** No matter how the Repair Option is structured (i.e. with or without ILI retrofit), its net present value is significantly lower than the Replacement Option. As updated after the Technical Conference, the comparisons are as follows:

(a) Repair plus retrofit[83]**:**

(i) Repair - $63.8 million cost, $33.9 million NPV

(ii) Replace - $111.5 million cost, $91.2 million NPV

(b) Repair alone[84]:

(i) Repair - $33.0 million cost, $7.7 million NPV

(ii) Replace - $111.5 million cost, $91.2 million NPV.

4.3.2 Therefore, on a cost comparison basis, it is cheaper to repair, with or without ILI retrofit, than the replace the pipeline.

4.3.3 ***Real Impacts.*** These comparisons are misleading, however. They assume that the Applicant will repair the pipe using cutouts and temporary bypass for 30 years, until 2062[85].

4.3.4 A more realistic approach to the Repair Option is looking at the accumulating cost of repairing the St. Laurent pipeline over time. What that shows is that the cumulative cost to maintain this pipeline in proper condition for the next five years is $390,000[86], and the cumulative cost to maintain it for ten years is $959,000[87]. To put that in context, the annual cost of the Replacement Option over the same period is more than $12,000,000[88].

[83] JT1.16.
[84] JT1.15.
[85] I.ED.3, p. 2.
[86] I.ED.3, Attach 1, Total O&M and capital costs, net of tax shield, 2023-2027.
[87] Ibid, Total O&M and capital costs, net of tax shield, 2023-2032.
[88] Revenue requirement.

4.3.5 There is never a time when the annual cost to repair starts to be more than the cost to replace.

4.4 ***Risks of the Repair Option***

4.4.1 If the costs are significantly lower, even as EGI calculates them, and are a small fraction when looking at the next decade, why is the Applicant proposing to spend money that appears to be unnecessary?

4.4.2 The answer is the risk of a major disruption on the line, requiring that it be shut down[89]. However, over the next several years the probability is that there will be one leak that needs repair[90], and the likelihood that the repair will require a shutdown is very small. EGI witnesses characterize this type of leak as "rare"[91].

4.4.3 In this regard, two things should be noted:

(a) EGI have themselves assessed that there is no "emergent safety issue" on this line[92].

(b) The pipeline currently meets the CSAZ662 standard for integrity, and there is no forecast that it will cease to meet that standard[93].

[89] Ex. B/1/1, p.8, para.15.
[90] Ex. I.EP.13, p.2
[91] JT.1.16.
[92] I.STAFF.6, Attach. 1.
[93] I.ED.10(a).

5 REPAIR VS. REPLACEMENT

5.1 *Introduction*

5.1.1 SEC is therefore proposing that the OEB reject the proposal to replace the St. Laurent pipeline at this time. Whether it should be replaced at some time in the future can be determined in the future.

5.1.2 In the meantime, the Repair Option provides a solution at much lower cost, and allows the Applicant, its customers, and the OEB to see whether demand will decline as the Applicant's customers claim it will.

5.1.3 SEC also notes, below, directions that it believes the OEB should give to EGI if it wishes to revisit this project in the future.

5.2 *EGI Should Align its Strategy with Its Customers' Strategies*

5.2.1 OEB should not ignore ongoing City and Federal plans when assessing the need and purpose of a long-term asset. The decision to proceed with a capital project such as that proposed creates an asymmetrical (and unacceptable) risk for the Applicant's customers if it turns out that the plans of government, and the private sector, are implemented and realize the intended results. The OEB should not consider this an appropriate result.

5.2.2 The Replacement Option assumes a future where fossil fuel consumption in the Ottawa region does not change. This is not a reasonable assumption.

5.2.3 Will fossil gas use reduce sufficiently that the St. Laurent pipeline is no longer required? That may be likely, but it can be treated as unknown for the purposes of the OEB's analysis. SEC submits that the OEB does not need to reach a definitive conclusion on that forecast today.

5.2.4 What the OEB does know for sure is the following:

(a) The Replacement Option has the following known consequences:

(i) An average cost to ratepayers of $12 million per year or more over the next ten years.

(ii) A closing rate base in 2040 of $73.4 million, and a closing rate base in 2050 of

$43.8 million[94]. If the plans of the customers come to fruition, those rate base amounts are at risk of being stranded. That risk is unknown, but may be material.

(b) The Repair Option has the following known consequences:

(i) An average annual cost to ratepayers of less than $100,000 over the next ten years.

(ii) No capital cost commitment at this time.

(iii) A risk (which the Applicant rates as very small) of a catastrophic failure, the first in Enbridge's history[95].

(iv) The potential that the pipeline will still have to be replaced at some point in the future. That risk is unknown[96], but there is no evidence that the cost will be greater than the Replacement Option currently being proposed, and it will clearly be at a later date.

(v) The benefit of greater information on Ontario and Quebec demand, both current and future, and both average and peak, on this pipeline, so that future risks can be reduced when the regulator is making its decision at some time in the future.

5.3 ***What Should the OEB Order?***

5.3.1 Any risk/benefit analysis should reasonably conclude that the Replacement Option has the higher known negative consequences for ratepayers (i.e. rate increases), and equal or greater risks compared to the Repair Option.

5.3.2 In our view, EGI's mistake with this project was to assume an all or nothing approach. Either the pipeline is replaced now, or it is never replaced. What are the risks of those two options, they asked themselves?

5.3.3 The better approach, it is submitted, is to deal with the utility's perceived problem with the age and condition of the St. Laurent pipeline, and its future role in the system, in multiple stages.

5.3.4 ***Interim Solution.*** First, buy time to determine whether this pipeline will even be needed in the future.

5.3.5 Happily, the evidence shows that it is possible to do that. The pipeline has an

[94] I.ED.5.
[95] JT1.9.
[96] It may in fact be material. We don't know at this point.

excellent Asset Health Index, and is projected to continue to be in that position for at least 20 years. The pipeline does not present any emergent safety issues, and is compliant with all technical requirements. Although it is getting older, it is holding up well and doing its job.

5.3.6 At the same time, the cost of keeping this in good repair is forecast to be very low, at least for the foreseeable future. As shown earlier, less than a million dollars of repair costs are forecast for the next decade.

5.3.7 Therefore, the evidence is clear that there is no reason the Applicant, the customers, and the OEB cannot have an additional ten years, perhaps more, before implementing a permanent solution for this pipeline.

5.3.8 ***More Information Produces Better Decisions.*** Second, implement a program to ensure that any future capital solution for this pipeline is based on the best information, and minimizes the costs to customers. This would include at least three components:

(a) Monitor the efforts of the customers relying on the St. Laurent pipeline to reduce or even eliminate their need for its gas. This includes not just the City of Ottawa, and Ottawa Community Housing, but also the federal government and its many agencies, the hospitals, the schools, the universities, private companies including the owners and operators of the many office towers in this area, and the customers on the Quebec side of the river. All of them are likely to be reducing fossil gas use, and ten years from now the preliminary results will be in. Is it just wishful thinking, or is it real?

(b) Implement integrated resource planning programs to reduce annual and peak demand in this area, with a view to both working with and supporting the efforts of the customers to reduce their reliance, and reducing the need for future capital spending. The OEB has recently authorized the first phase of a new framework for precisely that purpose. This is a good place to start.

(c) Prepare and keep updated a new annual and peak demand forecast for the St. Laurent service area that takes the results to date, new policies and plans, and probabilistic analysis, into account to assess whether the pipeline is still needed, and if so at what capacity and for how long.

5.3.9 ***More Comprehensive Examination of Options.*** Third, in the event that leak experience or other factors cause the Applicant to want to proceed with this or some other project, for example in 2032 rather than 2022, prepare a more detailed analysis of options given the information noted above. This could include both a replacement pipeline (of whatever size), but should also explore other

configurations reflecting any changes in the amount and location of demand[97].

5.3.10 ***Conditions for Future Application.*** Fourth, if the Applicant wishes to seek leave to construct a replacement pipeline of some kind at that time, the Applicant should ensure that it provides the OEB with all of the above information and analysis, to ensure that the OEB has the benefit of full information in determining what approval, if any, to grant.

5.3.11 In our submission, a future application by EGI that does not demonstrate the degree of diligence in the steps described above should not be permitted by the OEB.

[97] By way of example only, if the initiatives of the government of Quebec are less successful than those in Ontario, so that the Gazifiere demand is a materially greater percentage of the total demand on this pipeline, what other ways are there to serve the Gazifiere demand? The opposite could, of course, also be true.

6 OTHER MATTERS

6.1 ***Costs***

6.1.1 The School Energy Coalition hereby requests that the Board order payment of our reasonably incurred costs in connection with our participation in this proceeding. It is submitted that the School Energy Coalition has participated responsibly in all aspects of the process, in a manner designed to assist the Board as efficiently as possible.

All of which is respectfully submitted.

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