RÉGIE DE L'ÉNERGIE DU QUÉBEC

Demande conjointe relative à la fixation de taux de rendement et de structure de capital – Phase 2

Case No. R-4156-2021

Direct Testimony of
Dr. Asa S. Hopkins

On the Topic of
Business Risk

April 8, 2022

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I. INTRODUCTION AND QUALIFICATIONS

Q1 Please state your name, business address, and position.

A1 My name is Asa S. Hopkins. My business address is 485 Massachusetts Ave., Suite 3, Cambridge, Massachusetts 02139. I am a Vice President at Synapse Energy Economics, Inc. Among other work, I lead Synapse's consulting regarding the future of gas utilities, and I also work extensively in the related area of building decarbonization technology and policy.

Q2 Please describe Synapse Energy Economics.

A2 Synapse Energy Economics is a research and consulting firm specializing in energy industry regulation, planning, and analysis. Synapse works for a variety of clients, with an emphasis on consumer advocates, regulatory commissions, and environmental advocates.

Q3 Please describe your professional experience before beginning your current position at Synapse Energy Economics.

A3 Before joining Synapse Energy Economics in 2017, I was the Director of Energy Policy and Planning at the Vermont Public Service Department from 2011 to 2016. In that role, I was the director of regulated utility planning for the state's public advocate office, and the director of the state energy office. I served on the Board of Directors of the National Association of State Energy Officials. Prior to my work in Vermont, I was an AAAS Science and Technology Policy Fellow at the U.S. Department of Energy, where I worked in the Office of the Undersecretary for Science to develop the first DOE Quadrennial Technology Review. Prior to my time at the U.S. DOE, I was a postdoctoral fellow at Lawrence Berkeley National Laboratory, working on appliance energy efficiency standards. I earned my PhD and Master's degrees in physics from the California Institute of Technology and my Bachelor of Science degree in physics from Haverford College. My resume is attached as Exhibit ASH-1.

Q4 Have you previously provided evidence before the Régie?

A4 Yes. In Case No. R-3986-2016, I provided evidence regarding best practices in electric utility demand response programs.

Q5 Please describe your experience specifically related to gas utility business risk.

A5 I lead Synapse's work in the area of the future of gas utilities. My team and I are assisting a number of clients to understand the future of gas utilities in the context of deep building decarbonization objectives. This work includes assisting Conservation Law Foundation in Massachusetts Department of Public Utilities Docket 20-80 (an investigation into "the role of gas local distribution companies as the Commonwealth achieves its target 2050 climate goals"); Natural Resources Defense Council in New York and Nevada's regulatory proceedings regarding the future of gas; the Colorado Energy Office regarding approaches to decision-making in the face of uncertainty, in the context of Colorado's regulatory proceedings regarding gas utility Clean Heat plans and building decarbonization; the County of San Diego (with the University of California San Diego) in developing the buildings and utilities portion of its Regional Decarbonization Framework; the Maryland Office of People's Counsel in modeling the impact of the state's decarbonization objectives on utility sales and finances; and the District of Columbia Department of Energy and Environment in assessing Washington Gas Light's Climate Business Plan. In Washington, DC, I provided testimony on behalf of the District of Columbia Government in the proceeding in which Altagas purchased Washington Gas Light regarding the implications of the District's decarbonization plans on the future of the utility's regulated gas business.

Q6 On whose behalf are you providing evidence in this case?

A6 I was retained by Industrial Gas Users Association and I am testifying on its behalf and on behalf of the other intervening parties in this matter.

Q7 What is the purpose of your testimony?

A7 The purpose of my testimony is to analyze the business risk facing Énergir, Gazifère, and Intragaz (together "the Utilities"). Business risk is one component of the overall risk facing the Utilities, which informs the choice of the appropriate cost of capital and thus allowed return on equity.

Q8 How is your testimony organized?

A8 My testimony begins with a short summary of my conclusions and associated recommendations. I then provide an introduction to utility risk and establish that different types of risk appear over different time frames. The subsequent two sections address short-term and long-term risks for the two distribution utilities (Énergir and Gazifère). Section VI draws together my conclusions for those two utilities. My testimony concludes with a discussion of Intragaz's business risk and implications for its return on equity.

II. SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

Q9 Please summarize your primary conclusions.

A9 My primary conclusions are summarized as follows:

- Énergir and Gazifère face little short-term business risk, as evidenced by their ability to consistently achieve their allowed return on equity and their demonstrated low volatility of returns compared with the U.S. gas utility sample provided by Dr. Villadsen and further examined by Dr. Brown. Énergir's relative concentration of industrial customers has no appreciable impact on the utilities' short-term business risk.

- The evidence presented by the Aviseo report and in Dr. Brown's testimony is insufficient to evaluate the long-term business risk associated with stranded assets and competition with electricity, including the risks that could be associated with the decarbonization energy transition.

- Both the Aviseo report and Dr. Brown's testimony fail to sufficiently consider the business opportunities associated with the decarbonization energy transition or the impact of mitigating actions that prudently run utilities would take to adapt to that transition.

- Intragaz faces little short-term or long-term business risk because its only customer is a cost-of-service regulated utility which is likely to require its services throughout the next several decades.

Q10 Please summarize your primary recommendations.

A10 I recommend that the Régie:

- Set the returns on equity and capital structures at the level that corresponds to the business risk faced by a prudently managed utility in the same situation as each of the utilities in this proceeding. Utility management that fails to mitigate business risks that a prudent utility would mitigate should not be rewarded with a higher allowed return on equity.

- Set the returns on equity and capital structures to be consistent with the low short-term business risk that all three utilities face.

- Require all three utilities to prepare detailed business plans that address the changes in their businesses that will likely result from the decarbonization energy transition, and file those plans with the Régie in the context of the next return on equity/capital structure docket, which should take place within the next three to four years. Each plan should identify and quantify risks and opportunities, including when they would manifest in impacts on the company as well as what their impacts would be. This plan should include a comprehensive assessment of electricity and gas utility roles in decarbonization, gas load forecasts, infrastructure needs, gas price forecasts, analysis of customer counts and consumption patterns by customer type, and the availability and costs of alternative fuels. This plan should then inform analysis of, and selection of, different mitigating actions. With such a plan in place, the Régie would be able to adequately evaluate the long-term risk faced by a prudent utility management in each utility's situation, for inclusion in an assessment of the appropriate return on equity.

III. INTRODUCTION TO UTILITY RISK

Q11 How do you categorize the potential business risks a utility faces?

A11 I classify business risks into two categories, which I refer to as short-term risks and long-term risks. I define the risks I consider in each category, below.

Q12 What are the short-term business risks to utilities?

A12 Short-term risks are operational in nature. They reflect the risk that the utility may receive less revenue than expected and/or it may be forced to pay unexpected costs. Due to the nature of cost-of-service regulation, there can be a regulatory lag between the establishment of the cost of service and the collection of revenues. If circumstances change in the meantime, the investors' returns may be higher or lower than expected. These business risks are manifested in variations in the rate of return earned by utility shareholders. A gas utility without any weather adjustment in its regulatory regime, for example, might over-earn during cold winters and under-earn during warm ones; this would be a business risk for utility shareholders. (Most gas utilities, including Énergir and Gazifère, have some kind of weather- or sales-based adjustment mechanism to eliminate or moderate this risk.) Emergencies such as the Covid-19 pandemic or natural or man-made disasters, or the addition or departure of large customers, can also change utility costs or revenues.

Q13 What is the primary business risk facing gas distribution utilities in the long term?

A13 The primary long-term risk for gas distribution utilities is that they will be unable to both recover their invested capital and earn a reasonable return on that capital over its lifetime. This is sometimes referred to as "stranded cost" or "stranded asset" risk, although I want to make a clear distinction between a stranded cost and an actual loss to utility investors. A stranded cost is the undepreciated value of an asset that is no longer used and useful. In the regulatory paradigm adopted in both Canada and the United States, assets that are no longer used and useful should be removed from a utility's rate base.[1] Interpreted directly, this would result in the loss of invested capital as well as the loss of the potential to earn any further return on that capital. In practice, however, when a utility asset that was installed prudently becomes no longer used and useful, regulators commonly allow the continued recovery of the value of that asset; so the mere existence of stranded costs does not immediately create losses to investors.

Q14 Why do you equate capital-recovery risk with long-term risk?

A14 I equate these terms because utility investors are not facing any near-term risk of failing to recover their capital investments. As Dr. Brown states, "I am not aware of any suggestion that Énergir will not be able to recover prudently-incurred capital nor that it will cease to have a reasonable opportunity to earn the allowed return on prudently-invested capital" (Exhibit EGI-2, page 28, lines 2-4).

Q15 Can you give examples of continued recovery of assets no longer performing their past service?

A15 Yes. The continued recovery can take different forms. In some cases, the utility can simply assert that the assets are in fact still used and useful. As a simple

[1] The *Stores Block* (*ATCO Gas & Pipelines Ltd. v Alberta (Energy and Utilities Board)*, 2006 SCC 4) decision by the Supreme Court of Canada affirmed this principle. For the U.S., see, for example: U.S. District of Columbia Circuit Court of Appeals. 606 F. 2d 1094. Tennessee Gas Pipeline Company v. FERC. The Court states "…the precept endures that an item may be included in a rate base only when it is "used and useful" in providing service."

example, consider the gas meter and service line for a customer who chooses to stop being a gas utility customer. The utility can uninstall the meter and store it to use for a future customer, or in case that property decides to restart gas service. The service line is generally not physically removed, and the utility can claim that the line is used and useful while it waits for the possibility that the property will reconnect. Utilities also commonly use depreciation analyses that assume some assets retire early, while others have longer lifetimes than average. The customer's meter and service line may simply be assumed to be in the former group and the aggregate depreciation and plant in service is unchanged by their retirement. Other examples involve cases where the asset is truly removed from service. Dr. Brown cites the example of the replacement of traditional meters with "smart" meters, where it makes sense to replace all meters at the same time even though many meters have a remaining undepreciated value. To give another example, when an aging electric power plant is retired it usually has some components that have been more recently installed, so that even if the original plant is fully depreciated there are some components that are stranded. In each of these cases, the regulator commonly either explicitly or implicitly approves the continued recovery of the prudently invested funds through some kind of regulatory asset structure. In some jurisdictions, regulators and legislatures have created securitization structures in which shareholders are paid for their investment in a set of assets no longer in service. The assets are then transferred to a bond-funded structure (with explicit or implicit ratepayer and/or taxpayer support) and the costs are paid back to bondholders over some period. Securitization can lower ratepayer costs by removing the higher return to equity and spreading costs over a longer period than the asset life.

Q16 What is the risk to investors in the case of stranded assets?

A16 There are two potential sources of investor risk associated with stranded assets. The first is that the regulator might not allow recovery of the investment once the assets are not used and useful. The second is that the competitive position of the utility might not allow it to raise rates to the level required to recover the investment from the utility's customers. That is, regulators might allow recovery, but the utility could find that its revenues fall (rather than rise) if it increases rates because customers choose to reduce their consumption in response to the rate increase. (As I discuss below, Quebec's gas utilities are not in this situation.)

Q17 Could the competition-based risk occur without stranded assets?

A17 In theory, a change in the competitive environment (for example if a competing fuel became much less expensive) could result in customer demand falling enough to trigger spiraling rate increases or losses to investors without being instigated by the recovery of stranded assets. However, the falling demand associated with competition would likely result in stranded assets, so I do not consider this to be an entirely separate kind of risk.

Q18 How should different types and timescales for business risk inform the establishment of the allowed return on equity?

A18 The allowed return on equity should most directly reflect the risks regarding return on invested capital in the period until the next time the return on equity is set, with less weight given to risks that extend further out in time. Thus, short-term risks should be the primary driver for the allowed return, with longer-term risks contributing more if the expected time until the return on equity is reset is longer. (If utility investors faced stranded cost risks in the short term, then these risks would be weighted more highly, given their greater impact within the period of the rate setting. However, Dr. Brown and I agree this is not the case in this proceeding (see Exhibit EGI-2, page 28, lines 2-4).)

Q19 Can prudent utility management mitigate some of the business risks that utilities face?

A19 Yes. I will elaborate approaches appropriate for different kinds of risks later in my testimony.

Q20 How should utility management of business risk inform the allowed return on equity and capital structure?

A20 The allowed return on equity and capital structure should reflect the amount of business risk that a prudently managed utility, faced with the same circumstances as the utility in question, would experience. Prudent utility managers evaluate risks and analyze the costs that those risks might impose along with the costs of efforts to mitigate them. They then take the actions that are warranted to mitigate risks. (For example, if a risk is small—accounting for both its likelihood and impact—and would cost a great deal to mitigate, then it would be prudent to leave the risk unmitigated.) If utility management does not take prudent actions to mitigate risks, and therefore the company faces higher risks than warranted, that does not justify a higher return to shareholders.

I recognize that regulators have an important role to play in risk mitigation, because many of the actions that utility management would take to prudently manage risk require regulatory approval. Therefore, there is some risk that regulators will prevent the utility from taking a mitigating action. However, if the utility has conducted clear and comprehensive risk and mitigation analysis, it is sensible to assume that regulators will take the appropriate actions to advance the long-term public interest by allowing the utility to take justified mitigating actions.

IV. SHORT-TERM RISK FOR QUEBEC GAS DISTRIBUTION UTILITIES

Q21 Do you agree with Dr. Brown that "Other things equal, investors prefer returns that are less volatile" (Exhibit EGI-2, page 8, line 11)?

A21 Yes. In general, an investment that offers less volatile returns will be more attractive than an alternate investment that offers comparable expected returns with greater volatility. The lower-volatility investment will therefore have a lower cost of capital.

Q22 Do you agree with Dr. Brown that "it would be unusual for there to be no variance between achieved and allowed returns" (Exhibit EGI-2, page 6, line 15-16)?

A22 Yes. Precise alignment between allowed and achieved returns should not be expected due to variations such as weather and unexpected changes in operations and maintenance costs. Further, I would add that the degree of variance between achieved and allowed returns is an indication of the short-term business risk that a utility faces. This is because the reason for such a variance would be business events not accounted for in the previous cost of service rate case. If the world proceeds exactly as projected in the rate case (that is, if there were no risk or uncertainty), the utility would earn its allowed return.

Q23 What tools do gas distribution utilities have to reduce the annual volatility in their returns?

A23 Gas utilities can, with regulatory approval, establish a wide range of deferral accounts and other mechanisms to protect against fluctuations outside of their control. For example, gas utilities commonly pass through the cost of gas supply directly to customers. This way, if the wholesale cost of gas (or gas transmission or storage services) changes, customers bear that risk directly and the gas distribution business is not affected. In addition, it is common for gas utilities to have a weather adjustment process so that warmer or colder winters do not affect their ability to collect the allowed revenues to cover the cost of the installed gas system. Some utilities have accounts that allow them to recover the cost of lost or unaccounted for gas (that is, gas which the utility procures but which does not show up, in aggregate, on customer meters because it leaks or is otherwise unaccounted for). This reduces the utility's risk that unexpected amounts of lost gas will result in under-collection of overall revenues. Some utilities have decoupling regimes which completely or partially separate the amount of revenue collected from the amount of gas sold for any reason. Revenue per customer decoupling, for example, allows the utility to adjust its rates to collect a fixed overall revenue per customer for distribution service. This mitigates some of the disincentive the utility might have to encourage energy efficiency, while simultaneously protecting against weather fluctuations. While the examples I have listed here are common, each utility and jurisdiction tend to take their own approach to these kinds of tools based in their own situation and regulatory and legal context.

Utilities can also mitigate short-term risk by having regular or frequent rate cases (e.g., every two or three years) to mitigate the risk that utility costs will shift away from the costs used to establish rates. Multi-year rate plans can establish expected changes in utility costs between rate cases, so that utilities only take the risk that their costs will differ from expected values, not that they will differ from past values.

Q24 Do Énergir and Gazifère use these kinds of tools to mitigate short-term risk?

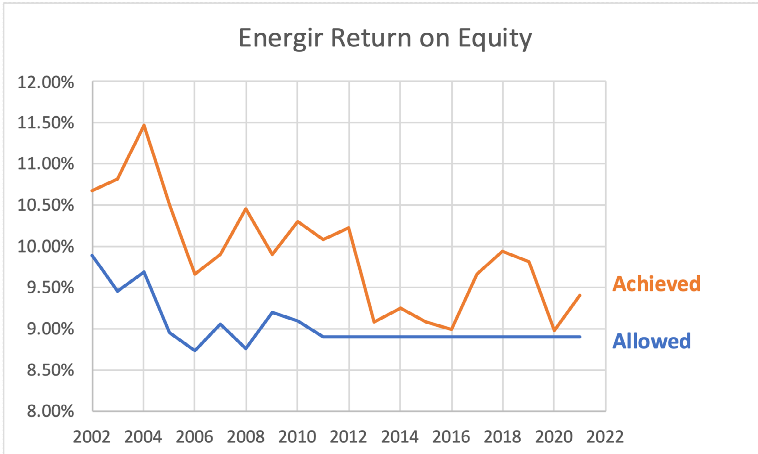
A24 Yes, they do. Both utilities pass through the cost of gas supply and use weather normalization. It is my understanding that Énergir had a decoupling regime in place from 2019 to 2021.[2] Dr. Brown summarizes the adjustment mechanisms between rate cases that Énergir uses in his Q&A40 (Exhibit EGI-2, pages 26-27), and the different approach that Gazifère uses in his Q&A46 (Exhibit EGI-2, page 29).

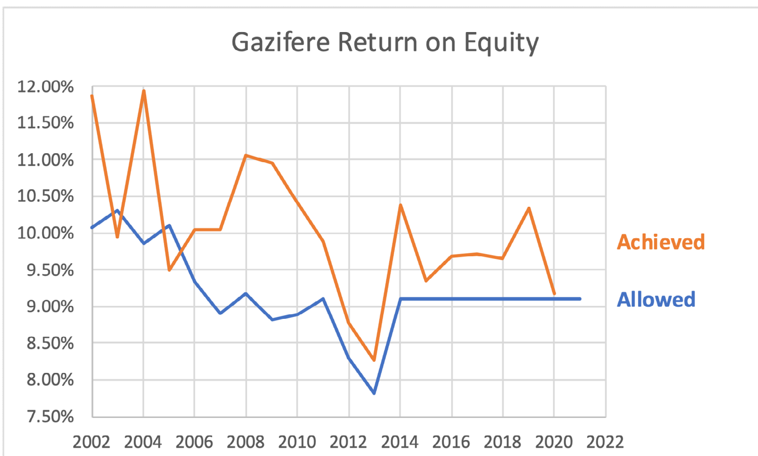
Q25 Have you compared Énergir's and Gazifère's allowed and achieved returns?

A25 Yes. Figure 1 shows the allowed return and achieved return for Énergir and Gazifère for the years 2002 through 2021 (for Énergir) or 2020 (for Gazifère). The data are derived from Exhibit EGI-15.

[2] Énergir Inc. 2021. *Annual Information Form: Fiscal year ended on September 30*, 2021. Accessed at https://www.energir.com/~/media/Files/Corporatif/Politiques%20et%20directives/Energir%20-%20Notice%20annuelle%20en.pdf?la=en.

Figure 1. Énergir and Gazifère returns on equity from 2002 to present, showing the allowed rate (blue) and the achieved rate (orange)





Q26 What conclusions can you draw from analyzing the achieved and allowed returns for the two utilities?

A26 I conclude that both utilities have effective mechanisms in place to manage short-term risk. During the period covered by Figure 1, the world experienced the 2008–2009 global financial crisis and the 2020–2021 coronavirus pandemic, which each shocked the economy in different ways. Regardless of these shocks, both utilities managed to earn their allowed returns for the full 20-year period, almost without exception.

Q27 What do their stable returns imply about the exposure of the two distribution utilities to risk from changes in industrial production in Quebec?

A27 During the period from 2002 to 2021, the annual value of industrial production in Quebec has fluctuated by as much as 8 percent (2009 vs 2008) and 9 percent (2020 vs 2019)[3] without producing a noticeable impact on the ability of the two gas distribution utilities to earn their authorized return. From this, I conclude that the exposure to industrial load that both Aviseo and Dr. Brown highlight (see Exhibit EGI-3 pages 13-15 and Exhibit EGI-2 pages 20-21) has no appreciable impact on the short-term business risk faced by the distribution utilities. In addition to the use of deferral accounts and other mechanisms to mitigate short-term risk (as referred to in my Q&A24 above), I believe this also reflects, in part, the fact that the portion of the rate base that serves industrial load is small compared to the volume of gas or total revenues associated with the sector. While Dr. Brown highlights the share of delivery volumes that serve industrial customers, for a regulated delivery utility the more relevant metric is the portion of the utility's distribution revenue requirement or rate base allocated to industrial customers, and how the recovery of that revenue varies with sales volumes. For Énergir, the industrial revenue portion is 30 percent (Exhibit EGI-3, page 13), which is much lower than the 62 percent figure highlighted by Dr. Brown. Similarly, only 33 percent of Énergir's distribution rate base is allocated to classes other than class D1 (Docket R-4119-2020, Exhibit B-0090). Focusing on sales volume rather than on the share of rate base overstates Énergir's business risk from changes in the industrial sector.

For Gazifère, the difference between industrial sales volume share and distribution revenue or rate base share is even more striking. Rate classes 3, 4, 5, and 9 together represent 23 percent of Gazifère's annual deliveries, but these

[3] Based on data from Statistics Canada, Table: 36-10-0402-01. Available at https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610040201&pickMembers%5B0%5D=2.2&pickMembers%5B1%5D=3.4&cubeTimeFrame.startYear=2002&cubeTimeFrame.endYear=2020&referencePeriods=20020101%2C20200101.

classes are allocated only 4 percent of both rate base and the cost of distribution service (Docket R-4122-2020, Exhibit B-0385, Document 2.1).

Q28 Do the distribution utilities have a variance between their allowed and achieved returns?

A28 Yes, they do. In almost every year the achieved returns exceed the allowed returns established by the Régie. The only exceptions in the last two decades were 2003 and 2005 for Gazifère. Énergir has earned a return that exceeded its authorized return for the last 20 years without exception.

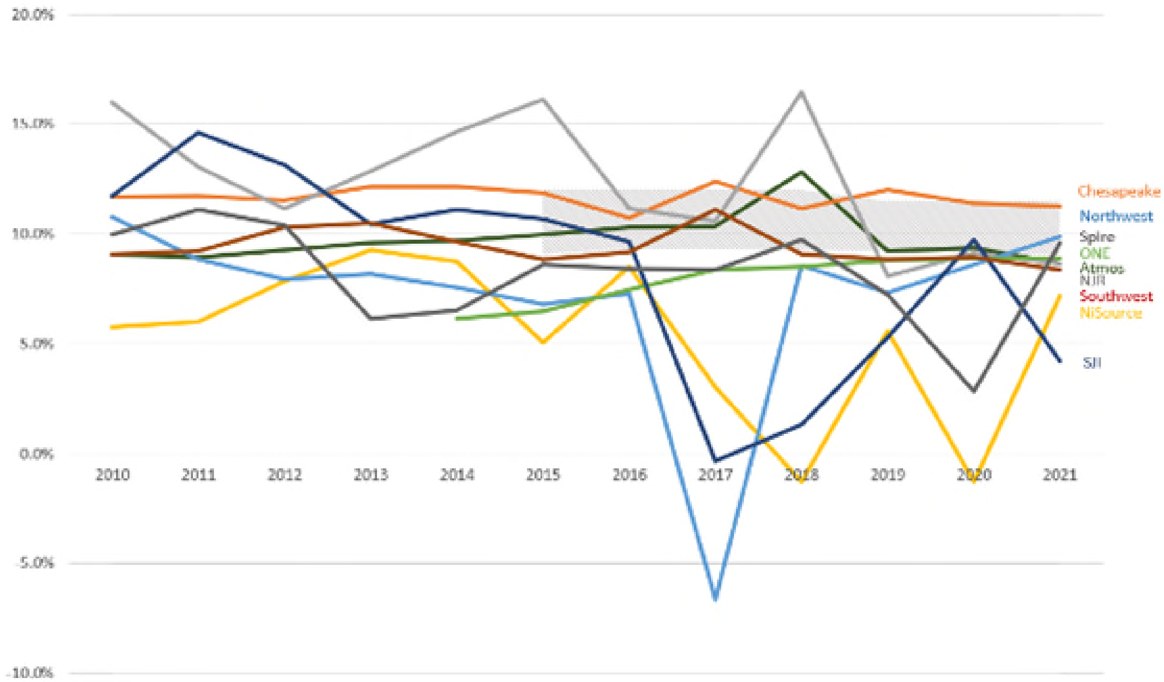
Q29 Have you compared the variation in the achieved returns from the Utilities with those of the other gas utilities presented by Dr. Villadsen and Dr. Brown as comparable proxies in this docket?

A29 I have. Énergir and Gazifère have a smaller variation in annual returns over the 2010–2021 period than all but one of the utilities used by Dr. Brown and Dr. Villadsen as supposedly comparable utilities in the U.S. gas utility sample. Figure 2 shows the achieved annual returns on equity for the nine companies in the U.S. gas utility sample over the last decade,[4] along with the range of allowed returns on equity for utilities owned by the firms in the sample from 2015 to 2021, as documented in their SEC 10-K filings.[5] Note the very different vertical scale from Figure 1 above for Énergir and Gazifère.

[4] Return data is collected from Macrotrends, http://www.macrotrends.net. Annual values shown for each company's fiscal year.

[5] I have provided a list of the 10-K filings used, with source links, in Appendix A to my testimony.

Figure 2. Annual return on equity for the nine utilities in the U.S. gas utility sample analyzed by Dr. Villadsen and Dr. Brown (2010–2021) (colored lines) and the range of authorized returns on equity reported in 10-K filings (hashed grey area, 2015–2021)



Source: Macrotrends.net, Synapse analysis of 10-K filings

Q30 Do the sampled U.S. gas utilities consistently earn as much as or above their allowed rate of return on equity, like Énergir and Gazifère do?

A30 No, from what I can tell they do not. Because the U.S. gas sample companies generally have lines of business beyond a single jurisdiction's regulated gas distribution business, it is difficult to make a direct comparison of allowed vs. earned returns for those portions of their business. However, I did compare the earned returns for the companies as a whole with the range of allowed returns that were presented in recent 10-K forms for each company. While the SEC does not require allowed returns to be provided, most of the companies in the sample provide at least some data on their allowed returns. Staff under my direction catalogued all of the allowed after-tax rates of return on equity listed on the 10-K forms for each company, in each year back to 2015. Many of the companies own multiple utilities that have different allowed returns on equity, and I included the full range of the component utilities in my analysis. The lowest allowed return on equity value I found for any of these component companies is 9.1 percent, and the highest is 12.0 percent. (For comparison, S&P Global Market Intelligence reports that the average gas utility allowed returns has fallen gradually, from an average of 10.15 percent for rates awarded in 2010 to 9.46 percent for rates awarded in 2020.[6] This indicates that the range I identified is reasonably representative.) Of the nine companies in the U.S. gas sample, only four have earned an average return of greater than 9.1 percent over the last five years, and all but one earned a return of less than 9.1 percent in at least one of the last five years. The simple average of five-year returns for the U.S. gas sample was 7.8 percent. Because the firms in the U.S. gas sample show returns on equity lower than the lowest allowed return I found in examination of any of their component utilities, it is clear that they do not generally exceed their allowed returns.

Q31 Dr. Brown states that "the utilities in the sample … have similar regulatory lag to Énergir" (Exhibit EGI-2, page 27, line 25). Do you agree?

A31 While I do not dispute Dr. Brown's summary of the mechanisms used by the different utilities in the sample, the much greater variability in the U.S. gas sample, alongside their low returns when compared to allowed returns, implies that the practical impact of those mechanisms is different in the U.S. sample than it is for Énergir and Gazifère. I therefore disagree with Dr. Brown that the sampled US utilities have, in practice, a similar impact from regulatory lag to Énergir or Gazifère.

[6] S&P Global Market Intelligence. RRA Regulatory Focus: Major Rate Case Decisions - January - December 2020. Feb 2, 2021. Available at https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/13563698

Q32 Does your analysis support Dr. Villadsen's statement that "The natural gas utility sample is essentially a pure-play local distribution proxy sample, with the majority of business activities centered on rate regulated distribution activities, which makes it a close analog to the Utilities" (Exhibit EGI-1, page 54)?

A32 Some of the companies in the U.S. gas utility sample are not "essentially … pure-play local distribution" companies, and their risk profile is therefore not that of such companies. I have examined the sampled companies' 10-K filings and found the following:

- Only 40 percent of the assets of Chesapeake Utilities are in the company's regulated gas distribution business.[7]
- Less than half of South Jersey Industries' 2021 revenue came from its utility operations.[8]
- New Jersey Utilities has gas distribution asset share below two-thirds and is engaged in a wide range of unregulated business activities that are likely to be informing investor perception of the company's risk.[9]

Other companies in the sample have engaged in activities and lines of business that are quite different from the Quebec utilities. While Northwest Natural may be a pure-play distribution utility today, its investment in a natural gas storage business caused shareholders a substantial loss during the time period examined by Dr. Villadsen.[10] Dr. Villadsen states that she removed companies engaged in substantial merger and acquisition activities; but she retained NiSource, which

[7] Chesapeake Utilities Corporation. *2021 Form 10-K.* Available at http://investors.chk.com/sec-filings.
[8] South Jersey Industries. *2021 Form 10-K.* Available at https://investors.sjindustries.com/financials/sec-filings/default.aspx.
[9] New Jersey Utilities. *2021 Form 10-K.* Available at https://investor.njresources.com/financials/sec-filings/default.aspx.
[10] Northwest Natural Gas Company. *2017 Form 10-K.* Available at https://ir.nwnaturalholdings.com/financials/sec-filings/default.aspx.

sold its Massachusetts gas distribution business during the analysis period, following a natural-gas-related disaster.[11]

Q33 What are the implications of the comparison between Énergir and Gazifère for the suitability of the U.S. gas sample as a proxy group to establish the cost of capital for the Utilities?

A33 Regarding short-term risk, this analysis shows that Énergir and Gazifère have less volatility and more assured performance than the sampled U.S. utilities, and therefore should have, all else equal, a lower cost of capital than the U.S. utilities proposed as proxies by Dr. Villadsen and analyzed by Dr. Brown.

Q34 Does your short-term risk analysis indicate any appreciable difference between the risk for Énergir and the risk for Gazifère?

A34 No. Both have earned stable returns for their equity investors, and both have consistently achieved returns in excess of their allowed returns. Neither utility is facing any identified utility-specific short-term challenges to earning its return. While Gazifère is smaller than Énergir, its low-volatility performance indicates no substantial differential size impact on its short-term risk.

Q35 What do you conclude regarding the implications of short-term risk for the cost of capital for Énergir and Gazifère?

A35 I conclude that both have low business risk over the short term, and therefore that their allowed return on equity should be relatively low. Specifically, this analysis indicates that, as regards short-term risk, the allowed return on equity should be lower than that derived by Dr. Villadsen from the cost of capital for the U.S. gas sample, because that sample shows more short-term risk than the Quebec utilities.

[11] NiSource Inc. *2020 Form 10-K*. Available at https://investors.nisource.com/financial-filings-and-reports/sec-filings/default.aspx.

V. LONG-TERM RISK FOR QUEBEC GAS DISTRIBUTION UTILITIES

Q36 What are the types of long-term risks that Énergir and Gazifère face?

A36 The primary form of long-term risk that gas utilities face is the risk of not being able to recover all of their invested capital. As I discussed earlier in my testimony, there are two types of stranded cost risk that a utility might face over the longer term. The first is the risk that the regulator will not allow recovery of prudently incurred investments, and the second is a competitive risk—namely that rates cannot be sustained at a high enough level to recover the investment. The drivers for such risks in Quebec are associated with policies and actions to reduce the province's greenhouse gas emissions, combined with the competitive position of gas compared with electricity.

Q37 Do the utilities in the U.S. gas utility sample analyzed by Dr. Brown face similar risks?

A37 Yes, they do. Both the United States and Canada have stated their intentions to reach net zero greenhouse gas emissions by 2050 (see Exhibits ASH-2 and ASH-3). To reach this level of emissions, both countries will need to substantially reduce greenhouse gas emissions from buildings and industry, as part of an overall portfolio of actions that reduces emissions to the level they can be offset with sequestration and other negative-emission activities. The utilities in the U.S. gas utility sample will all be subject to federal actions that will encourage electrification in buildings and the use of low-carbon fuels in hard-to-electrify end uses in both buildings and industry.[12] While these pathways will cause transformation in gas utilities on both sides of the border, the impacts on regulated

[12] *The Long-Term Strategy of the United States* (Exhibit ASH-5) states that "We can affordably and efficiently electrify most of the economy—from cars to buildings and industrial processes. In areas where electrification presents technology challenges—for instance aviation, shipping, and some industrial processes— we can prioritize clean fuels like carbon-free hydrogen and sustainable biofuels."

gas distribution businesses will be modest in both Quebec and the United States over the next decade.

Q38 Why do you say the impacts over the next decade will be modest in both places?

A38 Building system turnover times are generally governed by the lifetime of the relevant appliances or equipment. Heating systems such as gas furnaces or boilers generally have a lifetime of more than 15 years. This means that even if every new heating system sold today were electric, it would take 15 or more years for the last gas systems to be replaced. In practice, however, it takes time for new technologies to penetrate a market. If market shares for electric heat pump technologies in space and water heating take a decade to reach market dominance (which would be both ambitious and consistent with published example pathways to net zero in the building sector) then the share of the deployed stock of heating systems that would be electric in 2030 would only show a small portion of the eventual shift. Énergir projects a 30 percent reduction in building customer greenhouse gas emissions in 2030, from a combination of efficiency, electrification, and use of biomethane (see Exhibit ASH-4). The utility projects a 10 percent blend of biomethane in its supply by 2030, so the combination of efficiency and electrification would reduce pipeline throughput by about 22 percent.[13] This is consistent with analysis of the United States 2030 Nationally Determined Contribution under the Paris Agreement that shows an 18 percent reduction in building sector emissions from efficiency and electrification (see Exhibit ASH-5). Together, these analyses show that there would be substantial shifts in the market for building heat equipment by 2030, and yet gas utility sales would remain 78 percent or more of today's levels.

[13] (100% - 10% biomethane) times (100% - 22% throughput reduction) = 70% overall emissions, assuming biomethane is carbon neutral.

Q39 Do you agree with Dr. Brown that the Quebec "Utilities could see a reduction in demand for their services in the future, and are therefore exposed to uncertainty in capital recovery to a greater degree than the utilities in the [U.S. gas] sample" (Exhibit EGI-2, page 3, lines 11-13)?

A39 No. First, I do not believe that there is a direct causal relationship between a reduction in demand for gas in Quebec and an increase in uncertainty regarding capital recovery. Dr. Brown's statement elides the agency of both utility management and regulators to address capital recovery and business model evolution. For example, as I will discuss further below, Énergir, HQD, the provincial government, and the Régie are all taking actions that would mitigate uncertainty regarding Énergir's assets, and extension of this model to Gazifère would be straightforward. Second, as discussed in the previous question, I think that the U.S. and Quebec gas utilities face a similar trajectory of declining demand for gas served over their regulated pipeline assets. Therefore, there is little difference in throughput-based uncertainty in capital recovery between the United States and Quebec, especially over the next decade or so.

Q40 You stated earlier that the cost of capital for the Quebec utilities should be informed by the level of business risk facing a utility that is taking all prudent measures to mitigate risks. What are some actions that utility managers could consider to mitigate the long-term business risks that have been identified in this proceeding?

A40 The first essential step is for the utility to develop a business plan for managing the firm in the changing public policy and competitive context in which it operates. That plan should identify and quantify risks and opportunities, including when they would manifest in impacts on the company as well as what their impacts would be. This plan should include a comprehensive assessment of electricity and gas utility roles in decarbonization, gas load forecasts, infrastructure needs, gas price forecasts, analysis of customer counts and consumption patterns by customer type, and the availability and costs of alternative fuels. Developing such a plan would reduce uncertainty regarding each company's future business, and thereby lower investor risk. Such a plan should also inform analysis of, and selection of, additional mitigating actions. These actions could include:

- Detailed and careful examination of any choice to invest in new gas system infrastructure, including a clear-eyed view of the useful life of that infrastructure (which informs the appropriate depreciation rate) and the options for non-pipeline alternatives to reduce or eliminate the need for rate-based utility infrastructure investment.

- Reevaluation of depreciation approaches for each type of utility asset, including differentiation among assets that serve different types of customers that may have different long-term usage patterns for those assets. This could include utilization-based depreciation approaches that move beyond straight-line depreciation to assign depreciation costs based on the projected units of fuel expected to pass through a given asset in each year of its remaining useful life. It could also include identifying which assets may have alternate future use (such as supporting district heating solutions or carrying different fluids such as captured carbon dioxide) so that their costs and lifetimes can be appropriately modeled.

- Developing partnerships with electric utilities to meet winter peak needs through the gas system, subject to regulatory approval.

- Evaluation of low-carbon fuels such as green hydrogen[14] or biomethane, including costs and availability as well as impact on pipeline performance and leakage. This should include consultation with experts in different end-use markets, including industrial customers, to identify where these fuels will deliver the greatest overall benefit (such as in meeting needs that cannot be electrified).

[14] Green hydrogen is hydrogen generated from water through electrolysis using zero-carbon electricity.

Q41 How would planning for business risks and taking mitigating actions impact a prudent gas utility's financial approach?

A41 The prudent gas utility manager has an obligation to shareholders to align the utility's financial approach to the reality of the market and policy context in which it operates, and to consider all of the implications of potential actions. Accelerating depreciation, for example, would increase a utility's funds from operations (FFO), and thereby increase the creditworthiness of the utility's debt on standard measures. Dr. Villadsen, for example, discusses how the rating agencies use FFO ratios when selecting credit ratings (Exhibit EGI-1, pages 79-81). The utility manager could even consider feedback effects in which a lower cost of capital, associated with a lower risk profile, allows for lower rates and thus acts as a risk mitigating step.

Q42 Have any of the Utilities prepared an energy system transition business plan, as you recommend?

A42 Not to my knowledge. While Aviseo's report contains some of the information that would inform such a plan, it is not a plan. Similarly, Énergir's Climate Resiliency Report (which I have attached as Exhibit ASH-4) contains some of the seeds of such analysis but does not contain the detailed analysis and evaluation of options that such a plan would need to inform utility management and regulators about their options.

Q43 In what ways does the Aviseo report fall short of the type of plan you recommend?

A43 While the Aviseo report identifies numerous potential risks, it does not quantify those risks in any way that would allow a utility manager to identify which risks pose greater or lesser threats to the utility's business model and financial health. For example, the report contains no analysis of how each utility's asset base is used by different customer groups, how the actions of those customers could put any assets at risk of stranding, and when that risk might come to pass. It also contains almost no analysis of any opportunities that are or may be open to the utilities, related to or separate from the decarbonization energy transition. The Aviseo report includes no analysis of scenarios for gas consumption and associated asset utilization by different customer classes under different decarbonization paths. As a result, its analysis of renewable natural gas and hydrogen is not grounded in evaluation of how much of those fuels might be required, and thus what the costs and availability of those fuels might be, and how long-term distribution revenues might be made more certain by offering these fuels. It includes no analysis of how different approaches to low-carbon gases might relate to which of the Utilities' assets are used and useful, and how their cost of service is recovered. The report contains no utility financial analysis, no discussion of depreciation, and no evaluation of what actions a prudent utility manager would take in the face of the risks posited by Aviseo.

Q44 Does Dr. Brown's additional analysis shed further light on these shortcomings in the Aviseo report?

A44 No. Dr. Brown relies on Aviseo's assessment regarding the Quebec utilities and only adds analysis of the U.S. gas sample and how it relates to the Quebec utilities.

Q45 Have affiliates of the Utilities taken planning actions similar to what you recommend?

A45 Yes, although the parallels are not exact. Green Mountain Power (GMP), which is an electric distribution utility in the state of Vermont and an affiliate of Énergir, has engaged in detailed and integrated planning regarding the impact of climate policy and climate change on its business and financial approach. GMP has developed a Climate Plan (Exhibit ASH-6) and Integrated Resource Plan (Exhibit ASH-7) that together present a coherent picture of a collection of utility investments and change in approach that align the utility with Vermont's ambitious climate policies and the reality of climate change. The GMP Climate Plan is aimed at redirecting the utility's infrastructure investments to align with a more resilient electric system. The electric system needs to be strengthened for

GMP to (1) provide an increasingly distributed, variable, and renewable-energy-based power portfolio to its customers, (2) reflect the increasing dependence on the electric grid that will come with electrification of building heat and transportation, and (3) strengthen the grid against threats that will increase with climate change. The GMP Climate Plan, which has been approved by Vermont's regulators, identifies specific types of investments (and the methods used to select them), describes how the investments should be treated from a financial/accounting perspective, and specifies what information will be made available to regulators and the public regarding the costs and status of related investments. The GMP Climate Plan is developed and integrated within the context of GMP's regular Integrated Resource Planning process, which considers the interactive effects between customer actions to reduce costs and emissions (such as electrification, efficiency, and distributed generation), the utility's transmission and distribution system, and its near-term and long-term power supply portfolio needs. To my mind, the lessons from GMP's planning process, which its sister utility and other utilities could adopt, include:

- The importance of long-term business planning;
- The value of taking an integrated view across the whole of a utility's business, including the drivers and needs of its diverse customers;
- The need for a utility's plan and actions to be developed within its particular policy and economic context, in particular reflecting the need to address climate change mitigation, adaptation, and associated risks; and
- The importance of incorporating the utility's financial and regulatory positions and approach in its planning process, including laying out in detail how those financial aspects of the utility need to adapt as the plan is implemented.

Q46 Have any of the Utilities started to take risk-mitigating actions of the sort you identified?

A46 Yes. Énergir has proposed a dual-fuel approach to winter peaking with HQD, which is being considered in Case No. R-4169-2021. Under the proposed structure, customers would add electric heating to their gas-heated homes, thereby reducing their emissions; however, they would use the gas systems during winter peak events in order to avoid creating higher peak loads on HQD's system. HQD would transfer funds from electric rates to Énergir to compensate Énergir for the reduction in sales. This reflects the beginning of a potential new business model for Énergir, if approved by the Régie. This business model would include an explicit continued use for Énergir's assets serving residential, commercial, and institutional buildings, thereby substantially reducing the company's risk of future stranded costs.

Q47 Are the utilities in the U.S. gas sample taking actions of the sort you identified to mitigate the long-term risks they face associated with U.S. federal or state climate policy?

A47 Not that I am aware of. In addition, Dr. Brown's research and evidence identified no specific such actions.

Q48 If the U.S. gas sample utilities are not mitigating their long-term policy risk, what implication does that have for consideration of them as a comparison sample in this docket?

A48 The goal of a proxy sample is to provide an indication of the cost of capital for a generic prudently managed utility. To the extent that the utilities in the U.S. gas sample are not taking the available actions that investors might expect regarding risks associated with climate change mitigation policies, they are not an appropriate proxy to use to estimate the cost of capital for a utility that has a plan and is taking prudent actions. In this case, a cost of capital derived from the proxy sample would be an overestimate of the cost of capital for a generic prudently managed utility.

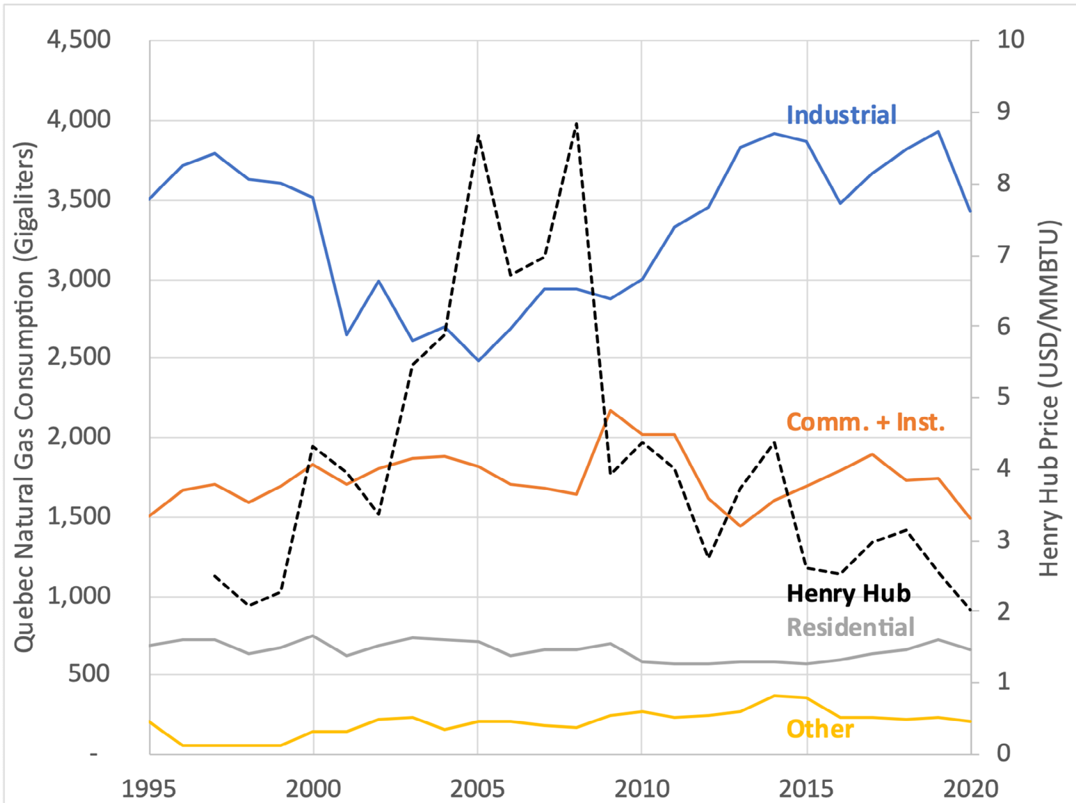
Q49 Is the industrial share of pipeline gas sales associated with the risk of stranding assets?

A49 No, it is not. In fact, the industrial sector is likely to be a source of continued business opportunity for gas utilities. Industrial processes are generally more difficult to electrify than building services, so meeting Quebec's and Canada's greenhouse gas reduction objectives will require these customers to find alternate processes and/or fuels to reduce emissions. Industrial customers are therefore likely to explore the use of biomethane and hydrogen, delivered by pipeline, which would provide a continuing customer base for gas distribution utilities. This includes industrial customers currently using liquid petroleum fuels, who would require new or expanded access to pipelines in order to use lower-carbon gaseous fuels. Industrial customers are also a potential market for new services such as carbon dioxide pipelines to carry carbon captured from industrial processes to the point where it can be sequestered.

Q50 How does the competitive position of natural gas and electricity inform your consideration of long-term business risk for the distribution utilities?

A50 Quebec's electricity rates are relatively low, and thus offer stiffer competition to natural gas for building applications than in most other places in North America. This implies that the gas utilities have less freedom to raise rates in the face of potentially declining sales. The Utilities have not presented any evidence in this proceeding that quantifies the pricing or competitive risk, so it is not possible to project customers' behavior in different rate regimes. However, electricity has offered this kind of close competition for natural gas for many years, and the gas utilities have still managed to develop successful businesses. To me, this implies that customer desire for natural gas service can withstand some pricing challenge from electricity without immediately declining. In fact, as shown in Figure 3, in the sectors that are responsible for most of the Quebec distribution utilities' asset base (namely residential, commercial, and institutional) consumption was very similar when wholesale gas prices were approximately triple recent levels.

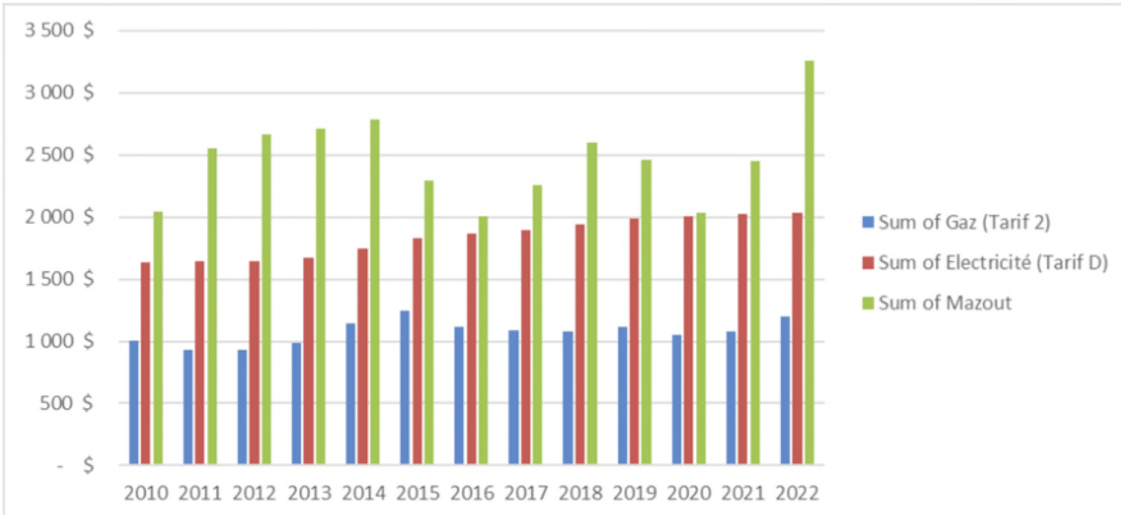
Figure 3. Quebec natural gas consumption by sector 1995–2020 (in gigaliters, left axis) and Henry Hub gas price (in USD, right axis)



Source: Statistics Canada, U.S. Energy Information Administration

Furthermore, Gazifère provided an analysis comparing the annual cost of a residential customer using natural gas, heating oil, and electricity, which I have reproduced as Figure 4. This analysis shows that natural gas has had, and retains, a substantial cost advantage over electricity.

Figure 4. Gazifère comparison of the costs of natural gas, electricity, and fuel oil for a residential customer.



Source: EGI-20.7, page 9

From this evidence, I conclude that there is likely to be considerable room to increase gas rates without crossing a tipping point to cause customer load reductions sufficient to produce a reduction in overall revenues.

Q51 The Aviseo report and Dr. Brown's testimony discuss natural gas's share of total energy consumption in Quebec. Is that the most appropriate metric for evaluating competitive risk?

A51 No. Market share analysis must be evaluated alongside the magnitude of energy use in different markets, and viewed from the perspective of impact on cost recovery since the assets were built to serve this level of load. Figure 3 presents the annual sales of natural gas in Quebec, by sector, from 1995 to 2020. It shows that natural gas demand in 2019 (before COVID-19 effects) was about 10 percent higher than in 1995. Industrial gas use may be more sensitive to relative gas prices than the other sectors: industrial demand was lower during the roughly 2000–2010 period when wholesale gas prices were generally higher than they have been in the last decade, while residential, commercial, and institutional gas sales have been relatively flat even as wholesale gas prices have changed dramatically. The 2010 snapshot that Aviseo uses as a point of comparison appears to be part of an anomalously high three-year period of commercial and institutional demand; recent demand in that sector is very similar to the average throughout the last 25 years. Overall, consumption data do not support Aviseo's conclusion that the low energy share for natural gas in Quebec implies increased business risk for the Utilities.

Implications for Each Distribution Utility

Énergir

Q52 What are the implications of the risks and opportunities for a generic prudently managed gas utility facing the long-term situation that Énergir faces?

A52 The general long-term business risks that have been identified in my testimony and Dr. Brown's testimony (namely those related to climate change policy and competition with electricity) have potential solutions that a prudent utility in Énergir's situation could pursue. A prudently managed utility in this situation would develop a detailed and comprehensive plan to the coming energy transitions, quantify its risks, and take action to mitigate those risks for which the benefits of relevant actions outweigh the costs, while remaining flexible to adapt to changing circumstances. The utility would be examining opportunities to develop new lines of business or solidify existing lines of business by engaging with how it can help building and industrial customers reduce and eventually eliminate their net emissions. A utility that has pursued this path would almost surely be a lower risk long-term equity investment than the utilities in today's U.S. gas utility sample. The quantification of risks and opportunities, alongside the impact of mitigating actions, presented in the plan would allow greater investor confidence associated with reduced uncertainty.

Q53 Does Énergir face any unique unmitigable risks or opportunities that are different from the generic prudently managed utility that should be accounted for in the establishment of its return on equity?

A53 Not that have been presented in this case. Énergir has taken some initial steps towards developing a plan and is taking some mitigating actions. It is possible that Énergir's lack of comprehensive planning and associated actions to date could have closed or restricted its abilities to taking mitigating actions in the future, although I do not know of any particular example. If this turns out to be the case, Énergir's unmitigable risks may be higher than they would have otherwise been. It would not be appropriate to reward the company's shareholders with a higher rate of return on equity as a result of the company's failure to appropriately plan or act.

<u>Gazifère</u>

Q54 How is Gazifère's longer-term business risk and opportunity situation different from Énergir's situation?

A54 Overall, I would say that Gazifère's long-term business risk is slightly higher than Énergir's due to its relative concentration in serving building loads, which are more susceptible to electrification. Relative to Énergir, Gazifère has less long-term opportunity to mitigate its risks through serving industrial customers and hard-to-electrify loads. However, it has an equal opportunity to develop plans and prudent mitigating actions to address its long-term risks. Gazifère should also have an equal opportunity to Énergir to mitigate its building-sector risk through a winter-peak-based partnership with HQD.

VI. CONCLUSIONS FOR EACH DISTRIBUTION UTILITY

<u>Énergir</u>

Q55 Drawing together your analysis of the short-term and long-term business risk facing Énergir, what are your conclusions regarding the overall level of business risk that the utility faces which could not be mitigated by prudent utility management?

A55 Énergir faces low short-term business risk, particularly relative to the proxy U.S. gas utility sample. This low short-term risk should be given primary weight in evaluating the appropriate return on equity. The longer-term risk should be addressed by requiring Énergir to return to the Régie within the next three or four years with a more comprehensive business plan, including assessment of risks and opportunities associated with the decarbonization energy transition and accompanied by supporting financial and depreciation analysis alongside a risk mitigation plan. By setting a near-term requirement to return for an updated evaluation, while stranded cost and competition risks are limited to nonexistent in that time period, the Régie can confidently set the return based on the assessment of short-term risk.

<u>Gazifère</u>

Q56 Drawing together your analysis of the short-term and long-term business risk facing Gazifère, what are your conclusions regarding the overall level of business risk that the utility faces which could not be mitigated by prudent utility management?

A56 Gazifère faces a very similar situation to Énergir, so my general conclusions and recommendations are the same. While Gazifere may face a greater long-term risk due to its building-heavy customer mix, that difference in risk is unlikely to manifest in differential business risk within the new few years while the more detailed company-specific analysis can be completed.

VII. INTRAGAZ BUSINESS RISK

Q57 You have not integrated Intragaz into your business risk analysis for Énergir and Gazifère. How do you think about the risk faced by equity investors in Intragaz?

A57 Intragaz has only had one approved return on equity, and that return on equity covers a ten-year period. As a result, annual short-term risk evaluation of the sort I conducted for the other utilities is not possible. There are also no comparable storage-only utilities to use as a proxy sample. So, I am forced to consider Intragaz from first principles and based on the evidence presented in this case.

Q58 What does Dr. Brown conclude regarding Intragaz's business risk?

A58 Dr. Brown concludes that Intragaz does not face additional risk from regulatory lag because its revenues are "essentially fixed and are not subject to demand risk," it has a forward-looking cost of service that accounts for the lag, and it has more fixed and predictable components of its cost of service than a typical gas distribution utility (Exhibit EGI-2, page 31-32). Building on this conclusion, Dr. Brown claims that Intragaz has a similar business risk to Énergir:

> However, I consider that, in practice, the business risk of Intragaz is bound up with the business risk of Énergir. Intragaz is integrated with Énergir in the sense that Intragaz provides all of its storage capacity to Énergir (including through a recent expansion contracted to Énergir on a long-term basis). Since, fundamentally, Intragaz provides storage services to Énergir on a cost-of-service basis and does not have any other customers, I do not see any reason to differentiate the business risk of Intragaz from that of Énergir. I therefore consider the business risk of Intragaz and Énergir to be the same (Brown page 32, lines 9-16).

Q59 Do you agree with Dr. Brown's assessment that there is no reason to differentiate the business risk of Intragaz from that of Énergir?

A59 No, I do not. Intragaz is in a fundamentally different business position that Énergir, so it faces different business risk. Where Énergir has a wide range of customers, Intragaz has one. Where Énergir's customers are households and business not subject to rate regulation, Intragaz's sole customer is a rate-regulated utility. Where Énergir's customers may make choices to use different fuels, or different amounts of Énergir's product, to meet their independent needs and informed by public policy, Intragaz's sole customer will make choices regarding whether to purchase Intragaz's services based on a different kind of assessment: competition between storage and pipeline for meeting supply obligations.

Q60 What business risks does Intragaz face, in your assessment?

A60 Intragaz faces very few business risks. As Dr. Brown identified, it faces no unusual risk associated with regulatory lag, due to the way that its rates are set. It faces no risk that Énergir will take advantage of its position as sole buyer of its services to demand lower rates, because its rates are regulated by the Régie. Its only appreciable business risk is that Énergir will decide to reduce its purchase of storage in place of using other resources to meet its delivery obligations.

Q61 Has Intragaz met its allowed return on equity in the past?

A61 Yes. Intragaz only provided a single recent value, achieving a 9.09 percent return when allowed 8.5 percent from 2013 to the present, reflecting its long-term fixed allowed return.

Q62 What risk do you see that Énergir might move away from using gas storage?

A62 Today Énergir finds using Intragaz's storage to be cost-effective compared with alternatives, so the question is whether that position would be expected to change in the short- or longer-term. The primary driver of change in the gas business that has been identified in this proceeding is public policy associated with greenhouse gas emission reductions. I will now examine how this policy could affect Énergir's need for storage over the next ten years. (I look over the next ten years because that is the timeframe envisioned for setting Intragaz's return.)

In the first few years of the decade, as I have previously discussed, changes in natural gas consumption driven by decarbonization policy are expected to be relatively small. Recall that even rapid changes in market share for new heating systems take many years to grow into shares of the overall building stock.

As renewable natural gas grows to be a larger fraction of the gas supply, the gas stored in Intragaz's facilities may have different origins, but it will be chemically indistinguishable (that is, meet the same physical standards for pipeline use) and thus Intragaz's services would remain unchanged to store it. The seasonal supply of renewable natural gas may have a different temporal shape than fossil gas; but if it is different, I would expect the seasonal supply to be relatively even (because animal and human waste produces methane year-round) and thus storage located in the province will be well suited to store it for the winter.

In the later years of the decade, Énergir's seasonal and day-to-day load shape may be appreciably different due to electrification. However, due to the proposed and expected partnership with HQD, Énergir's winter peak day demands will likely be as high or higher than they are today. A load profile that is "peakier" than today's profile would make storage more attractive, rather than less attractive, to Énergir. To maintain winter peak capacity on a pipeline, Énergir would have to pay for firm capacity around the year, even if it was using the pipeline to a reduced degree to bring gas into the province most days. Using storage, Énergir can draw a lower but steady supply of gas in via pipeline, using less firm capacity, and deposit it with Intragaz. Then, when faced with winter peak days, the gas will be ready to withdraw from Intragaz's local facilities.

In summary, I conclude that there is a very low risk that Énergir will move away from using local storage provided by Intragaz over the next decade, and likely even over a longer period. Intragaz therefore faces a very low business risk.

Q63 Should Intragaz pursue the same long-term business planning process as Énergir and Gazifère?

A63 Yes, I think that developing such a plan would be a prudent choice for Intragaz's management. Given the expectation for a longer stay-out period before Intragaz's rates are revisited, I think the Régie can proceed to set a return consistent with low business risk in this case, rather than revisiting in a few years. However, the Régie should set expectations regarding the level of analysis and planning expected in the company's next case.

Q64 Does this conclude your testimony?

A64 Yes, it does.