Summary of Evidence on Business Risk

Case No. R-4156-2021

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Asa S. Hopkins, PhD

Agenda

- My approach in this proceeding
- Principles
- Distribution utilities
  - Short term (volatility) risk
  - Long term (capital recovery) risk
  - Conclusions
- Intragaz

Introduction

My Approach to this Proceeding

- Gas utility business, finances, and operations, and their associated risks, are shaped by the regulatory and policy regime in which the utilities operate
  - Utility regulation is a manifestation of policy
- My testimony informs the Régie about the business risk of the three gas utilities, viewed through a regulatory and policy lens, particularly (but not limited to) as it relates to greenhouse gas emission mitigation (the "energy transition")
  - I have evaluated the Aviseo study as well as Dr. Brown's and Dr. Villadsen's expert testimony, and conducted my own analysis
  - Dr. Brown's testimony compares the business risk of the three Québec utilities to the US gas utility sample, and Dr. Villadsen incorporates that relative risk assessment into her recommendations on ROE and capital structure
    - I agree with Dr. Brown that many of the operating risks identified in the Aviseo report are not different between the US sample and the Québec utilities, and can therefore be set aside when considering the ROE and capital structure
    - Focus of my evidence is on areas of potential difference from the US gas sample: regulatory and policy context, and competition

Role of Business Risk in Cost of Capital Case

- Allowed return on equity and capital structure should reflect the return that investors would demand for investing in a prudently run utility facing the same financial and business situation as the utility; this is a fair "cost of capital"
- Financial situation reflects the overall market demand for return from equity investments, accounting for the level of risk for "benchmark" regulated utilities
- Business risks reflect specific risks or types of risk that a given utility faces due to its business context (e.g., regulatory context, customer context, competitive context)
  - 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, with appropriate corresponding approvals by their regulators

Categories of Business Risk

- Short term business risk
  - Risk that the utility may receive less revenue than expected and/or may be forced to pay unexpected costs
  - Manifested in the variability in the rate of return earned by utility shareholders
  - Operational in nature, strongly impacted by regulatory lag
- Long term business risk
  - Risk that utility may be unable to both recover its invested capital and earn a reasonable return on that capital
  - Associated with risk that assets may become "stranded" (a stranded cost is the undepreciated value of an asset that is no longer used and useful)
  - Two ways the unexpected could come to pass:
    - Regulator may not allow recovery of capital for assets no longer used and useful
    - Competition may limit ability of utility to charge rates sufficient to recover its full cost of service

Timescales of Risk and ROE

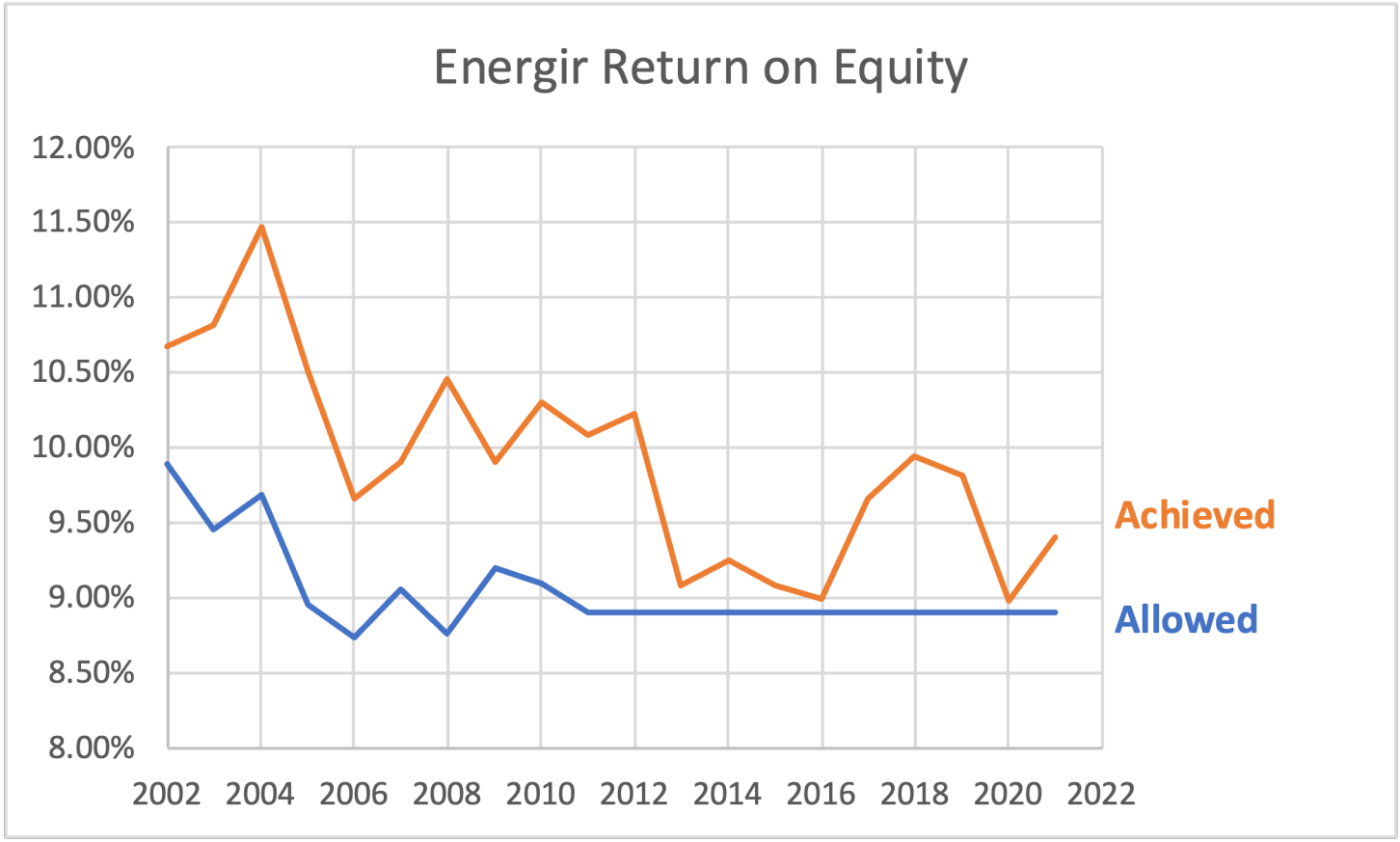
- ROE and capital structure should primarily reflect the risk facing the utility during the period the ROE is in effect
- Short term risks should be the primary driver
  - If there were capital recovery risks in the short term, these should also be included, but there are no such risks in this case
- If there were well justified capital risks in other, later, periods, then those could be taken into account even during the immediate period
  - However, no such risks have been sufficiently justified in this proceeding

Short Term (Volatility) Risk

Short Term Risk for Québec Distribution Utilities

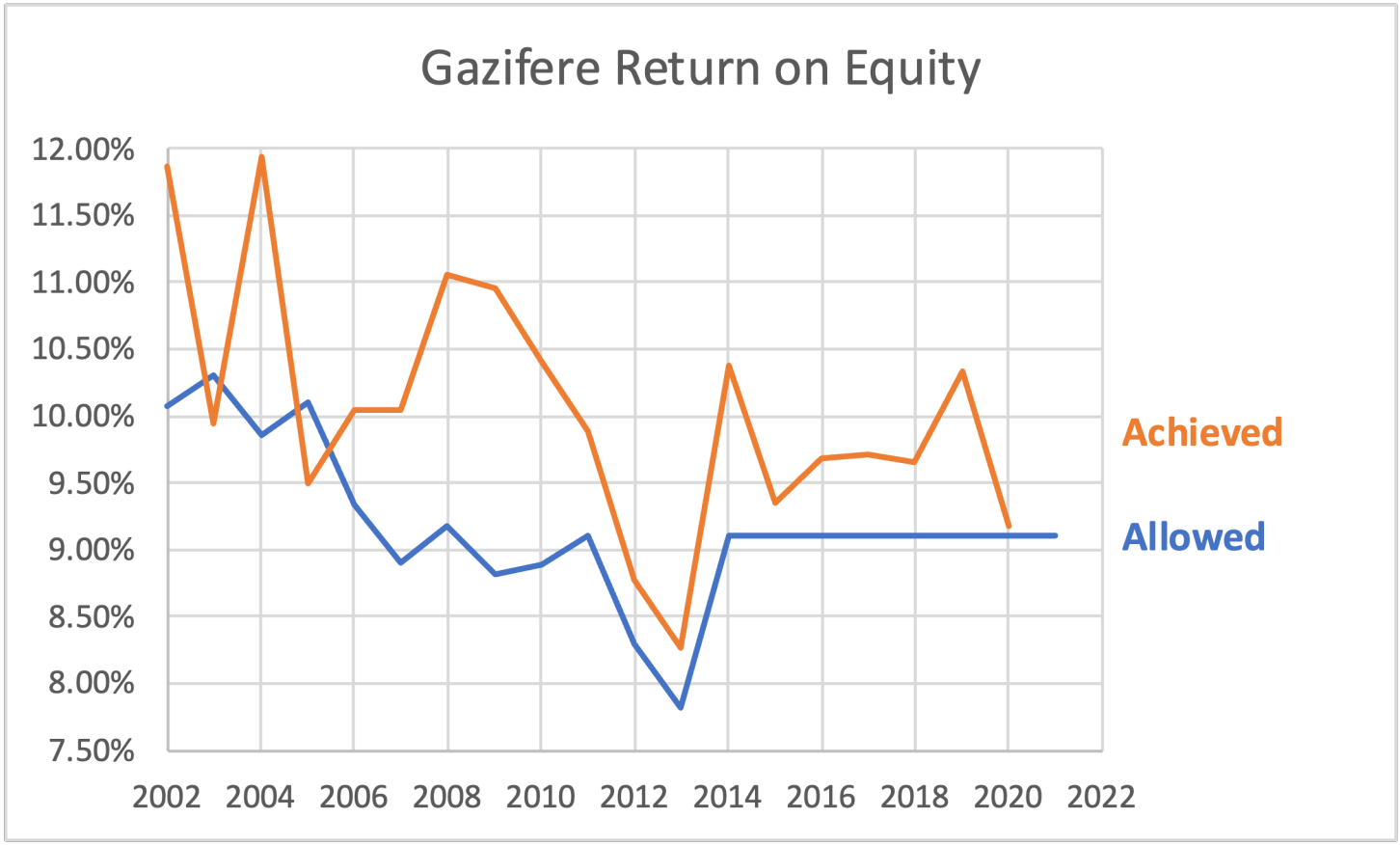
- Volatility in returns is associated with risk, and "Other things equal, investors prefer returns that are less volatile" (Exhibit ÉGI-2, page 8, line 11)
  - That is, lower-volatility investments have a lower cost of capital, all else equal
- Regulatory tools like deferral accounts, decoupling, multi-year rate plans, or frequent rate cases shorten or eliminate regulatory lag and thereby lower business risk
  - Low volatility of returns in an indicator of short regulatory lag
- Québec's regulatory policy has established these kinds of tools for Énergir and Gazifère
- The utilities' demonstrated low variability in returns (while consistently exceeding their allowed rates of return) shows that these tools successfully lower regulatory lag, and thus business risk, for the utilities

Return on Equity for Énergir



Standard deviation of achieved ROE: 0.5%

Return on Equity for Gazifère

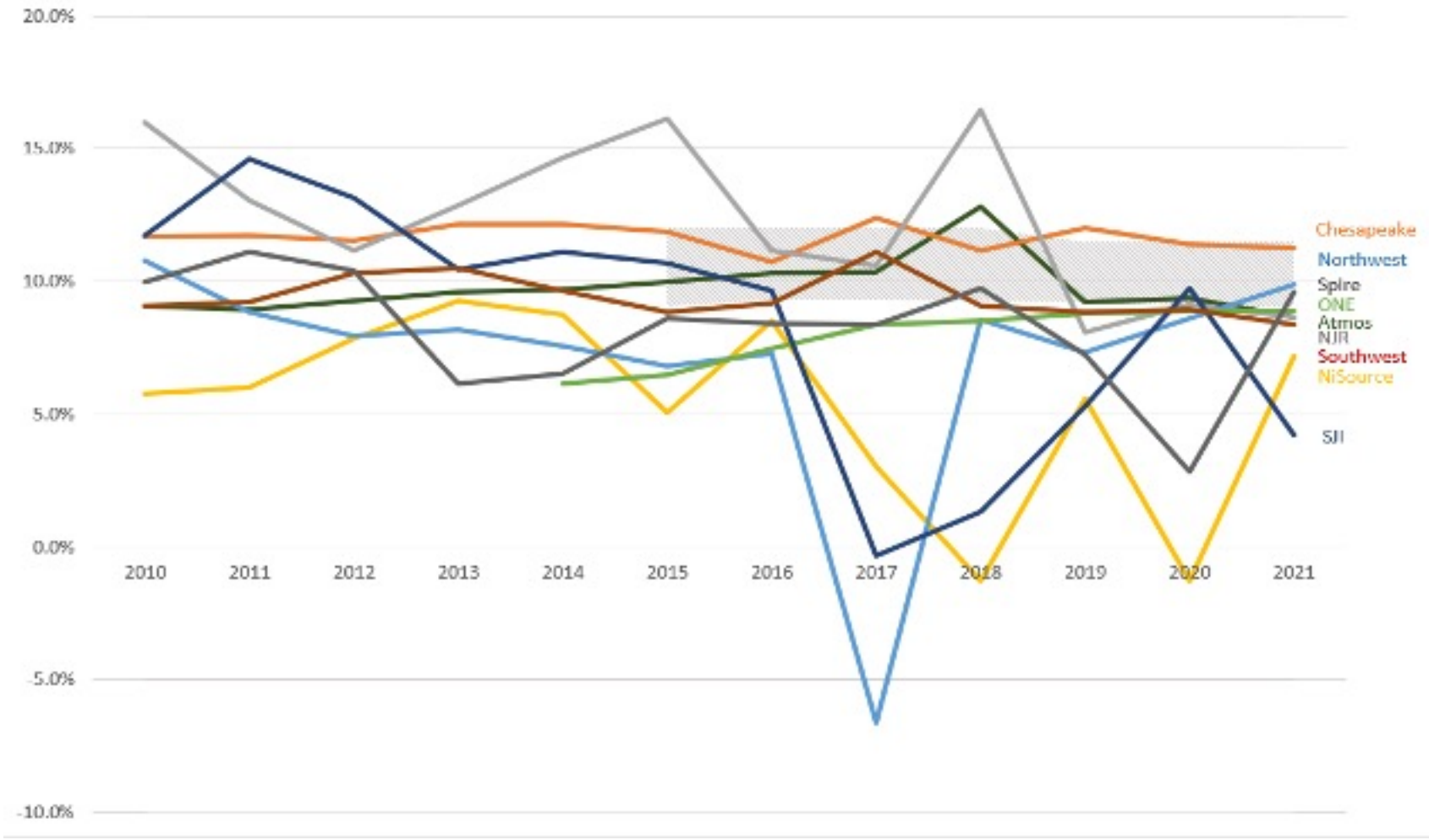


Standard deviation of achieved ROE: 0.68%

Comparison with US Gas Sample

- Dr. Villadsen proposes use of a U.S. gas utility sample to derive a range of costs of capital experienced in the equity market
- To use this sample for its intended purpose, need to know and account for the relative risk of the sample companies and the Québec utilities
- To support the case that the sampled utilities are comparable, Dr. Brown states that "the utilities in the sample … have similar regulatory lag to Énergir" (Exhibit ÉGI-2, page 27, line 25)
- However, if they had similar regulatory lag, they would have similar volatility in their achieved returns, which they do not
  - The US gas utilities also, on average, underperform their allowed ROE
- The US gas utility sample also includes utilities that are not "essentially … pure-play local distribution" utilities (despite Dr. Villadsen's claims), and utilities that have engaged in activities and lines of business that are different from the Québec utilities

Achieved ROE for US Gas Utility Sample



Volatility in Achieved Returns

	Standard Deviation
Atmos	1.09%
Chesapeake	0.48%
NJR	3.00%
NiSource	3.57%
NW Natural	4.46%
ONE	1.11%
SJI	4.73%
Southwest Gas	0.81%
Spire	2.29%

Énergir	0.50%
Gazifère	0.68%

Conclusions from Analysis of Achieved ROE

- Énergir and Gazifère demonstrate lower regulatory lag and lower volatility of returns than the US gas utility sample, which indicates a lower level of short term business risk
- All else equal, this implies that Énergir and Gazifère should have lower cost of capital than the US gas utility sample

Suitability of US gas sample

- Greater volatility of the US gas sample could be related to the fact that the sample includes companies with substantial business outside of regulated gas distribution, and thus different risks from Énergir or Gazifère
  - Chesapeake: 51% of assets are in regulated gas distribution; bulk of the rest in gas transmission
    - *Note this is a correction from my filed evidence*
  - South Jersey Industries: less than half of revenues from utility operations
  - New Jersey Resources: 62% of assets in gas distribution; also develops solar generators and engaged in wholesale and retail gas supply, transportation, and storage
  - NW Natural: took a substantial loss in 2017 from investment in an unregulated gas storage business
- In addition, NiSource experienced a gas-related disaster and sold its Massachusetts gas distribution business during the analysis period

Long Term (Capital Recovery) Risk

Long Term Risk

- Recall the forms of long-term risk:
  - Regulator may not allow recovery of capital for assets no longer used and useful
  - Competition may limit ability of utility to charge rates sufficient to recover its full cost of service
- Potential drivers for long term risk in Québec:
  - Policies and actions to reduce greenhouse gas emissions
  - Competitive position of gas vs. electricity

GHG Emission Reduction Policies

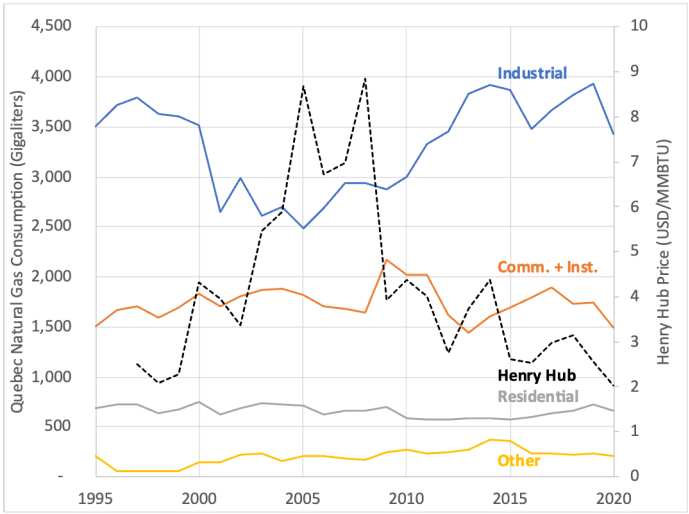
- Both US and Canadian utilities face national-level drivers to reduce emissions as part of a path to net zero emissions by 2050
  - Long term energy transition impacts are roughly comparable in the two countries
- Impacts on gas utilities in both countries will be modest over the next decade:
  - New technologies take time to penetrate markets
  - Stock turnover times for heating equipment are generally long (>15 years)
  - Énergir and US sources both point to an 18-22 percent reduction in gas throughput to buildings by 2030 as part of a policy-consistent path
- Reduction in gas throughput (and emissions) is not directly causally linked to capital recovery risk
  - Utilities can take actions to mitigate the impact of sales changes on capital recovery, with the approval of regulators

Competition Risk

- The capital recovery risk from competition is not that competition might lead to a reduction in sales
- To impact capital recovery, the competition would have to be stiff enough that the utility is unable to recover its revenue requirement
  - That is, a case in which increasing rates would drive sales down further, and there is no rate at which the whole revenue requirement could be recovered
  - Regulators and utilities would almost surely work together to avoid getting to this point
- Comparing to the US sample
  - During cross examination, Dr. Brown testified that he did not need to perform quantitative analysis of the comparative position of electricity and gas in the US sample jurisdictions because electricity is a factor of 2 to 5 less expensive in Québec
    - In warmer climates, such as in many of the states covered by the US sample, heat pumps are common for heating
    - Typical heat pumps have efficiency > 250%, which changes the relative cost of electricity for heating service by a factor of 2.5
    - 14 of the 16 states that Dr. Brown examined have electric rates below the US average
  - In the event of declining sales, Québec gas utilities *may* have less freedom to raise rates, due to competition with electricity, than in the US jurisdictions

Competition Risk

- Looking at the last 25 years, Québec customers continued to use gas even when gas prices were substantially higher
  - Particularly residential, commercial, and institutional customers that provide the most revenue for distribution, and where the sales impact from electrification is higher



- Gazifère analysis shows past and present customer bill advantage of gas over electricity
  - Énergir Climate Resilience Plan analysis shows continued competitive advantage in the future
- There is likely to be considerable room for gas rates to rise without crossing a tipping point where the utility would be unable to recover its revenue requirement

Planning is Essential

- Faced with changes in sales, utility managers can mitigate risks by developing a business plan for managing the firm in the changing public policy and competitive context in which it operates
- Identify and quantify risks and opportunities, including when they would impact on the company and what their impacts would be
- 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
- A plan would reduce uncertainty regarding each company's future business, and thereby lower investor risk
- A plan should also inform analysis of, and selection of, additional mitigating actions
- Aviseo risk assessment report is not a plan; Énergir's Climate Resiliency Report does not contain detailed analysis and evaluation of options (although the 2021 version has the seeds of this analysis)

Other Potential Mitigating Actions

- Examine any choice to invest in new gas system infrastructure
  - Including the useful life of that infrastructure (which informs the appropriate depreciation rate) and the options for non-pipeline alternatives
- Reevaluate depreciation approaches for each type of utility asset, including differentiating among assets that serve different types of customers that may have different long-term usage patterns for those assets
- Develop partnerships with electric utilities to meet winter peak needs through the gas system, subject to regulatory approval (as the Régie has approved the Énergir-HQD proposal)
- Evaluate low-carbon fuels such as green hydrogen or biomethane, including costs and availability as well as impact on pipeline performance and leakage

Lessons from Other Utilities

- Green Mountain Power, an affiliate of Énergir, has conducted planning that the Utilities can learn from
  - GMP Climate Plan and Integrated Resource Plan take an integrated view across the utility's operations and financial and regulatory approaches in the context of long-term planning
- Lessons 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
  - 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

Actions in Québec

- Énergir and Hydro-Québec Distribution are pursuing a dual-fuel approach to building decarbonization
  - Added electric heating systems would displace gas use during most of the winter
  - On the coldest days, customers would use the gas system instead, reducing capacity needs for HQD
- Begins a new business model for Énergir with a new "customer" in the form of HQD that is paying it for a new kind of service, and the revenues can help mitigate rate concerns from decarbonization for Énergir customers, and capital recovery risk for Énergir shareholders
- The potential proposal from Énergir (discussed during this hearing) to change the "profitability" required to support new customer interconnection reflects my first recommendation
  - (Examine any choice to invest in new gas system infrastructure, including the useful life of that infrastructure)

Comparison with the US Gas Sample

- U.S. gas sample utilities are only beginning to conduct the kind of analysis and actions that I recommend for utilities facing energy transition
  - Oregon climate law is spurring NW Natural and its regulator to conduct more comprehensive planning
- To my knowledge, none of the US sample utilities have proposed risk-mitigating actions of the scale and potential of the Énergir-HQD bi-energy structure

Industrial Customers and Long-Term Risk

- Rather than being a source of risk in the context of decarbonization, industrial customers are likely a source of business opportunity for gas utilities
- Industrial customers are less likely to electrify than other rate classes, and more likely to provide demand for biomethane and hydrogen (to be delivered by pipe)
- Industrial customers now using liquid petroleum may find it advantageous to connect to pipelines to access low-carbon gases
- Also a potential market opportunity for CO_2 pipelines to safely carry waste away from industrial facilities

Conclusions for Distribution Utilities

Conclusions for Énergir and Gazifère

- Regulatory context indicates lower short-term (volatility) business risk than the US gas sample
- With comprehensive planning and prudent mitigating actions (identified in that planning process), almost surely would be lower long-term (capital recovery) risk than US gas sample
- Low short-term risk should be given primary weight in evaluating the appropriate allowed ROE
- Address long-term risk by completing comprehensive business plan and risk assessment before Énergir and Gazifère return to the Régie in 3-4 years for an updated ROE and capital structure
- Utilities may face different long-term risks due to customer composition, which will be identified in the detailed company-specific analysis

Intragaz

Intragaz Business Risk

- Intragaz has no direct peers to use as a comparison sample
- Intragaz is in a fundamentally different business position that Énergir, so it faces different business risk:

Intragaz	Énergir
One customer	Large and diverse customer base
Customer is a rate-regulated utility which cannot take advantage of its role as sole buyer, and partly owns Intragaz	Customers are households and businesses
Competition with other storage and pipeline providers	Competition from different fuels

Intragaz Business Risk

- 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
- Primary timeframe of interest is the next decade, for which the ROE would be set
- Policy-driven changes in the gas system will have little effect on Intragaz in the next decade:
  - Biomethane is chemically indistinguishable from fossil methane
  - Énergir's load shape may become “peakier” due to retaining winter peak day demands while electrification reduces demand on warmer days
  - Peakier load will strengthen local storage competitive position vs. pipeline capacity
- Conclusion:
  - Intragaz faces very low business risk, and should therefore have a low allowed return on equity
  - Intragaz should develop a long-term plan in concert with Énergir's long-term plan