Investor Expectations on North American Natural Gas Utilities

Prepared for:

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Executive Summary

The American Gas Association (AGA) and the Canadian Gas Association (CGA) engaged Guidehouse to understand current investor sentiment toward North American gas utilities and determine the current investor perceptions of gas utilities as investments. Guidehouse undertook industry-focused interviews and foundational research to develop this report's findings. The scope of work focused on answering three key questions:

1) How are the gas utilities allowed return on equity ("ROE") set under the current regulatory regimes; and

2) Across the US and Canada, are ROEs consistent with investor expectations?

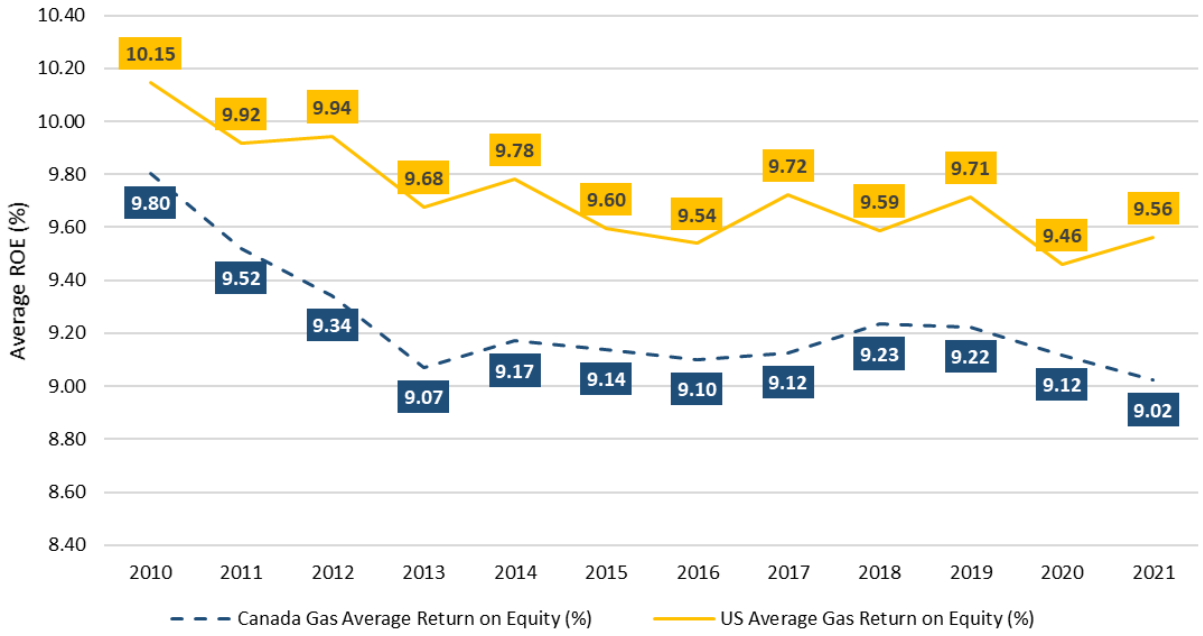
3) What future business opportunities should utilities pursue to maintain investor attractiveness?

From our contextual and foundational research, the allowed rates for gas utilities are determined through a series of robust rate setting frameworks that ensure the services provided by gas utilities are safe and reliable, and at reasonable cost. The question of whether allowed rates balance the interests of utilities and ratepayers is a frequent area of discussion at rate hearings as new costs are proposed to maintain public safety, reliability, and resiliency. In Canada and the United States, utilities are reducing emissions through new technology solutions and low emission gases (hydrogen and renewable natural gas). Figure 1-1 summarizes the principles and methodologies that Commissions balance when determining rates.

Figure 1-1: Key principles and methodologies used by Commissions to determine rates

Across North America, Guidehouse research shows that Gas utility ROEs have witnessed a downward trend since 2010, from a range of 10% to a low of 9% as shown in Figure 1-2. Further, we note the consistent gap in ROE's between Canadian and US gas utilities – with an overall lower ROE in Canada.

Figure 1-2: North America Gas Average ROE from 2010 to 2021



Source: S&P Capital IQ

This decline is being driven by many market-based factors, such as declining interest rates and other factors unique to a particular utility or jurisdiction such as increase approval of rate riders and recovery mechanisms. In certain instances, state and provincial utility commissions allowed lower rates as a penalty for circumstances unique to those gas utilities[1].

Guidehouse and the Institut de Publique Sondage d'Opinion Secteur (IPSOS) embarked on a first-of-its-kind investor community engagement on the behalf of AGA and CGA, focusing on investors views and perceptions on the investment attractiveness of gas utilities. IPSOS provided consultation services on industry best practices for interview question design, interviewee outreach, and managed the interview process. IPSOS was able to interview six investment professionals in the financial asset management field. CGA and AGA are assessing the viability of an annual survey to develop trend lines and better understand the needs and expectations of the investment community relative to its member companies.

The key takeaway from the investors interviewed was that gas utilities are attractive investments. However, in the coming years, investors have an expectation that gas utilities must maintain the following qualities to continue to garner investment attractiveness:

[1] Maine Public Utilities Commission order a management inefficiency adjustment to reduce Central Maine's Power Co.'s (CMP) ROE by 100 basis points; NYPSC authorized lower ROEs given multi-year settlements and decoupling mechanisms– see further details in chapter 2-2.

1) Gas utilities are stable low risk investments if they have a positive year-over-year rate base and customer growth; and
2) There is regulatory certainty driven by consistent and transparent rate setting processes (formula rate or full-blown rate cases).

Investors interviewed had also indicated that gas utilities are under pressure from various initiatives and policy mandates that are altering the period of time they hold gas utility assets in their portfolios.

Below is a summary of the responses from the investors interviewed:

Key Questions	Response
Investor Attitude	The investors interviewed expressed the following regarding the attractiveness of gas utilities as an investment: • Gas utilities are stable low risk investments if they have a positive year-over-year rate base and customer growth • Natural gas remains essential for energy security as there are no other low-cost options available to replace it at scale. • Gas utilities with diversification plans into clean fuels (i.e., RNG) are viewed positively.
Investor Decision making	The investors interviewed highlighted the criteria impact their investment decisions: • Environmental policies, population growth in service territory, climate of state, and consistency in rate making • Transparent and consistent year-over-year rate setting methodology by commissions • Quality management teams support investor confidence, • Financial metrics such as earnings growth, bad debt, ROE, and credit rating
Investor view on Policy and Regulations	The investors interviewed were asked how does policy and regulations factor into their investment decision: • State policy and regulation influences attractiveness of natural gas utility. Jurisdictions with regulatory support for decarbonization and transition that ensures the role of gas network in the future of energy are viewed more positively • Utilities investing in clean fuels such as RNG are expected to have higher ROE due to business and operational risks

Investor view on Decarbonization	A consistent topic discussed by the investors were decarbonization, and their general views are: • Decarbonization is informing overall investment strategy • Various regulations and other decarbonization mandates are driving variation in position holding periods • Utilities should be proactive in addressing decarbonization, in frequent communication with regulators on decarbonization efforts and diversifying into renewable resources

Based on the responses, the key takeaways for gas utilities as a valuable and attractive investment include:

- Gas utilities have a viable role – the investors interviewed, generally agree there is no low-cost alternative to replace natural gas.
- Financing maybe challenged as the 10-year downward trend of allowed ROE is likely to concern investors.
- The investors interviewed have stronger confidence in utilities that are in jurisdictions with regulatory mechanisms that can ensure stability in rates to mitigate short term commodity changes.
- Gas utilities must be proactive in addressing decarbonization and continuously engage regulators on current state and how their services and low carbon fuels can complement electrification; and
- Emission reduction policies are leading to changes in the positioning and investors 'perceptions of gas utilities. Utilities are expected to invest in new fuel supply streams (including RNG and hydrogen) and work towards bringing to market new end use technology solutions that carry a different risk profile than traditional investments. This will require the ROE to be commensurate with the new risk profile.

1. Introduction

The American Gas Association ("AGA") and the Canadian Gas Association ("CGA") engaged Guidehouse to assess investor sentiment on the appeal of gas utility investments. This was done through industry interviews and foundational research.

The report sought to answer three fundamental questions:

- How are the gas utilities allowed return on equity ("ROE") set under the current regulatory regimes?
- Are ROEs consistent with investor expectations across the US and Canada?
- What future business opportunities should utilities pursue to maintain investor attractiveness?

To answer these questions, Guidehouse conducted **foundational research** to assess the regulatory mechanisms used to set ROEs through a review of public utility commission methodology and natural gas utility rate cases. In addition, Guidehouse in partnership with Institut de Publique Sondage d'Opinion Secteur (IPSOS), a leading market research firm with a strong presence in all key markets, conducted **investor interviews** to determine investor sentiment .

The methodology and approach for the foundational research and the investor interviews are discussed further below.

1.1 Foundational Research

Guidehouse reviewed publicly available rate cases, utility rate filings, and public databases for gas utilities in Canada and US. The key data sources used are outlined further in

Table 1-1. The primary focus of the review was to understand the rationale for ROE determination by commissions and regulators, and to conduct an analysis on historical (2010-2021) ROEs to determine if utilities were granted their requested ROE. Guidehouse relied on professional judgement to interpret the rate filings and other source data to determine the trends of historical gas utility returns.

Table 1-1: Key data sources

Source	Description
S&P Market Intelligence	Database of US historical rate cases[2]
Regulator and Public Utility Commission general rate case filing documentation	Documents detailing the general rate setting mechanism and the determination of allowable ROE[3]
Natural gas utility rate filing documents	Documents from major utilities in several states and provinces to understand the allowable ROE mechanism[4]

1.2 Investor Interviews

To gain firsthand knowledge, Guidehouse engaged IPSOS to conduct interviews with investors to understand their sentiment regarding gas utilities investments. IPSOS helped develop the interview guide, provided guidance on industry best practices for interviewee selection and outreach, and conducted the investor interviews. The steps taken to conduct the investor interviews are outlined below.

This study aimed to collect as many interviews as possible. While the results are not meant to be statistically significant, they provide an understanding and a strong indicator of investor perceptions as an initial analysis for AGA and CGA.

1.2.1 Develop Interview Questions

Guidehouse, IPSOS, and AGA/CGA steering committee selected key questions to understand investor expectations of gas utility ROE. Qualitative interview questions were used to explain the factors that underpin investors' perceptions. Qualitative research is more suitable as it allows for further probing and discussion of complex issues with an experienced business audience such as the target participants in this study.

The interview aimed to understand the investors' perception on natural gas utility investments, the factors that contribute to investment decisions including policy and regulatory frameworks, and opportunities and risks. The complete list of questions can be found in Appendix C.

[2] S&P Market Intelligence tracks investor-owned utility rate cases dating back to 2000. Guidehouse reviewed the rate cases from 2019 to 2021.

[3] Including Alberta Utilities Commission, British Columbia Utility Commission, California Public Utility Commission, New Jersey Board of Public Utilities, New York Public Service Commission, Ontario Energy Board, and several others.

[4] Reviewed majority of the gas utilities in Canada (ATCO, Altagas, Avista, Enbridge, Enmax, Epcor, FortisBC, Gaz Metro, Heritage Gas, and SaskEnergy). For American gas utilities, Guidehouse reviewed Atmos Energy Corp, Southwest Gas, South Jersey Gas, and several others. S&P Market Intelligence also provide some key details within their database for US utilities.

1.2.2 Refine Interview Audience

Guidehouse and IPSOS identified asset managers (portfolio managers or above) with holdings in gas local distribution companies (LDCs). IPSOS utilized industry contacts and B2B customer lists to determine a targeted list of companies and individuals. The companies targeted were identified by using the NAICS codes listed in Table 1-2.

Table 1-2 : NAICS codes of targeted investor types

NAICS Code	NAICS Description
52392	Portfolio Management
52511	Pension Funds
52591	Open-end Investment Funds
52599	Other Financial Vehicles

IPSOS identified a target list of 80 investment professionals, representing 70 unique firms in the identified NAICS categories.

1.2.3 Interview Outreach Approach

To ensure investor community participation in the interview, several methods were utilized. IPSOS collaborated with a recruiting firm to engage the identified survey participants through email and up to six subsequent emails and phone calls. The initial email included a letter from AGA and CGA outlining the purpose of the survey (see Appendix B). To increase the respondent rate, AGA and CGA issued a letter to its members seeking additional support. AGA and CGA members were asked to conduct a personal outreach to the analysts who cover them.

1.2.4 Conduct Phone interviews

IPSOS conducted the phone interviews and used the survey questions as a guide for discussion. The responses were documented and summarized in a report capturing the key insights (see Appendix A).

2. Foundational Research Details

Ongoing market changes to the natural gas industry have shaped regulatory decisions and investor expectations for utilities' ROE. To provide a contextual background of the investor survey results, Guidehouse identified the key trends, inputs and factors that have played a critical role in the regulatory decision process determining ROEs. The following key questions were examined:

1. What regulatory mechanisms and inputs are most used to determine ROE?
2. What are the historical trends on allowed ROE?

2.1 Regulatory Mechanisms and Inputs

Guidehouse examined recent rate case decisions to understand regulatory commissions' approach to ROE determinations. The two main market-based methodologies favored in utility rate case testimonies are variations of the discounted cash flow (DCF) and the capital asset pricing model (CAPM). DCF methodologies are based on the theory that "an investment in common stock is worth the present value of the infinite stream of dividends discounted at a market rate commensurate with the investment risk."[5] In comparison, the CAPM methodology is based on "historical data to estimate betas and the market risk premium."[6] Historical data used in the CAPM methodology captures undiversifiable good and bad outcomes.

Discounted Cash Flow (DCF)	•Dividend/Market Price + Growth Rate = Required Return of Equity
Capital Assets Pricing Model (CAPM)	•Risk Free Rate + (Expected Market Return Premium x Utility Stock Beta) = Required Return of Equity

State and provincial utility commissioners often use subjective interpretations and varying methodologies to calculate allowed ROE. As part of the decision-making process, they weigh in input from evidence presented by utilities to support a rate increase consistent with the law and the public interest. ROEs should be sufficient to allow a utility to attract capital, assure financial integrity, and support a utility's credit. In addition, commissions consider the ratepayer implications by creating rates that ensure safe and reliable utility service at a reasonable cost. The question of whether allowed ROEs balance the interests of utilities and ratepayers are often brought up over the years as costs have increased to ensure public safety, reliability, and resiliency as shown in Figure 2-1.

[5]=0. Niug=(2001, July 13). Canadian petroleum producers v. F.E.R.C. Legal research tools from Casetext. https://casetext.com/case/canadian-petroleum-producers-v-ferc

[6] Villadsen, B., Carpenter, P., Vilbert, M., Brown, T., & Kumar, P. (2013). Estimating the Cost of Equity for Regulated Companies. The Brattle Group . https://www.brattle.com/wpcontent/uploads/2017/10/7502_berkman_brown_estimating_flood_impacts_09-16-15.pdf

Figure 2-1: Key principles and methodologies used by Commissions to determine ROE

Source: Guidehouse

In the US, the two most commonly used approaches to determine ROE inputs are market analysis and comparable earnings.

1. **Market analysis:** This approach relies on securities market data to calculate the ROE and utilizes a proxy group of companies with similar characteristics as the gas utility under examination, such as credit rating, size in terms of market capitalization, market ratios,[7] and operating ratios.[8] Using these inputs, the ROE is calculated by applying methodologies such as the CAPM and DCF methodologies.

2. **Comparable earnings:** This approach assesses the appropriateness of the ROE for the gas utility by comparing historical and realized ROEs by non-regulated companies in the gas utility industry or other industries that have similar risk. The approach allows commission staff to select comparable utilities, decide which historical period of ROEs should be use in the analysis, and estimate the risk difference between unregulated and regulated utilities which have similar risk profiles as the utility. Afterwards, commission staff will make a subjective estimate of the equity cost for the utility, typically derived from available historical data[9] on industrial firms.

From a review of 2020 rate cases, Guidehouse determined that commissions generally consider more than one approach in determining the ROE. Utilizing multiple methods can often validate the approach and eliminate potential biases in the data or uncertainty in the market assumptions. After the ROE is calculated using the chosen methodologies, the risk exposure differences between a utility and the proxy group are analyzed. It is important to note that the selection process of a proxy group is often contentious during rate proceedings because the

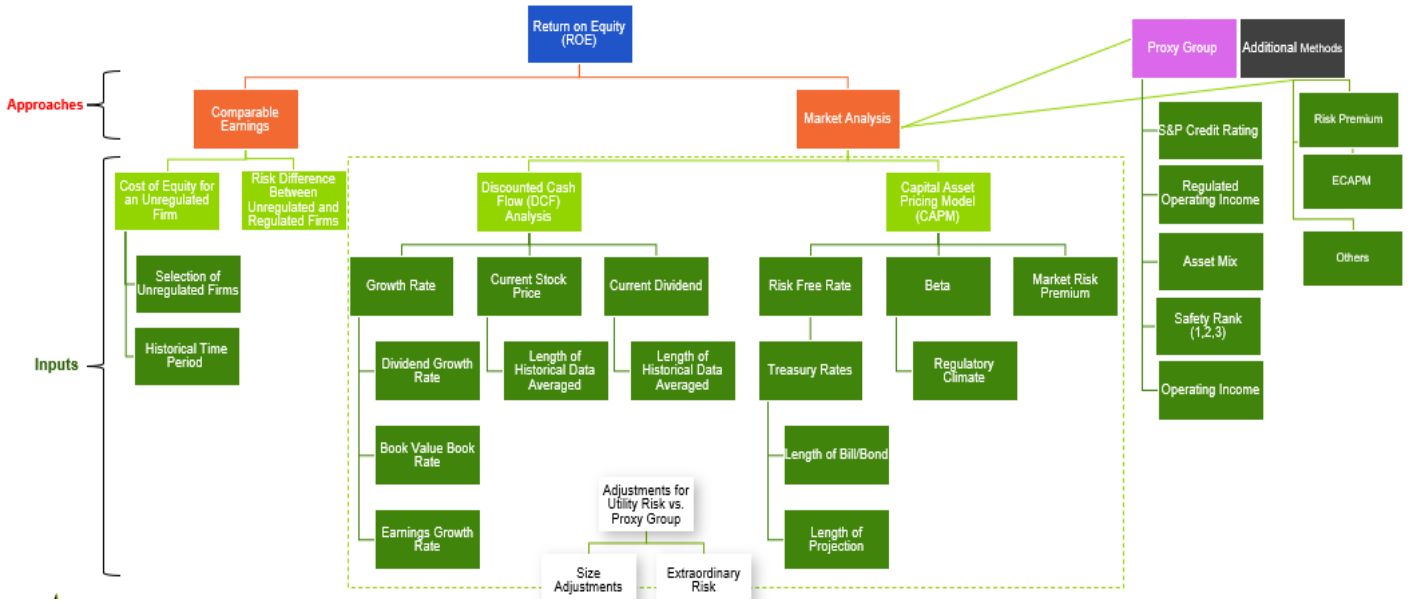
[7] Market based ratios compare the company's current stock price to various balance sheet items. The purpose utilizing stock price as it is generally the reflection of the long-term value that investors see in the company.

[8] Operating ratios are ratios that show efficiency of the company's management in utilizing the company asset.

[9] Ketchum, W., & Kim, J. (2013). Determining the Required Return on Equity (ROE) Value for Regulated Electric Utilities: Challenges and Opportunities for Designing Regulatory Decision Support Tools. Duke Space. https://dukespace.lib.duke.edu/dspace/bitstream/handle/10161/6862/KetchumKim_MP.pdf

proxy group needs to adequately represent the risk profile of the utility, through an analysis of credit ratings, operating income, asset mix, safety rank etc. as shown in Figure 2-2.

Figure 2-2 : ROE approaches map



Source: Guidehouse

Canada uses formula-based models including DCF and CAPM to determine ROEs in capital proceedings. Provincial commissions review analysis and gather input from financial experts on a utility's finances, credit ratings, credit markets and economic trends. The formulaic approaches used to determine ROEs are shown in Table 2-1

Table 2-1: Formulaic definition of different ROE methods

Key Formulas		
Capital Asset Pricing Model	$k_e = R_f + B_j \times (R_m - R_f)$	k_e = cost of equity R_f = risk-free rate of return B_j = Beta $R_m - R_f$ = market risk premium
Discounted Cash Flow	$k_e = D_l/P + g$	k_e = cost of equity D_l = dividend per share in time period I P = current stock price per share g = expected dividend growth rate
Risk Premium Method	$k_e = k_d + (R_e - R_d)$	k_e = cost of equity k_d = yield on utility debt R_e = return expected on utility equity R_d = return expected on utility debt $R_e - R_d$ = risk premium of utility equity over utility debt
Comparable Earnings	ROE = EPS/BVPS	ROE = return on equity EPS = earnings per share in recent period BVPS = current book value of common equity per share
Expected Earnings Method	$ROE = EPS_l/BVPS_0$	ROE = return on equity EPS_l = earnings per share during time period I $BVPS_0$ = current book value of common equity per share

2.2 Historical Review of Allowed ROE

Investors monitor historical ROE for consistency in rate setting and the level of support from regulators based on the outcome of their decisions. Over the last decade in the US, allowed ROEs for gas utilities have decreased 6.17%[10] on average from 2010 levels, as shown in Figure 2-3. From 2017 to 2021, average allowed ROEs decreased from 9.72% to 9.56%. Commissions frequently stated that some primary contributing factors to ROE decline were the creation of automatic adjustments and investment recovery mechanisms that reduce a utility's business risk.[11]

Figure 2-3: Historical US allowed ROE for gas utilities from 2010 to 2021

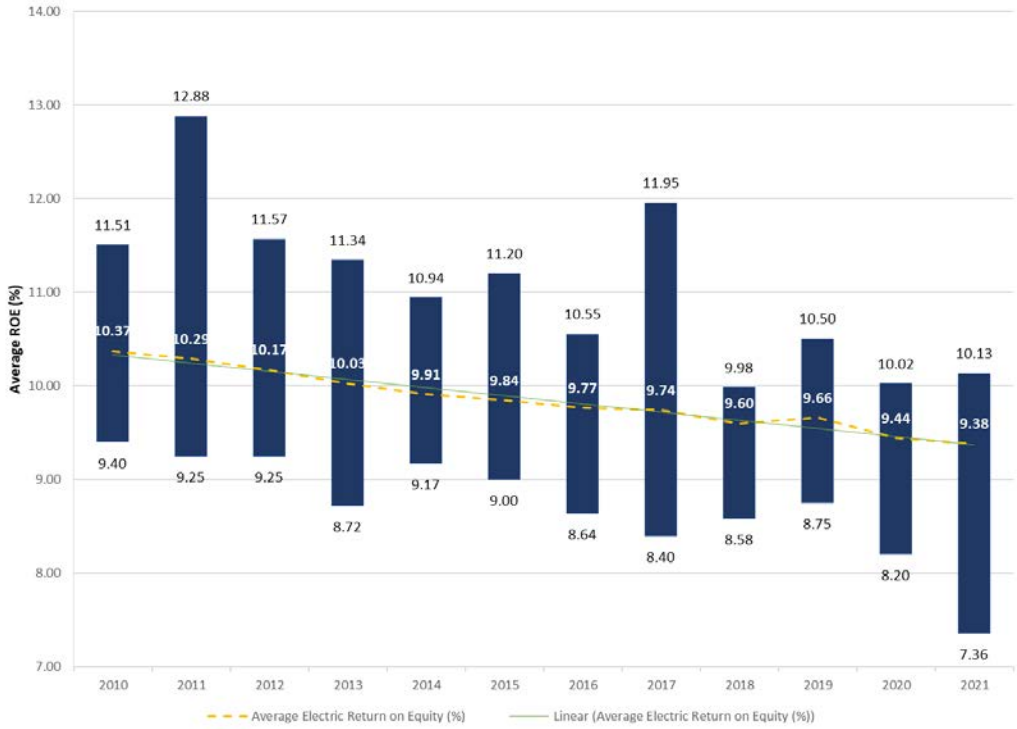
Source: S&P Capital IQ

[10] This figure represents the percentage average decrease from 2010 average allowed ROE 10.15% to 2021 9.56% (10.15%/9.56%-1 = 6.17%).

[11] Fontanella, L. (2020, August 4). Electric roe authorizations drift lower in H1'20 as virus worries continue. S&P Global. https://www.spglobal.com/marketintelligence/en/news-insights/research/electric-roe-authorizations-drift-lower-in-h1-20-as-virus-worries-continue

Similar to the decline in allowed ROEs for gas utilities, Guidehouse analysis showed allowed ROEs for electric utilities have experienced a similar decline in recent years. The average allowed ROEs for electric utilities have decreased 10.55%[12] from 2010 levels by 2021, as shown in Figure 2-4. Guidehouse analyzed electric utilities to determine if the observed downward trend in gas utility allowed ROEs was also evident in electric utility allowed ROEs. From 2017 to 2021, the allowed electric ROE decreased from 9.74% to 9.38%. During the coronavirus pandemic, commission decisions on rate cases were delayed. Pandemic driven actions and related concerns dampened hopes for a swift economic recovery. ROEs were the lowest in 2021 as regulators grappled with ROE approvals along with a pandemic-induced recession.

Figure 2-4: Historical US allowed ROE for electric utilities from 2010 to 2021



Source: S&P Capital IQ

US utility ROEs are influenced by the performance of the 30-year US treasury yield because treasury yields often serve as an input in determining ROEs. From 2010 to 2020, electric and gas ROEs decreased by 99 and 59 basis points respectively while treasury yields declined by 269 basis points, as shown in Figure 2-5. In recent months, the Federal Reserve announced upcoming interest rate increases to address inflation; these increases will influence the outcome of ROEs, treasury yields, and economic value for investors. The magnitude of the impact that new interest rates will have on utilities and investors is uncertain due to regulatory lag,

[12] This figure represents the percentage average decrease from 2010 average allowed ROE 10.37% to 2021 9.38% (10.37%/9.38%-1 = 10.55%).

commodity prices, and macro trends[13]. However, historical trends in 2017 provide insight on potential future trends. In 2017, the Federal Reserve increased interest rates by 25 basis points[14] following the global financial crisis. Average allowed gas ROEs in 2017 steadily increased to a high of 9.72% from prior lows of 9.60% (2015) and 9.54% (2016). However, average electric ROEs continued to decrease from 9.77% in 2016 to 9.74 % 2017. That decline could have been steeper if interest rates hadn't increased. Based on the historical trend, Guidehouse would expect allowed ROEs to increase in 2022 as interest rates rise.

Figure 2-5: US gas utility and electric utility ROE comparison compared with 30-year US treasury yield from 2010 to 2021

Source: S&P Capital IQ

Similarly, Canada's historical gas utility ROE decreased alongside its 30-year bond yield. From 2010 to 2020, the average Canadian gas utility ROE decreased from 9.80% to 9.12% while the 30-year Canadian bond yield decreased from 3.70% to 1.17%, as shown in Figure 2-6. The 30-year Canadian bond yield increased to 1.89% in 2021 and is expected to continue rising in 2022 as the Bank of Canada increased the prime lending rate by 25 basis points[15] in March 2022. As of mid-June 2022, Canadian bond yields has increased above 3%. In addition, several Canadian banks, including the Royal Bank of Canada and the Bank of Montreal, announced an

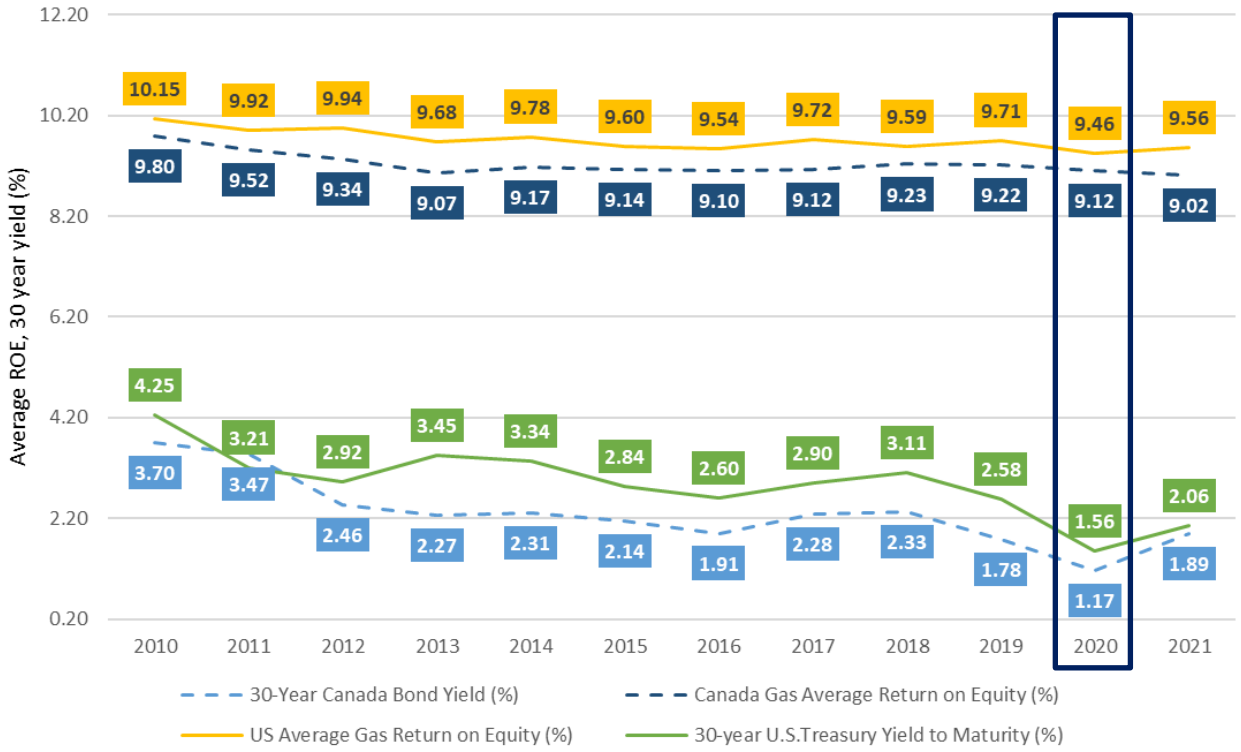
[13] Trends that lead to business and operational shifts in the industry such as electrification, changes in interest rates, consumer behavior, impacts from COVID, etc.

[14] Debter, L. (2017, December 14). Fed raises rates for third time in 2017 as U.S. Economy Chugs Along. Forbes. https://www.forbes.com/sites/laurengensler/2017/12/13/federal-reserve-raises-interest-rates-for-third-time-in-2017/?sh=402335247a53

[15] Sierra, R. (2022). Bank of Canada Prepares to Raise Interest Rates and Start Quantitative Tightening. Fitch Ratings: Credit Ratings & Analysis for Financial Markets.https://www.fitchratings.com/research/sovereigns/bank-of-canada-prepares-to-raise-interest-rates-start-quantitative-tightening-28-02-2022#:~:text=The%20BoC%20will%20begin%20with,for%20reducing%20the%20balance%20sheet.

increase their prime lending rates from 2.45% to 2.7%[16] as additional mechanisms to address inflation.

Figure 2-6: Comparison of US and Canada gas ROE and 30-year bond yield from 2010-2021



Source: S&P Capital IQ

Despite the differences in average ROE authorizations, the US and Canada both witnessed decreasing ROEs over the past decade. While market factors (e.g., declining interest rates) universally influence ROEs, factors unique to a utility and jurisdiction can individually influence ROEs. For example, the New York Public Service Commission (NYPSC) has historically approved lower electric and gas ROEs than nationwide averages. In 2019, the NYPSC approved a 9.0% gas ROE for Orange and Rockland Utilities while the national average was 9.7%.[17] In 2020, the NYPSC approved an 8.80% gas ROE for Con Edison after several months

[16] Person, Saminather, N. (2022, March 2). Canada's major lenders lift prime rates to 2.7% after Central Bank Hike. Reuters. https://www.reuters.com/business/finance/royal-bank-canada-lifts-prime-rate-27-after-central-bank-hike-2022-03-02/

[17] Fontanella, L. (2020, February 18). A deep dive into US Gas Roe Authorizations in 2019. S&P Global. https://www.spglobal.com/marketintelligence/en/news-insights/research/a-deep-dive-into-us-gas-roe-authorizations-in-2019

of settlement negotiations. In this case, investors were wary of the return potential and didn't expect Con Edison to settle for a below 9% ROE on a multiyear agreement.[18]

The common justification for lower-than-average ROEs was based on multi-year settlements which allowed for increased rate bases over the project term and revenue decoupling mechanisms, among others. However, commissions have occasionally approved lower ROE rates as a penalty for improper services provided by utilities. For example, the Maine Public Utilities Commission ordered a conditional reduction in Central Maine's Power Co.'s ROE by 100 basis[19] points because of customer service failures from the improper rollout of a new billing system. The reduced ROE cost its shareholders an estimated $12.5 million dollars[20].

Higher-than-average ROEs have been approved for utilities in states where commissions used constructive ratemaking techniques or where utilities encountered high operating risks. In 2019 the Georgia Public Service Commission (PSC) allowed a gas ROE of 10.25%[21] for Atlanta Gas Light Company (AGLC), a subsidiary of Southern Co, while the national average was 9.71%. The Georgia PSC have historically approved above average ROEs and stated in its approval justification that the ROE was an appropriate, fair, and reasonable return for the utility. AGLC was also granted approval to continue using the AGL Georgia Rate Adjustment Mechanism (GRAM), which allows for rate adjustments based on an annual regulatory review[22]. The Georgia PSC retained the right to hold hearings at any time to review AGLC's ROE. In California, ROEs for electric and gas utilities have been above average due to the significant impact of wildfires and the operational challenges to manage the risks associated with them. In August 2019, to comply with the wildfire legislation, Energy's San Diego Gas & Electric Co. (SDG&E) requested an increased ROE of 12.38%, which included a 2.78% premium for wildfire liability risk. In December 2019, the California Public Utilities Commission (CPUC) allowed a gas ROE of 10.20% for SDG&E.

[18] DiChristopher, T. (2019, October 21). ConEd's NY rate case proposal leaves analysts wary of return potential. S&P Global. https://www.spglobal.com/marketintelligence/en/news-insights/trending/H02Mtv5pzNOgOsQs4S8jzg2

[19] Richards, M. (2022, February 18). Maine regulator drops penalty for Central Maine Power, opens management inquiry. S&P Global. https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/maine-regulator-drops-penalty-for-central-maine-power-opens-management-inquiry-68973843

[20] Bever , F. (2022, February 17). State utility regulators lift penalty against CMP, and launch investigation into its management. Maine Public. https://www.mainepublic.org/business-and-economy/2022-02-17/state-utility-regulators-lift-penalty-against-cmp-and-launch-investigation-into-its-management

[21] Fontanella, L. (2020, February 18). A deep dive into US Gas Roe Authorizations in 2019. S&P Global. https://www.spglobal.com/marketintelligence/en/news-insights/research/a-deep-dive-into-us-gas-roe-authorizations-in-2019#:~:text=Based%20on%20data%20gathered%20by,%2C%20versus%209.59%25%20in%202018.

[22] Georgia Rate Adjustment Mechanism (GRAM). Atlanta Gas light. (n.d.) https://www.atlantagaslight.com/residential/pricing-and-rate-plans/gram.html#:~:text=Natural%20gas%20bills%20are%20regulated,rate%20mechanisms%20in%20the%20country.

Overall, expectations for gas utility ROEs have been higher than allowed ROEs, though the difference between the two has steadily narrowed as shown in Figure 2-7. In 2010, the average gas ROE increase request was 11.32% while the average allowed ROE was 10.15%, a 117 basis point difference. In comparison, the 2021 average gas ROE increase request was 10.15% while the average allowed ROE was 9.56%, a 59 basis point difference.

Figure 2-7: Comparison of US increases request and allowed gas ROE from 2010 to 2021

Source: S&P Capital IQ

3. Investor Survey Results

The investor survey aimed to understand investor perceptions on gas utility investments, the factors that contribute to investment decisions including policy, and regulatory frameworks, and decarbonization opportunities and risks. The survey and phone interview included discussions on the following topis:

1) Investors' attitudes towards gas utility investments,
2) Investors' decision-making around investing in gas utilities,
3) Investors' views on decarbonisation opportunities and threats facing gas utilities, and
4) Investor's perceptions of the policy and regulatory framework.

A total of six interviews were conducted between October and November 2021. The responses and insights on each survey topic area are included below.

3.1.1 Attitudes on gas utility investments

In the near term, investors believe gas utilities are appealing investments because natural gas contributes to the largest share of electric power generation in the US. Gas utilities are stable, low-risk investments positive year-over-year rate base and customer growth. It will take several years for natural gas to be replaced with low-cost and reliable alternative sources of energy.

Decarbonization affects investors' views toward gas utility investments because of increased public, political and regulatory pressure. Based on some of the investor responses to our survey, gas utilities with plans to utilize a diverse array of fuels (e.g., RNG and hydrogen) are more likely to position themselves successfully in the future energy supply.

3.1.2 Factors contributing to investment decisions

The key factors influencing investors' decision to invest in the gas utility industry include the quality of a utility's management team, financial metrics, and the jurisdictional characteristics of the states in which the utility operates.

Investors require assurance that a utility's management team can oversee assets safely and reliably while managing regulator relationships. The health of a utility's financial metrics such as earnings growth to rate based spend, amount of bad debt, ROE, and credit profile can influence an investor's decision to invest. Additional factors influencing investment decisions include local environmental policies, population growth projections, and climate conditions. These factors are similar when investors assess investments in other types of utilities, such as water and electric, except there is more emphasis on bad debt expense and working capital fluctuations in natural gas prices.

Lastly, the interviewees indicated that they preferred gas utilities in jurisdictions with commissions that were transparent and consistent in their rate setting methodologies, which reduces long term risk of potential volatility in the allowed ROE.

3.1.3 Policy and regulatory framework

Jurisdictional policies and regulatory frameworks can influence decarbonization policies as well. Investors place higher value on investments where regulators support gas utilities' transition to cleaner energy. Investors expect higher ROE for utilities investing in low carbon fuels such as RNG, as they are taking on a technology and operational risks as the technology and supply have not reached commercial viability as compared to conventional natural gas. However, investors are still unsure whether the regulatory support would translate to higher ROEs.

3.1.4 Decarbonization risks and opportunities

Interviewed investors indicated decarbonization policies may impact investment decisions in gas utilities; there is stronger interest in utilities that actively invest in clean energy and proactively address decarbonization. In addition, utilities should be proactive in communicating to regulators their efforts to reduce emissions, decarbonize, and diversify assets by expanding into clean energy alternatives. Investments associated with regulators who support gas utilities as part of the decarbonization and energy transition are viewed more positively as a safer investment. These investments hold some certainty that the gas utility will be allowed recovery of costs, mitigating the risk associated with taking on new energy technologies.

Some of the notable examples cited include UGI Corporation / South Jersey Industries, Southern California Gas, and New Jersey Resources. These companies had aggressive investments in renewable generation and proposed alternative regulatory and business models to legislators.

3.1.5 Key learnings from interview process

IPSOS, in consultation with AGA/CGA and Guidehouse, utilized several best practices to obtain respondents and after months of active engagement, successfully conducted six interviews. The successes, challenges, and proposed mitigation steps are outlined in further detail below:

Successes:

1) The list of potential interview participants, which included 80 investment professionals representing 70 unique companies.

2) Personal outreach by AGA and CGA members to the that yielded more success in gaining respondents. IPSOS confirmed the process to engage interview respondents followed industry best practices of collecting unbiased responses.

3) A qualitative interview (1-on-1 interview) that allowed ISPOS to gain more meaningful insights into investment process through a conversational approach rather than a strict survey format.

Challenges:

1) Some targeted investors cited internal policies prohibiting them from responding to surveys such as the one for this study, as their responses may show bias toward the industry. Rating agencies cited policies requiring them to maintain unbiased views.

2) Receiving responses from identified investors was a main challenge of this study. While AGA and CGA issued a formal letter to accompany IPSOS outreach efforts, the majority of the investors identified failed to respond. IPSOS followed up with each investor five to six times, even though the industry best practice is to follow-up two to three times.

   Members of the financial community, when engaged by AGA staff with knowledge of this project, expressed reluctance in responding to cold outreach by IPSOS. A familiarity with those reaching out regarding the survey was more welcomed by members of the financial community.

3) The initial outreach letter was sent during 2021 Q3 and subsequent follow-ups were in Q4. The outreach coincided with summer vacation and year-end processes, which likely impacted the availability of the investors.

Mitigation Steps:

If AGA and CGA were to conduct the survey again, Guidehouse has identified several steps that may improve the response rate of investors:

1) When selecting potential investors to interview, avoid investor classes that may have legal conflicts or concerns that prevent their participation, provide further assurances of anonymity.

2) Conduct the initial outreach earlier to educate the investment community about the survey's intent. A six-month lead time with monthly reminders of the interview timing and intent may improve responses.

4. Conclusions

Guidehouse answered the three following questions:

1. How are the gas utilities allowed return on equity set under the current regulatory regimes?
2. Whether allowed ROE across the United States and Canada are consistent with investor expectations?
3. What future business opportunities should utilities pursue to maintain investor attractiveness?

Foundational research and investor interviews were done to address these questions. A comparative summary of the results is set forth in Table 4-1.

Table 4-1 : Comparison of current ROE setting mechanism to Investor views

Key Questions	Current State	Investor views
ROE Rate Setting Mechanism	• ROE calculation varied by jurisdiction • Generally consistent application year-over-year • Utilities have a sufficient return to attract capital • Ensure safe and reliable utility service at reasonable cost	• Investors prioritize consistency in ROE application over a specific calculation methodology • Higher value is placed on utilities in jurisdictions with regulatory support for decarbonization and energy transition • Investors worry that regulatory support for decarbonization may not translate to higher ROE
Allowed ROE Trend	• Allowed ROE declined year-over-year since 2010 for both Canada and US gas utilities • Allowed ROE generally tracked with 30-year US Treasury bond yield for US gas utilities and 30-year Canada bond yield for Canadian gas utilities • US average for 2020 ~9.46% • Canada average for 2020 ~9.12%	• Gas utilities are stable low risk investments if they have year-over-year increases in rate base and customer numbers

The current regulatory regime allows multiple methods to calculate ROE across the US and Canada; regulators utilize complex frameworks to ensure ROE approaches are consistent and fair to ratepayers. However, investors valued gas utilities governed by regulators who are consistent in their rate setting year-over-year. In addition, investors generally found utilities more attractive if they were in jurisdictions that had regulatory mechanisms that allow short-term commodity price volatility passthroughs in cases of extreme weather events, and or geopolitical conflicts.

Gas utility allowed ROEs have declined in the last 10 years to 9.46% (2020, US) and 9.12% (2020, Canada). The declining trend in ROEs may impact investment confidence and challenge gas utility's ability to get equity financing. Increasing the proportion of debt financing in the utility's books may result in lower rates in the short term, but may increase the financial risk of the utility, resulting in increasing cost of capital and end-user rates in the longer term. To limit this effect, member companies should work with regulators to conduct a fulsome review of current rates and ROE determinations seeking to limit any protracted downward trends in allowed ROEs.

Given the findings, investors are still confident that gas utilities are valuable investments. Some investors indicated that they favored regulators who support gas utilities in their decarbonization efforts because they are more likely to approve higher ROEs and are considered more stable investments long-term. Because natural gas is currently a low-cost energy resource without an equally low-cost and reliable replacement, the investment community views gas utilities as a good investment target if they have a well communicated and feasible decarbonization and energy transition plan. Gas utilities can leverage a fair or higher allowed ROE based on the increased risk of transitioning to low-carbon fuels.

Appendix A. IPSOS Investor Survey Results

Investors' views of natural gas utilities

Qualitative Report
March 2022

Introduction

This report presents learnings from qualitative interviews conducted among the investment community. The interviews sought to uncover:

- any shifts in attitudes towards natural gas utility investments
- decision-making around investing in natural gas utilities
- decarbonisation opportunities and threats facing natural gas utilities
- perceptions of the policy and regulatory framework

The American Gas Association has developed a comprehensive list of individuals in the investment community that buy and sell investments in natural gas utilities. These individuals are best placed to offer insights on the research objectives but are a challenging audience to engage in research. A quantitative survey was therefore ruled out. Instead, Ipsos made repeated attempts to secure interviews with these individuals. Best practices in the industry were used including offering an honorarium. A total of 6 interviews were conducted between October and November 2021.

The findings are qualitative in nature meaning that they are not intended to be statistically representative of investment community. Rather their value is in understanding attitudes and perceptions in-depth.

Key Learnings

Attitudes towards natural gas utility investments

Participants acknowledged that there is a shift in investor sentiment towards natural gas utilities. The "unique" situation where gas utilities are traded at a premium is evidence of an emerging less favourable assessment of the risk profile. Another participant noted that there are moves from peers to move away from hydrocarbon investments completely.

- The main short-term threat identified was the rise in natural gas prices and implications on customer bill affordability, demonstrated by the 2022 winter storm in the Midwest and Texas.

Key Learnings

- The [decarbonization trend including] electrification was discussed as a threat in the longer term, especially in states pursuing "aggressive" climate goals. There were question marks around the established belief of natural gas acting as "safe bridge" to renewables in light of measures taken at state and municipal level (e.g., natural gas hook-up bans, lack of incentives to cover upfront costs of new hook ups).

In light of this context, integrated utilities that have overlapping gas and electric service territories are deemed less risky. This opens up opportunities for mergers to provide better investor protection. Similarly, there was a more positive outlook towards natural gas utilities that are better positioned to move to hydrogen (e.g., Canadian Utilities in Alberta).

Having said, the generally view remained that natural gas utilities are a stable and low-risk investment. There was a view [one respondent] that concerns may be "overblown" as investors saw:

- healthy rate base growth (6%-10%) through investments into utility systems – ageing infrastructure, meeting latest safety and environmental requirements
- continual growth in customer count (1%-2%)
- a reality that there will be continual reliance on natural gas for years to come (e.g., natural gas remains the largest share of electric power generation in the US)
- an opportunity to make "outsized" returns in the wake of "fleeing" capital

Selectivity in where to invest was the guiding principle, as opposed to not investing in the sector at all.

> **Some of these States, California and New York in particular, which have both been pursuing very aggressive environmental climate goals centered around driving fossil fuels away, have made some of these bold pronouncements and I think that has given rise to some concern. I think those concerns are overblown, given how much we rely on natural gas today, and not just as, you think of the gas utilities, but also the fact that natural gas is producing, is the largest share of electric power generation in the US. The reality is that we're going to be using natural gas for some time. Some of the weakness we've seen could be thought of as an industry that you never would've thought as facing an existential threat.**

Decision-making in whether to invest in a natural gas utility

When asked to describe the key factors taken into account in natural utility investments, ROE specifically was flagged in one case from the outset. More broadly, participants homed in on:

- Quality of management – assurances that management can run assets safely and reliably, management of relationship with regulator
- Financial metrics – earnings growth/rate-based spend, bad debt, ROE, credit profile of the entity
- Jurisdictional characteristics – population growth projections; how cold the climate is (e.g., Hawaii less attractive than Minnesota); extent to which regulatory environment is "politicized" or "hostile" to sector (e.g., New York, Arizona, California); how "easy" regulation is around rate cases; whether there are higher allowed yields; "easier" regulation around rate cases; how often can spending be put into the rate base; and environmental policies (e.g., banning natural gas hook ups, how aggressively are natural gas utilities allowed to pursue greening strategies).

Participants did not adopt a different approach in assessing natural gas utilities when compared to other types of utilities. That said, there was reference to more emphasis being placed on bad debt expense and working capital given fluctuations in natural gas prices.

Key Learnings

Decision-making in whether to invest in a natural gas utility (cont'd)

On ROE specifically, some of the respondents saw current ROE determinations acceptable if on the low end, and there was strong caution against lowering ROEs too much. Less emphasis placed on ROE for debt investors.

- There was a sense that ROE was taken as a given and there was "no hard or fast" calculation on where this needs to be. The latter point being a function of a lack of "mechanistic" methodological approach in calculating ROE (unlike other sectors that use a long-term treasury rate plus a certain percentage point above calculation). This led to a view that the output is more valuable than the methodology adopted by a jurisdiction. There was no preferred methodology for deriving ROE percentage either.
- Unsurprisingly, the preference was for predictability over variability on ROE. Predictability was tied to processes and mechanisms such as less frequent cycles of rate filing cases; "no surprises" and following precedent; adjusting for weather anomalies; ability to recover bad debt. That is not to say that investors do not expect any variance, but rather that there is a stable environment within which reasonable adjustments are made to reflect changing risk profile.
- Consistency in ROE proceedings was similarly valued. Participants looked for a process that does not get "hijacked for political purposes" and spent time trying to understand the process to assess how investment friendly jurisdictions are. They looked for reassurances on stability of rules (versus "banana republic" scenarios where rules can change at a whim of those in power) and support for capital programs that enable efficiencies and upgrades to the system. In one interview there was reference to a regulatory system scoring offered by third parties (participant could not recall name as it was not his domain of expertise).

> **We do an assessment of the regulator, and we like it when the regulator is not volatile, from a standpoint of how they're ruling on things. Let's say, there is an ROE of 9%, and the regulator is very stable in terms of how they rule on capital projects, or the debt structure that a utility should have, we would prefer that to somebody who has maybe an ROE that's higher, but is very volatile in how they assess where the debt structure should be, or whether or not a capital expenditure program could be included in rates. We much prefer a regulator that's much more stable in how they look at things.**

- Tracking of earned vs. allowed ROE was common. Any discrepancies led to looking for "logical" explanations for this or assessing the credibility of rationale offered by management. That said, there was acknowledgement that attitude, or philosophical outlook, among management on how aggressively to pursue allowed ROE can be at play and factored into assessments. There were calls for more transparency on the part of utilities in providing earned vs. allowed ROE information to investors. Again, this points to investors valuing stability, and in turn providing evidence for minimizing the regulatory lag.
- Participants were cognizant of regulators attempts to balance between the interests of ratepayers and investors. One participant however raised the potential "moral" hazards of regulation in creating perverse incentives to spend capital in lieu of more cost-effective ways of achieving an outcome.
- While there were some explicit calls for a need to raise ROE/investor compensation in light of the changing risk profile of natural gas utilities (expectation was for an ROE north of electric utilities), this was more of an open-question that has yet to be addressed by industry in the eyes of others. This point is beyond the scope of this study and included to provide a flavor of sentiment.
- All in all, there was agreement that ROE matters in attracting investment capital, though it is considered in context. To illustrate this, one participant raised the differences between historical test year vs. future test year constructs that are more predictable or the importance of equity thickness when comparing two assets.

Key Learnings

If you, say, okay, get compensated for these higher risks through higher return, through the ROE, then existing shareholders would be like, okay, I don't mind you decreasing the future economics of the business, but you're going to pay me for it in terms of return on my current investment, and we'll work through how to transition the business. And I think that's something that would help to continue to have these assets be attractive. The problem is that you get to, you've got to pass that cost onto customers. If you've got fewer customers on the system, you've got a higher return required, you've got more rate pressure, it exacerbates the problem. So, it's finding that right balance to make sure you're getting adequately compensated and you're not destroying the economics of the business.

Should gas utilities have higher allowed returns because their cost to capital is higher, and the perceived risk is also higher? I don't think the industry has gotten quite around to that discussion, and regulators haven't, just from my perspective or perception in the US gotten around to that. But to the extent that gas utilities can decouple from their vertically integrated electric utility brethren, I think that that's something to consider.

Decision-making in whether to invest in a natural gas utility (cont'd)

Participants were also asked to comment on a number of other factors:

- GRIP programs – viewed favorably as they de-risk utility earnings and growth
- Debt to equity ratio – There is a preferrable band (40% - 60%), but for some metrics such as Adjusted Funds from operation are more important in evaluating balance sheet health. The ratio of the holding company matters, and the expectation was that regulators would take this into account when assessing a subsidiary's capital structure. There was general impression that regulators impose "reasonable capital structures".
- Imputed/deemed capital structures – "nagging feeling" that imputed structure could become actual capital structure which affects earnings hence there is a continual monitoring of the sustainability of these structures
- Automatic recovery mechanisms – attractive mechanisms from an investor POV if managed and overseen correctly
- Utilities held in mixed portfolios – Strong credit profiles of utilities makes them an attractive addition to portfolios (e.g. fixed income bond portfolios) and seen as "defensive" assets. Utilities could also be assessed on opportunity/risk based on whether they are perceived to be over or underappreciated. Moreover, utilities are assessed against benchmarks/certain exposure expected by clients. There was no clear demarcation between natural vs. dual fuel utilities, and ultimately it would depend on "whatever the valuation model spits out", though some inputs may be adjusted for certain fuel types.

ESG

Performance on ESG was considered by investors though most comments focused on:

- Governance – this was assessed in reference to quality of management (see previous section on qualities examined)
- Environment – this is an area that is coming to the fore in light of current climate and attention is mostly on carbon emissions

One participant made the point that as good stewards of capital under ESG, they are compelled to help assets such as natural gas utilities transition to climate friendly solutions. In contrast, another participant admitted that ESG is not an important consideration as of now but envisioned that this will change in the future given the general trends.

Key Learnings

Decarbonization Opportunities and Challenges

On decarbonization, there were expectations for utilities to be proactive in identifying key issues and have well-articulated plans to address these. These centered around a) action taken to reduce emissions (methane, Tier One and Tier Two) b) decarbonizing natural gas (e.g. renewable natural gas (RNG)) and c) diversifying by expanding into renewable electric sources.

Utilities that are seen to be proactive are viewed in a more favourable light. Examples of what impresses investors in this space include:

- UGI Corporation and South Jersey Industries aggressive investment in renewable gas
- New Jersey Resources piloting hydrogen blends into gas network, aggressively participating in the electricity side
- Southern California Gas proposing alternative regulatory and business model structure to the State of California
- South Jersey Industries buying a RNG developer vs. purchasing from third parties for use in LDT systems

There were fewer comments in relation to best in class legislative and regulatory frameworks. Adding a "prudency of emissions" lens to mechanisms to complement mechanisms that exist to protect customers was suggested.

> **I would definitely be preferring companies that are actively investing in decarbonization and the overall clean energy transition. I would like to see them, whether it's a gas or an electric utility, being certainly active or aggressive in that area, because it's definitely an investment opportunity for growth. Companies that are more active I think are better off and more interesting than those that are not.**

Policy and Regulatory Framework

As already discussed, the regulatory framework is taken into account when assessing the attractiveness of a natural gas utility; a jurisdiction that is perceived to be unfavourable towards the sector can damage investor confidence and the preference is for a "stable and healthy" relationship between utility and regulator.

On the role of regulators in supporting natural gas utilities to transition, jurisdictions that provide mechanism to encourage investments were looked upon favourable. There was less of a consensus on whether this should translate to a higher ROE. In some cases, there was an expectation for higher ROE across the board as technologies have yet to become mainstream or in certain technologies like RNG that are deemed riskier than typical utility investments (e.g., pipeline replacement). At the same time, there was acknowledgement that technologies may be straightforward (RNG also highlighted as an example) therefore do not warrant higher ROE. Or, the emphasis was more on good cost recovery mechanisms.

Participants expressed few concerns around federal legalization that could impact regulated yields; at most, one participant had a "feeling" that current administration is unsupportive of natural gas in general

Most expected activity to come at a state or municipal level, as opposed to the federal level. Banning or disincentivizing gas hook ups were commonly brought up. Other items being tracked included state level action encouraging shift to RNG, securitization of winter storm costs and implications of COP26 commitments at the federal level.

Appendix B. AGA & CGA Investor Outreach letter

Hello,

The American Gas Association (AGA), in conjunction with the Canadian Gas Association (CGA) have partnered with Ipsos, the independent market and social research company, to conduct research to better understand the investor community's ROE expectations for natural gas LDCs. This work will result in a technical report that conveys the crucial influence of investor expectations, regulatory structures, and regulatory mechanisms on natural gas utility rates of return in both Canada and the United States, and a high- level summary document that the AGA/CGA will use to inform regulators, policymakers, stakeholders of the survey results and report.

Given your role, we believe you will be able to provide valuable input. We would like to invite you to take part in a 60-minute telephone interview with a representative from Ipsos. The interview can be scheduled for a time of your convenience. We are offering $350 as a 'thank you' for your time as well as a copy of survey results and accompanying white paper. A representative from Ipsos' recruitment partner, Schlesinger Research, will be in touch with you in the next few days to request your participation and coordinate an interview time.

Please be assured that this is a confidential interview. All comments you make during the course of the interview will be treated in the strictest confidence by Ipsos and no responses will be attributed to individuals nor will the names of individuals who took part in the study appear in the final report to the AGA or CGA. If you have any questions about the research or do not wish to be contacted, please either contact me directly at Gary Gardner, Vice President, Corporate Affairs and Corporate Secretary, American Gas Association (ggardner@aga.org) or the Ipsos Project Manager, Vanessa Chan (vanessa.chan@ipsos.com).

This research will provide us with important information that will help shape our ability and the ability of our member companies to communicate with key stakeholders regarding institutional investors' perspectives on gas utilities. Accordingly, we would be grateful for your participation and forthright feedback to this research effort.

Appendix C. Interview Guide

DRAFT CGA/AGA ROE QUALITATIVE INTERVIEW DISCUSSION GUIDE

Note for reviewers:

The questions proposed in this guide are for a series of qualitative interviews (20 in total). There are some closed ended questions included but it will not be possible to comment on the representativeness of the findings to the wider population.

The value of qualitative research is in understanding the factors and interplay of factors that underpin attitudes and perceptions. Moreover, for an elite business audience such as the target participants in this study, qualitative research is more suitable approach from a cost-effectiveness standpoint.

Interviews will be moderated by an experienced team of qualitative researchers. The questions act as a guide for the discussion, as opposed to being read verbatim. When reviewing the discussion guide, the focus should be whether the questions capture the key research needs as opposed to fine-tuning language.

INTRODUCTION (5 MINS)

- Thank participant
- Anonymity: Please be assured that this is a confidential interview. All comments you make during the course of the interview will be treated in the strictest confidence by Ipsos and no responses will be attributed to individuals nor will the names of individuals who took part in the study appear in the final report to the Association.
- Obtain permission to record for analysis and reporting purposes
- Introduction: name, organization, role, tenure

THEME 1: Investment Decision Making

As you know, our client for this study is the American / Canadian Gas Association that represents natural gas utilities across the country. Help me understand your position on natural gas utility investments.

- To what extent, if at all, are natural gas utilities an attractive investment nowadays? How has your perception on this changed over the past several years? What's driving that change? IF NEEDED: They have traditionally been viewed as stable low risk return investments. Does this still hold true?

- What considerations do you take into account when investing into a natural gas utility? Are these the same considerations for utilities in general or are natural gas utilities treated differently?

  FOLLOW UP PROBES FOR WHEN ROE IS BROUGHT UP

  - What range of ROEs is reasonably sufficient to assure confidence in the financial soundness of the utility and to maintain investment grade credit ratings? When thinking about this range, do you take into account the fact that utilities need to balance the interests between shareholders and ratepayers? Why is that?
  - What are your perceptions on accelerated/up-front recovery mechanisms, e.g., GRIP programs?
  - How do automatic recovery mechanisms that are intended to reduce the business risk of a utility factor into your decision-making in terms of the adequacy of a gas utility's ROE?
  - How important is consistency in ROE proceedings? Do frequent changes/variability of a gas utility's ROE factor into your decision-making, e.g., is it more valuable to invest in a utility that has a consistent and predictable ROE as compared to a utility with more volatile ROE?
  - Is there a range of change (expressed in basis points (BPS)) that you would define as too variable?
  - How does the debt/equity ratio factor into your decision-making about the adequacy of gas utility's ROE?
  - How do use of imputed capital structures factor into your decision-making and perspective on risk?
  - How does the debt/equity ratio (capital structure) of the holding company factor into your decision-making?
  - Do you perceive a difference in the risk profile of an electric utility compared to a natural gas utility?
  - How would you describe to a public utility commissioner the importance of a gas utility's ROE in attracting investment and securing capital? How would you rank the importance of ROE (scale of 1 to 10) to other factors?
  - When you evaluate ROEs, is there a specific method you use to derive the ROE % especially when comparing utilities to each other? Does the method change based on the phase of due diligence, for example utilizing 3rd party reports or CapIQ for initial screening, then internally derived DCF/CAPM models once in the latter stages of DD?
  - How does the utility commission's methodology for calculating ROE factor into your decision-making?

- I'm going to read out a list of metrics that may be used when considering a natural gas utility investment. READ OUT LIST. Is there anything else missing in this list that is important?

  What weighting would you give to each metric in terms of its importance in determining how attractive a natural gas utility investment is.

  a. ROE // Write in weighting factor:
  b. Distributions // Write in weighting factor:
  c. Total Shareholder Return // Write in weighting factor:
  d. Earnings and/or EBITDA // Write in weighting factor:
  e. FFO to Debt ratio // Write in weighting factor:

- Are there any non-financial metrics you consider when investing into a gas utility? How come? IF NEEDED PROBE: Diversity of service offering/territory, ESG considerations,
  - If ESG is a consideration, what would you typically require the investment to report on?
  - Do you assign a risk premium for ESG? If yes, how do you go about characterizing that risk premium, is it quantitative such as benchmarking to science based targets? Or is it more qualitative?

My next questions are on utility investments held in a portfolio.

- What is your approach to evaluating current and prospective utility investments held in a portfolio, (i.e., characterizing, prioritizing and ranking utility investments)?
- Still thinking about utility portfolios, do you approach investments in pure play natural gas utilities differently from "dual fuel" utilities? Help me understand your thinking.
- Does a utility's cost of capital and/or heighted average cost of capital affect your investment decision? If so, what range would you typically require a natural gas investment to be within?
- What is the general hold period for these similar assets?

THEME 2: Investor Perceptions of the Investments in Natural Gas Utilities

My next questions are specifically around the context of growing state pressures to decarbonize.

- From an investor perspective, what do you consider to be the top three risks facing natural gas utilities from current state pressures to decarbonize?

- Does the decarbonization context affect your perceptions of the natural gas utility sector's ability to continue to provide low-risk returns? What about in terms of stable returns?
- Still wearing your investor hat, what expectations, if any, do you have for natural gas utilities in helping achieve lower carbon emissions? What specific actions should they be engaging in to remain an attractive investment? Do you expect them to play an active/participatory role?
- Are there any examples of "best-in class" natural gas utilities that have taken actions to respond to decarbonization initiatives, that you can share?
- Are there any examples of "best-in class" state legislative and/or state regulatory policy approaches to natural gas decarbonization that you can highlight?

THEME 3: Policy and Regulatory Framework

My final questions are on the policy and regulatory framework.

- How influential is the regulatory framework for a natural gas utility relative to other factors (customer growth, dividend growth, TSR expectations, etc.)?
- What is your familiarity with rate-setting mechanisms? And how, if at all, does it impact your investment decisions into a natural gas utility?
- Do you track both allowable and achieved ROEs for companies in which you have invested? If so, do they affect your investment decision into a natural gas utility?
- What are your perspectives on utility regulators' ability to allow gas utilities to seek recovery for assets that support energy system resiliency?
- What are your perspectives on utility regulators' ability to allow gas utilities to seek recovery for assets that support energy system transition to lower carbon technologies such as hydrogen/RNG, etc.?
- Do you anticipate that we will have Federal legislation from the current administration that would impact regulated yields? Could you elaborate on your thinking on this?
- Finally, what State legislation or Executive Orders have you been tracking that could impact regulated yields?