5 Springdale Street
Suite 1100
PO Box 8837
St. John's, NL
A1B 3T2
T: 709.737.2800
F: 709.737.5307
www.fortisinc.com

June 18, 2021

Re: Written Submission to the Standing Committee on Natural Resources concerning the study of the low-carbon and renewable fuels industry in Canada

Fortis is supportive of this committee's work to understand the critical role of the low-carbon and renewable fuels sector in the energy transition. We have the unique viewpoint of a company with a continental footprint that has been at work on these priorities since inception. We appreciate this opportunity to provide additional information to supplement our oral comments and recommendations provided on April 30, 2021. We are hopeful that this information and the committee's work will help chart a diversified pathway to net zero while also ensuring we maintain an affordable and resilient energy system for our customers. We want to see Canada succeed, becoming a greater destination for global energy investment and a leader in clean energy development, while protecting the environment, advancing reconciliation with Indigenous peoples, and creating economic opportunities for all Canadians.

At Fortis, our core responsibility is to deliver safe, reliable, and affordable energy in an environmentally responsible manner. These values are reflected among the five companies we operate across Canada (in British Columbia (BC), Alberta, Ontario, Prince Edward Island and Newfoundland and Labrador) as well as those we operate outside of Canada. In Canada, the United States and the Caribbean, we deliver energy through 10 utility operations to more than 3.3 million customers. And, as an organization operating both electric and gas utilities across the continent, we have unique expertise and perspective to help inform energy and climate policy.

We believe achieving the national targets identified by the Government of Canada is a shared responsibility. We recognize the important role we play in supporting efforts to combat climate change, investing in the transformation of Canada's energy infrastructure, and supporting the advancement of Indigenous peoples. Our Waytaynikaneyap Power partnership with 24 First Nations in Ontario and our corporate-wide target to reduce carbon emissions are two examples of our commitment in action. We are targeting to reduce scope 1 emissions by 75% by 2035 from a 2019 base year. That target is now driving our investment plans with more than 70% of our $4.3 billion 2020 capital plan dedicated to asset resiliency, modernization and cleaner energy initiatives.

On April 30, 2021 we made the following recommendations to the committee as it deliberates on these matters:

1. Recognize the massive potential of the gas system to deliver emissions reductions

Recommendation: *We recommend continued support for the growth of Canada's renewable gas sector with a policy that preserves a role for renewable gas in the building space. We should develop a made-in-Canada pathway that leverages our existing gas and electric infrastructure to achieve net zero and make Canada a global leader in renewable gases.*

2. Provide Clear Policy Signals on the Role of the Gas System in a Net Zero Environment

Recommendation: *We recommend policy development that provides clear support for continued investment in long-lived energy infrastructure such as the gas delivery system in Canada and the role of innovation to leverage that system to deliver renewable gaseous energy.*

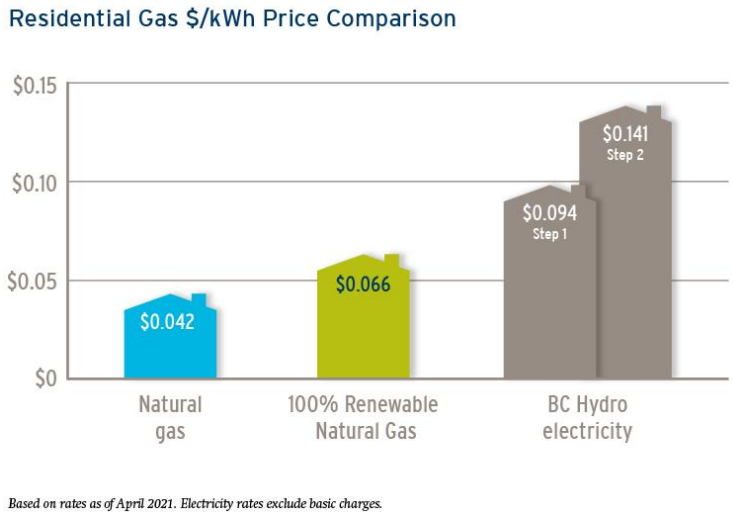
Response to Questions Raised at the April 30 Committee Hearing

The information below has been provided to supplement the oral remarks and recommendations provided by our President & CEO, David Hutchens and to provide additional detail in response to questions raised during the April 30, 2021 committee hearing.

Renewable Natural Gas helps reduce greenhouse gas (GHG) emissions in an affordable way

Committee members sought further information on the cost of renewable natural gas in comparison to other energy sources, particularly as it relates to bill impacts for natural gas customers. In response to MPs Lloyd and Zimmer's questions, we have prepared the following information.

The chart below provides a cost comparison of current natural gas, renewable natural gas (RNG) and BC Hydro electricity rates on a per kilowatt hour basis:



Note: Natural gas use is typically measured in gigajoules (GJ). In order to compare the cost of natural gas and renewable natural gas with electricity, which is measured in kilowatt hours (kWh), we did a conversion from GJ to kWh so we can compare the cost of all four in the same terms.

FortisBC serves over 1.1 million natural gas customers across the Province. These customers may choose to designate five, 10, 25, 50 or 100 per cent of the natural gas they use as renewable natural gas. Customers who opt into this program receive a credit on the BC carbon tax on their bill, depending on the blend chosen.

As of January 1, 2021, customers who choose to designate a percentage of their natural gas use as renewable natural gas (RNG) will pay a rate of $11.83 per GJ for the cost of biomethane on their natural gas bill. For comparison, the current total cost per GJ of natural gas and carbon tax in British Columbia is

$5.15 per GJ.[1] To address the requests of committee members for bill impacts, below we've calculated the additional cost for the different blends of RNG for the average customer.

For Homes:

Based on an average annual usage of 90 GJ:[2]

Bill Impact Comparison - RNG Blends	No RNG	5%	10%	25%	50%	100%
Annual Gas Bill Cost	$1,195	$1,225	$1,255	$1,346	$1,496	$1,797
Difference	$0	$30	$60	$150	$301	$601
% Impact due to RNG Blend	0%	3%	5%	13%	25%	50%

For Business:

Large commercial rate 2

Based on an average annual usage of 326 GJ:[3]

Bill Impact Comparison - RNG Blends	No RNG	5%	10%	25%	50%	100%
Annual Gas Bill Cost	$3,758	$3,867	$3,976	$4,303	$4,847	$5,936
Difference	$0	$109	$218	$544	$1,089	$2,178
% Impact due to RNG Blend	0%	3%	6%	14%	29%	58%

Large commercial rate 3

Based on an average annual usage of 3,549 GJ:[4]

Bill Impact Comparison - RNG Blends	No RNG	5%	10%	25%	50%	100%
Annual Gas Bill Cost	$36,269	$37,455	$38,640	$42,197	$48,124	$59,979
Difference	$0	$1,185	$2,371	$5,927	$11,855	$23,710
% Impact due to RNG Blend	0%	3%	7%	16%	33%	65%

Renewable Natural Gas is carbon neutral energy source

During the April 30, 2021 Committee meeting, members requested Fortis to provide additional information on the lifecycle emissions of renewable natural gas. In response to MPs Zimmer and Lloyd's questions, we have prepared the following information.

As a carbon neutral fuel source, Renewable Natural Gas (RNG) helps reduce GHG emissions by displacing conventional natural gas, thereby lowering the amount of conventional natural gas needed. RNG is

1 Effective July 1, 2021 cost per GJ of natural gas for Mainland and Vancouver Island: $2.844, Cost per GJ in carbon tax: $2.3053

2 Based January 1, 2021 RS 1 Basic charge of 0.4216 per day, Delivery charge of $5.024 per GJ, and Storage & Transport charge of $1.397 per GJ

3 Based January 1, 2021 RS 2 Basic charge of 0.9616 per day, Delivery charge of $3.882 per GJ, and Storage & Transport charge of $1.420 per GJ

4 Based January 1, 2021 RS 1 Basic charge of 4.8026 per day, Delivery charge of $3.388 per GJ, and Storage & Transport charge of $1.188 per GJ

created by capturing and repurposing methane (CH4) from biogenic sources that would otherwise be released directly into the atmosphere. For example, organic waste (like rotting food or cow manure) releases methane as it decomposes. That methane can be captured and purified to create RNG. Renewable natural gas is therefore a carbon neutral energy source because its combustion releases biogenic carbon dioxide, which does not add net carbon dioxide to the atmosphere.

Offsetters, Canada's leading carbon management solutions provider, independently reviewed FortisBC's RNG offering. They assessed the expected lifecycle emissions savings of RNG and confirmed that it meets the requirements to be granted Offsetters' Carbon Neutral Product status in BC. See *Offsetters' Biomethane Greenhouse Gas Emissions Review for FortisBC*[5] attached here as an appendix.

Additionally, the Government of British Columbia considers biomethane from organic waste (including agriculture, landfill or wastewater sources) to be a carbon neutral fuel source.[6] Renewable natural gas has been approved by BC's Ministry of Energy, Mines and Petroleum Resources for inclusion within the Province's Low Carbon Fuel Standard for transportation.[7]

Supplemental Written Comments

Increasing Renewable Natural Gas supply and leveraging our existing gas infrastructure with hydrogen

In the same way that the electric grid allows for increasingly low-carbon electrons to be transported, the natural gas grid should be viewed as a way to enable increasingly low-carbon molecules to be transported.

FortisBC was the first utility in North America to offer RNG to their customers and continues to expand its RNG supply. FortisBC has committed to making 15 per cent of all gas in its system carbon neutral by 2030 – aligning with the provincial government's CleanBC Plan. This is the first step towards gradually increasing the amount of carbon-neutral, renewable gas in the gas system – making the energy our gas system transports cleaner.

Once all currently approved projects are up and running, FortisBC estimates that five per cent of the gas in its system will be renewable. They also project that by 2025, they will have contracts in place for approximately 24 PJ of renewable gas – roughly 10 per cent of their total natural gas supply.

A case study of a successful RNG project is the City of Surrey's Biofuel facility. This project was developed in partnership with the Government of Canada as North America's first closed-loop waste management system. The facility converts curbside organic waste into renewable biofuel to fuel the City's fleet of natural gas powered waste collection and service vehicles. Under this closed-loop system, waste collection trucks are literally collecting their fuel source at curbside. Excess fuel goes to the City's district energy system, providing heat to buildings in the City's centre. The transition to renewable and low carbon energy also provides additional opportunities for FortisBC to create mutually beneficial Indigenous partnerships.

In addition to RNGs, hydrogen presents an opportunity to further reduce the carbon footprint of our energy system. As a first step, we're working with the University of British Columbia-Okanagan to study

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5 https://www.cdn.fortisbc.com/libraries/docs/default-source/services-documents/offsetters-biomethane_greenhouse_gas_emissions_reviewe6fecb594de843768ae02951f4b8d3eb.pdf?sfvrsn=821688c4_2

6 Ministry of Finance, Tax Bulletin, Natural Gas and Biomethane Sellers, Carbon Tax Act (see page 4)

7 https://www2.gov.bc.ca/gov/content/industry/electricity-alternative-energy/transportation-energies/renewable-low-carbon-fuels

how hydrogen will perform in our infrastructure and determine how to use it most effectively. The purpose of this work is to study how to blend hydrogen, safely and reliably, with natural gas within FortisBC's existing system. We see a role for utility scale investment as both a producer and buyer of hydrogen.

Fundamentally, hydrogen presents significant potential as a versatile energy carrier and low-carbon fuel; and there is significant potential to produce both renewable and low-carbon hydrogen at scale in Canada. Like RNG, hydrogen is also a clean burning molecule and it can be used to displace natural gas and liquid fossil fuels and therefore, decarbonize a range of end-use applications. This might entail blending it into our existing system or developing discrete hydrogen networks in an industrial setting. This decarbonization opportunity highlights the critical importance of maintaining support for the gas delivery energy system.

We are aware that there has been a high degree of dialogue during Committee meetings as to the 'colour' of hydrogen, including green, blue or grey hydrogen and their associated development timeframes. Regardless of their differences, our focus is on ensuring that we decrease the carbon intensity of the energy we deliver over time to achieve our long-term emissions reduction targets. As we do so, we know that it is essential for us to maintain our focus on affordability for our customers. As a utility operating long-lived electric and gas infrastructure across North America, we see the opportunity to leverage the strengths of our existing energy infrastructure and ensure policy development towards Net Zero reflects affordable, universal, and reliable energy access for all Canadians.

The need for a diversified pathway that balances the need for affordability, resiliency and climate ambition

As mentioned during our oral remarks, FortisBC commissioned Guidehouse, a respected global consultancy to enable our utility to engage with and support an actionable decarbonization strategy for BC. FortisBC undertook this project because they knew we needed specific made-in-BC pathways that reflect the unique constraints and opportunities of a winter peaking system and a plan to decarbonize as quickly and cost-effectively as possible.

The Guidehouse report provided two scenarios – a diversified pathway that maintained the use of gas infrastructure and another that relied much more exclusively on the electrification of all sectors of the economy. While taking very different approaches, both pathways pointed to the same deep emissions reductions, but with different impacts to the Province and to energy consumers.

The report, Pathways for British Columbia to achieve its GHG Reduction Goals[8], shows that, to meet 2050 targets, nearly three quarters of our gas supply will need to be renewable. This is a sizeable increase from where we are today. Between now and 2030, FortisBC will expand renewable gas content to 15 per cent and as described above, FortisBC is well on its way to achieving this target.

The report highlights the challenges of balancing resiliency, affordability and climate action. Providing energy during periods of high demand (such as during cold winter weather) represents a significant challenge for energy systems, both electric and gas. Providing energy for customers to heat their homes and businesses when they need it the most is an essential element of a reliable and secure energy system.

[8] https://www.cdn.fortisbc.com/libraries/docs/default-source/about-us-documents/guidehouse-report.pdf?#:~:text=The%20provincial%20government's%20CleanBC%20plan,emissions%20and%20strengthen%20BC's%20economy.&text=To%20help%20do%20so%2C%20FortisBC,best%20interest%20of%20its%20customers

To meet these peaks today, we utilize our gas system due to its unique ability to store and deliver large amounts of energy.

The main challenge of the Electrification Pathway is meeting this peak demand for heat, transportation and industry with clean power resources. The analysis shows that we would need an additional 9,000 MW (approximately 6 Site Cs) of clean firm capacity by 2050. This is a massive challenge, requiring that we expand our electric system again by about two-thirds its current size.

Increased electrical generation is required to meet the future needs of BC under a diversified pathway; however, the gap is smaller at approximately 5,000 MW of new, clean electrical generation.

Most importantly, Guidehouse found that a clean energy future doesn't have to be an either/or scenario: having high performing electric and gas systems provides greater flexibility in energy options, greater affordability, greater reliability and resiliency, and allows the right energy to be used in the right application.

We see opportunities to make changes that take advantage of a diversified pathway, using multiple energy sources to provide flexibility to incorporate new technology as it emerges and keep energy costs affordable for Canadians – all while still meeting our emissions reduction targets. Meeting the energy needs of the future in an economic and environmental way will require significant change and investment in our energy systems. We look forward to sharing our progress, our vision and new plans to drive towards an energy diverse lower-carbon Canada that is attainable economically with the help of proven, commercially viable technology and existing energy infrastructure.

Fortis is committed to climate action and supportive of this committee's mandate

Fortis appreciates this opportunity to provide comments. We remain highly supportive of this committee's work to better understand the role of the low-carbon and renewable fuels sector in the energy transition. We have the unique viewpoint of a company with a continental footprint that has been at work on these priorities since inception. We want to see Canada succeed, becoming a greater destination for global energy investment and a leader in clean energy development, while protecting the environment, advancing reconciliation with Indigenous peoples, and creating economic opportunities for all Canadians.