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December 23, 2021

Movement of United Professionals c/o Allevato Quail & Roy, Barristers and Solicitors 405-510 West Hastings St. Vancouver, BC V6B 1L8

Attention: Mr. Jim Quail

Dear Mr. Quail

Re: FortisBC Inc. (FBC)

**Project No. 1599244** 

2021 Long-Term Electric Resource Plan (LTERP) and Long-Term Demand-Side Management Plan (LT DSM Plan) (Application)

Response to Canadian Office and Professional Employees Union, Local 378 (known as Movement of United Professionals or MoveUP) Information Request (IR) No. 1

On August 4, 2021, FBC filed the Application referenced above. In accordance with the regulatory timetable established in British Columbia Utilities Commission Order G-314-21 for the review of the Application, FBC respectfully submits the attached response to MoveUP IR No. 1.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC INC.

Original signed:

Diane Roy

Attachments

cc (email only): Commission Secretary

Registered Parties



### FortisBC Inc. (FBC or the Company)

2021 Long-Term Electric Resource Plan (LTERP) and Long-Term Demand-Side Management Plan (LT DSM Plan) (Application)

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#### 1.0 **TOPIC: Provincial Energy Policy** 1 2 1.1 Please discuss the implications of the British Columbia Government's CleanBC 3 Roadmap to 2030 on this resource plan, and any appropriate changes to the plan 4 that may arise from it, including the following elements of the Roadmap: 5 a. A stronger price on carbon pollution, aligned with or exceeding federal 6 requirements, with built in supports for people and businesses 7 b. An accelerated zero-emission vehicle (ZEV) law (26% of new light-duty 8 vehicles by 2026, 90% by 2030, 100% by 2035) 9 c. New ZEV targets for medium- and heavy-duty vehicles aligned with California 10 11 d. Complete B.C.'s Electric Highway by 2024 and a target of the province 12 having 10,000 public EV charging stations by 2030 13 e. Stronger methane policies that will reduce methane emissions from the oil 14 and gas sector by 75% by 2030 and nearly eliminate all industrial methane emissions by 2035 15 16 Requirements for new large industrial facilities to work with government to 17 demonstrate how they align with B.C.'s legislated targets and submit plans 18 to achieve net-zero emissions by 2050 19 g. A cap on emissions for natural gas utilities with a variety of pathways to 20 achieve it 21 h. New requirements for all new buildings to be zero carbon and new space 22 and water heating equipment to be highest efficiency by 2030 23

### Response:

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The CleanBC Roadmap to 2030 (Roadmap) represents an ambitious climate plan aimed at reducing climate pollution. The Roadmap was released by the BC government on October 25, 2021, after FBC filed its 2021 LTERP on August 4, 2021. The Roadmap includes a number of elements as outlined in the preamble, as well as support for innovation in areas like clean hydrogen, the forest-based bioeconomy, and negative emissions technology.

Other relevant elements

The 2021 LTERP either directly or indirectly incorporates most of these elements and specifically all of the ones that are relevant to the LTERP. Therefore, the assumptions and results presented in the LTERP are generally aligned with the Roadmap; as such, FBC does not plan to make any changes to the LTERP related to the Roadmap. As these elements further develop over time, FBC expects that future LTERPs will incorporate any appropriate significant updates. Following is a more detailed discussion of each element.



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- 1 Section 2.5.4 of the LTERP discusses BC carbon price scenarios and provides some discussion
- 2 of the higher federal government carbon pricing requirements for the provinces, reaching \$170
- 3 per tonne by 2030. FBC has used this federal requirement as the basis for its high carbon price
- 4 scenario. FBC's portfolio analysis in Section 11.3.3 discusses portfolios with SCGT plants using
- 5 natural gas as fuel, with portfolio C2 in Figure 11-3 reflecting the high carbon price scenario.
- 6 The LTERP Reference Case load forecast, discussed in Section 3.4, includes EV charging loads
- 7 based on the ZEV Act sales targets. FBC has included higher EV sales than those included in
- 8 the ZEV Act within its Reference Case load forecast uncertainty bands. As discussed in Section
- 9 3.6, for the upper band, FBC has assumed that light-duty EV sales would grow at a faster rate
- than the ZEV Act sales targets with 100 percent of vehicle sales being EVs by 2035 (instead of
- by 2040 per the ZEV Act). This upper band includes interim light-duty sales targets of 30 percent
- by 2025 and 60 percent by 2030. As discussed in Section 2.3.3, EV sales within the FBC service
- area have grown at a slower rate than the BC average and so there is still uncertainty in terms of
- 14 whether or not EV sales within the FBC service area will meet or exceed the ZEV Act sales
- 15 targets.
- 16 FBC has not included new ZEV sales targets for medium- and heavy-duty vehicles within its
- 17 Reference Case load forecast, as these were not included in the ZEV Act. However, as discussed
- in Section 4, FBC has incorporated medium- and heavy-duty EV charging within its load scenarios
- 19 to determine the impacts of these charging loads on its requirements for new resources.
- 20 In terms of the implementation of public EV charging stations, Section 2.3.2 explains how FBC is
- 21 providing financial, logistical, and engineering support for federal/provincial direct current fast-
- charging (DCFC) programs. This has resulted in the installation of 30 Level 3 DCFC stations at
- 23 19 sites in 17 communities across the FBC service area. An additional 10 DCFC stations,
- 24 including six 100 kW stations, are scheduled to be installed in 2021. FBC also discusses its
- support for developing an incentive for customers who wish to install fleet or employee charging
- 26 infrastructure for light-duty vehicles, as well as its role in administering provincial and municipal
- 27 government infrastructure funding through the CleanBC Go Electric program for Level 2
- 28 chargers for home and workplace.
- 29 The LTERP does not directly incorporate the element of stronger methane policies that will reduce
- 30 methane emissions from the oil and gas sector. These policies may have the impact of increasing
- 31 market natural gas prices; however, the exact impacts cannot be determined at this time and
- 32 there are many other supply and demand factors that can influence market gas prices going
- forward. Section 2.5.1 discusses market natural gas prices and Figure 2-15 shows the base case
- 34 as well as high and low price forecasts. FBC's portfolio analysis in Section 11.3.3 discusses
- 35 portfolios with SCGT plants using natural gas as fuel, with portfolio C2 in Figure 11-3 reflecting
- 36 the higher market natural gas price forecast.
- 37 The LTERP does not directly address the requirements for new large industrial facilities to work
- 38 with government to demonstrate how they align with BC's legislated targets and submit plans to
- 39 achieve net-zero emissions by 2050. FBC's load scenarios, discussed in Section 4, include load



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1 drivers such as Large Load Sector Transformation, which assumes substantial growth in the data 2 centre and cannabis cultivation loads in FBC's service territory, as well as hydrogen production 3 and carbon capture and storage. These represent some of the new larger commercial and 4 industrial loads that FBC may need to meet over the LTERP planning horizon. Section 11.3.9 5 discusses FBC's preferred portfolios to meet the Reference Case load forecast and notes that 6 they include only clean or renewable resources. Section 11.3.9.1 outlines FBC's contingency 7 plans, which includes possible strategies to meet higher loads than those included in the 8 Reference Case load forecast. This approach to managing new large loads with clean and 9 renewable resources is supportive of this element of helping align any potential new facilities with 10 BC's climate targets.

- 11 The LTERP does not directly address the element of a cap on emissions for natural gas utilities.
- 12 However, as discussed in the previous paragraph, the load scenarios do include a hydrogen
- production load driver, which is included in FEI's strategies to reduce the emissions of its natural
- 14 gas customers in the future. As discussed in Section 3.5.1.2, the Reference Case load forecast
- 15 includes the load from a renewable natural gas facility located in the FBC service area.
- 16 Furthermore, the LTERP Deep Electrification and Diversified Energy Pathway load scenarios are
- 17 consistent with the Guidehouse Pathways Study, provided in Appendix O. The study concludes
- 18 that it's Diversified Pathway, using existing gas infrastructure and renewable gases along with
- 19 some electrification, including hybrid heating systems, can achieve the same level of provincial
- 20 GHG emissions reductions as the Electrified Pathway at a significantly lower cost to British
- 21 Columbians.
- 22 The LT DSM Plan portfolio includes programs for the residential, commercial, and industrial
- 23 customer classes and is intended to capture market potential savings over the long term, as
- 24 identified in the FBC CPR. The LT DSM Plan includes DSM measures to support high-
- 25 performance residential and commercial new construction aligned with BC's Energy Step Code
- 26 and net-zero energy ready provisions in the CleanBC plan. The LT DSM Plan also includes
- 27 measures to support high-efficiency electric space heating and domestic hot water retrofits for
- 28 both the retrofit and new construction markets.
- 29 The LTERP is aligned with supporting innovation in areas like clean hydrogen, the forest-based
- 30 bio-economy and negative emissions technology. As discussed in Section 4.1.1, the LTERP
- 31 load drivers include hydrogen production from clean electricity as well as carbon capture and
- 32 storage. As shown in Table 10-1, wood-based biomass is included in FBC's list of supply-side
- 33 resource options and this resource is included in FBC's portfolios considered for the preferred
- 34 portfolio (i.e., portfolio C4 in Section 11.3.8).

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1.2 If measures mandated by the Roadmap result in a declining share of natural gas as a space and water heating fuel in British Columbia, how and to what degree



## FortisBC Inc. (FBC or the Company) Discretic Resource Plan (LTERP) and Long-Term Demand-Side

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would this impact this resource plan in terms of electrical load forecast and energy supply?

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### Response:

If measures mandated by the Roadmap are implemented, they will likely result in a declining share of natural gas as a space and water heating fuel in British Columbia. In the place of natural gas, the provincial government has signaled the importance of renewable gases and electricity. A diversified approach that incorporates key roles for both the gas and electric systems will be the most affordable and resilient approach to decarbonization, but will also lead to increased use of renewable gases.

FEI is evaluating compliance pathways where the gas system is able to continue delivering a substantial portion of space and water heating while achieving the GHG reduction targets in the Roadmap. As such, FBC has not included any changes in terms of fuel switching in its LTERP Reference Case load forecast. However, to capture the potential impacts of fuel switching from natural gas to electricity, and vice versa, FBC has included fuel switching as load drivers within its LTERP load scenarios. The scenarios include various levels of fuel switching, as discussed in the response to BCUC IR1 15.5. As an example, the Deep Electrification load scenario includes gas-to-electricity fuel switching based on the assumption of 15 percent of the 2035 CPR technical potential by 2040. As shown in Figures 39 and 41 of Appendix H – Load Scenarios Assessment Report, respectively, this results in an incremental 155 GWh of annual energy and 41 MW of peak winter demand above the Reference Case load forecast by 2040. The impact of this on FBC's supply portfolio is shown in Figure 11-4, with portfolio D4 reflecting resources needed to meet this load scenario. The LTERP also explores the potential impacts of gas-to-electricity fuel switching, and other load drivers, on its Kelowna-area transmission and distribution infrastructure in Section 6.5.4. The results highlight the significant cost of additional infrastructure projects related to the potential electrification of loads and the importance of effectively managing peak demand on the electric system.

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- 1.3 Does FBC expect that the Roadmap stipulation of a "100% Clean Electricity Delivery Standard for the BC Hydro grid" will apply to FBC as well?
  - 1.3.1 If so, what would be the implications for FBC and the resource plan?
  - 1.3.2 If not, what is FBC's understanding of the reason for this divergence?

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### Response:

At this time, FBC does not know if the stipulation of a "100% Clean Electricity Delivery Standard" will be required by the BC government for FBC. As discussed in Section 11.3.8, FBC's preferred portfolios are approximately 99 percent clean and are not considered 100 percent clean as the



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PPA is currently 98 percent clean. The SCGT plants using RNG as fuel are considered clean as are renewable resources within the preferred portfolios. If the PPA were to become 100 percent clean in the future as a result of the stipulation of "100% Clean Electricity Delivery Standard for the BC Hydro grid", then FBC expects its preferred portfolios would be closer to 100 percent clean (with the exception of perhaps some immaterial amounts of scope 1 emissions). As noted in the same section, FBC believes that portfolios only including clean or renewable resources best reflects the energy priorities of its customers, stakeholders, and Indigenous communities based on their feedback discussed in Section 12.

### Response:

1.4

The Roadmap contains a number of new policy initiatives to achieve BC's 2030 GHG reduction target. Because the details of the policy, including its design and implementation plan, are under development, it is too early to determine the specific regulatory measures that would assist FBC in fully complying with the Roadmap. However, FBC's LTERP is aligned with the objectives of the Roadmap and thus, acceptance of the measures and action plans laid out in the LTERP would assist in FBC's ability to support the Roadmap. Finally, as the details of the Roadmap become further defined, FBC will seek policy and regulatory support as required to further support the Roadmap.

provisions and objectives of the Roadmap?

What regulatory measures would contribute to FBC's ability to comply fully with the



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1	2.0 TOPIC:		Clim	Climate Change and Load Forecasting			
2		Reference:		Exhi	ibit A-4, BCUC IR 1 6.0		
3 4		And F	Reference:		isBC Inc. Annual Review of Rates for 2022 – Exhibit B-7, CEC 5.2 and Exhibit B-9 MoveUP IR 1 2.1.3 and 2.1.4		
5 6 7		2.1	Please fil of these p		noted information responses from the Annual Review on the record dings.		
8	Resp	onse:					
9	Please find the requested IR questions and responses from the Annual Review below.						
10	<u>Fortis</u>	BC Inc.	Annual Re	eview o	of Rates for 2022 – Exhibit B-7, CEC IR 1 5.2		
11 12 13 14 15			cl re ur	imate of eflected ndertak	as been significant discourse in the public domain suggesting that change is making more rapid impacts to weather than might be in 10-year trends. Please discuss whether or not FBC is king any efforts to modify its expectations regarding weather ration or UPC due to climate change.		
16 17 18			5.	.2.1	If no, please explain why FBC is undertaking a Business As Usual approach.		
19		Resp	onse:				
20 21 22 23 24 25 26		modify has real the way about gather	y the weatlecently estadors or working groapproached addition	her non ablishe oup is li es to fo onal info	hort-term (one year ahead) forecasting, FBC does not intend to rmalization or UPC forecast methods at this time. However, FBC ed a working group to investigate the 2021 summer heat impact. iaising with other utilities, including BC Hydro, to potentially learn precasting being considered by others. Until such time as FBC has formation and considered the need for different approaches, the susual methods will remain in use.		
27 28 29 30		1941. shows	In addition an overal	n, the d	vs the annual peak average daily temperatures for Penticton since June 2021 "Heat Dome" event is shown in darker red. The plot rds trend in peak summer temperatures through 2005 followed by the typical summer peaks. The 2021 Heat Dome event is without		

precedent and the working group will attempt to determine whether this is an outlier or the

end of the "business as usual" period.



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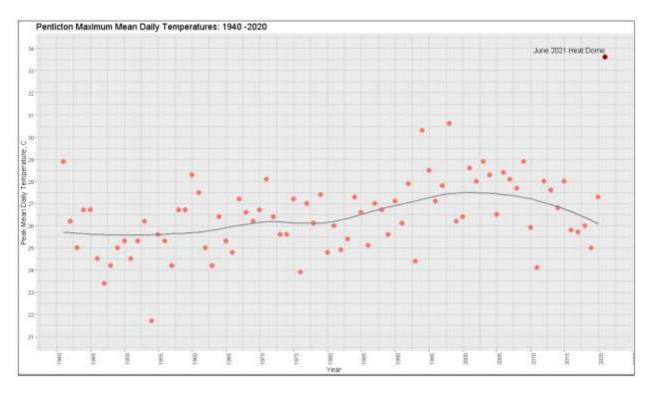
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### FortisBC Inc. Annual Review of Rates for 2022 - Exhibit B-9 MoveUP IR 1 2.1.3 and 2.1.4

2.1.3 Please describe the underlying assumptions about long-term stability in weather conditions in relation to the practice and technique of weather normalization.

### Response:

For the purposes of the short-term load forecasts used to develop annual rates in these annual reviews (or revenue requirement applications depending on the rate-setting mechanism in place at the time), FBC develops normalization factors based on the most recent ten years of weather observations. Normalization factors are updated annually.

FBC does not make forward-looking assumptions about weather conditions/stability when developing normalization factors and has therefore not made any assumptions about the long-term stability of weather conditions when preparing the 2022F load forecast.

2.1.4 If these conditions are not anomalous but rather indicate an emerging era of relatively extreme and unstable conditions, what are the implications for load forecasting for FBC this year and going forward?

### Response:

At this time FBC does not have any data to suggest that the recent events are not anomalous or that they signify a new era of extreme or unstable conditions. As a result,



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impacts.

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1 there are no implications for the current or near term load forecast methods at this time. 2 However, if the events were not anomalous and volatility did increase, FBC would expect 3 higher forecast variances in the future. 4 FBC has established a working group to investigate the recent weather events and the 5 findings of that working group will be incorporated into future forecasts as required. 6 Please also refer to the response to CEC IR1 5.2. 7 8 9 10 2.2 Does FBC adopt these response as its evidence in these proceedings? Does the 11 utility wish to amplify or expand on it for these purposes? If so, please provide 12 detail. 13 14 Response: 15 Yes, the responses to the information requests that were provided in the FBC Annual Review for 2022 Rates process (Exhibit B-7, CEC IR1 5.2 and Exhibit B-9, MoveUP IR1 2.1.3 and 2.1.4) 16 17 continue to be valid. 18 19 20 21 2.3 Please summarize the measures FBC is taking in relation to the impact of erratic 22 weather patterns on the utility's ability to forecast loads. 23 24 Response: 25 At this time, there is little data in the historical records related to extreme events. As a result, 26 changing existing objective forecast methods, or developing new ones, is not possible at this time. 27 If future weather patterns become more erratic, and until such time as their impacts are intrinsic 28 in the historical data, new and possibly more subjective methods may be required to explore 29 extreme weather impacts. Examples include the load scenarios developed for the LTERP and

FBC's development of the crowd forecast tool (results provided in the figure below), which enables

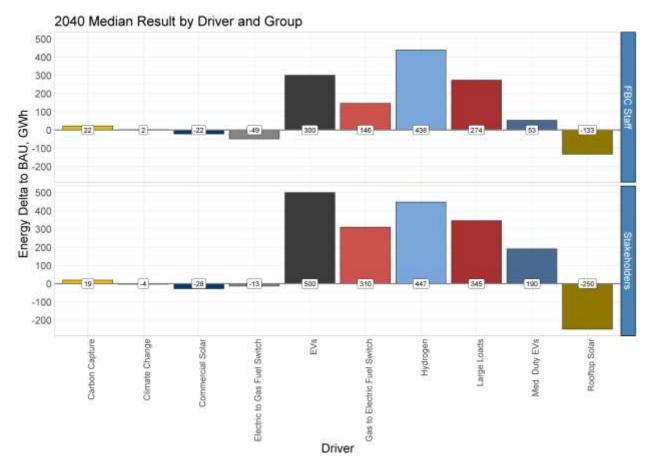
stakeholders to select and provide their own views on temperature extremes to determine load



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FBC is comfortable using the current method to account for weather. If future weather events become more prevalent and impactful, FBC will evaluate the forecast methods to determine if changes are warranted.

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2.3.1 Is FBC developing planning tools or methodologies to respond to this? If so, please provide details. If not, please explain why not.

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### Response:

Please refer to the response to MoveUP IR1 2.3.

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1 2	3.0 TOPIC:		C:	Generation Resources: RNG for thermal electrical generation – supply assumptions			
3 4			ote that a sign fueled with	gnificant resource option discussed in this application is the use of SCGT n RNG.			
5 6 7 8	Posn	3.1		C assume that it will be able to power these plants with "real" RNG or nticipate reliance on carbon offsets for some or all of that purpose?			
9 10 11 12 13	Response:  FBC assumed that RNG SCGT plants would be supplied with RNG fuel gas from the FEI Renewable Gas (RG) Program and would have the same attributes as other RG tariff customers. In Section 2.5.3, FBC noted the potential for other forms of renewable gases. As FBC filed this LTERP at a time close to the new GGRR amendments, the future impact of these different forms of renewable gas was not modelled or considered.						
14 15							
16 17 18 19 20		3.2	in BC and	BC's expectation of the impact of the Roadmap and potential initiatives dother jurisdictions on the availability and cost of "high quality offsets" in blumbia and beyond?			
21	Resp	onse:					
22 23 24 25	as op does	posed to not expe	o using "hig ect an impa	sourced from inside and outside BC as a low-carbon fuel for SCGT plants gh quality offsets". Therefore, the cost of offsets is not relevant and FBC ct from the Roadmap and potential initiatives in BC and other jurisdictions hese offsets. Please also refer to the response to RCIA IR1 4.1.			
26 27							
28 29							
30		Refer	ence:	Exhibit B-1 section 3.2.1 Gas-Fired Generation – SCGT			
31 32			• • •	nts have increased their presence in the PNW region in recent years. This undant and low-cost natural gas supplies in the region as well as their			

ability to provide valuable integration (i.e. back-up capability) for intermittent energy

resources, such as wind and solar. Given their low utilization rate, SSGT gas plants can

use RNG rather than conventional natural gas as fuel to offset their carbon footprint.



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1 2	And Referen	ce: Exhibit B-1 section 10.2.1 Resource Options – Technical Attributes
3 4	•	nt can provide capacity for any peak demand duration period as long as the cluding conventional natural gas or RNG, is consistently available.
5	And Reference	ce: ibid. – section 10.2.3 Environmental Attributes
6 7	•	nt using RNG as fuel is considered a clean resource option as biogas and considered clean or renewable per the CEA definition.
8 9 10		e confirm that the original CleanBC plan called on FEI to build up the RNG at least 15% of its delivered gas commodity by 2030.
11	Response:	
12 13		enabled to acquire up to 15 percent of its non-bypass volume or ajoules (PJ) of renewable gas.
14 15		
16 17 18 19	3.3.1  Response:	Please confirm that FEI is on track to exceed that target
20	FEI confirms it is on t	rack to exceed that target.
21 22		
23 24 25 26		e confirm that under the new Roadmap to 2030, FEI must rely on a greater tion of RNG by 2030 to comply with its mandated emissions cap.
27	Response:	
28 29 30 31	government, FEI beliegreater than 15 percentage	the design on the emissions cap are in development with the provincial eves that complying with the cap will require a volume of renewable gases cent by 2030. As the legislative and regulatory framework of the cap is ave greater understanding on the specific compliance pathways it will pursue

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to achieve the emissions cap.



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1	3.5	Does I	FBC expect that neighbouring jurisdictions to British Columbia will
2		experie	nce a growing demand for RNG, for similar reasons to those underlying
3		policy ir	n this province?
4			
5		3.5.1	If not, why not?
6		3.5.2	If so, what are the implications for the availability of RNG imports to
7			British Columbia?

### Response:

FBC confirms that it expects demand for RNG will increase in certain jurisdictions across North America as efforts to decarbonize various sectors of the economy advance. For example, Energir in Quebec recently issued a Request for Proposals for RNG¹ to increase the quantity of RNG in its gas supply. Also, Enbridge Gas Distribution has recently agreed to purchase additional RNG from third parties.² However, FBC notes that each jurisdiction faces unique decarbonization opportunities and challenges so it does not expect demand to be uniform in each jurisdiction. Regardless of increasing demand from neighbouring jurisdictions, FBC expects there to be sufficient RNG available to meet FBC needs. FEI has the ability to purchase RNG from both within and outside of BC and it has supply projections that exceed the needs of FBC identified in this LTERP in both the near- and longer-term.

- The amount of available RNG can be found in existing studies<sup>3 4 5 6</sup> which state the range of Canadian RNG (biomethane) supply potential is approximately 61 to 82 PJ per year. Additionally, according to various reports,<sup>7 8 9</sup> the current range of US RNG supply potential is approximately
- 22 350 to 460 PJ per year, rising to 630 to 857 PJ per year beyond 2030 which is well beyond FEI
- 23 targets.
- 24 FEI is currently working with the Province of BC to complete an updated RG Potential study that
- 25 will serve to further reinforce this perspective on RNG supply availability. This study is expected
- to be completed in early 2022 at which time FEI will be able to discuss its findings in greater detail.

https://www.energir.com/en/rngrfp/

https://www.reuters.com/business/sustainable-business/enbridge-inks-low-carbon-deals-with-shell-vanguard-renewables-2021-09-28/

<sup>&</sup>lt;sup>3</sup> Salim Abboud et al., *Potential Production of Methane from Canadian Wastes*, 2010.

Canadian Biogas Association, Canadian Biogas Study: Benefits to the Economy, Environment and Energy -Technical Document, 2013.

Crop residues have been excluded for several reasons. To reduce soil erosion and/or build-up organic matter, crop residues are often incorporated into the soil or, as with straw, used elsewhere (e.g., animal bedding or in mushroom production). For these reasons crop residues are often unavailable. Crop residues often have low spatial energy density and high fiber content. This means they can be costly to collect and transport, and require expensive pretreatment. Finally, crop residue availability is highly variable, depending upon weather, crop rotation and seasonal variation, while they are also only available once or at certain times of the year. This makes them challenging to use because biogas plants require year-round feedstock availability and long-term storage is expensive.

<sup>&</sup>lt;sup>6</sup> TorchLight Bioresources Inc., Renewable Natural Gas (Biomethane) Feedstock Potential in Canada, 2020.

<sup>&</sup>lt;sup>7</sup> American Gas Foundation, *The Potential for Renewable Gas: Biogas Derived from Biomass Feedstocks and Upgraded to Pipeline Quality*, September 2011.

<sup>&</sup>lt;sup>8</sup> National Research Energy Laboratory, Energy Analysis: Biogas Potential in the United States, October 2013.

American Gas Foundation, Renewable Sources of Natural Gas: Supply and Emissions Reduction Assessment, December 2019.



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While FEI expects RNG to be an important fuel and to make up a significant amount of its renewable gas mix, over the longer term FEI expects that other forms of renewable gas, such as low carbon hydrogen, will play an increasingly significant role. By adding different forms of renewable gas, such as hydrogen, which has the potential to be produced at scale and blended in the gas system or in dedicated infrastructure to decarbonize a range of end-use applications, FEI is confident that the future availability of renewable gas supply will be more than sufficient to meet FBC's needs.

3.6 What is the relationship between the Centre for Innovation and Clean Energy and FBC and FEI? How does FortisBC expect that the mandate of the Centre will participate in the supply of RNG for FEI to deliver to core customers and for FBC to power SCGT plants under this resource plan?

### Response:

The Centre for Innovation and Clean Energy will bring together innovators, industry, governments and academics to accelerate the commercialization and scale-up of BC-based clean-energy technologies and one of the initial focus areas for funding and project delivery will include Renewable Natural Gas.<sup>10</sup> This mandate will strategically support FEI's goals to increase the production of RNG in BC to decarbonize the gas system and customers' energy supply.



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### 1 4.0 TOPIC: Distributed Generation – Customer Solar and Net Metering

4.1 What challenges would arise for FBC from a material increase in customer solar generation under net metering?

### Response:

While participation in FBC's Net Metering program is increasing on a year-over-year basis, FBC does not expect that such growth will present significant issues over the term of the LTERP. FBC will examine the issue of cost-shifting from net metering customers to non-net metering customers as part of its next Cost of Service study.

4.2 What contribution do these transactions make to the utility's fixed costs?

### Response:

16 Please refer to the response to RCIA IR1 10.1.

this program is priced at its actual value at the time of delivery?

4.3

Response:

FBC assumes that the term "delivery" in the question refers to periods when customer generation exceeds customer load and electricity flows onto the FBC system. When this occurs, FBC refers to it as "net excess generation". FBC is not considering a change to the program that would see the purchase price for net excess generation set at its actual value at the time of delivery (however that may be determined), which could be higher or lower than the current rate. Such a change to the Net Metering program would require a complete redesign of the program elements, including changes to the billing system, related documentation, and obtaining BCUC approval for a calculation of the "actual value".

What changes would be required to ensure that energy delivered to FBC under

The FBC Net Metering program incorporates a "kWh Bank" that measures the total amount of net excess generation during a billing period and which is held as a kWh credit that can be used in a future billing periods when customer-owned generation is not sufficient to meet the needs of the customer. Any net excess generation balance that is left in the kWh Bank at the end of a 12-month period is purchased by FBC at the BC Hydro RS3808 rate, which serves as a proxy for the avoided cost of the energy. Annual net excess generation does not generally occur as the program is not intended to allow customers to generate more than their load on a long-term basis.



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FBC notes that it is not possible to know has much energy is actually being generated by the customer and, and therefore has no way to price it. Net Metering only allows FBC to measure the difference between customer load and customer generation. All customer generation reduces the load that FBC must serve from its own resources whenever the customer generation is delivering power, regardless of whether there is net excess generation.

### Response:

4.4

Given the capacity restrictions contained in the Net Metering tariff, it is unlikely that the benefits of solar PV coupled with battery storage would provide any benefit to either FBC or non-participating customers. In order for battery storage to provide a significant benefit to FBC it must be of a scale that could help in the management of peak demand, and would need to be dispatchable under the control of FBC.

value of this resource to the utility and to non-participating ratepayers?

What impact would coupling customer solar with customer storage have on the