

REQUESTOR NAME: **BC Sustainable Energy Association (BCSEA)**

INFORMATION REQUEST ROUND NO: **2**

TO: **FortisBC Energy Inc. and FortisBC Inc.**

DATE: **August 21, 2019**

PROJECT NO: **1598996**

APPLICATION NAME: **FortisBC Multi-Year Rate Plan Application for 2020 to 2024**

28.0 Topic: Evolving Operating Environment

Reference: Exhibit B-10, FortisBC Response to BCUC IR 1.2.4

In its response to BCUC IR 1.2.4 regarding whether the evolving operating environment and the CleanBC Plan create an increased risk of stranded assets for FEI, FortisBC states:

“While policy developments continue to evolve and unfold, FortisBC’s alternatives for mitigating the increased risk of stranded assets include:

- Developing pathways to pay for the early retirement of assets³; and/or
- Developing alternative energy products and services that leverage existing assets while also reducing emissions.

FortisBC believes its assets will play a critical role in the transition towards a lower carbon economy and because of this, has opted for the second approach, developing alternative energy products and services that leverage existing assets while also reducing emissions.

³Pathways to early retirement can include actions such as accelerated depreciation.” [underline added]

- 28.1 Please elaborate on the “the early retirement of assets” approach to mitigating the risk of stranded assets in the face of evolving operating environments and the CleanBC Plan. What would this involve? What types of assets would be prioritized for early retirement?
- 28.2 Does FortisBC see early retirement of assets as mutually inconsistent with “developing alternative energy products and services that leverage existing assets while also reducing emissions”?
- 28.3 If the proposed Clean Growth Innovation Fund is not approved, would FortisBC pursue the “the early retirement of assets” approach to mitigating the risk of stranded assets in the face of evolving operating environments and the CleanBC Plan? If so, would this occur within the test period? If not, why not?

29.0 Topic: Targeted Incentives, Conceptual Basis

Reference: Exhibit B-6, FortisBC Response to BCSEA IR 1.7.1.

“In general terms, the conceptual basis for performance incentives in ratemaking is to provide incentive to utilities to achieve certain objectives including increased efficiency, reduced costs and enhanced performance. In the case of FortisBC’s proposed MRPs, traditional incentives (including index-based O&M where the

implied X factor is zero) are designed to achieve cost efficiencies in O&M and capital spending. Whereas targeted incentives seek to enhance performance in areas where success will benefit customers by advancing the adoption of cleaner, lower emissions energy solutions and contributing to the realization of energy and emissions goals, increasing customer engagement and managing rate increases through growth in system throughput...”

- 29.1 Is FortisBC saying that the conceptual difference between its proposed traditional incentives and its proposed targeted incentives is that traditional incentives aim at increased efficiency and reduced costs whereas targeted incentives aim at enhanced performance?
- 29.2 In FortisBC’s view, will the objectives of traditional incentives remain distinct from the objectives of targeted incentives? Or does FortisBC see a future in which the objectives of traditional incentives come to include what are now the objectives of targeted incentives? Will today’s enhanced performance become tomorrow’s baseline performance?

30.0 Topic: Targeted Incentives

Reference: Exhibit B-10, FortisBC Response to BCUC IR 1.96.1

FortisBC’s response to BCUC IR 1.96.1 states:

“The Targeted Incentives listed in Table C8-1 of the Application are not being compensated by the approved rate of return. The approved rate of return is based on the Fair Return Standard, the legal test applied to ensure that investors receive the opportunity cost on their investment represented by the rate of return investors could expect to earn elsewhere without bearing more risk. FortisBC’s fair return is not based on carrying out a regular business plan; rather, under the Utilities Commission Act, the BCUC must approve rates that provide FEI and FBC a reasonable opportunity to earn a fair and reasonable return.

The Targeted Incentives FortisBC has proposed in its MRPs are a part of the ratemaking mechanism that is conceptually separate from the approved rate of return. The proposed MRPs are a form of performance or incentive ratemaking designed to provide incentives to the utilities to achieve certain objectives. As stated in Section 60 of the *Utilities Commission Act*, the BCUC must have due regard to setting a rate that “encourages public utilities to increase efficiency, reduce costs and enhance performance” and “may use any mechanism, formula or other method of setting the rate that it considers advisable”.

The level of performance embedded in each of the Targeted Incentives listed 1 in Table C8-1 of the Application represents performance above and beyond conventional service and creates positive value for customers. In other words, the Targeted Incentives have been designed to create outcomes above what is normally expected in the regular course of business. It is just and reasonable for the BCUC to approve a ratemaking plan that includes such incentives as they encourage FEI and FBC to enhance their performance, will benefit customers, and are aligned with the public interest.” [pdf p.695]

FortisBC's response to BCSEA IR 1.73 includes the following statement:

"For clarity, the targeted incentives are not subject to the earnings sharing mechanism, but will be included in the comparison of allowed and achieved ROE (after sharing) once the amounts are known." [underline added]

- 30.1 Please explain what FortisBC means by "FortisBC's fair return is not based on carrying out a regular business plan."
- 30.2 FortisBC says that the approved rate of return is intended to be the rate of return investors could expect to earn elsewhere without bearing more risk, and that the proposed targeted incentives are conceptually separate from the approved rate of return. Is this because of timing, i.e., because FortisBC's approved rate of return was established prior to FortisBC's proposed targeted incentives?
- 30.3 FortisBC says that the targeted incentives will be included in the comparison of allowed and achieved ROE (after sharing) once the amounts (of targeted incentives) are known. In what regulatory process(es) does this comparison of allowed and achieved ROE occur?
- 30.4 When the Commission next establishes FortisBC's approved rate(s) of return does FortisBC expect that the approved rate of return will take into account any revenues from targeted incentives (whether past revenues or anticipated future revenues)? Does the notion that targeted incentives are conceptually separate from the approved rate of return mean that the approved rate(s) of return will strictly exclude revenues from targeted incentives?
- 30.5 Please confirm, or otherwise explain, that under the proposed MRP framework the earnings sharing mechanism associated with the traditional incentives can result in the companies' achieved ROE exceeding their approved ROE.
- 30.5.1 Does the same possibility occur with the proposed targeted incentives, i.e., that the proposed the proposed targeted incentives can result in the companies' achieved ROE exceeding their approved ROE.?

31.0 Topic: Targeted Incentives – Design of the Incentives
Reference: Application, Exhibit B-1, section 8.3, Table C8-1, p. C-159;
section 8.3.7, Power Supply Incentive (FBC), pp. C166-167

In Table C8-1, FortisBC lists the proposed incentive amounts for most proposed targeted incentives in terms of a set number of basis points of the ROE for each incented item for which FortisBC exceeds a threshold. In contrast, the incentive mechanism described in pp. C-166 – C-167 for the Power Supply provides a rate that increases in proportion to increasing achievement of the objective.

31.1 For each proposed targeted incentive item besides the PSI, please discuss why a fixed BPS incentive was chosen instead of an increasing rate. Please include a discussion of how a fixed or an increasing incentive would help to further the purpose of the item being incented.

32.0 Topic: Targeted Incentives

Reference: Exhibit B-10, FortisBC Response to BCUC IR 1.96.7

In its response to BCUC IR 1.96.7, FortisBC provides a table showing the results of a cost-benefit analysis for the Targeted Incentives for which benefits can be quantified. For Growth in Renewable Gas, Growth in NGT, GHG Emissions Reduction (Customer), and GHG Emissions Reduction (Internal) the table is as follows:

Targeted Incentives	Analysis Period (yrs)	NPV of Benefits (\$000s)	NPV of Cost of Service Impact (\$000s)	Gross Benefits/(Costs) (\$000s)	NPV of Proposed Incentive - Equivalent BPS (\$000s)	Net Impact to Customers Benefit/(Costs) (\$000s)
	(a)	(b)	(c)	(d) = (b) + (c)	(e)	(f) = (d) + (e)
Growth in Renewable Gas (RNG)	10	666,708	(536,315)	130,393	(10,088)	120,305
Growth in NGT	10	459,458	(40,171)	419,287	(10,088)	409,199
GHG Emissions Reduction (Customer)	15	282,714	(29,891)	252,823	(5,044)	247,780
GHG Emissions Reduction (Internal)	20	9,608	-	9,608	(5,044)	4,564

32.1 Please explain how FortisBC obtained the Benefits, and the Cost of Service Impact, of each the four Targeted Incentives.

33.0 Topic: Targeted Incentives, Growth in Renewable Gas

Reference: Exhibit B-6, FortisBC Response to BCSEA IR 1.11.3; Exhibit B-10, FortisBC Response to BCUC IR 1.97.3; Exhibit B-10, FortisBC Response to BCUC IR 1.94.3; Application, Exhibit B-1, section 8.3.1 Growth in Renewable Gas (FEI), p. C-160

BCSEA asked in IR 1.11.3: “Is FortisBC’s ramp-up of Renewable Gas limited by competition for fibre supply with BC Hydro and the sellers of biomass generation to BC Hydro?”

FortisBC’s responded that electricity generation from wood fibre may not be economical in the future and so a significant amount of fibre could be used for RNG generation. In its response, FortisBC also raised the topic of out-of-province sources of RNG. FortisBC’s response states:

“No. FEI’s Renewable Natural Gas (RNG) supply opportunities are based primarily on organic-derived RNG, which does include a portion of approximately 50 percent from RNG generated outside of BC. FEI understands that there are some concerns in the industry that electricity generation from wood fibre may not be economical in the future as BC Hydro shifts toward using its growing hydroelectric generation supply - namely, Site C. This would imply that a significant amount of fibre could be used for RNG generation.” [underline added]

In its response to BCUC IR 1.97.3, FortisBC provides the following projection of Renewable Gas (RG) volume over the MRP period for projects which are in service or are expected, but not yet approved:

(PJ's)	2020	2021	2022	2023	2024
Expected Supply	0.47	0.67	0.67	0.67	0.67
RG Target	1.00	1.50	2.00	4.00	6.00

The table shows that Expected Supply of RG increases in 2021 but falls substantially short of the proposed RG Target. FortisBC adds that “FEI has identified additional RG projects, which if successful, have the potential to increase volumes by 0.5 to 1.0 PJs annually over the MRP period.”

FortisBC then addresses both out-of-province and off-system options, stating: “FEI is also pursuing out-of-province and off-system options which may also increase annual volumes, but remain uncertain.” [underline added]

In its response to BCUC IR 1.74.3, FortisBC provides an informative outline of the availability and supply of raw biogas in BC. One observation is that quite substantial volumes of RNG production potential from wood waste in BC would be achievable with long-term technological developments. However, FortisBC reports that the wood-waste process is currently under development and not commercially available. FortisBC concludes:

“FEI believes that it will need to source RNG from outside the province to achieve the 15 percent renewable gas policy goal by 2030. RNG sourced from outside of BC is both an expedient and an effective way to help reach the provincial government target. From a time-to-market perspective, there are shovel-ready projects in jurisdictions like Ontario that present an opportunity for BC and FEI’s customers.”

- 33.1 Please describe what FortisBC means by “organic-derived RNG.” Does this refer to RNG derived from organic waste such as agricultural waste or sewage? Does it include RNG derived from wood fibre?
- 33.2 With reference FEI’s RNG supply opportunities being based primarily on organic-derived RNG, please briefly describe the other sources.
- 33.3 Please clarify whether “include a portion of approximately 50 percent from RNG generated outside BC” refers to an inherent property of “organic-derived RNG” or refers to FEI’s intention to source 50% of “organic-derived RNG” from outside BC.
- 33.4 When FortisBC says that approximately 50 percent of its organic-derived RNG supply is RNG generated outside of BC, is this referring to the present time, to the MRP test period, or to the post-MRP test period?
- 33.5 For clarity, is the RNG generated outside of BC 50 percent of FEI’s total RNG supply opportunities, or 50 percent of the organic-derived portion of FEI’s RNG supply opportunities?
- 33.6 Is it FEI’s intention to source 50 percent of its RNG supply from outside of BC during the MRP test period?

- 33.7 Does FEI consider that sourcing RNG from outside of BC is crucial for FEI to be able to achieve the proposed Targeted Incentive targets for Growth in Renewable Gas during the MRP test period? Would FEI be able to meet these targets without accessing out-of-province RNG?
- 33.8 Please describe the out-of-province RNG resources that would be available to contribute to FEI's RNG supply. To the extent possible, please address the type of feedstock, volumes, cost, stage of technological development, and location.
- 33.9 Please address at a high level why out-of-province RNG resources would not be utilized by the jurisdiction in which the resource is located. Is it simply a matter of other jurisdictions putting a lower priority than BC does on reducing the carbon intensity of delivered natural gas?
- 33.9.1 In considering acquiring RNG generated outside of BC to notionally displace fossil fuel natural gas use within BC, has FEI considered the impact and response in the other jurisdiction(s)? Is it reasonable to expect that neighbouring jurisdictions would use their own organic wastes to generate RNG to displace fossil fuel natural gas use within their own jurisdiction?
- 33.10 Please confirm, or otherwise explain, that RNG generated outside of BC would be accounted for notionally in FEI's RNG supply rather than being transported physically to the FEI pipeline system.
- 33.11 Please confirm, or otherwise explain, that FEI's current supply of RNG is physical in the sense that it is injected into the FEI system. Does FEI consider that acquiring RNG supply using a notional concept would require Commission approval?
- 33.12 How does FEI analyze the GHG emissions reductions within BC that can be attributed to the notional use within BC of RNG generated outside of BC? Is there an accepted way to attribute the avoided methane emissions in the out-of-province jurisdiction to the BC GHG emissions inventory?
- 33.13 Please discuss the types of involvement in out-of-province RNG resources that FEI anticipates pursuing, such as taking a developer/owner/operator role, or purchasing pipeline-ready RNG.
- 33.14 Does FEI have in mind acquiring out-of-province RNG from specific RNG generating facilities dedicated to supplying RNG to FEI, or from a multi-jurisdiction market for RNG?
- 33.15 Has the concept of FEI acquiring RNG generated outside of BC, or more generally a gas distribution utility acquiring RNG generated outside the jurisdiction of its service territory, been discussed in the multi-jurisdiction climate action *fora* that FEI is involved in? If so, please summarize the current state of the discussion.
- 33.16 Please elaborate on the "off-system" RNG generation options that FEI is pursuing. Would these be located within BC? Would these options

connect to natural gas transmission or distribution systems but not to the FEI system? Or would they connect directly to an end-user?

34.0 Topic: Targeted Incentives, Growth in Renewable Gas
Reference: Exhibit B-6, FortisBC Response to BCSEA IR 1.11.3

BCSEA asked in IR 1.11.4: “Please explain the statement that “it is expected that RG produced in advance of the implementation of the federal Clean Fuel Standard will offset against mandatory emission reductions and potentially avoid higher cost compliance pathways.”

FEI responded:

“The Clean Fuel Standard (CFS) will require that regulated entities reduce the carbon intensity of fuels they deliver to consumers. While the draft regulations have not yet been published, we anticipate that the amount of emissions reductions targeted in the gaseous stream of the CFS will be between 5 and 7 Mt across Canada. This translates to roughly a 2 to 3 percent reduction in the carbon intensity (CI) of natural gas delivered by local distribution companies. In order to reduce the carbon intensity, renewable gases will likely play an important role. In discussions with Environment and Climate Change Canada (ECCC), FEI understands that all renewable gas production will be considered as eligible to reduce the carbon intensity of gas regardless of the year it was introduced. After the CFS is implemented, FEI anticipates that there will be a more competitive marketplace and therefore higher costs for renewable gases. Acquiring renewable gas before the CFS is implemented should therefore avoid higher cost options to be compliant with the CFS.” [underline added]

- 34.1 Please confirm, or otherwise explain, that “emissions reductions targeted in the gaseous stream of the CFS ... between 5 and 7 Mt across Canada” refers to Mt CO₂e per year.
- 34.2 Is the amount of the targeted GHG emissions reductions under the CFS expected to increase over time?
- 34.3 By what future year is the amount of the targeted GHG emissions reductions expected to be between 5 and 7 Mt CO₂e/y across Canada or roughly a 2 to 3 percent reduction in the carbon intensity of natural gas delivered by local distribution companies?
- 34.4 Please compare the percentage carbon intensity reduction anticipated under the federal Carbon Fuel Standard with: the percentage carbon intensity reduction under FEI’s current RNG supply, the test period RNG under business as usual, and the test period RNG with achievement of the RNG Growth Targeted Incentive with.
- 34.5 Please confirm, or otherwise explain, that FEI’s current RNG program involves customers voluntarily paying a premium price for receiving a defined portion of their gas delivery in the form of RNG.

- 34.6 What will be the effect of implementation of the Clean Fuel Standard framework on the rationale for a voluntary premium price for RNG? Would the rationale for a voluntary premium price for RNG remain applicable where a customer wants to receive RNG in a proportion higher than the CFS standard?
- 34.7 Please explain the statement that “all renewable gas production will be considered as eligible to reduce the carbon intensity of gas regardless of the year it was introduced.” Does this mean that where an RNG went into service prior to the initiation of the CFS framework RNG production from the facility in a given year after initiation of the CFS framework will be eligible to reduce the carbon intensity of natural gas delivered in the given year? Or does it mean that RNG generated in years prior to the introduction of the CFS framework will be eligible to reduce the carbon intensity of natural gas delivered in a later year when the CFS framework is in place?

35.0 Topic: Targeted Incentives, Growth in Renewable Gas
Reference: Exhibit B-10, FortisBC Response to BCUC IR 1.1.1

In its response to BCUC IR 1.1.1, FortisBC states:

“Federal Clean Fuel Standard (CFS)

The full impacts of the federal CFS are not yet known as this policy remains under development. However, at this time, FEI expects the CFS to require gas distribution utilities to reduce the lifecycle intensity of gaseous fuels starting in 2023. The CFS is designed to allow multiple compliance pathways whereby regulated entities must hold the required amount of emissions reduction credits to meet their annual obligations. Examples of compliance pathways to reduce the lifecycle intensity of natural gas include blending natural gas with RNG or hydrogen, as well as carbon capture and sequestration.

Given that the CFS is expected to achieve the greatest GHG emissions reductions of any federal policy by 2030, FEI expects that it will need to commit additional resources to complying with this policy; however, the extent and scope will not be known until the CFS has been completed. For example, CleanBC’s requirement for 15 percent renewable gas content may overlap to some degree with the requirements of the CFS, but this will not be known until the policies are completed and turned into legislation. FEI continues to work with policy makers with the goal that the federal CFS and provincial CleanBC policies can work effectively together. FortisBC will bring forward the impacts of the CFS once they are known and certain.” [underline added]

- 35.1 Will FortisBC report on the status of the federal Clean Fuel Standard and the provincial CleanBC RNG target at the Annual Reviews under the proposed MRPs?
- 35.2 Does FortisBC see the proposed “Growth in Renewable Gas Targeted Incentive” as FEI’s sole response to the federal and provincial initiatives

aimed at reducing the carbon intensity of delivered natural gas? Or are there other FEI activities directed toward this end?

- 35.3 In FortisBC's view, if the "Growth in Renewable Gas Targeted Incentive" is approved for the test period what if any changes should occur if and when legally binding requirements are in place to achieve the objectives of the federal Clean Fuel Standard and the provincial CleanBC RNG target?

36.0 Topic: Targeted Incentives, Growth in Renewable Gas
Reference: Exhibit B-10, FortisBC Response to BCUC IR 1.2.5

Fortis states in response to BCUC IR 1.2.5:

"The [Province of BC's Greenhouse Gas Reduction (Clean Energy) Regulation (GGRR)] also includes recent amendments to the prescribed undertakings to include renewable natural gas (RNG) as a transportation fuel for natural gas transportation customers, which supports the policy statement quoted above regarding "increasing the production of renewable transportation fuels". [underline added]

- 36.1 What volumes of RNG would be involved in carrying out projects and undertakings to include RNG as a transportation fuel under the recent amendments to the GGRR?
- 36.2 Does FEI anticipate that RNG for transportation could significantly increase the use of RNG?
- 36.3 Please confirm, or otherwise explain, that the sources and types of RNG that would be used for RNG in transportation under the GGRR are the same as those that are used for RNG used for FEI's current RNG program.
- 36.4 In FEI's view, does RNG in transportation under the GGRR count toward the CleanBC Plan's 15% RNG target.
- 36.5 What is the current status of whether RNG in transportation in BC would qualify under the federal Clean Fuel Standard.
- 36.6 In FEI's view, would the use of RNG as a transportation fuel compete with the use of RNG to displace natural gas for FEI's non-transportation customers?
- 36.6.1 If so, how would FEI address the conflict?
- 36.6.2 If not, why not?

37.0 Topic: Targeted Incentives – Growth in Renewable Gas
Reference: Application, Exhibit B-1, section 8.3.1, pp. C-159 – C-160

- 37.1 Is the proposed Targeted Incentive for Growth in Renewable Gas limited to RNG supplied by FEI to customers under FEI's RNG program?

- 37.2 For greater certainty, please explain whether RNG for transportation customers is separate from, or included within, FEI's RNG program.
- 37.3 If FEI intends to attempt to achieve the Growth in RG target in part by acquiring Renewable Gas outside of FEI's RNG program please explain what FEI has in mind and how this would work.
- 37.4 In accounting for its progress in achieving the proposed Growth in RG target will FEI count sales of RNG to customers or the acquisition of RNG from providers? In other words, does unsold RNG count towards the Growth in RG target?
- 37.5 What discussions has FortisBC had with the Province about the regulatory regime under which a 15% RNG content would be achieved in the FEI system? Please discuss any approaches or strategies FortisBC discussed.
- 37.6 Is FortisBC aware of any plans by the Province to introduce specific policies or regulations regarding the 15% RNG target? If so, when might such policies or regulations be implemented?
- 38.0 Topic: Clean Growth Innovation Fund, Digital Feedstock**
Reference: Exhibit B-1-1, Appendix C6-4, Multi-Year Rate Plan - Main Innovation Activities, 1.11 Developing Digital Natural Gas Feedstock [TRL-4 TO TRL-8], pdf p.611

"FEI wants to gain a better understanding of 'Digital Feedstock' and, in particular, the barriers to broad-based adoption of digital feedstock as a basis for natural gas trading.

Digital Feedstock refers to a collection of technologies and practices that would allow for more diverse, granular and verifiable measurements of natural gas characteristics and the subsequent facilitation of a market for these characteristics. This would allow natural gas, which is currently highly commodified, in the sense of being treated the same across producers, to be a more differentiated product. Currently, there is only one characteristic of natural gas that is measured and traded: energy content (in MMBtu or GJ). However, natural gas produced by different plants can vary on a number of other dimensions that customers might care about. A primary one is the GHG content of a given unit of natural gas, which can vary both from the natural properties of gas in specific locations as well as from the energy-intensity and energy efficiency of the plant that produces the gas. Buyers of natural gas including industrial users, residential consumers, and investors may well care about the GHG content and be willing to pay higher prices for 'cleaner' gas. Another as-yet untraded characteristic that varies across producers is the ethane content of natural gas, which can affect the Wobbe index and may be important information for transmitters and industrial users whose equipment may be affected.

Allowing for trading on these additional dimensions first requires data collection at the plant level. It then also requires a trading platform, possibly enabled by secure private or public ledger technology such as blockchain that can capture, verify, and disseminate this additional data about each unit of gas supplied to the

market. Finally, it requires market participants to be willing to adopt or participate in this enhanced platform-based marketplace.

RD&D investments in this technology will be focused on implementing demonstrations projects that would demonstrate to stakeholders, gas producers and gas purchasers how well the technology works and allow better assessment of the business and environmental benefits.”

38.1 Please confirm, or otherwise explain, that “technology readiness level” (TRL) refers to a scale in which there are the 9 technology readiness levels, with 1 being the least ready and 9 being already used in real-life conditions.

38.2 To help explain “digital feedstock,” please give an example of a digital feedstock technology that is at TRL-8.

39.0 Topic: Targeted Incentives, Natural Gas for Transportation
Reference: Exhibit B-6, FortisBC Responses to BCSEA IR 1.12.1

FortisBC states:

“...Additionally, oil prices continue to be lower than historical cost curves. This reduces the savings associated with switching to NGT, making the business case more challenging. At the same time, there is increased competition from battery-electric technology in the transportation and freight sector as commercially available battery-electric medium and heavy-duty vehicles are expected to hit the market before 2024.”
[underline added]

39.1 Please elaborate on the types of battery-electric medium and heavy-duty vehicles that are expected to hit the market before 2024.

39.2 Does FortisBC acknowledge that in some situations battery-electric medium and heavy-duty vehicles are better than NGT vehicles as an alternative to conventional-fuel vehicles?

39.3 In previous proceedings FEI has confirmed that its NGT program does not target passenger vehicles where EVs are the predominant alternative to conventional-fuel vehicles. For the medium-duty and heavy-duty vehicle sectors, does FEI evaluate the relative costs and effectiveness of NGT vehicles and battery-electric vehicles? What criteria are used?

40.0 Topic: Targeted Incentives – GHG Emissions Reductions – Customer (FEI)
Reference: Application, Exhibit B-1, section 8.3.3, Table C8-4, pp. C-161 – C-162

In Table C8-4, FortisBC lists “Gross Customer Attachments” and “Conversions.”

40.1 Please define “conversions” in this context. Does it refer to changes by people who may or may not be FEI customers from their existing energy source to natural gas supplied by FEI? Does it also refer to builders choosing to install natural gas equipment in new residential construction?

40.1.1 Does “conversions” in this context include commercial or industrial use of gas?

FortisBC states on p. C-161:

“Natural gas is a clean fuel that reduces carbon emissions and improves air quality in comparison to energy sources like propane and oil. In comparison to heating oil, natural gas can lower emissions by approximately 27 percent.” [footnote reference omitted]

40.2 Would the incentive only apply to conversions from oil, propane or other more GHG-intense fossil fuels to natural gas, or might it also include conversions from electricity or wood to natural gas?

40.2.1 Please provide an estimate of the proportion of conversions expected from different existing energy sources and for new construction.

40.3 Please provide an estimate of the GHG emissions reductions beyond business as usual that would be achieved if FortisBC were to achieve its proposed target for conversions.

**41.0 Topic: Targeted Incentives, GHG Emissions Reductions – Customer (FEI)
Reference: Exhibit B-6, FortisBC Response to BCSEA IR 1.13.1**

FortisBC states:

“The annual natural gas conversion target of 2,700 customers will be a stretch to achieve during the MRP term. The operating environment for FEI continues to become more complex with multiple factors making the adoption of natural gas increasingly challenging.

For example, competing programs in the market will have an impact on customer conversions through the MRP term. Recently the province launched its EfficiencyBC program which includes incentives also targeting the conversion market. The program includes incentives for residents to convert their home heating appliance to an air source heat pump. Further, the provincial incentive program is being topped up by a number of municipalities to generate greater interest and deliver a more lucrative program offering for homeowners.” [underline added]

41.1 Is FEI able to focus its gas conversion programs so as to avoid inhibiting the success of programs aimed at converting high-carbon heating systems to air source heat pumps that have lower carbon-intensity than natural gas does?

41.2 To what extent would FEI be able to achieve the proposed annual natural gas conversion target of 2,700 customers during the MRP term by focusing on conversions where air source heat pumps are not a practical alternative?

- 41.3 Does the natural gas conversion program include commercial and industrial customers, or is it limited to residential customers?

42.0 Topic: FBC Power Supply Incentive
Reference: Exhibit B-6, FortisBC Response to BCSEA IR 1.17.2

FortisBC states:

“FBC’s carbon intensity of power from the wholesale market in 2018 was calculated and audited to be 0.19 tonnes of CO₂e per MWh on average.”

- 42.1 Please provide a copy of the source of this estimate.

43.0 Topic: Annual Review
Reference: Exhibit B-6, FortisBC Response to BCSEA IR 1.20.1, 1.20.2

BCSEA IR 1.20.2 asked if FortisBC has any objection to a requirement that it provide the annual Sustainability Report for consideration at the Annual Review under the MRP. In response, FortisBC referred to its response to BCSEA IR 1.20.1, which asked if FortisBC would agree that the annual Sustainability Report on FortisBC’s performance on some 40 indicators of sustainability would provide useful information at the Annual Review within the proposed MRP framework. FortisBC stated:

“No. The purpose of the Annual Review is to set rates for the following year. As part of the Annual Review process, FortisBC will continue to report on a balanced set of SQIs (including GHG emissions for FEI) that are designed to show that cost reductions under the MRP are not being made at the expense of reasonable level of service. In addition, the new reporting and review requirements for Targeted Incentives and the Innovation Fund already focus on those aspects of FortisBC’s transition to a lower carbon future that are components of the rate setting framework. The Corporate Sustainability Report, however, covers a wider variety of issues which are not relevant to the Annual Review process.” [underline added]

- 43.1 Please provide a table showing the issues covered in the Corporate Sustainability Review that in FortisBC’s view are (a) relevant to the Annual Review process, and (b) not relevant to the Annual Review process. For the issues that are not relevant to the Annual Review process, please indicate the forum in which FortisBC’s customers have an opportunity to address them.
- 43.2 What does FortisBC mean when it says “the new reporting and review requirements for Targeted Incentives and the Innovation Fund already focus on those aspects of FortisBC’s transition to a lower carbon future that are components of the rate setting framework”?
- 43.3 Please list “the new reporting and review requirements for Targeted Incentives and the Innovation Fund.” For each, please indicate where they would be addressed, that is, in the Annual Review or in some other forum.

- 43.4 Please list the aspects of FortisBC's transition to a lower carbon future that are not components of the rate setting framework.
- 43.5 Is implementation of the proposed Targeted Incentives and Innovation Fund expected to improve FortisBC's performance on at least some of the measures in the annual Sustainability Report? If so, please indicate which measures and whether the results on these measures will be reported in the Annual Meeting. If not, why not?
- 44.0 Topic: Clean Energy Innovation Fund – gaps and innovation activities**
Reference: Exhibit B-6, FortisBC Response to BCSEA IR 1.23.3; Exhibit B-1-1, Appendix C6-4: Multi-Year Rate Plan – Main Innovation Activities, section 1.3 CARBON CAPTURE [TRL-2 TO TRL-6], pdf p.605

Carbon capture is included within FortisBC's proposed "Main Innovation Activities" for the Clean Energy Innovation Fund. FEI says it is "currently conducting a small-scale pilot with Clean 02 (a manufacturer of an end-use carbon capture device called Carbonix) to test and demonstrate energy efficiency and GHG reductions of up to 10 units."

In its response to BCSEA IR 1.23.3, FortisBC states:

"Assuming the Clean Growth Innovation Fund is approved as requested, the prioritization of the activities will be finalized by the governance entities shown in Figure C6-8 in the Application. However, given the challenging nature of the renewable gas goal set out by the CleanBC Plan, Blending Hydrogen and Renewable Natural Gas are likely to be high priorities." [underline added]

- 44.1 If FortisBC's research focus within the area of "carbon capture" will go beyond Carbonix pilot project, please identify the topics.