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January 16, 2023

My Sea to Sky
P.O. Box 2668
Squamish, BC
V8B 0B8

Attention: Mr. Eoin Finn, B.Sc., Ph.D., MBA

Dear Mr. Finn:

**Re: FortisBC Energy Inc. (FEI)
Revised Renewable Gas Program Application – Stage 2 (Application)
FEI Information Request (IR) No. 1 to My Sea to Sky (MS2S)**

On December 17, 2021, FEI filed the Application referenced above. In accordance with the regulatory timetable established in British Columbia Utilities Commission Order G-165-22A for the review of the Application, FEI respectfully submits the attached FEI IR No. 1 to MS2S on Intervener Evidence.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC ENERGY INC.

Original signed:

Diane Roy

Attachments

cc (email only): Commission Secretary
Registered Parties

1 **TOPIC: PRICE ELASTICITY OF DEMAND**

2 **1.0 Reference: Exhibit C6-4, MS2S Intervener Evidence, Pages 2-5**

3 On page 2 of its evidence, MS2S states:

4 FEI has been reluctant to estimate the effect of price elasticity on its gas demand,
5 citing data limitations and non-price variables as reasons to exclude elasticity from
6 its demand forecasting [...]

7 Other similar gas utilities, regulatory authorities and research organizations have
8 included the price-demand elasticity relationship for gas in their research. These
9 studies show that elasticity is an important factor in demand forecasting in the gas
10 industry [sic]

11 On page 5 of its evidence, MS2S provides the results of its own web search
12 regarding the price elasticity of demand for natural gas:

	Reference	Price Elasticity
1	"Natural gas price elasticities and optimal cost recovery under consumer heterogeneity: Evidence from 300 million natural gas bills". https://haas.berkeley.edu/wp-content/uploads/WP287.pdf	-0.23 to -.17
2	The price elasticity of residential district heating demand: New evidence from a dynamic panel approach. From: <i>Energy Economics</i> , Volume 112, August 2022, 106163, GianlucaTrotta, Anders Rhiger Hansen & Stephan Sommer https://www.sciencedirect.com/journal/energy-economics/vol/112/suppl/C	-0.530 to -0.638
3	Residential consumption of gas and electricity in the U.S.: The role of prices and income, 2011 https://www.sciencedirect.com/science/article/pii/S0140988311000351?via%3Dihub	-0.693 to -0.566
4	Price Elasticity for Energy Use in Buildings in the United States https://www.eia.gov/analysis/studies/buildings/energyuse/pdf/price_elasticities.pdf	-0.21 to -0.28
5	FortisBC Energy Inc. - 2015 BERC rate application ; https://fbcdotcomprod.blob.core.windows.net/libraries/docs/default-source/about-us-documents/regulatory-affairs-documents/gas-utility/150828_fei-berc-rate-methodology-application_ff.pdf . 22-24;	-
6	Gas price elasticities: the impact of gas prices on domestic consumption. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/532539/Annex_D_Gas_price_elasticities.pdf	-0.56
7	Sightline Institute , March 2021 The Four Fatal Flaws of Renewable Natural Gas https://www.sightline.org/2021/03/09/the-four-fatal-flaws-of-renewable-natural-gas/	-
	Average price elasticity of demand from literature review	-0.45 -to -0.44 ie -0.445 or 44.5%

13
14
15 1.1 Please confirm whether, in preparing evidence on behalf of MS2S, Dr. Finn
16 reviewed the responses to RCIA IR1 2.3 and 21.1 where FEI provides the results
17 of its literature review for own-price elasticity of demand for natural gas.

18
19 1.1.1 If not confirmed, do the results of FEI’s literature review change the
20 evidence provided by Dr. Finn.

21
22 1.2 Please provide the underlying source for the - 0.56 price elasticity estimate from
23 the Reference 6 study in the table reproduced in the preamble above (“Gas price
24 elasticities: the impact of gas prices on domestic consumption”).

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- 1 1.2.1 Is the - 0.56 price elasticity estimate from the Reference 6 study based
2 on the price elasticity estimate from the Reference 3 study (“Residential
3 consumption of gas and electricity in the U.S.”)?
4
- 5 1.3 Please confirm that none of the own-price elasticity estimates provided in the table
6 reproduced in the preamble relate to renewable natural gas.
7
- 8 1.4 Please confirm that none of the elasticity estimates provided in the preamble relate
9 to cross-elasticity of demand.
10

11 **TOPIC: PRICE ELASTICITY OF DEMAND**

12 **2.0 Reference: Exhibit C6-4, MS2S Intervener Evidence, Page 6**

13 On page 6 of its evidence, MS2S states:

14 FEI predicts that RG and RNG together will grow to constitute about 19.3% (41.5
15 PJ) of FEI’s current gas demand by 2032, when ~81% of the gas supply will still
16 be Fossil Gas (FG).

17 Assuming that:

- 18 • The average price elasticity of the referenced studies prevail in the BC
19 marketplace and;
- 20 • RG and RNG acquisition price increases are similar (to each other) and
21 remain stable over the interval and;
- 22 • We exclude the effects of carbon tax for now in the calculations and;
- 23 • We add the S&T rider charge (\$0.63/GJ) to the cost increase and;
- 24 • FEI holds the RNG/RG premium to around \$7/GJ (resulting in a price to the
25 Customer of \$11.63/GJ, representing a 191% increase over the \$4.63/GJ
26 for fossil gas;

27 **these elasticity econometrics would predict a demand decrease of at least**
28 **44.5% *175%, i.e 78% of the projected 41.5 PJ of RN, RNG demand FEI**
29 **predicts will occur over the interval¹¹. [emphasis in original]**

30 Further in footnote 11, MS2S explains the methodology used to calculate the 78 percent
31 demand decrease as follows:

32 This figure is derived from multiplying the price premium for RN,RNG over fossil
33 gas (\$7.63/GJ over \$4.63/GJ = 175%) by the average demand elasticity (-0.445 or
34 -44.5%) from the literature review.

- 35 2.1 Please provide the calculation for the 191 and 175 percent price premium
36 discussed in the preamble above.

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