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June 1, 2022

Residential Consumer Intervener Association
c/o Midgard Consulting Inc.
Suite 828 – 1130 W Pender Street
Vancouver, B.C.
V6E 4A4

Attention: Mr. Peter Helland, Director

Dear Mr. Helland:

Re: FortisBC Energy Inc. (FEI)

Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application) ~ Project No. 1599246

Response to the Residential Consumer Intervener Association (RCIA) Information Request (IR) No. 1 on Rebuttal Evidence on Common Rates

On August 12, 2021, FEI filed the Application referenced above. In accordance with British Columbia Utilities Commission letter dated May 30, 2022 (Exhibit A-15), FEI respectfully submits the attached response to RCIA IR No. 1 on Rebuttal Evidence on Common Rates.

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



FortisBC Energy Inc. (FEI or the Company) Application for Common Rates and 2022 Revenue Requirements for the Fort Nelson Service Area (Application)	Submission Date: June 1, 2022
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2 A. 6.0 FEI’s Demand Forecast Methodology 1

3

4 **A. 6.0 FEI’s Demand Forecast Methodology**

5 **1. Reference: Exhibit B-15, FEI Rebuttal Evidence, p.24**

6 **A40 – BC Stats forecast**

7 FEI states:

8 *“BC Stats explained that the forecast is currently based on the 2016 Census of Population,*
9 *uses a method that was developed in 1999, and the forecast assumptions may not reflect*
10 *the current circumstances in Fort Nelson. BC Stats further explained that the forecast*
11 *method and software were currently under review for potential replacement. BC Stats*
12 *recommended FEI refrain from using the Fort Nelson forecast until such time as these*
13 *updates are complete.”*

14 1.1 Confirm whether FEI relies upon the BC Stats forecasts for other applications to
15 the BCUC, such as multi-year rate plans, annual revenue requirements, and
16 certificates of public convenience and necessity.

17 1.1.1. If confirmed, why are the problems noted by BC Stats – the 2016 census
18 data and the 1999 methodology – not a concern for FEI such that FEI
19 relies on the forecasts and expects the BCUC to rely upon them as well?
20

21 **Response:**

22 FEI does not rely on the BC Stats forecasts in any of its revenue requirement applications (i.e.,
23 rate-setting applications or multi-year rate plans). In other applications, FEI’s reliance on the BC
24 Stats forecasts has been minimal. For example, as explained in FEI’s response to BCUC IR2
25 45.1 in the OCU CPCN application and on page 22 of FEI’s Rebuttal Evidence (A38), in the
26 Okanagan Capacity Upgrade (OCU) CPCN application, the BC Stats data was only used to divide
27 or disaggregate FEI’s customer additions forecast (that was based on the CBOC forecast) into
28 the different Local Health Authority and/or municipalities that would be specifically served by the
29 OCU Project.

30 As discussed in the response to BCUC IR1 7.1 on FEI’s Rebuttal Evidence, FEI’s existing
31 forecasting methods do not rely on a singular third party forecast as an input to predict all elements
32 of the forecasts. Using a singular source of input increases the risk associated with the third-
33 party’s data. FEI’s forecast methods rely on multiple inputs as well as historical data, such that
34 the risk associated with a particular component is limited to that component only.

35 Although the impact of the BC Stats forecasts on FEI’s other applications is minimal, FEI is
36 monitoring the issue highlighted by BC Stats. At this time BC Stats has only advised FEI to refrain
37 from using the BC Stats forecast for the NRRM or Fort Nelson and has not issued a similar



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1 recommendation about other regions. FEI plans to continue communication with BC Stats until
2 their forecasting method is updated.

3
4

5 1.2 Provide FEI's correspondence with BC Stats related to the Fort Nelson forecast.

6

7 **Response:**

8 FEI provides in Attachment 1.2, two email threads between FEI and BC Stats staff members. FEI
9 has redacted the names and contact information of the individuals in Attachment 1.2 for privacy
10 reasons.

11 As detailed in Attachment 1.2a, FEI staff reached out to BC Stats to investigate the data and
12 method used in the BC Stats forecast. In this email thread, various BC Stats staff members
13 described the accuracy issues being encountered with the current methodology.

14 In the email thread provided as Attachment 1.2b, FEI followed up with BC Stats subsequent to a
15 virtual meeting between FEI and BC Stats on April 27, 2022, indicating that FEI would be including
16 the information obtained from BC Stats in its Rebuttal Evidence in the FEFN Common Rates
17 proceeding. In order to ensure that FEI did not misrepresent BC Stats' position, FEI provided BC
18 Stats with the wording it was proposing to include in the Rebuttal Evidence for BC Stats' review
19 and modification as necessary.

20
21

22 1.3 Assuming there was confidence in the BC Stats forecast for Fort Nelson
23 households, confirm whether FEI's forecasting method would be able to forecast
24 the turnaround in the number of households. That is, would FEI's Fort Nelson
25 customer forecast show an increase in households, if the trend of the number of
26 households was at an inflection point and began to increase?

27 1.3.1. Would this depend on the CBOC forecast showing such a turnaround?

28

29 **Response:**

30 As explained in response to BCUC IR1 9.3 on FEI's Rebuttal Evidence, it is not reasonable or
31 appropriate to assume the forecast by BC Stats for Fort Nelson is reasonable when BC Stats itself
32 has advised that FEI refrain from using it. As FEI's forecasting method for the residential customer
33 additions is based on the CBOC forecast, a forecast of a turnaround in the number of households
34 would require the CBOC forecast to show a turnaround. However, the CBOC's 20-year forecasts
35 for housing starts for both single- and multi-family dwellings currently show a declining trend.

36

Attachment 1.2

From: [REDACTED]
Sent: Wednesday, April 20, 2022 4:37 PM
To: Bailey, David
Subject: RE: [External Email] - RE: Question about Ft Nelson population forecast

Hi David!

Thanks for reaching out. You are on my list of people to connect with.

As George Box says, "All models are wrong, some are useful." Based on my limited understanding, I believe there is a variable outside the model that is driving FT Nelson trend. The accuracy of the sub-provincial population projections hinges on several assumptions including the accurate projection of future migration levels, the quality of the base population and the reliability of the projected BC level population. Because the process of change is cumulative, the reliability of the projections may decrease over time. Historical data for international, interprovincial and intraprovincial migration at a sub-provincial level has proven to be very volatile. Many factors such as relative economic conditions, changes in immigration policy, regional housing development/prices can influence population mobility in a way that is difficult to predict accurately. In case helpful, a copy of the technical engine driving the methodology is located here: https://www2.gov.bc.ca/assets/gov/data/statistics/people-population-community/population/pop_small_area_population_projections_people_1999.pdf

Note that the methodology is pretty dated, so we are working at making improvements this year. Happy to chat further next week if it would be helpful.

[REDACTED]

From: Bailey, David <David.Bailey@fortisbc.com>
Sent: April 20, 2022 3:43 PM
To: [REDACTED]
Subject: RE: [External Email] - RE: Question about Ft Nelson population forecast

[EXTERNAL] This email came from an external source. Only open attachments or links that you are expecting from a known sender.

Hello [REDACTED]

I understand from [REDACTED] that you are taking over his work. I can appreciate that it must be quite a challenge. I hope things are starting off well!

My name is David Bailey. I am the Forecasting Manager at Fortis and look after customer and demand forecasting for 1M gas customers and about 120K electric customers.

We also service Fort Nelson (Northern Rockies Regional Municipality, NRRM) and that is why I am reaching out today.

I started this exploration with [REDACTED] and am hopeful that you might be able to pass me on to someone familiar with the methods and approach used for the Ft Nelson population forecast.

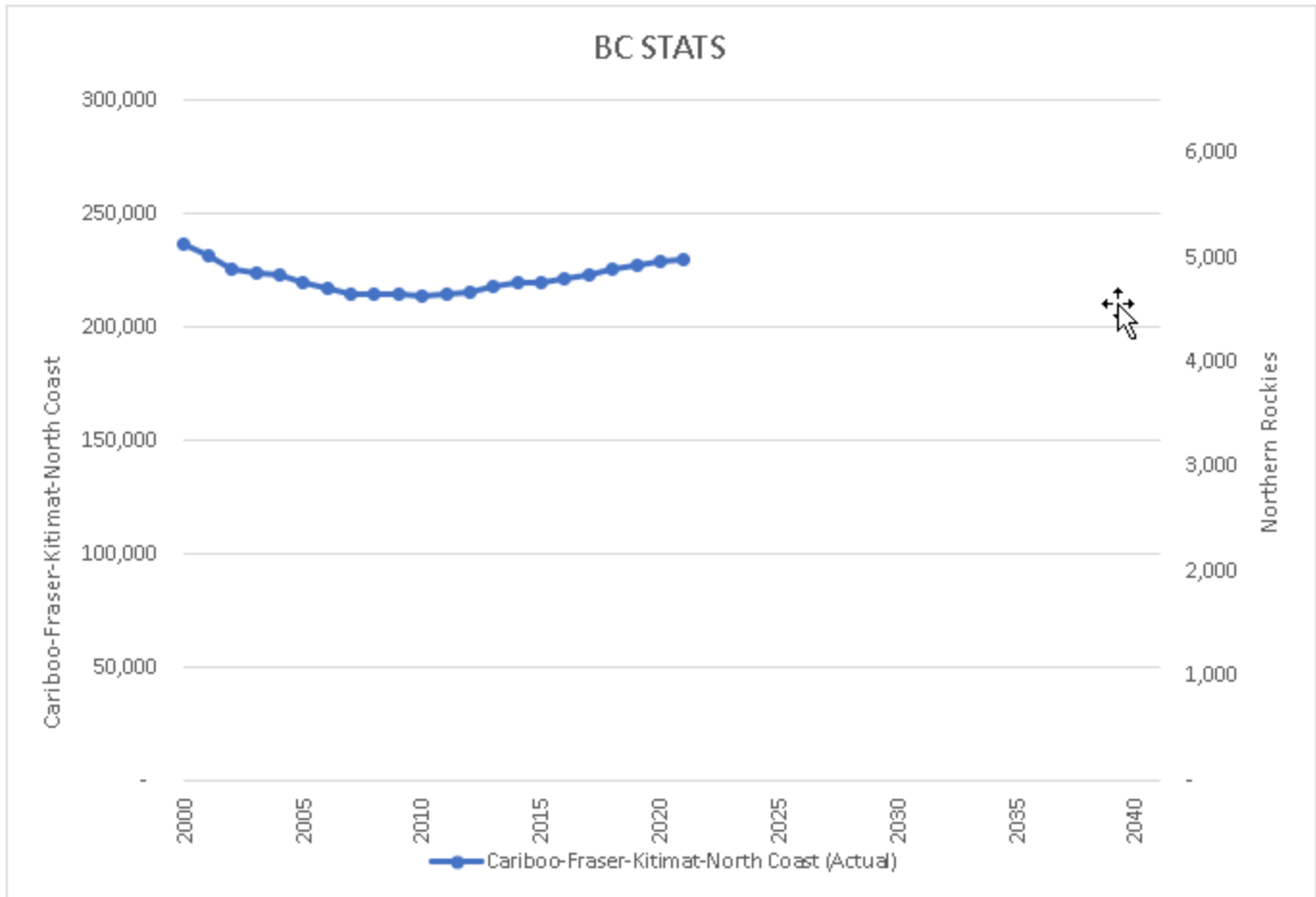
In a nutshell the population of Ft Nelson has been in a steady decline for some time. However the current population forecast from BC STATS is showing a rebound and we are trying to determine what might be driving this, or if the

rebound is simply the result of a forecast method. The Ft Nelson population is very small and likely easily influenced by trends that might carry over from the wider region.

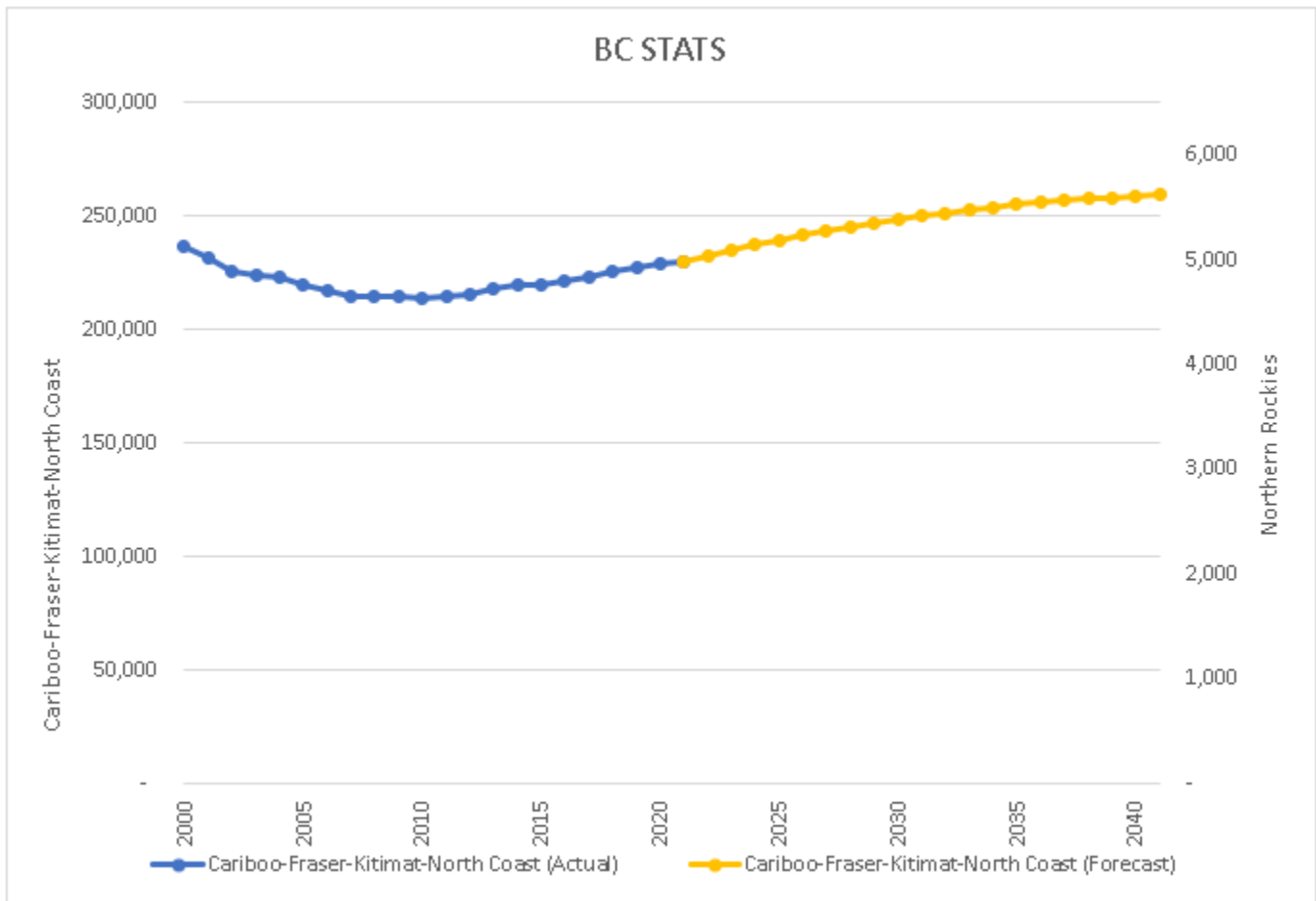
The charts that follow are all built using data from your “Shiny” site.
(I am an R/Shiny programmer as well and it is great to see!)

Here is the historic population for several areas summed up in the north.
(Cariboo/Fraser/Kitimat/North Coast)

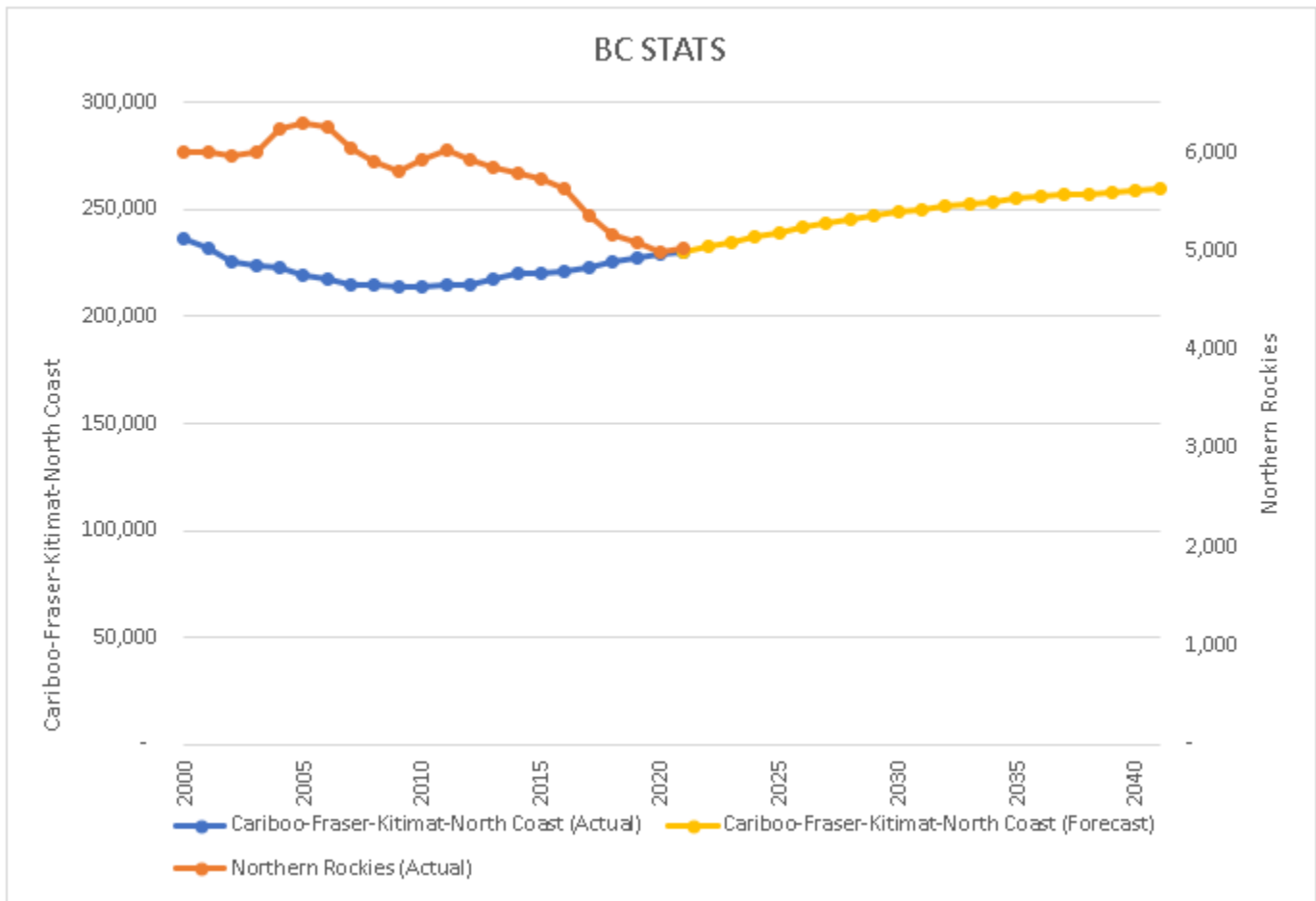
Since 2009 or so the population has been growing:



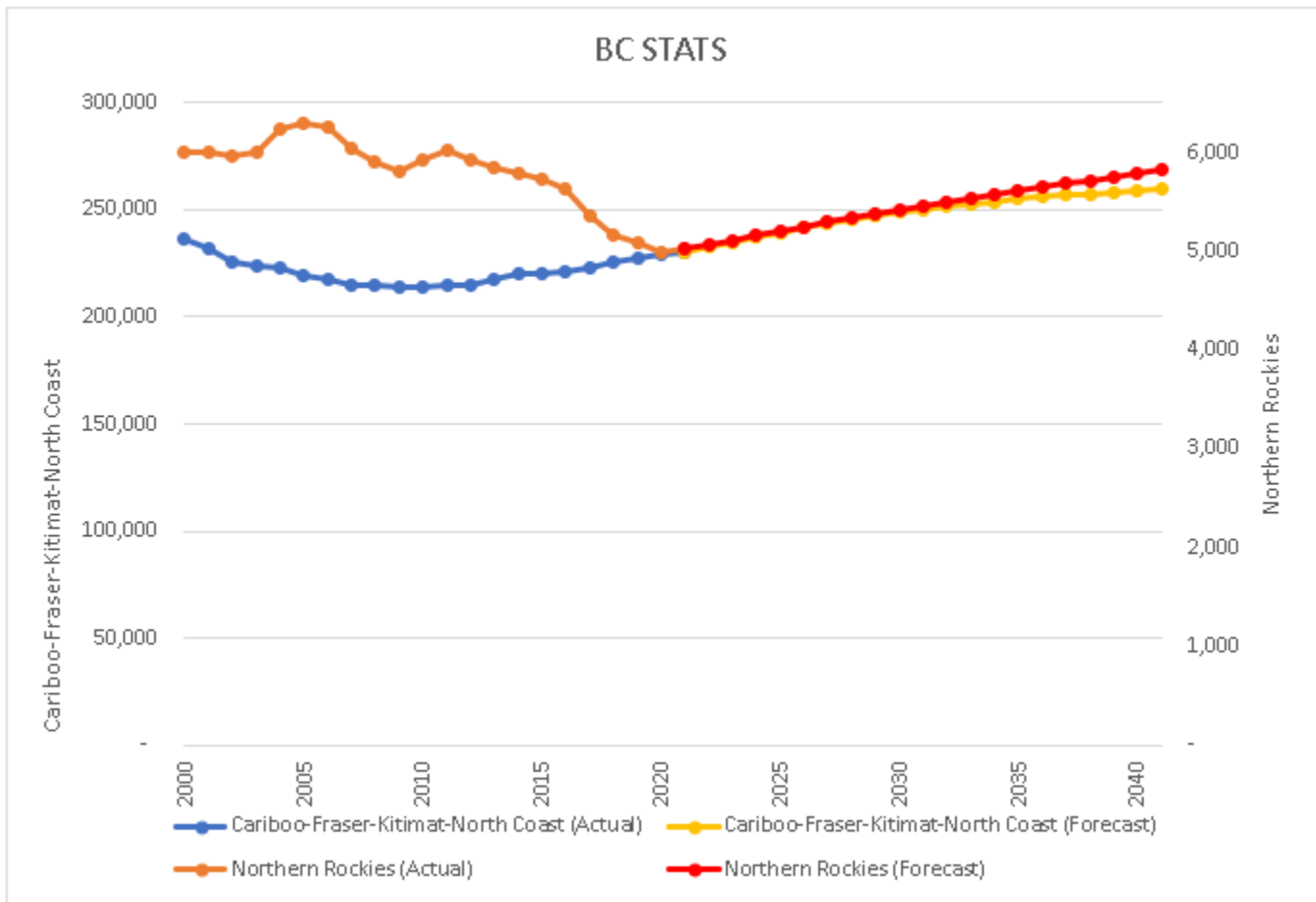
So the forecast for this group is also growing. The forecast CAGR is about 0.6%. Looks good!



But Ft Nelson / NRRM has not turned the corner yet. The population continues to decline:



The Ft Nelson forecast however seems to follow the same CAGR as the rest of the region:



All I really need to know is

- A) Is there something driving the positive Ft Nelson forecast that we are unaware of, or
- B) Is the positive forecast growth simply a result of a forecast trend for the broader region being applied to Ft Nelson.

If there is someone I could talk to about this that would be fantastic.

There is (of course!) some time pressure on this research/request, so any information you or your team might be able to provide would be very much appreciated.

Thanks for your time.

Sincerely,

David Bailey P.Eng.
 Customer and Energy Forecast Manager
 604-576-7275
david.bailey@fortisbc.com

From: [REDACTED]

Sent: Thursday, April 14, 2022 2:44 PM

To: Bailey, David <David.Bailey@fortisbc.com>

Cc: [REDACTED]

Subject: RE: [External Email] - RE: Question about Ft Nelson population forecast

Hello David,

Thanks for your query. I have used your example as a demonstration case in why the population projections methodology needs to be revised, in order to incorporate local trends.

To that end, we are going to be working over the next few months to revise the methodology.

If you are interested, we may wish to get some feedback from people like yourself, who are using the data in your planning process.

Finally, I am retiring from the BC Public Service—today is my last day. I have cc'd my colleague [REDACTED], who is taking over the population and demography work here at BC Stats.

Thanks again

[REDACTED]

[REDACTED]
Provincial Statistician & Director, BC Stats
Ministry of Citizens' Services
[REDACTED]

From: Bailey, David <David.Bailey@fortisbc.com>

Sent: April 14, 2022 12:11

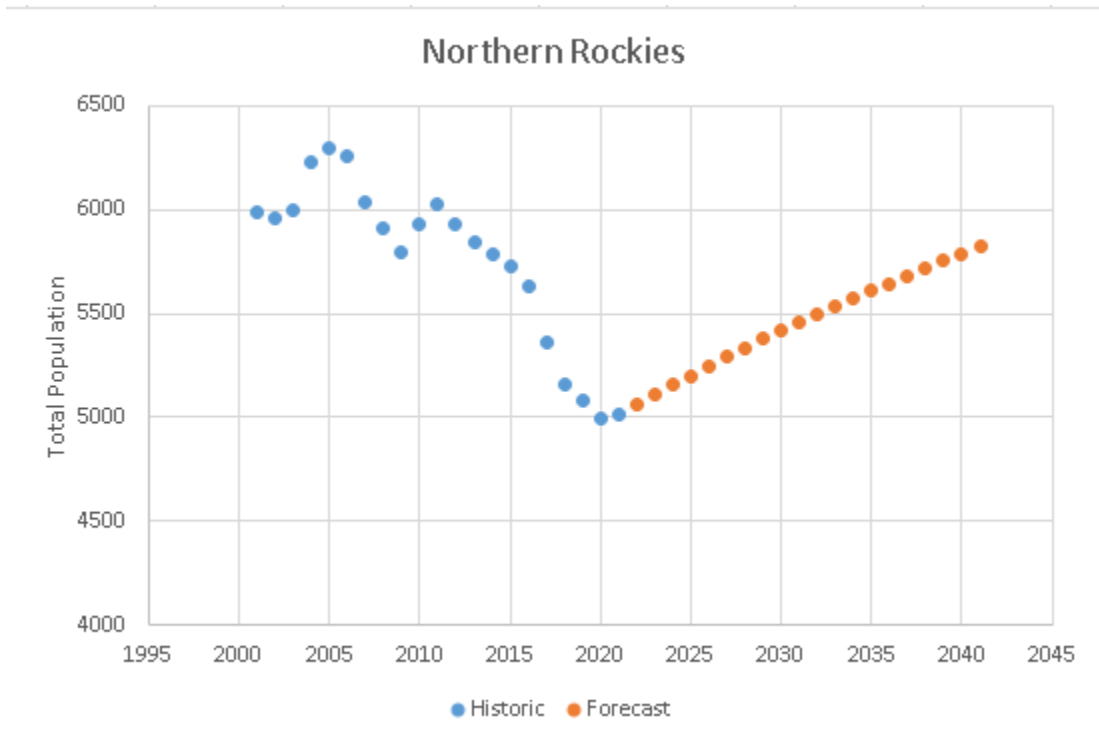
To: [REDACTED]

Subject: RE: [External Email] - RE: Question about Ft Nelson population forecast

[EXTERNAL] This email came from an external source. Only open attachments or links that you are expecting from a known sender.

Hi [REDACTED],

This Ft Nelson forecast continues to draw questions from our planning and Regulatory groups.



Would it be possible to perhaps give you a call to discuss?

We really need to know if there is something in the data that is causing the change in trajectory, or if this is one of the forecasts that needs attention and really should not be used.

Any chance we could connect next week by phone to discuss?
If so is there a date and time that would work for you?

Sincerely,

David Bailey P.Eng.
Customer and Energy Forecast Manager
604-576-7275
david.bailey@fortisbc.com

From: Bailey, David
Sent: Friday, March 18, 2022 2:30 PM
To: [REDACTED]
Subject: RE: [External Email] - RE: Question about Ft Nelson population forecast

[REDACTED],

Thank you for your reply.

I appreciate there is a lot of work involved in looking at new methods.
I had to change some of ours recently and it is a long process.

However in the meantime can you provide any insight into how the current Fort Nelson forecast was developed?

The BC Stats forecast for Fort Nelson came up in one of our proceedings with BCUC (our regulator), and we are concerned about using this data because we do not have an explanation for the upward trend relative to the historical decline. An upward forecast vs. a historical downward trend plays a big role in our demand forecast for Fort Nelson, especially in a BCUC proceeding.

Any insight or information you have regarding the inputs to the model that would help us rationalize the change in trajectory would be greatly appreciated.

Thank you for your time,

Sincerely,

David Bailey P.Eng.
Customer and Energy Forecast Manager
604-576-7275
david.bailey@fortisbc.com

From: [REDACTED]
Sent: Thursday, March 17, 2022 3:44 PM
To: Bailey, David <David.Bailey@fortisbc.com>
Cc: BC Stats CITZ:EX <BC.Stats@gov.bc.ca>
Subject: [External Email] - RE: Question about Ft Nelson population forecast

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Hi David,

Thanks for your query. We are in the process of trying to find a replacement for Frank, so your question falls to me.

We have become aware of some of the shortcomings of the population projections, and had started to investigate ways to incorporate other data elements into our process, that will improve the accuracy of those in the short term. As you have noted, in the Ft Nelson area, the downturn in oil & gas has led to outward migration; in other parts of B.C., our projections have fallen short of the totals, as the regions have received more in-migration (often inter-provincial, as people have moved from Alberta, perhaps due to the same oil & gas downturn).

I don't have a good answer as to when we will have that new methodology up and running, but please be assured that it's on my mind as something we need to address.

Thanks again

[REDACTED]

[REDACTED]
Provincial Statistician & Director, BC Stats
Ministry of Citizens' Services
[REDACTED]

From: Bailey, David <David.Bailey@fortisbc.com>
Sent: March 17, 2022 11:06
To: [REDACTED]
Subject: FW: Question about Ft Nelson population forecast

[EXTERNAL] This email came from an external source. Only open attachments or links that you are expecting from a known sender.

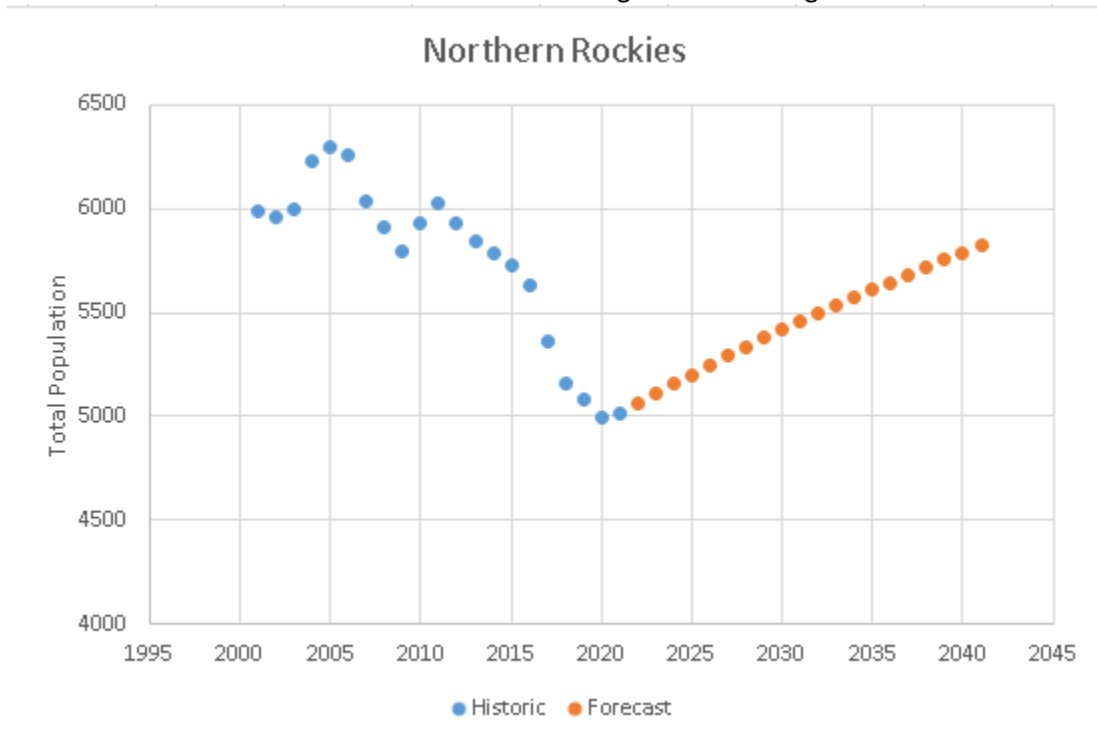
Hello,

My name is David Bailey and I am the Demand Forecast Manager at Fortis (electric and gas). Frank Ip used to prepare a regional forecast for us each year (thanks!) and send it to Katie Rice or Leo Hecher... I understand Frank has retired. We wish him well in his retirement. He was always very helpful.

Anyway this is a different question and I am wondering if someone can help me?

We are doing some work in the Fort Nelson area and used your Shiny app/site to download a population CSV (attached). [BC Population Estimates & Projections \(shinyapps.io\)](#)

When we consider the data from 2000 forward we get the following:



- The population has generally declined quite consistently since about 2005.
 - There are a couple of upticks but they were not sustained.
- Since 2010 the population has decreased each year.
- The declines make sense because both the wood and gas industries have closed
 - There might be some new developments on the horizon but there is nothing firm
- The question then is what is causing the forecast to turn and climb consistently?
 - Are you able to shed any light on the method, insights or data that lead you to this conclusion?

Thanks very much for your help with this.

Sincerely,

David Bailey P.Eng.
Customer and Energy Forecast Manager
604-576-7275
david.bailey@fortisbc.com

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From: [REDACTED]
Sent: Friday, April 29, 2022 9:16 AM
To: Bailey, David
Cc: [REDACTED]
Subject: [External Email] - RE: Fort Nelson Forecast

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Good Morning David!

No need to apologize and pester away —I know this is fairly time sensitive. Coincidentally I was just about to respond to your last email. Here are our tweaks.

"FEI met virtually with BC Stats April 27, 2022 to discuss the forecast for Northern Rockies. BC Stats explained that the forecast is currently based on the 2016 Census of Population, uses a method that was developed in 1999, and the forecast assumptions may not reflect the current circumstance in Fort Nelson. BC Stats further explained that the forecast method and software were currently under review for potential replacement. BC Stats recommended FEI refrain from using the Fort Nelson forecast until such time as these updates are complete."

We really appreciate your patience and flexibility as we transition and evolve our approach. I will touch base with you later in May. At that time, we will give you an update on our progress and learnings so far.

Cheers!

[REDACTED]

[REDACTED] | A/Director, Provincial Statistics, BC Stats Digital Platforms & Data Division Office of the Chief Information Officer | Ministry of Citizens' Services [REDACTED]

-----Original Message-----

From: Bailey, David <David.Bailey@fortisbc.com>
Sent: April 29, 2022 9:05 AM
To: [REDACTED]
Subject: RE: Fort Nelson Forecast

[EXTERNAL] This email came from an external source. Only open attachments or links that you are expecting from a known sender.

Good morning [REDACTED],

Sorry to pester, but Anthony asked me to let you know that we need to file a reply to the BCUC on the broader Ft Nelson filing on Monday.

The forecast is a small, but important, part of that submission.

Any chance you could give us your opinion on the proposed wording today?

Anthony suggested:

"FEI met virtually with BC STATS April 27, 2022 to discuss this forecast. BC STATS explained that the forecast based on the 2016 national census using a method that was developed in 1999 and might not reflect the current circumstance in Fort Nelson. BC STATS further explained that the forecast method and software were currently under review for potential replacement. BC STATS recommended FEI refrain from using the Fort Nelson forecast until such time as these updates are complete."

Thanks again,

DB

-----Original Message-----

From: Bailey, David

Sent: Wednesday, April 27, 2022 9:28 PM

To: [REDACTED]

Subject: Fort Nelson Forecast

[REDACTED],

Thanks for meeting with us today. It was very helpful.

I think you are on the right track. Modernize and re-visit the methods and strategies.

I was an IT contractor back in the early 2000s and worked on the BC Gas (now Fortis) project to create the short term forecast software. Time passed and I left the contracting world and took on my current role as the Forecasting dept manager. Now I have to use the software I wrote, so no complaining! The "FIS" system gets annual maintenance, but it too is close to the age of your system. The "engine" has not changed (SQL Server) but the front end has gone through three revisions.

Anyway, Anthony asked me to run this by you for your approval:

FEI met virtually with BC STATS April 27, 2022 to discuss this forecast. BC STATS explained that the forecast based on the 2016 national census using a method that was developed in 1999 and might not reflect the current circumstance in Fort Nelson. BC STATS further explained that the forecast method and software were currently under review for potential replacement. BC STATS recommended FEI refrain from using the Fort Nelson forecast until such time as these updates are complete.

Can you let me know if this is OK to use or if you would like to make some edits?

Thanks again,

Sincerely,

David Bailey P.Eng.
Customer and Energy Forecast Manager
604-576-7275
david.bailey@fortisbc.com

PS

We also use your LHA forecast to augment our 20 year customer forecast that starts with CBOC housing starts growth rates.

It is all presented in a R/Shiny app.

If the group today ever wanted to sit through a "show and tell" about how some of your data is used I'd be happy to do that.

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