

REQUESTOR NAME: **BC Sustainable Energy Association and Sierra Club BC**  
INFORMATION REQUEST 1.1, 1.2, and 1.3      DATED: **March 10, 2017**  
TO: **Clean Energy BC**  
RE: **BC Hydro F2017 to F2019 Revenue Requirements Application**  
BCUC Project No. **3698869**

RESPONSE ISSUED: **March 27, 2017**

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**1.0    Topic: Clarification**  
**Reference: Exhibit C4-6, CEBC Evidence, p.5**

“The Oil and Natural Gas sector is included in the highlighted lines and, while the total emissions have declined by 1.9 million tonnes, the Oil and Natural Gas sector emissions have increased by 1.5 million tonnes over the period, meaning that emissions from all the other sources have actually declined by 3.5 million tonnes.” [underline added]

- 1.1    Please explain this observation. What highlighted lines? Is this a reference to “Oil and Natural Gas” as a component of “Fugitive Emissions”? Is this a reference to evidence under the heading “2. Gas Production Data From the BCOGC”?

**RESPONSE:**

The “highlighted lines” that are being referred to are the lines captioned as:

- “Mining and Upstream Oil and Gas Production”, which is a sub-line of the major category “Stationary Combustion Sources”, and
- “Oil and Natural Gas”, which is a sub-line of the major category “Fugitive Sources”.

The observation being made was simply that these two lines totalled to 11.6 million tonnes in 2014, vs. 10.1 million tonnes in 2007, an increase of approximately 1.5 million tonnes. On the other hand, the overall grand TOTAL, shown in the top line of the table, has decreased from 66.335 to 64.464 million tonnes, an overall decrease of approximately 1.9 million tonnes.

By taking the difference between +1.5 and -1.9, the implication is that all of the other sources must have been responsible for a combined decrease of approximately 3.5 million tonnes. The value was rounded to 3.5 million, but more accurately it comes to 3.4 million tonnes.

No, there was no intention here to refer to the 2<sup>nd</sup> topic heading “2. Gas Production Data From the BCOGC”. However, the 2<sup>nd</sup> topic does confirm an increasing level of production activity in the Oil & Natural Gas sector.

“Activity in the Oil and Natural Gas Sector has been increasing over the period, while other industrial sectors appear to have contracted.” [p.5]

1.2 Is this a reference to the table on page 4 of the evidence? Does “activity” mean GHG emissions?

**RESPONSE:**

**Yes, the table being referred to is on page 4 of the evidence and shows the provincial GHG inventory as obtained from the Government of BC website.**

**Yes, based on the emissions data, it would appear that the activity in the Oil & Natural Gas Sector has been increasing. This is consistent with the gas production data obtained from the BCOGC as presented in the 2<sup>nd</sup> topic heading.**

**2.0 Topic: Oil and Gas Sector  
Reference: Exhibit C4-6, CEBC Evidence, p.5**

“The implication for meeting the GHG reductions target is that reducing the emissions from the Oil and Natural Gas sector is a priority. The most obvious ways being the reduction of fugitive emissions and the electrification of combustion processes.”

2.1 Please explain more fully what is evidence the implication of which is that reducing the emissions from the Oil and Natural Gas sector is a priority.

**RESPONSE:**

**The evidence is that the production activity and the GHG emissions have been increasing in the Oil and Natural Gas sector, and this appears to be a counter trend to the reductions being experienced in other sectors.**

**If this increasing activity (and emissions) is likely to continue, as the companies’ investment intentions appear to confirm, then it appears that this sector’s increasing GHG emissions are threatening to negate any savings that can be achieved elsewhere. CEBC believes that quick action to electrify the sector’s energy needs, as much as possible, is essential if we are to change the course of this trend.**

**CEBC also believes that this should be one of the greatest single opportunities for BC Hydro to achieve electrification for several reasons:**

- **These facilities are significant contributors to GHG emissions;**
- **The facilities are all located in the same general geographic area;**
- **There are many facilities that are expansions, being newly built, and it is generally much easier and cheaper to electrify new operations than it is to retrofit existing operations;**

- **BC Hydro already has plans for transmission to serve this area;**
- **This presents an opportunity for BC Hydro to turn a material environmental problem into a significant business opportunity;**
- **By greatly reducing the significant GHG emissions of this sector, BC Hydro can serve the sector as well as further provincial Climate Action objectives.**

2.2 Please explain more fully what is meant here by “priority.” Does it mean the top priority? For whom is reducing GHG emissions from the sector a priority – the Province, BC Hydro, the sector itself? Are other sectors less important for reducing GHG emissions?

**RESPONSE:**

**CEBC believes that the term “top priority” should be reserved for the GHG reduction opportunities that can produce the greatest reductions for the least cost. The CEBC is not in a position to assess all the alternatives.**

**However, CEBC does believe that the reduction of GHG emissions from the Oil & Natural Gas sector has attributes that should rank it as one of the priority opportunities for all of the parties mentioned:**

- **for the sector itself otherwise it will be paying increasing amounts in relation to carbon taxes;**
- **for BC Hydro, because this is a unique opportunity to achieve a significant GHG reduction, for which it has the means, through electrification, to deal at least with the emissions caused by the combustion sources;**
- **and for the Province, this electrification would continue to demonstrate the Climate Action leadership promised by the government.**

**CEBC can give no opinion about the ease or the importance of reducing the emissions from other sectors. All sectors should be considered as equally important, but all sectors may not have the same cost-effective opportunities available. The electrification of the Oil & Gas sector may present the cheapest and most readily available opportunity to have a large and a more immediate impact on GHG emission reductions.**

2.3 Please define the term “Oil and Natural Gas” sector as used here. Is it upstream only? Does it include transportation? End use?

**RESPONSE:**

**In this regard, we have only addressed the two categories shown in the provincial GHG inventory. These appear to include only the upstream activities of the sector.**

**There is a 3<sup>rd</sup> line in the inventory, captioned “Pipeline Transport” which shows additional emissions around 1 million tonnes per year. This would be a mixture of oil and gas pipelines, but probably mostly gas.**

**Pipeline compressor stations would also be targets for electrification, but retrofitting existing stations would be a longer, more costly and difficult process.**

**End uses are listed separately in the GHG inventory, as “Residential”, “Commercial and Institutional”, etc. These could present lots of opportunities but would have to be dealt with on an individual basis. Once again, retrofitting existing facilities is generally more costly and difficult. The easiest and most cost-effective opportunities are likely to be in new facilities.**

### **3.0 Topic: Montney Electrification**

**Reference: Exhibit C4-6, CEBC Evidence, section 2 and 3**

3.1 Can CEBC provide information on what proportion of the anticipated future development of Montney area gas production would rely on electricity instead of natural gas for energy needs in the absence of low carbon electrification initiatives by BC Hydro?

3.1.1 How much gas production in the Montney region (or elsewhere in the BC Hydro service area) could realistically be electrified and over what time frame?

#### **RESPONSE:**

**CEBC has only attempted to place on the record of this proceeding information that is publicly available and this record continues to expand. On March 20, 2017 TransCanada announced<sup>1</sup>:**

**“... that it has filed a variance application with the National Energy Board to proceed with the construction of the North Montney Mainline (NMML) Project in northeast in northeast British Columbia (B.C.). TransCanada has previously been granted the required primary federal and provincial approvals for construct NMML, subject to conditions that included the requirement for a positive final investment decision on the proposed Pacific Northwest LNG (PNW) Project.**

**The requested variance would allow TransCanada to move forward with construction of the majority of the NMML Project, at an estimated capital cost of approximately \$1.4 billion prior to final investment decision on the PNW LNG project. In support of the variance for the NMML Project, TransCanada has secured new 20-year commercial contracts with 11 shippers for approximately 1.5 Bcf/d of firm service.**

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<sup>1</sup> <http://www.transcanada.com/announcements-article.html?id=2132132&t=>

**... Subject to regulatory approvals, TransCanada plans to begin construction in the first half of 2018, with facilities being phased into service over a two-year period, beginning in April 2019...”**

**The information request appears to call for a broader opinion on the electrification of the Montney that the CEBC is unfortunately unable to provide.**

**The information request is an excellent one, which should become the subject of work to be undertaken by BC Hydro outside of the Integrated Resource Planning process, in conjunction with interested parties. The speed of this investigation is critical as development continues and opportunities for electrification are being lost. The work needs to be carried out on an urgent basis. It is important that the total scope of the Oil & Gas sector’s energy requirements and the total opportunity for electrification is identified if British Columbia is to succeed in meeting its GHG reduction targets.**