

## Abbotsford

April 28, 2017

### 1. Introductions

- a. Attendees expressed interest in the following topics:
  - i. Renewable Natural Gas (RNG) and Power-to-Gas (e.g. hydrogen injection).
  - ii. Low Carbon Thermal Energy Systems, such as geothermal heat solutions.
  - iii. Coordinating with FortisBC Energy Inc. (FEI) to support economic and population growth while also helping to meet Greenhouse Gas (GHG) emissions reduction targets.
  - iv. Reducing GHG emissions from transportation fleets.
  - v. The relationship between natural gas and other clean energy sources (one attendee mentioned clean coal).
  - vi. The impacts on natural gas utilization in the province of the December 2014 updates to the British Columbia (BC) Building Code.
- b. Attendees raised various general questions:
  - i. Will FEI provide energy efficiency rebates for residential customers to install combined space and water heating systems?
    1. FEI is conducting a pilot project to assess energy savings and risks associated with using combined systems in BC.
    2. FEI expects to receive pilot results by the end of 2017.
    3. If the pilot results are positive, FEI will consider offering a rebate for combined systems.
  - ii. What happens during a natural gas pipeline leak?
    1. Natural gas is not a liquid, so leaking pipes will vent natural gas into the surrounding environment.
    2. Safety risks exist where the vented natural gas cannot escape easily and may thus reach concentrations within the combustible range of natural gas.
    3. FEI regularly assesses and maintains its pipeline systems to ensure the safe and reliable delivery of natural gas to its customers.
  - iii. How do FEI's Natural Gas for Transportation (NGT) programs impact natural gas rates?
    1. NGT customers increase demand for natural gas and thus exert downward pressure on rates because they improve the utilization of FEI's natural gas infrastructure.
    2. Since NGT demand is evenly shaped (i.e. does not exhibit daily peaks as much as, for example, residential natural gas demand) and FEI recovers relatively more of its costs from peaky than non-peaky customers, incremental NGT demand provides less rate benefits than incremental residential demand.
- c. Attendees raised some concerns:
  - i. The Fraser Valley is experiencing air pollution from marine bunkering in the Lower Mainland:
    1. FEI's NGT programs support marine operators with switching to natural gas for marine bunkering.

2. Switching to natural gas from higher carbon bunkering fuels, reduces GHG emissions and harmful air pollutants, such as nitrous oxides.
3. For example, FEI has pioneered truck-to-ship LNG bunkering with BC Ferries (this is a world-first achievement).

## 2. Planning Environment

- a. For natural gas resource planning, FEI not only considers the demand-capacity balance on its own infrastructure but also the demand-capacity balance on the regional infrastructure that supplies FEI's infrastructure:
  - i. Many stakeholders are unaware about the distinction between FEI and non-FEI infrastructure in BC.
  - ii. This distinction is also reflected in FEI's natural gas bills that separate charges for maintaining FEI's own operations versus charges that FEI incurs for using non-FEI upstream infrastructure.
- b. Housing developers are faced with both consumer demands as well as evolving policy requirements:
  - i. Customers that hire developers to construct homes for their own use are very price sensitive.
  - ii. 80 per cent of residents still prefer living in single family dwellings.
  - iii. Some builders are well informed about policy changes but others may not be able to respond to these changes and may thus go out of business even though they are quality builders in general.
- c. Attendees commented on the adoption of the BC Energy Step Code:
  - i. The Step Code is welcomed as it increases regulatory uniformity.
  - ii. Implementing the Step Code will increase building costs; it is still unclear to what extent energy savings will offset these additional costs.
  - iii. Most larger municipalities are likely to adopt Steps 3 or 4 immediately.
  - iv. Smaller municipalities and regional districts may lack the capacity to adopt higher steps:
    1. Builders in smaller municipalities may not be able to construct to the requirements of the higher steps.
    2. Smaller municipalities may lack capacity amongst their building inspectors to implement higher steps; improving this capacity may require municipalities to raise more revenue.
    3. Attempting to adopt higher steps may undermine smaller municipalities' ability to cope with demand for new residences driven by population growth.
    4. As such, Step Code adoption among smaller municipalities and districts may be slower than expected.

## 3. Demand Forecasting

- a. Regional districts that operate solid waste disposal sites are exploring whether they can use these to generate energy.
- b. Many attendees were unaware that current RNG supply is limited.
- c. Many attendees were unaware how much potential annual demand may emerge from LNG marine bunkering.
- d. How does FEI consider whether to offer an interruptible rate to a customer?
  - i. This depends on FEI's regional infrastructure constraints.
  - ii. Customers are incented to adopt an interruptible rate because interruptible rates typically are lower than firm rates.

- e. From a gas supply planning perspective, colder winters may not just influence peak day demand but may also extend the periods during which daily demand is higher than during recent history.
  - f. How do LNG export projects impact FEI's demand forecasting?
    - i. Large-scale LNG export projects likely require their own pipeline infrastructure, so these projects are likely to procure their own natural gas commodity and pipeline infrastructure to connect them to this supply; as such, these projects are unlikely to impact FEI directly but may impact regional natural gas demand-supply balance.
    - ii. Smaller LNG export projects, such as the Woodfibre LNG Project, are likely to procure their own natural gas supply (including capacity on upstream infrastructure) but may wish to use FEI's infrastructure to access this supply:
      - 1. FEI expects to negotiate individual supply agreements with such customers.
      - 2. Such customers would be expected to cover the costs for any FEI infrastructure expansions that directly result from their incremental natural gas demand.
      - 3. Such customers would also be expected to contribute towards the maintenance of the overall FEI infrastructure.
      - 4. Thus, such customers are expected to exert downward pressure on natural gas rates since they improve the utilization of FEI's infrastructure.
      - 5. However, downward rate pressure from the natural gas demand of these customers is expected to be less than downward rate pressure from more peaky demand, such as residential customer natural gas demand.
- 4. Closing Observations and Workshop Feedback**
- a. Attendees generally expressed strong satisfaction with the workshop.
  - b. Attendees would like to remain involved in FEI's activities regarding the BC Energy Step Code.
  - c. Attendees noted that their group itself may not provide a comprehensive sample of the Fraser Valley area.