

From: "Johnston, Sadhu" <Sadhu.Johnston@vancouver.ca>

To: "Direct to Mayor and Council - DL"

CC: "City Manager's Correspondence Group - DL"

Date: 2/12/2019 11:44:18 AM

Subject: Follow-up questions from GCAP and RCAP briefing

Attachments: PDS - Memo to MC- Renewable Natural Gas Requirements by 2020 - 07-11-201....pdf

Greetings Mayor and Council,

On February 4 staff provided a council orientation on the Greenest City and Renewable City action plans. A few questions were raised during the orientation that we've addressed below.

Renewable Natural Gas Supply

A question was raised about the availability of renewable natural to meet Vancouver's 2050 renewable energy goals. Please find attached a memo from 2017 answering the question. In addition the Province of BC recently recognized the need for renewable natural gas in the new CleanBC plan that requires that by 2030 15% of the natural gas supply province-wide be from renewable sources.

Five Composting Sites in GCAP

There was a question about why the addition of five composting sites in Vancouver was no longer included as a GCAP target. These five composting sites were not actually GCAP target but they were one of the 120+ actions listed under the original GCAP. Specifically this is referring to the food scraps drop spots program at farmers markets that was run by volunteers and Recycling Alternative. This program ran from Aug 2011 to Oct 2015 and was cancelled because buildings were adding organics collection services due to the organics disposal ban and drop-spot participation decreased significantly to the point where the donations could not cover the program cost. This program successfully helped the transition to organics collection but is no longer viable.

Green Building Affordability

At the Feb 4th Council Briefing a question was asked about how the work on green buildings impacts affordability. Energy efficiency requirements reduce carbon emissions from new multifamily buildings by an estimated 70% and have no material financial impact on residents (they save money immediately but amount is so small it is not material). Specifically:

- The most recent bylaw updates that will take effect in 2021 increased construction costs by 1% or less, and will reduce carbon pollution approximately 70%.
- New purchasers and renters do not pay the capital costs – they borrow most of the money or pay monthly (mortgage or rent)
- Impact to average new purchaser would be increased mortgage payment of \$8/month but would result in a decreased operating cost of \$11/mo for a net monthly reduction in costs of \$3/month
- A typical resident saves money moving into a new energy efficient unit immediately but when average rents are far in excess of \$1,000/month, these cost savings are so small as to be immaterial

Best

Sadhu

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The City of Vancouver acknowledges that it is situated on the unceded traditional territories of the Musqueam, Squamish, and Tsleil-Waututh peoples.

VanRIMS No.: 01-9000-20

MEMORANDUM

November 07, 2017

TO: Mayor and Council

CC: Sadhu Johnston, City Manager
Paul Mochrie, Deputy City Manager
Janice MacKenzie, City Clerk
Lynda Graves, Manager, Administration Services, City Manager's Office
Rena Kendall-Craden, Director, Communications
Kevin Quinlan, Chief of Staff, Mayor's Office
Naveen Girn, Director of Community Relations, Mayor's Office
Doug Smith, Director, Sustainability Group, PDS

FROM: Gil Kelley, General Manager, Planning, Urban Design & Sustainability

SUBJECT: Renewable Natural Gas requirements by 2020

Dear Mayor and Council,

During the November 1, 2017 Standing Committee on Policy and Strategic Priorities, a question was asked of staff regarding the report on the Renewable City Action Plan, that pertained to the amount of renewable natural gas (RNG) that the city will need by 2020. Based on modelling done by Navius Research for the City of Vancouver and BC Hydro, RNG use will increase significantly starting in 2025 to eventually become 100% of the gas supply by 2050. In 2020 renewable natural gas represents less than one percent of the total natural gas use in Vancouver.

The attached appendix provides a more fulsome explanation.

As well, below is the link to a 2017 study on RNG that was prepared for and funded by the Province of British Columbia, FortisBC, and Pacific Northern Gas. The study indicates that producing enough RNG for Vancouver's future needs is possible.

https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/electricity-alternative-energy/transportation/renewable-low-carbon-fuels/resource_supply_potential_for_renewable_natural_gas_in_bc_public_version.pdf

If you require further information, please contact our Director of Sustainability, Doug Smith, at 604-829-4308 or at doug.smith@vancouver.ca.

Regards,

A handwritten signature in black ink, appearing to read 'GK', with a long horizontal flourish extending to the right.

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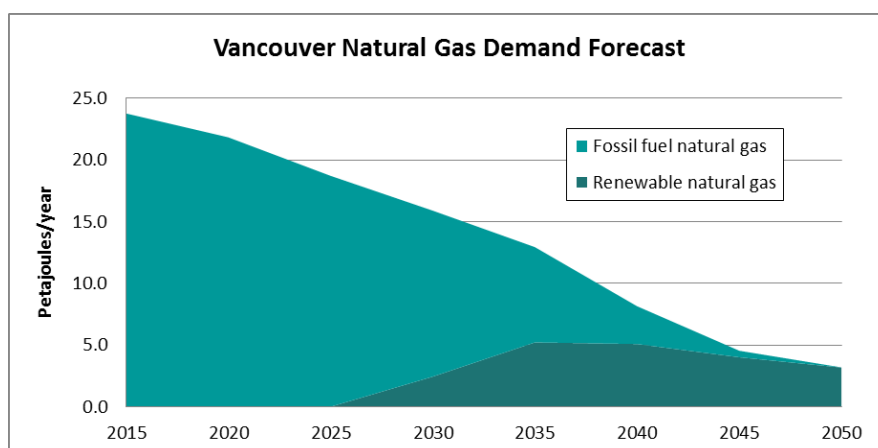
GK/mh

APPENDIX 1

Renewable Natural Gas Forecast for Vancouver

The following chart shows the demand forecast for fossil fuel natural gas and renewable natural gas in Vancouver. The forecast is based on economic modelling work that the City of Vancouver commissioned from Navius Research in partnership with BC Hydro to examine scenarios consistent with the Renewable City Strategy goals. The same modelling results were used to inform the Renewable City Action Plan.

As shown, total natural gas use declines steadily between 2015 and 2050 because of improvements in building energy efficiency and end-uses such as heating and hot water switching to renewable electricity. Renewable natural gas use increases significantly starting in 2025 to eventually become 100% of the gas supply by 2050. In 2015 and 2020, renewable natural gas represents a negligible percentage of the total gas supply.



Between 2017 and 2025, we think this is a conservative forecast for renewable natural gas demand in Vancouver, because the Renewable City Action Plan includes actions to grow supply (e.g. W.2 and W.3) and demand (e.g. B.25 and C.15). If these actions are successful, we'll be able to increase the supply and demand of renewable natural gas sooner than indicated by the modelling results. That said, we aren't counting on these changes until 2025, so any earlier progress will enable us to make faster progress towards our targets.

We believe these volumes of renewable natural gas (approximately 5 petajoules per year in 2035) can be produced in BC, although it will require advancements in technology. A March 2017 study commissioned by the Province of BC, FortisBC and Pacific Northern Gas found that up to 93.6 petajoules/year of renewable natural gas could be produced by 2035. This potential depends on technology advancements that would allow renewable natural gas to be produced from forestry feedstocks. If those technology advancements don't occur over the next 20 years, the BC potential would be limited to up to 11.9 petajoules per year.