From:	"Johnston, Sadhu" <Sadhu.Johnston@vancouver.ca>
To:	"Direct to Mayor and Council - DL" <CCDTMACDL@vancouver.ca>
CC:	"City Manager's Correspondence Group - DL" <CMCG@vancouver.ca> "Kelley, Gil" <Gil.Kelley@vancouver.ca> "Smith, Doug \(Sustainability\)" <doug.smith@vancouver.ca>
Date:	11/8/2017 10:36:40 PM
Subject:	Memo - Renewable Natural Gas Requirements by 2020
Attachments:	PDS - Memo to MC- Renewable Natural Gas Requirements by 2020 - 07-11-2017.pdf

Greetings Mayor and Council,

Please see the attached Memo from Gil Kelley regarding Renewable Natural Gas Requirements by 2020. A short summary is as follows–

- On November 1st 2017 during the Standing Committee on Policy and Strategic Priorities, a question was asked of staff pertaining to the amount of renewable natural gas (RNG) that the city will need by 2020.
- Based on economic modelling done by Navius Research for the City of Vancouver and BC Hydro, RNG represents less than one percent of the total natural gas use in Vancouver in 2020. RNG use starts to increase significantly in 2025 and reaches 100% of the gas supply by 2050.
- Based on a 2017 study on RNG that was prepared for the Province of British Columbia, FortisBC, and Pacific Northern Gas, it is possible to produce enough RNG for Vancouver's future needs.

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

Best,
Sadhu

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CITY OF VANCOUVER

CITY OF VANCOUVER

PLANNING, URBAN DESIGN & SUSTAINABILITY
General Manager's Office

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.

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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,

Gil Kelley, FAICP
General Manager, Planning, Urban Design and Sustainability
(T) 604.873.74564
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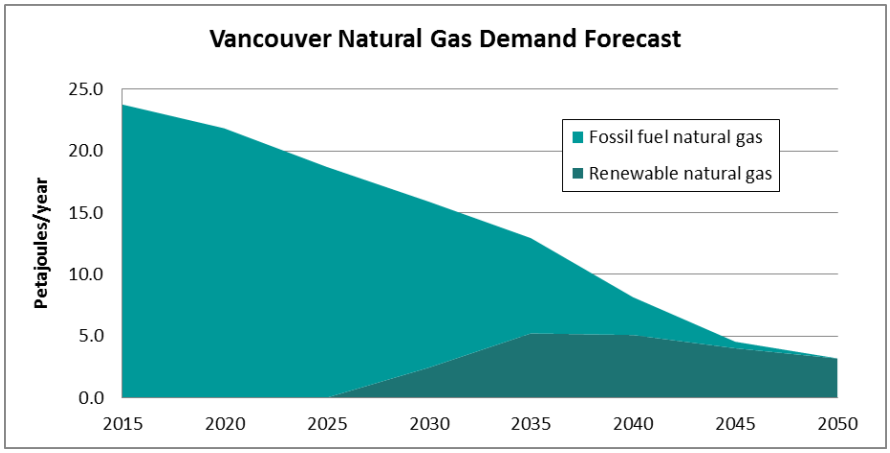
GK/mh

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.