

Name: _____

RNG and sustainable energy notes

Renewable natural gas (RNG)

RNG is derived from biogas (mostly made up of methane) produced from _____ organic waste.

RNG is useable within FortisBC's existing natural gas system after it has been _____ and _____.

RNG is considered to be a _____ renewable energy source as it uses carbon already in the cycle, rather than introducing new carbon from burning fossil fuels.

RNG captures methane that would have otherwise escaped into the atmosphere, helping to _____ greenhouse gas emissions in B.C.

RNG is interchangeable with conventional natural gas as both are composed primarily of methane.

Producing RNG

1. Collect the biogas generated by organic waste from places such as _____, _____ and _____.
2. As bacteria decompose the organic waste, biogas (mixture of _____, _____, _____, and _____) is released and collected.
3. Biogas is _____ to useable quality by removing carbon dioxide and other gases, leaving behind methane (biomethane).
4. The biomethane is then injected into FortisBC's existing natural gas system.



Producing RNG

The necessary components required for a RNG facility include:

1. source of _____
2. _____ collection and storage system
3. facility for upgrading/purifying biogas into _____
4. infrastructure for _____ into existing natural gas pipeline system

RNG in B.C.

There are currently four operating RNG facilities in B.C.:

- Salmon Arm Landfill: produces _____ of RNG per year
- Fraser Valley Biogas: produces 90,000 GJ of RNG per year
- Glenmore Landfill: produces 60,000 GJ of RNG per year
- Seabreeze Dairy Farm: produces 70,000 GJ of RNG per year
_____ GJ is enough to heat approximately 100 homes per year.

Sustainable energy

Renewable energy technologies such as solar, wind and RNG are all considered to be forms of sustainable energy. Sustainable energy is:

- energy used at a significantly _____ rate than is being produced, and with manageable _____ (such as environmental impacts)
- a dynamic _____ between providing enough energy for human needs and _____ of the Earth for future generations

Three key factors of sustainable energy:

1. ability of energy to be consumed _____
2. ability of energy to be _____
3. ability for energy source to provide energy over a _____ period of time

