



Semiahmoo RNG —



SEMIAHMOO
FIRST NATION

Semiahmoo RNG



Why RNG?

Environmental Benefits

Traffic and Noise

Project Emissions and air quality



Environmental Benefit



**30,000 ton of CO₂
REMOVED per year,
equivalent to:**



6,676

Gasoline-powered passenger vehicles driven for one year



2,500,000

Gallon of diesel consumed



3,781

Homes' energy use for one year



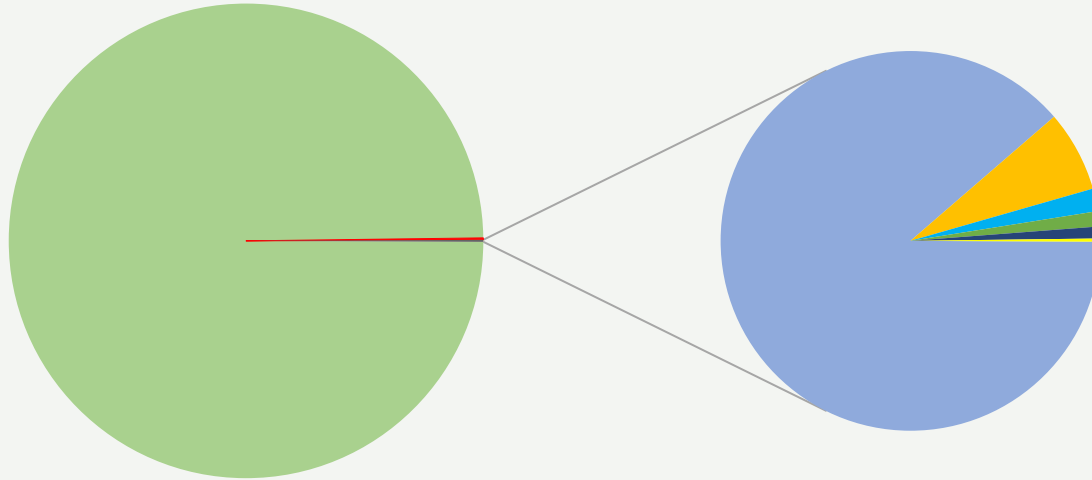
35,766

Acres of US forest in one year

GHG Reduction

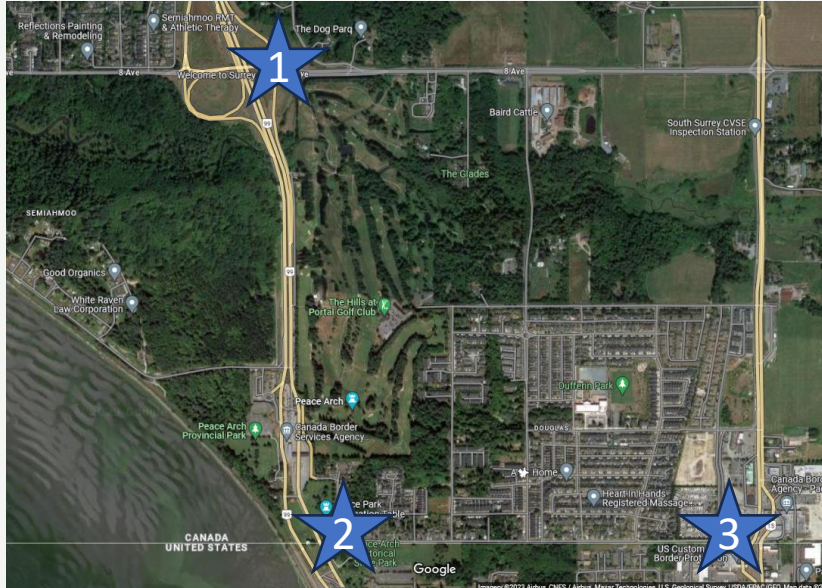
Facility Emission

Per Public Notification



	Tonnes/year
■ GHG Reduction	30,000
■ Project Emission	40.41
■ CH4	35.80
■ NOx	2.79
■ VOC	0.78
■ SO2	0.52
■ NH3	0.41
■ H2S	0.11

Truck Traffic and Noise



The facility will not generate noise beyond the limits of the highway

1. 11,000 vehicles travel through “point 1” per day

2. 3,500 cars on a slow day pass through the Peace Arch per day

3. 1,000 trucks pass through the Pacific Highway (Blaine) truck crossing per day

20-25 trucks a day passing through the project location is not anticipated to increase or disturb the traffic in the region

CH₄ Emission Source – Biogas upgrading

Best Available Technologies

The biogas membrane upgrading system has the highest methane recovery efficiencies of all biogas upgrading systems.

Methane emission from stack is equivalent to the carbon footprint of 67 people equivalent



NOX Emission Source – Boiler

Best Available Technologies

The boiler provides heat to the biogas facility and the anaerobic digestion process.

Andion selected a low-NOx emission boiler which is not required by law but in favor of emissions reduction.



NOx Emission Source – Flare

Best Available Technologies

Biogas facilities use enclosed flares to burn biogas in case of maintenance of the biogas upgrading unit.

Actual NOx emission from flare is anticipated to be less than 30% of the assumptions of ADMR



NOx – based on worst case scenario, including background emission



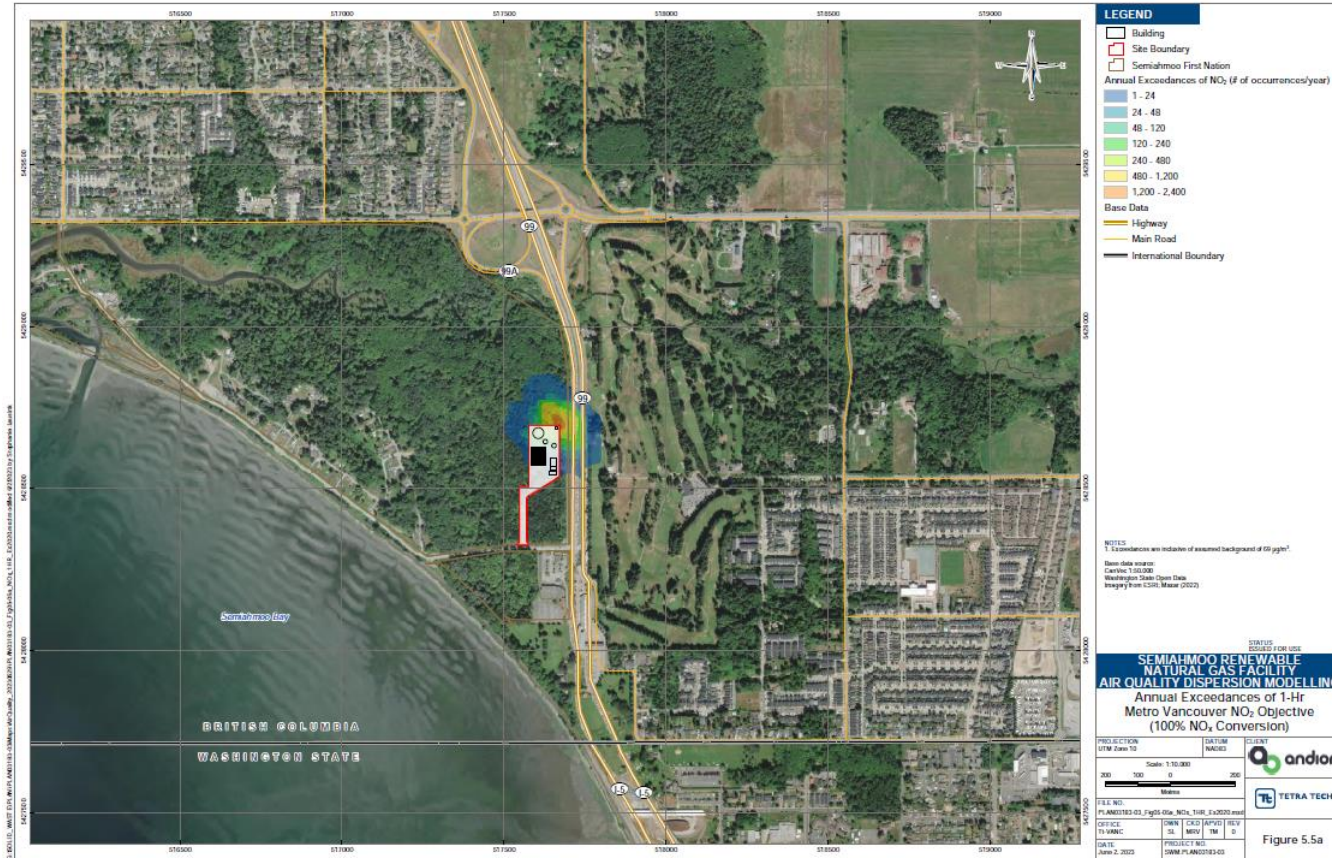
2021 air quality criteria

2025 air quality criteria

Traffic NOx emissions = 10x compared to the RNG project



NOx exceedances – based on 2021 air quality criteria, worst case scenario



Key Project Features

Odour prevention:

Treatment just in time



Cleaning and Housekeeping



Keep the doors close



Emission Sources – Biofilter

Best Available Technologies

Biofilters removes odour by a biological process without using any chemicals

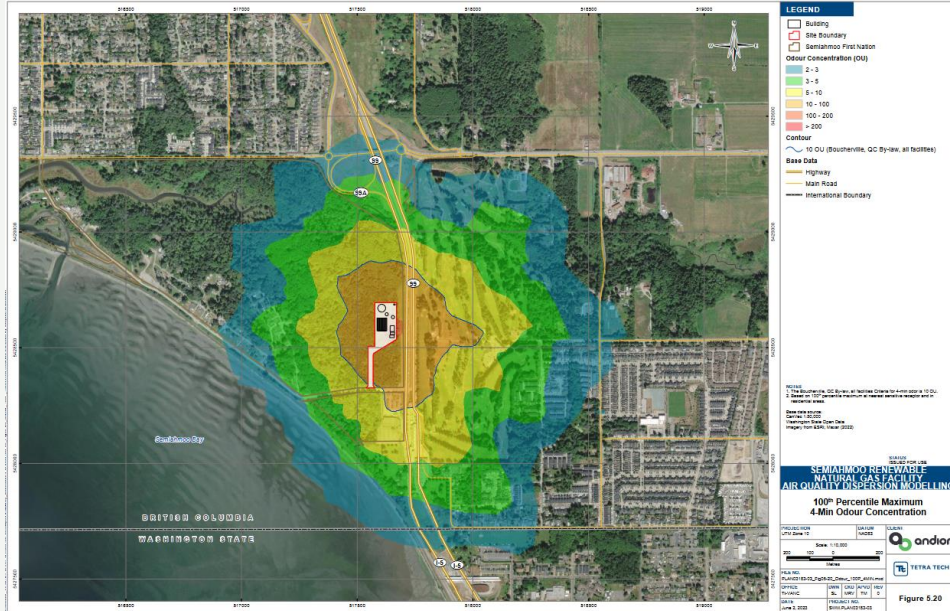
The Biofilter will take odour from:

- Buildings
- Processing tanks

Actual odour emission is anticipated to be substantially lower than the assumptions of ADMR



Odour



Air dispersion model is using the worst case scenario and this picture is illustrating max odour detectable within 4 min window.

Over 20 years of experience Andion developed a proven odour control system. It is expected that odour is substantially lower than what is presented.



Emission Sources – Ammonia Stripping

Best Available Technologies

Ammonia stripping processes 100% of liquid effluent to comply with sewer discharge limits.

No effluent is discharge anywhere other than into the sewer system.

There is no anticipated impact from NH₃ emission at any receptors



Thank you –



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