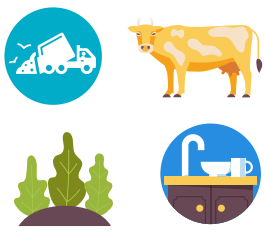
EcoVapor
A DistributionNOW Company

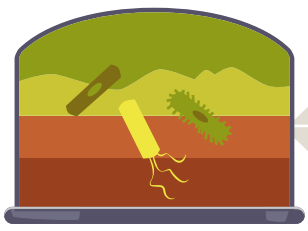
Biogas to RNG Upgrading Technology*

*Despite the variations in the purification process, most biogas to RNG facilities include many of the treatment steps outlined in this diagram. The typical process technologies used in each phase of purification are shown here.

TECHNOLOGY SOLUTIONS

Organic Biomass

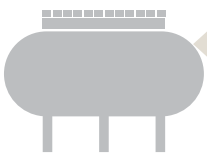




Anaerobic Digester
(raw biogas < 0.5 psig)

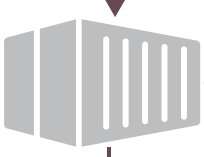
- Headspace Oxygen Injection
- Iron Injection for Bulk H_2S

Booster/Blower
(2 - 10 psig)



Bulk Water Removal

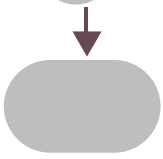
- Heat Exchanger
- Chiller
- Dessicant / Adsorbent Media



H_2S Removal

- Solid Media Scavengers
- Liquid Media Scavengers
- Liquid Redox Process
- Solvent Adsoprtion (Amines)
- Biodesulfurization

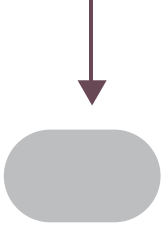
Additional Compression May Be Required



Removal of Contaminants
(VOCs, NMOCs, Siloxanes)

- Silica Gel
- Activated Carbon
- Pressure Swing Adsorbtion

Biogas for Plant Power & Heat



CO2 Removal
(can also reduce concentrations of N2 and O2)

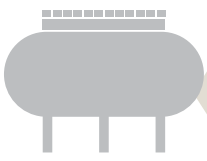
- Membranes
- Cyrogenic Processes
- Pressure Swing Adsorption
- Amine Scrubber
- Water Washing
- Solvent Adsorption

O2 Removal

- Catalytic Process
(ZERO2)

N Removal

- Pressure Swing Adsorption
- Cryogenic Proccesses
- Avoid Injecting Nitrogen



Final Water Removal

- Temperature Swing Adsorption
- Glycol Absorption
- Deliquescent Dessicant
- Pressure Swing Adsorption
- Refrigeration

Compression
(100 - 500 psig)

RNG Sales to Gas Utilities
(50 - 1000 psig)

CNG Trailers
(4000 psig)

Vehicle fuel
(3500 psig)