

# Threemile Canyon Farms

## CASE STUDY



Wärtsilä has delivered a ground breaking biogas upgrading plant to an agriculture customer in the USA, which converts biogas into renewable natural gas.

Threemile Canyon Farms manages some 93,000 acres of farmland in Oregon, USA. The land is used to raise livestock for dairy production and grow conventional and organic crops. A leader in sustainable agricultural practices, Threemile Canyon

Farms has always placed care for the environment at the forefront of its operations. Its investment in a biogas upgrading plant, delivered in 2019 by Wärtsilä Biogas Solutions, is the latest in a long line of climate-smart initiatives.

“We’ve operated with an emphasis on farming responsibly and sustainably ever since we took over Threemile Canyon Farms in 1999. As farmers, we take the protection and preservation of our natural resources extremely seriously, because, without them, we’re out of business. And more to the point, it’s the right thing to do,”

*Marty Myers, General Manager,  
Threemile Canyon Farms.*



**KEY DATA**

- CUSTOMER:** Threemile Canyon Farms
- TYPE:** Puregas CA80 Biogas Upgrading Plant  
H<sub>2</sub>S removal and HP Compressors
- PLANT CAPACITY:** Upto 3,500 scfm raw biogas
- SCOPE:** Turnkey biogas conditioning, upgrading and compression package
- DELIVERED:** 2019

The now fully operational plant is expected to sequester around 136,000 metric tonnes per year of CO<sub>2</sub>. This is equivalent to the annual greenhouse gas emissions from 28,875 passenger vehicles, or CO<sub>2</sub> emissions from the energy consumption of 16,285 homes.

The plant uses the methane from the animal manure produced on the dairy farm to generate sustainable RNG. The RNG is injected into TransCanada’s pipeline, which feeds into the regional power grid.

Instead of producing waste and harmful emissions, the farm reduces its carbon footprint, secures revenue from the gas sales, and has a valuable fertiliser to spread back on the land.

Myers admits that Wärtsilä’s long-standing experience in the biogas field made it the obvious choice of supplier.

*“One major thing we’ve learned in more than 20 years of operating the farm is that we can’t be experts in everything. That’s why choosing the right partners, the right experts, is critical to success. Wärtsilä seemed the best choice and they have proven their worth on this project.”*

Wärtsilä has extensive experience of similar projects in Europe. The Puregas CA technology is proven to deliver higher methane recovery than any other product, enabling 99.9% of the methane in the raw biogas to be recovered, thereby increasing customer revenues and reducing methane emissions to the atmosphere.



| THE CHALLENGE   | WÄRTSILÄ'S SOLUTION   | BENEFITS   |
|---|---|--|
| To convert 3,500 scfm of raw biogas to grid quality RNG | Biological H <sub>2</sub> S removal plant<br>Puregas CA80 biogas upgrading plant<br>High pressure product gas compressors | Product Gas Composition<br>Methane 99.78 vol.%<br>Carbon Dioxide 0.02 vol.%<br>Oxygen 0.0 vol.%<br>H <sub>2</sub> S 0 ppm<br>Pressure 50.1 psi<br>Temperature 46°F |

**Methane Slip**  
Maximum contractual value for CH<sub>4</sub> slip is 0.1%; therefore, the performance test results show that the contractual obligation has been fulfilled (CH<sub>4</sub> slip measured as 0.076% < 0.1%).

[wartsila.com/biogas-solutions](https://www.wartsila.com/biogas-solutions)

[wartsila.com](https://www.wartsila.com)

WÄRTSILÄ® is a registered trademark. Copyright © 2020 Wärtsilä Corporation. Specifications are subject to change without prior notice.

