CASE STUDY

BIO-METHANE PRODUCTION PLANT

Location

Padua, Italy

Product configuration

GGW500
Natural Gas Gen-Set

Application

Prime Power

SUMMARY

Bio-Methane is renewable green fuel, quickly gaining popularity for automotive transportation. PRAMAC's gas generator set is the primary source of clean power for one gas processing plant in Italy, fueled with pure bio-methane.

With the fast shift from Diesel to CNG/LNG in fuel for road transportation in Europe, plants producing biogas are converting to production of bio-methane. A Pramac gas generator set GGW500 powers the conveyors and equipment of a bio-LNG production plant running on the methane that the factory makes, which is completely "green" and renewable, while guaranteeing low exhaust emissions.

TECHNOLOGY

The engine of PRAMAC's Gas Generator set GGW500 is a powerful GENERAC engine, capable of performing multiple daily start and quickly delivering up to 400kW of clean power.

With its composition of up to 99% Methane (CH4), bio-methane is the perfect fuel to run a Gas generator set. Varying loads and high load steps were not an issue for PRAMAC gen-sets, which was chosen to replace diesel generators that were powering the gas processing plant.

DURABLE, PERFORMING AND RENEWABLE ENERGY

The waste processing plant needed power and diesel fuel for the generators was an important cost that needed to be avoided. As the factory produces clean gas and a PRAMAC generator would perform like old diesel, this solution contributed to lower OPEX of the facility, while reducing carbon footprint

PRAMAC

BIO-METHANE PRODUCTION PLANT

CHALLENGE

Background:

- **Farming waste is processed in special facility**
- **Diesel generators needed to be replaced with a cleaner and more economical source of power**

As the waste disposing factory needed increasing power, various alternatives were explored. Temporary diesel generators were deployed for daily continuous run, powering the plant's conveyors and machines. A gen-set running on pure gas such as the bio-methane that the plant was producing, capable of withstanding varying loads and multiple starting cycles was a requirement.
Even if the fuel was obtained though close renewable cycle, the green energy produced needed to respect strict European emissions standards.

SOLUTIONS

Pramac model GGW500G, 360kW / 400kVA Prime Power (PRP), Generac 25.8L Natural Gas engine, Stoichiometric (rich) Burn.

Pramac GGW500 gas generator, with its advanced stoichiometric burn control and fitted with 3-way catalytic exhaust mufflers was the solution capable of meeting the application requirements, while providing the lowest exhaust emissions in the segment.
With its 10s start capability and high load impact, the generator is activated every day to provide full-day continuous power to the factory's' equipment.
The robust and durable enclosure is compact and sound-attenuated to reduce both footprint and noise emissions.

RESULTS

A Pramac / Generac solution supplies clean and reliable power

When technology and reliability is required, Pramac is the solution.
With Ultra-Low emissions, fast start and high block-load impact capability, Pramac generators are desinged to whitstand the most challenging and demanding applications. Its integrated paralleing capability allows for scalability of a power system, meeting budget constraints and possibility for future expansion through the simple combination of multiple generator sets working together as one. There is no limit to the number of units that can can be linked and run in parallel.
Remote monitoring and control, with embedded WiFi, LAN and Bluetooth communications, allow quik diagnostric and simple preventive maintenance, resulting in reduced maintenance costs.

Bio-methane feed to the Pramac's Gas Power Generator set

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