Rockingham County Madison, NC, USA

avus 800 Biogas

Fast Facts:

Location: Madison, NC, USA Generating Capacity: 800 kW Configuration: Container Module Extras: Biogas Treatment System



About the Site:

The Rockingham County Solid Waste Management Division in North Carolina selected 2G Energy Inc. to manufacture, supply, and to install a modular 800 kW/h LFG to Energy Conversion System for their Landfill Gas to Energy Project. Until recently the Rockingham County Landfill flared off the available methane gas. With the 2G CHP plant, LFG gas will be used for the generation of Electricity and Thermal Energy.

Application

2G Energy Inc. included a fully containerized 2G avus 800 with fully integrated MWM gas engine having an Electrical Power rating of 800 ekW/h, and a Thermal Power capacity of 921 kWh/th. A gas treatment system with cooler / dryer /dehumidification, and re-heating system, as well as the Siloxane filtration technology were also supplied. Raw LFG at the well outlet usually has high water vapor content (between 1.06 to 3.53 ounce per 35 ft³), depending on the ambient temperature. That's approx. 72,000 gallons of water per year. At lower temperatures, the water vapor can condense inside the gas pipeline leading to the CHP. This condensate in combination with Siloxane and / or H2S, can cause accelerated corrosion. Condensate in the intake section automatically reduces engine efficiency. It also reduces the effectiveness of gas filter systems. The 2G gas treatment system eliminates these problems. This 2G CHP module and all components are housed in a 40' fully sound attenuated container, reducing the noise down to <65 dbA. The generated electricity serves the entire Landfill and all its adjacent facilities and the remaining surplus power is exported and sold to the utility grid.



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