2G Energy Highlights the Role of Gas Blending Systems in Enhancing CHP Reliability

Runcorn, 03/07/2025 – 2G Energy, a global leader in high-efficiency Combined Heat and Power (CHP) systems, is highlighting the importance of its gas blending system in supporting reliable CHP performance, particularly at sites that rely on lean or fluctuating gas sources such as biogas from sewage, food waste, or agricultural feedstocks.

Supporting Efficiency in Real-World Conditions

CHP systems operating on biogas or similar renewable gases often face challenges due to variable fuel availability or declining methane content. The 2G gas blending system enables operators to maintain full-rated output by supplementing biogas with natural gas, ensuring continuity of power and heat supply, even when gas yield drops.

This approach is particularly valuable at anaerobic digestion (AD) and wastewater treatment plants, where gas volumes can fluctuate with feedstock, weather, or process changes. By blending in natural gas as needed, operators can avoid engine shutdowns and reduce strain on digester systems, which require consistent heat input to sustain biogas production.

Recent examples include:

A large-scale AD facility that experienced declining gas volumes during periods of reduced feedstock availability. Gas blending allowed the CHP system to maintain rated output and ensured continued heat supply to the digesters, supporting biogas production and plant stability.

An abattoir-based energy installation is currently under development, where seasonal process variation can impact gas flow. Gas blending ensures reliable energy generation year-round, even under inconsistent biogas conditions.

A municipal wastewater treatment site equipped with a dual gas train, allowing its CHP system to switch between biogas and natural gas automatically. When biogas from the plant is insufficient, natural gas seamlessly fills the gap, maintaining system output and ensuring uninterrupted thermal energy supply to support critical operations

“Our customers are focused on reliability, efficiency, and return on investment, regardless of the gas source available to them,” said *Mark Holtmann*, Managing Director at 2G Energy Ltd. “The gas blending system gives them the flexibility to overcome gas quality or supply issues, reduce operational risk, and ensure a consistent energy output without overinvesting in storage or infrastructure.”

Maintaining CHP Performance with Low Gas Quality

In some cases, sites have access to sufficient gas volume, but it lacks the energy content needed to support full engine performance. This is particularly common with end-of-life landfill sites, industrial process gas, or aged AD operations, where methane levels are lower than required.

The gas blending system compensates for this by enriching the fuel mix to maintain stable CHP output and emissions compliance, supporting continued operation in circumstances that might otherwise require engine derating or shutdown.

Important Considerations for Incentivised Sites

For operators receiving incentives such as the Renewable Heat Incentive (RHI) or Feed-in Tariffs (FIT), it's important to note that introducing natural gas into the fuel mix may affect eligibility or compliance. Blending decisions should be assessed carefully on a site-by-site basis to balance operational needs with commercial considerations.

Enabling Flexibility, Reducing Infrastructure Requirements

By maintaining consistent CHP performance from variable or low-quality gas sources, the 2G gas blending system reduces reliance on large gas storage volumes and supports more compact, efficient plant designs. This improves operational flexibility, reduces risk of downtime, and helps sites better align output with heat and power demand, even during periods of gas supply disruption.

About 2G Energy Ltd

2G Energy Ltd is the UK subsidiary of 2G Energy AG, Europe's leading manufacturer of combined heat and power (CHP) systems. From its base in Runcorn, Cheshire, 2G Energy Ltd supports the UK market with industry-leading solutions for decentralised energy generation.

2G's CHP systems range from 20kW to 2,500kW and operate on a variety of fuels including natural gas, biogas, biomethane, sewage gas, landfill gas, and hydrogen. The UK team provides full end-to-end support, from design and installation to service and digital performance management, ensuring efficiency, reliability, and long-term value.

Founded in Germany in 1995, 2G Energy AG has commissioned over 10,000 systems in 55 countries and employs more than 950 staff globally. With a strong focus on innovation and sustainability, 2G continues to drive forward the energy transition with scalable, smart, and future-ready CHP technology.

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