



Pentair Helps Customers Achieve UK Sustainability Criteria with Smart, Sustainable Biogas Technology

Six new biogas upgrading plants produce enough heat to offset approximately 30,000 homes

LONDON, United Kingdom – May 14, 2019 – As a leader in smart and sustainable solutions, Pentair has recently contracted six new biogas upgrading systems which will be delivered to UK-based customers in 2019. The six new plants are capable of upgrading 7,120 normal meter cubed per hours (Nm³/biogas/h), producing 44 megawatt-hours (MW/h) of renewable thermal energy. This represents enough heat to offset approximately 30,000 homes per year, thereby significantly de-carbonising the UK Natural Gas Grid.

Driven by the UK Sustainability Criteria* to use more organic waste streams instead of energy crops, manufacturers have shifted to utilizing food and agricultural waste feedstocks. However, this often produces high levels of volatile organic compounds (VOCs), such as terpenes or ketones, which must be removed—resulting in higher operating costs and possible performance issues.

To help address this issue, Pentair has introduced its new BioSENSE gas analyser. In simple terms, biogas properties such as methane (CH₄), carbon dioxide (CO₂), hydrogen sulfide (H₂S) and VOCs of different feedstocks can vary greatly. Pentair's new smart BioSENSE technology constantly monitors the incoming raw biogas and identifies which feedstocks generate high levels of VOC contamination. This enables the operator to evaluate each feedstock's true costs, including the VOC removal costs, in light of its bio-methane production potential.

Additionally, the BioSENSE instrument alerts operators when the activated carbon filters have reached saturation points for VOCs including but not limited to terpene, ketone, ammonia (NH₃) and H₂S. Preventing contamination break through is not only essential to the protection of the gas separation membranes, it also helps protect the gas-to-grid monitoring unit. Contaminants such as ketones and terpenes have negative influences on the performance of the gas chromatography (GC) columns of the gas-to-grid monitoring unit.

Renewable CO₂ Can Help Solve the CO₂ Crisis

Over the last two summers, CO₂ shortages have created severe problems for several food and beverage companies who rely on CO₂ in their manufacturing processes, resulting with some companies having to close for a period.

"Renewable CO₂ from bio-methane plants offers a viable solution to the recent shortages as it can be purified to food-grade quality," states David Hynes UK Sales Manager, Pentair. "Seven of our existing installations already have CO₂ recovery systems incorporated into their plants, with some of these customers already selling their food-grade CO₂ to the beverage industry."

Hynes continued: "CO₂ recovery has been one of Pentair's core businesses for over 60 years. The quality and performance of our systems are amongst the highest standard available in the market. This experience combined with our UK-based service department, ensures our customers achieve very high plant availability with optimised performance."

* <https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-sustainability-criteria>

ABOUT PENTAIR

Pentair is a leader in water and sustainable gas solutions. At Pentair, we believe the health of our world depends on reliable access to clean water. We deliver a comprehensive range of smart, sustainable water solutions to homes, business and industry around the world. Our industry leading and proven portfolio of solutions enables our customers to access clean, safe water. Whether it's improving, moving or enjoying water, we help manage the world's most precious resource. Smart, Sustainable Water Solutions. For Life.

Pentair had revenue in 2018 of \$3 billion, and trades under the ticker symbol PNR. With approximately 130 locations in 34 countries and 10,000 employees, we believe that the future of water depends on us. To learn more, visit [Pentair.com](https://www.pentair.com).

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