



QUALVISTA

SMART BIOGAS MONITORING

Advantages of online measurements of biogas contaminants

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www.qualvista.com

Helping to
convert biogas
into renewable
energy

The Qualvista Biogas Monitoring Solution and Service

Siloxane damages gas engines.

Continuous monitoring of Siloxane and other key gas components – CH₄, CO₂, H₂S, Limonene and O₂ - has become a necessity in running biogas plants successfully and with minimal interruptions – at the same time ensuring quality compliance with users' requirements.

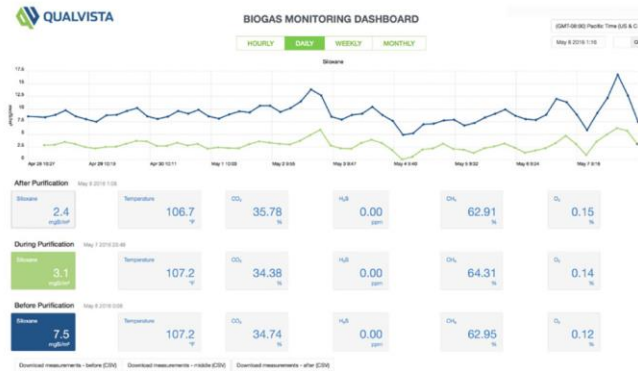
The main application areas are landfill and wastewater based biogas production plants and biogas upgrading, injection and traffic fuel operations.

The Qualvista smart monitoring solution helps to optimize the quality of biogas, to cut costs by protecting the energy production equipment and to ensure the produced biogas is in compliance with regulatory or customer requirements.

The Qualvista solution is based on a patented system and provided as a managed turnkey service solution – smoothly and cost-efficiently

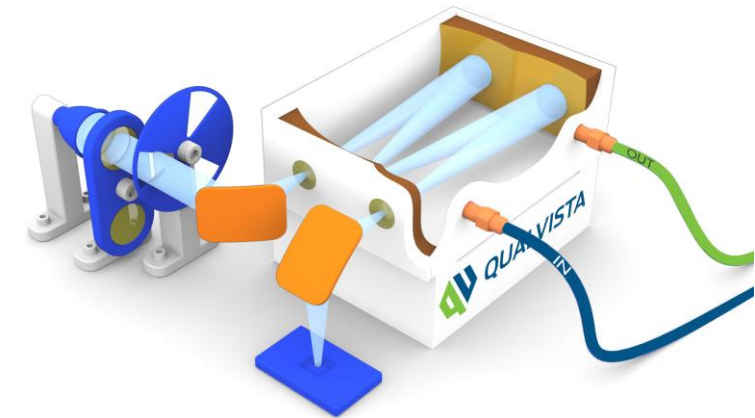
Qualvista Biogas Monitor - Summary

- Continuous process monitoring
- Up to three measuring points for siloxanes, CH₄, CO₂, H₂S, Limonene and O₂
- Robust, accurate and reliable
- Includes a temperature-stabilized cabinet for indoor and outdoor use.

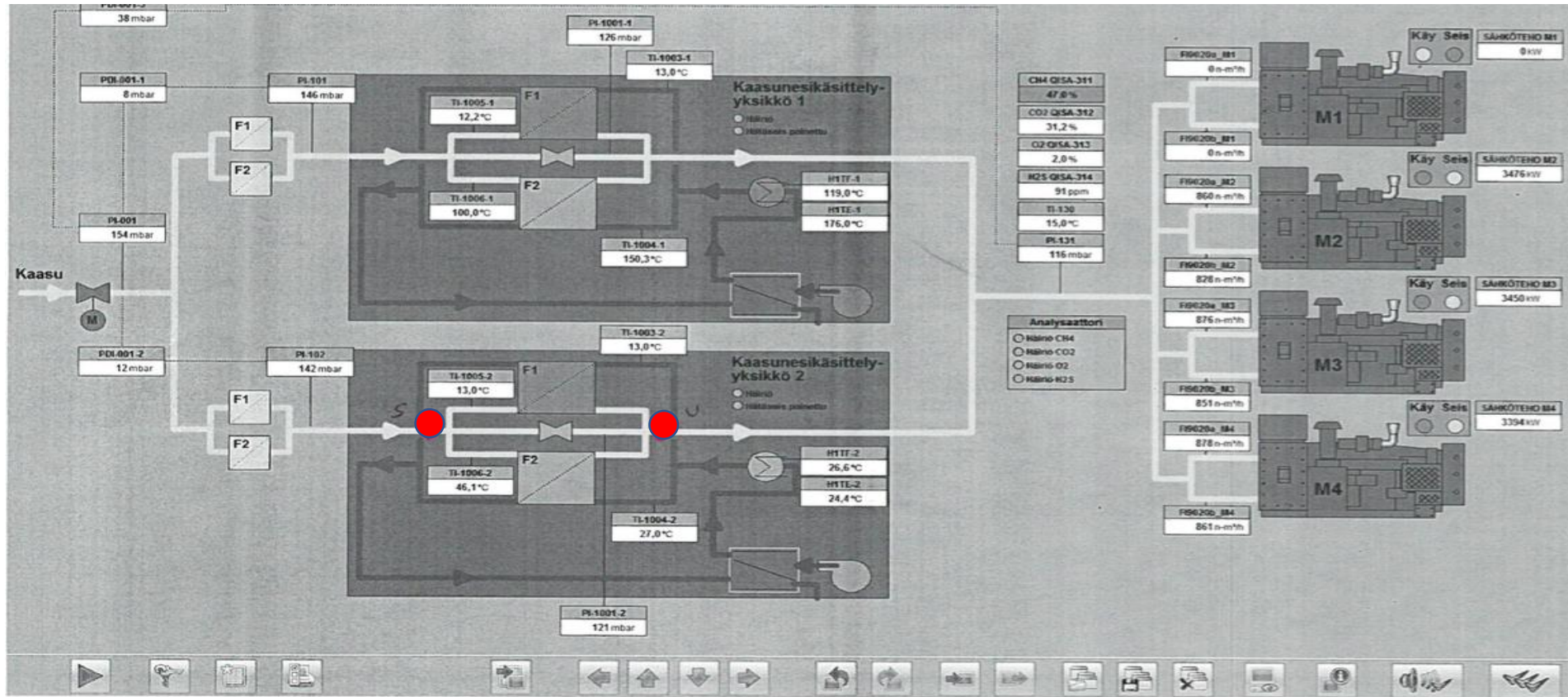


- Online reporting tool with customizable view of the biogas measurement information
- Siloxane information can be reported in any required unit(s), e.g. mgSi/m³, ppm or ppb
- Online reporting information can be accessed anywhere with standard PC and mobile devices
- The data can also be downloaded in csv format to be used in e.g. spreadsheet or process information and control system.

- Fully automated measurements
- Automatic system calibration
- Patented measuring system based on the NDIR (Nondispersive Infrared) method
- Sensitive system with detection limit of 0.1 mgSi/m³ for total siloxane level
- New measurement data available every 10 to 40 minutes.

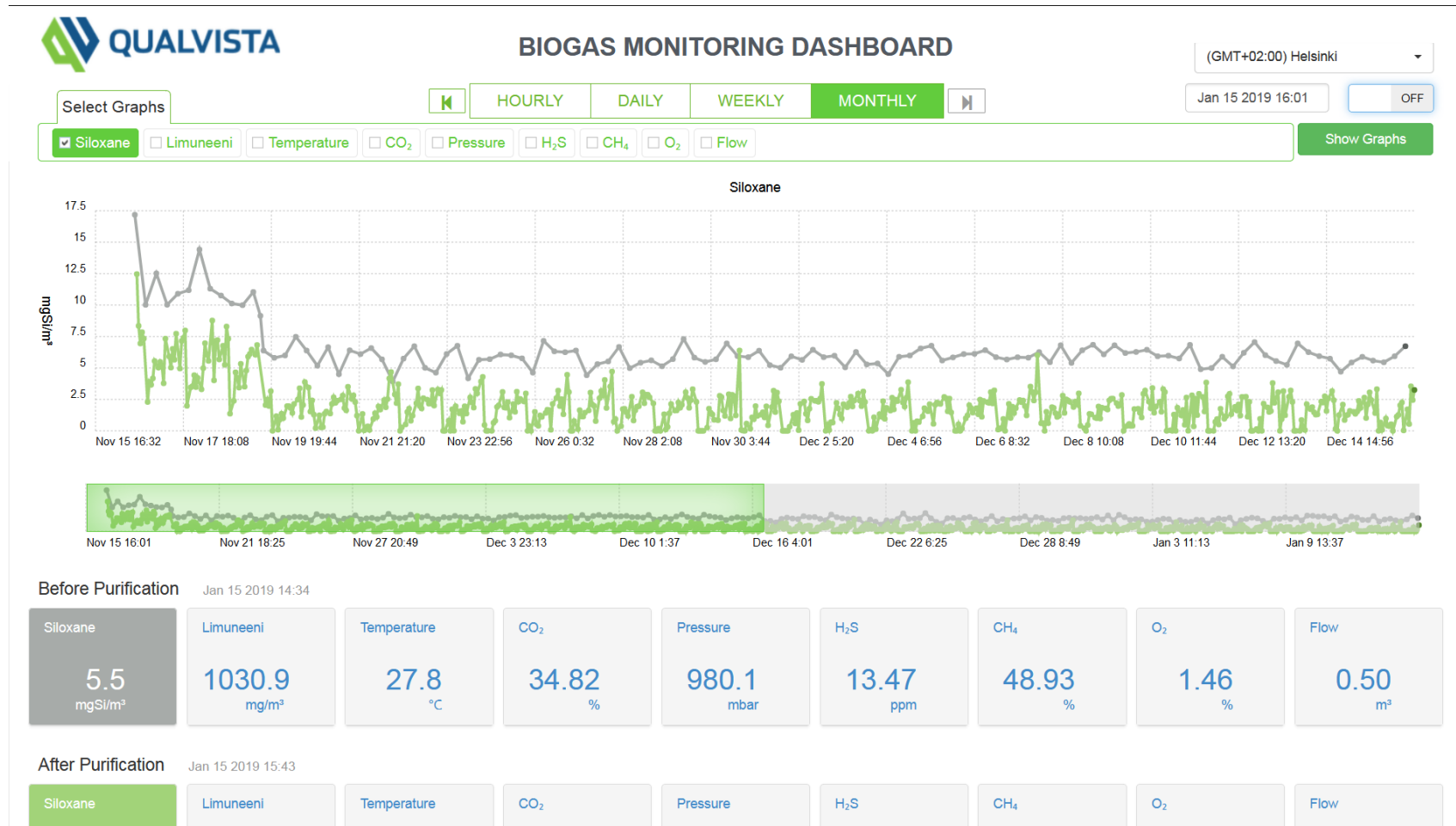


Biogas Monitor Example process



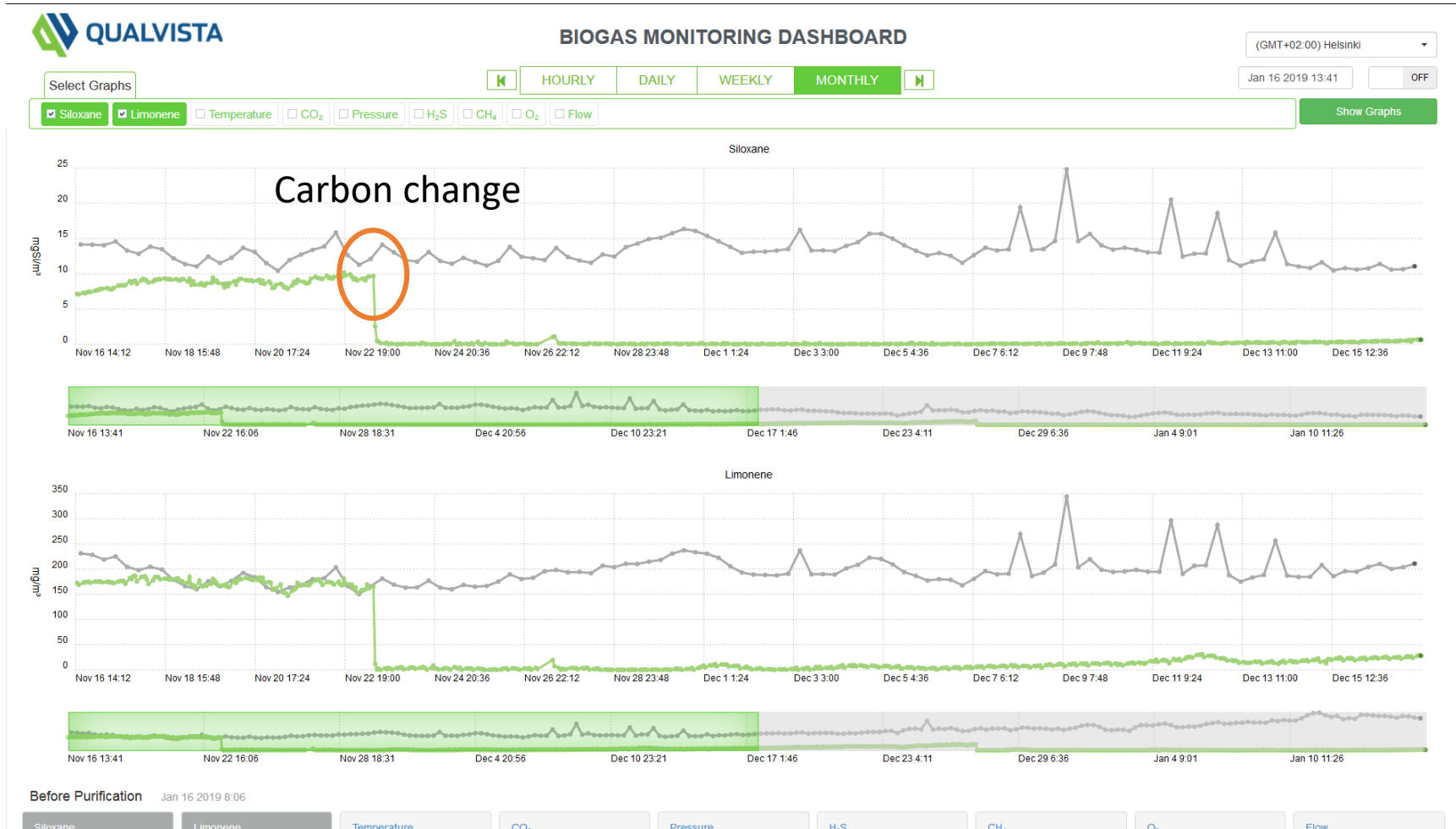
Qualvista Biogas Monitor monitoring view 1.

Regenerative filter

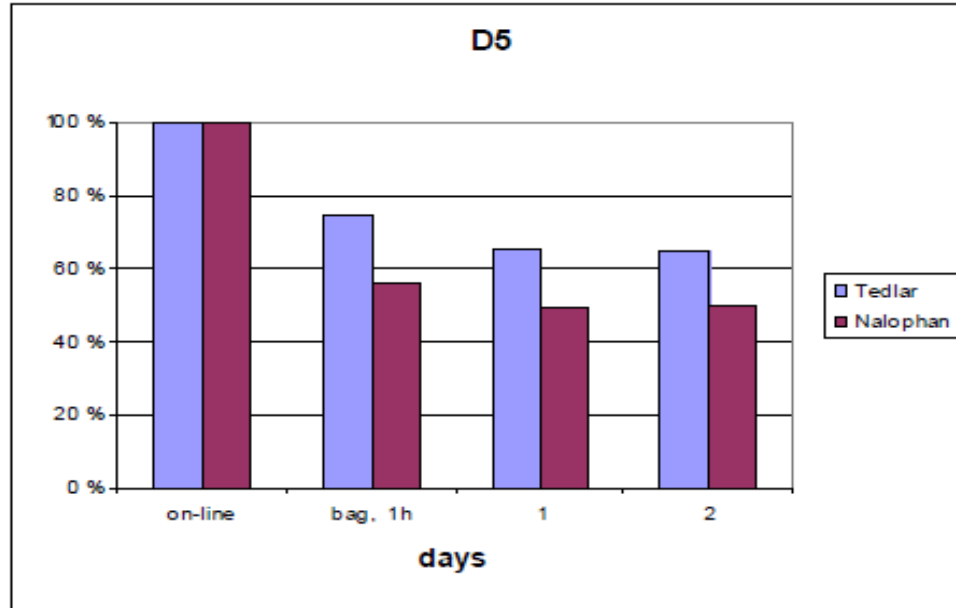


Qualvista Biogas Monitor monitoring view 2.

Carbon filtering



Biogas sampling versus online measurement



The preservation of siloxanes in gas sample bag as concentration.
(VTT research notes 2496, 2009)

Samples (siloxanes) suffer from ageing in bags. Other method e.g. adsorbents are better, but more challenging to collect.
No continuous results, no process controlling advantage.



No sample ageing with online measurement.
No sampling errors.
Continuous view of how process behaves.

Qualvista solution benefits

- *Extended lifecycle of gas engines – siloxane in engines may cause millions of euros / dollars worth of damage*
- *Fewer breakdowns and reduced downtime in production*
- *Optimized maintenance intervals – savings from rightly timed change or regeneration of siloxane filters*
- *Comprehensive gas content info*
- *Gas quality control*
- *Regulatory compliance*
- *Continuous monitoring*
- *Information for process optimization*
- *Information as a service – available through an informative online web service*



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