

# IoT supporting biomethane development

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# Why do we need IoT for biomethane ? Main usecases

## **In biomethane injection points, detailed measures**

For biomethane producers payment – on a daily basis : volume, normalized volume

For network general exploitation – on a minute basis : technical data, calorific power, gas quality, temperature, pressure.

## **On the network, multiple measures on the calorific power of the gas**

The calorific power of biomethane is slightly lower than natural gas. Customer close to biomethane injection points could be over billed. By combining calorific power network measurements + residential daily consumption + the industrial ¼ hour consumption, and dynamic gas simulation, we can provide more accurate % of biomethane for every customer. We can bill, and communicate !

## **For industrial customers, know and anticipate gas quality to secure manufacturing processes**

Some industrial processes are very sensitive to gas quality : glass industry, ceramics, metal industry, cogeneration. These customers have to know exact gas quality in advance, to be able to set their boilers.

## **For biomethane providers, forecast injection capacity to manage production**

From detailed consumption data, we can forecast the need in biomethane injection. Biomethane producers can then manage their production and injection better : increase production, start reverse flow, etc.

## **For network operators, prioritise biomethane in the network**

From detailed consumption data, we can forecast the need in gas for the future periods. Gas network operator can then reduce injection pressure of the natural gas injection points, to prioritize the injection of biomethane. The more precise the consumption data are, the more precise the forecast is, the better biomethane prioritisation can be done.

# Where are we now in IoT for biomethane ?

## On biomethane injection points

100% daily smart metering system for billing : volume

80% TEX BIO system for O&M data : technical data, calorific power, gas quality, temperature, pressure > 100% 2021

Debit measurement for reverse flow > Project in design



## On the network

Measurement of the calorific power of gas > Project in design

Software upgrade for dynamic calculation on the network > Project in design



## In industrial customers plants

100% industrial customers equipped with 1/4 hour smart metering system



## In residential customers premisses

60% residential customers equipped with daily smart metering system > 90% in 2022



# GRDF Global Smart Gas Grid

