

GERG (the European Gas Research Group) completes first stage of flagship biomethane project for CEN and the European Commission.

GERG is pleased to announce the successful completion of the first phase of the European Commission funded project on removing barriers to biomethane injection in the natural gas grid and use as a vehicle fuel. The final report was recently accepted by both CEN and the European Commission, who provided €1M of support¹ for the project co-funded by European gas network operators and delivered by GERG. GERG is currently in negotiation with the European Commission for initiation of the next stage of the work, which should begin in October.

There is huge potential for biomethane transported in the gas network to play a significant part in decarbonisation of our energy system. As a substitute for natural gas, it allows use of existing infrastructure, while complementing intermittent renewable energy sources. However, some contaminants, inherent to the biomethane production processes, can be present in biomethane at a trace level. Depending on their concentration, these trace components (not present in conventional natural gas) can interact with the gas chain infrastructure, engines and boilers.

Two standards regarding biomethane have been published:

- EN 16723-1: specifications for biomethane for injection in the natural gas network;
- EN 16723-2: automotive fuels specification.

Limit concentration values are however lacking real world data. This can be a barrier for the development of biomethane in Europe as limits can be over prescriptive.

For this reason, GERG launched a project in 2016 with the aim to identify, for different trace level compounds, the associated acceptable threshold for gas appliances and infrastructure.

In parallel, CEN (through Technical Committee TC408², and in consultation with GERG) identified priorities that would need to be addressed to remove the barriers. These form the basis of the European Commission supported programme which has just completed its first phase. Apart from €1M from DG Energy through CEN, funding was also committed from Engie, Gasunie, the UK Gas Distribution Networks, PGNiG, Danish Gas Technology Centre, Innogy, Snam, Terega and GERG. The broad reach of GERG ensures the provision of real biomethane and infrastructure data from across Europe, and enables robust input to the standardisation process.

The project so far has addressed the impact of:

1. siloxanes on heavy duty engines and industrial boilers
2. sulphur on catalytic converters and performance of engines
3. oxygen on underground storage
4. biomethane components on health

GERG worked closely with a Supervisory Board of CEN TC408 technical experts and other stakeholders to ensure that the outputs matched the needs of the standardisation process.

Recommendations from this part of the work have been taken forward to the next stage, where more detailed experimental programmes will be carried out in order to allow the setting of acceptable threshold levels in the revision of the standards. Importantly, the work did not find any health-related issues of concern, so priority 4 has been concluded.

A summary report of the main findings can be obtained from GERG.

¹ GERG acknowledges support from the European Commission under specific agreement SA/CEN/ENERGY/475/2017-7.

² CEN/TC 408 technical body for natural gas and biomethane for use in transport and biomethane for injection in the natural gas grid.