GERG:
The European Gas Research Group

Joining Forces for a Sustainable Energy Future

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THE EUROPEAN GAS RESEARCH GROUP



ENSTOG Gas Quality Workshop 2026

05/11/2026

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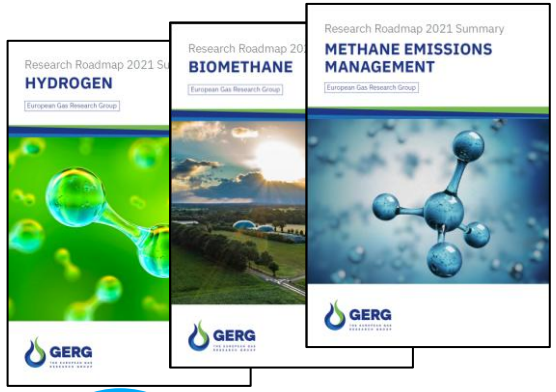
Our members

evida, DNV, enagas, ENERGINET, ENGIE, Gas Networks Ireland, GASSCO, gasunie, GAZ, GRDF, naTran, IG Italgas, kiwa, national gas, nedgia, OGE, PGNiG, SGN, snam, storengy, Synergrid, TERĒGA, UA Transmission System Operator

Associate members

AMBER, Bureau Veritas, CETIM, DBI GTI, EBA, ENSGTI, Hanzehogeschool Groningen, Hydrogen Europe, eurogas, TNO, NPL, RISE, uni Research, Ulster University, VSL

- Collaborative R&D group for gas with strong industry focus
- Over 30 members - gas companies, research centres and universities
- Links to Brussels Institutions and External Organisations
- Young Researchers Event – Awards supporting the best students





PRCI Pipeline Research Council International, EPRG, GIRA, IGEM, IGU, Clean Hydrogen Partnership, cen, EURAMET, enno, entsog, Gas Infrastructure Europe, marcogaz

EC-funded Projects

DEO • CONRAD • DIGBUILD • VOGUE • MICROMAP • PRESENSE • LABNET • GIGA • COMBO • NATURALHY • ORFEUS • INTEG-RISK • GASQUAL• LNG DENSITOMETER • ELEGANCY • THYGA • Biomethane Barriers (BioStar2C) • H2PNR• Met4H2• MetCCUS• BiometCAP • OPTHYCS • THOTH2 • MetHyTrucks • SHIMMER • CANDHy • PilgrHYm • NHyRA • COREu • H2FlowTrace • MaritimeMET • SmartGasNet • CryoMet • MetNH3Energy • HyQualNet • Metronome

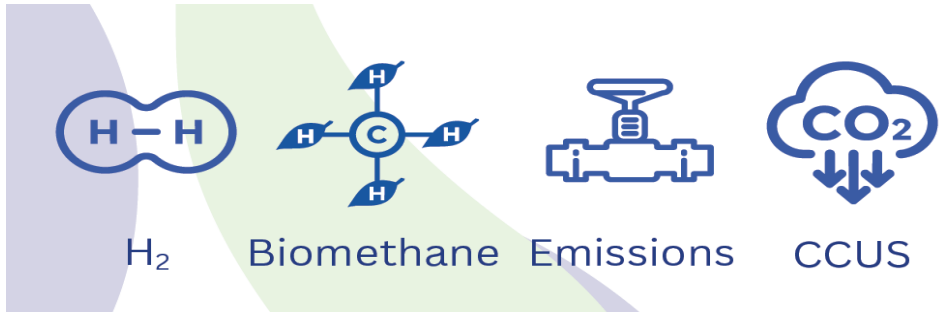
GERG purpose and mission

Our purpose is to develop and promote cooperative research, development and innovation across the gaseous fuels value chain.

- Establish RD&I projects
- Promote more effective cooperation
- Undertake any scientific activity regarding RD&I and information exchange issues
- Promote the role of gaseous energy in net-zero transition



Addressing industry research priorities: Expert-led GERG Working Groups



Brainstorming phase

Gathering of insights from GERG industry professionals and experts.

→

Definition of research topics

Scoping of research knowledge gaps and evaluation of criticality.

→

Production of the roadmap

Summary of prioritisation results and recommendations for the most prominent research topics.

→

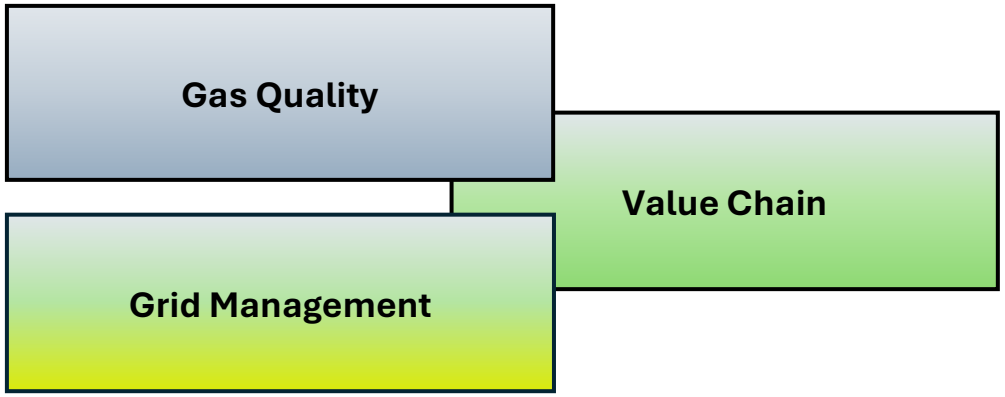
Project creation in the GERG WGs:

* Biomethane
* CCUS
* Methane Emissions *
Hydrogen
* Others (e.g. LNG)

- Collaborative process
- Information exchange
- Launching research projects

- Yearly prioritisation review
- Cross-cutting subjects (e.g. e-methane, e-fuels)
- Pre-normative research (PNR), industry needs

Biomethane Quality in GERG Biomethane Research Roadmap



Section	Categories
Gas Quality	Gas Composition
	Impact of Siloxanes
	Sulfur and Terpenes
	Odorisation & Deodorisation
	Analysers & Meters
	Energy Allocation

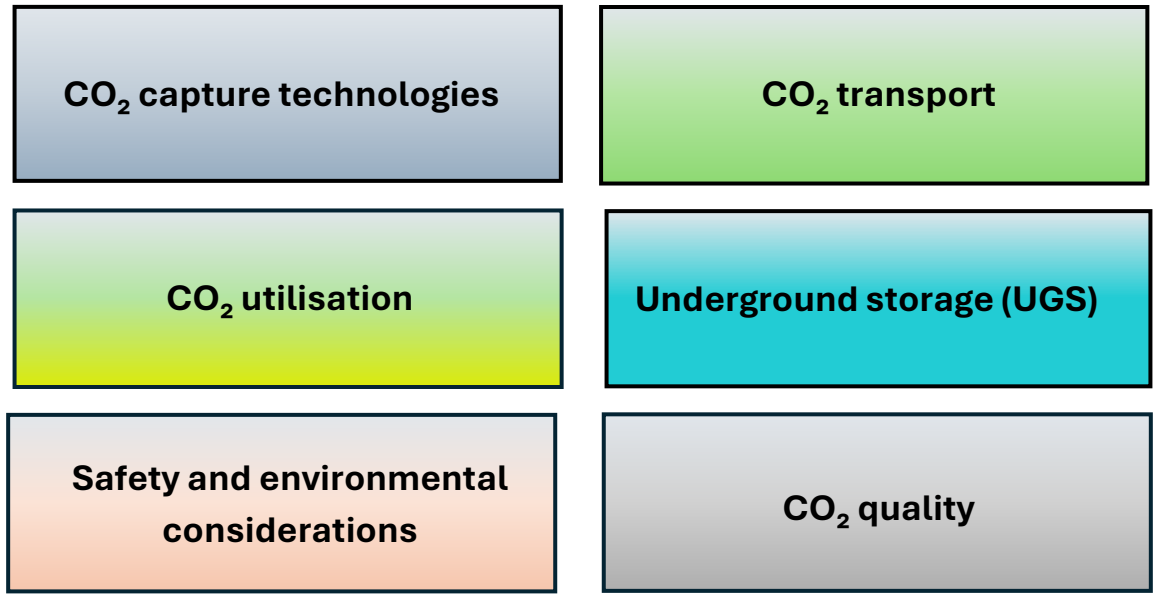
The gas quality section of the roadmap includes over 30 research topics identified. For example:

- Define requirements the gas operators need to check the gas quality (trace components, composition, CV)
- Perform a benchmark of existing and under development analysers
- Define best practices for measuring trace components
- Develop protocols to verify analysers performance against offline methods
- Define a sulfur content limit and study elemental sulfur formation

Other topics with knowledge gaps identified:

- Study the possible interaction between several components
- Impact on process parameters on VOC composition
- Analysis of Argon
- Impact of siloxane on porous UGS rocks

CO2 Quality in GERG CCUS Research Roadmap



CO_2 Quality	CO_2 quality, main & trace components
	Meters, analysers & sensors
	Other metrology needs

Examples of research topics identified within the gas quality section:

- Identify common purification methods for compliance with CO2 quality specifications.
- Identify common CO2 quality specifications for European CO2 networks and other applications
- Study methods for online measurement of CO_2 quality such as real-time impurity sensors.
- Develop specific real-time sensors for dense-phase transport in LCO2.
- Develop equations of state for CO_2 mixtures to model phase behavior in transport/storage systems

Hydrogen Quality in GERG H2 Research Roadmap

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Supply Vectors

Transport & Distribution

Hydrogen Storage

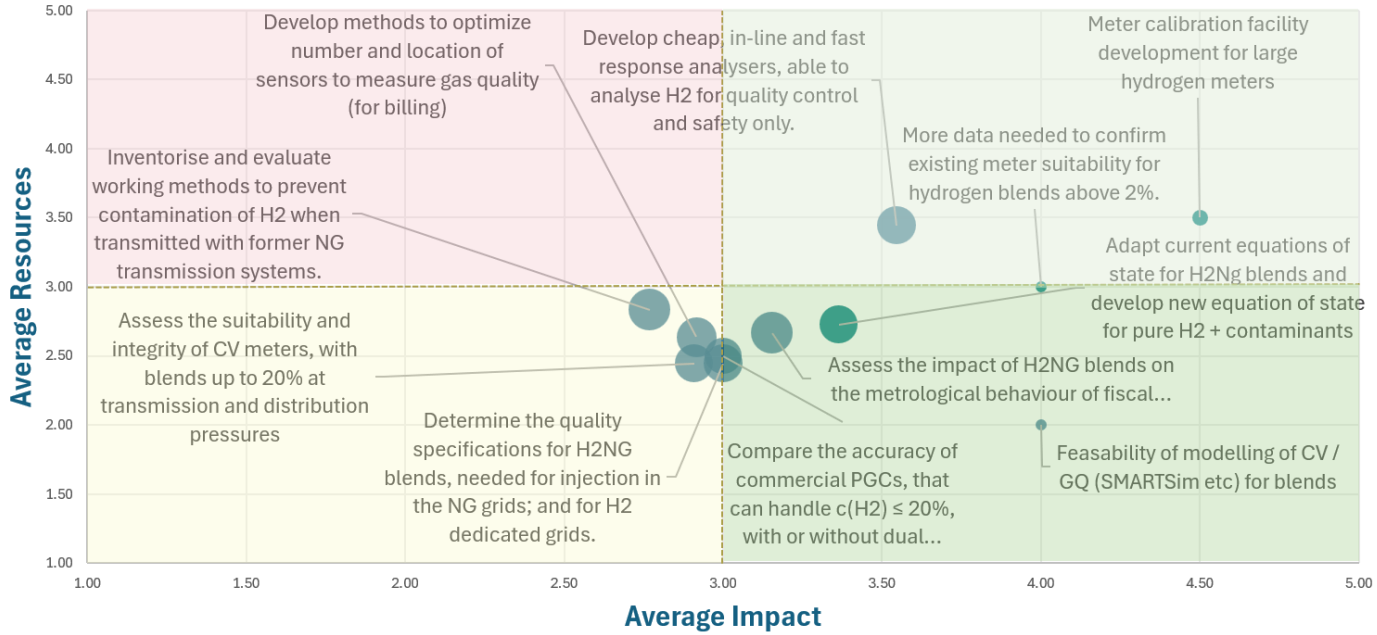
End-Use

Cross cutting

Within the cross-cutting section of the roadmap, gas quality and metering is a key research category, as well as purification technologies.

Examples of research topics related to gas quality and metering (**prioritisation matrix**):

Research Topics **5.1 Gas quality, metering & metrology** (Cross-Cutting)



Gas Quality in recent European research projects

Some findings from recently finished projects (in 2026):

Biostar2C: ***Biomethane trace components and their potential impact on the European gas industry***

- Final review meeting with project officer over a month ago
- Biostar2c concludes the CEN Biomethane multi-phase project, to support CEN TC408, EN 16723 revision
- Delivery of all technical data to CEN
- Findings on:
  - Siloxane on industrial boilers
  - Sulphur on natural gas vehicles
  - Oxygen on underground gas storage (UGS) and impact of corrosive compounds
  - Biomethane composition database

SHIMMER: ***Safe Hydrogen Injection Modelling and Management for European gas network Resilience***

Deliverables available on the website: Link

Relevant deliverables on gas quality:

- D4.7: Gas quality measurement technologies for hydrogen injection → link
- D4.4 – Open-source fluid-dynamic model with gas quality tracking (handbook) → link

Upcoming presentation:
How gas quality parameters will impact H2 admissibility: Shimmer project results
WP4 TNO | Ryvo Octaviano, Senior Scientist Green Transition

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GERG future projects - biomethane

Biomethane-Related Gas Quality Deviations and Cost-Effective Specification Setting

The objective of this study is to identify and assess the gas quality components for which biomethane deviates from current (natural) gas specifications and to determine which of these truly differentiate biomethane from conventional natural gas and may require subsequent measures in the natural gas chain.

Project to start in Q4 2026, currently finalising agreement with following financing partners:

gasunie

national gas

GRDF
GAZ RÉSEAU DISTRIBUTION FRANCE

RWE

Shell Low Carbon Solutions
Biogas

Gas Networks Ireland

storengy

contact@gerg.eu for interest to join

GERG future projects - biomethane

Grid Management Balancing Biomethane Networks

The main objective of this project is to investigate and compare operational practices, technical measures, and associated challenges related to biomethane injection into gas grids across a broad range of European Distribution System Operators (DSOs) and selected Transmission System Operators (TSOs).

A particular focus is placed on scenarios where multiple biomethane producers are connected to the same grid, which introduces additional operational complexity.

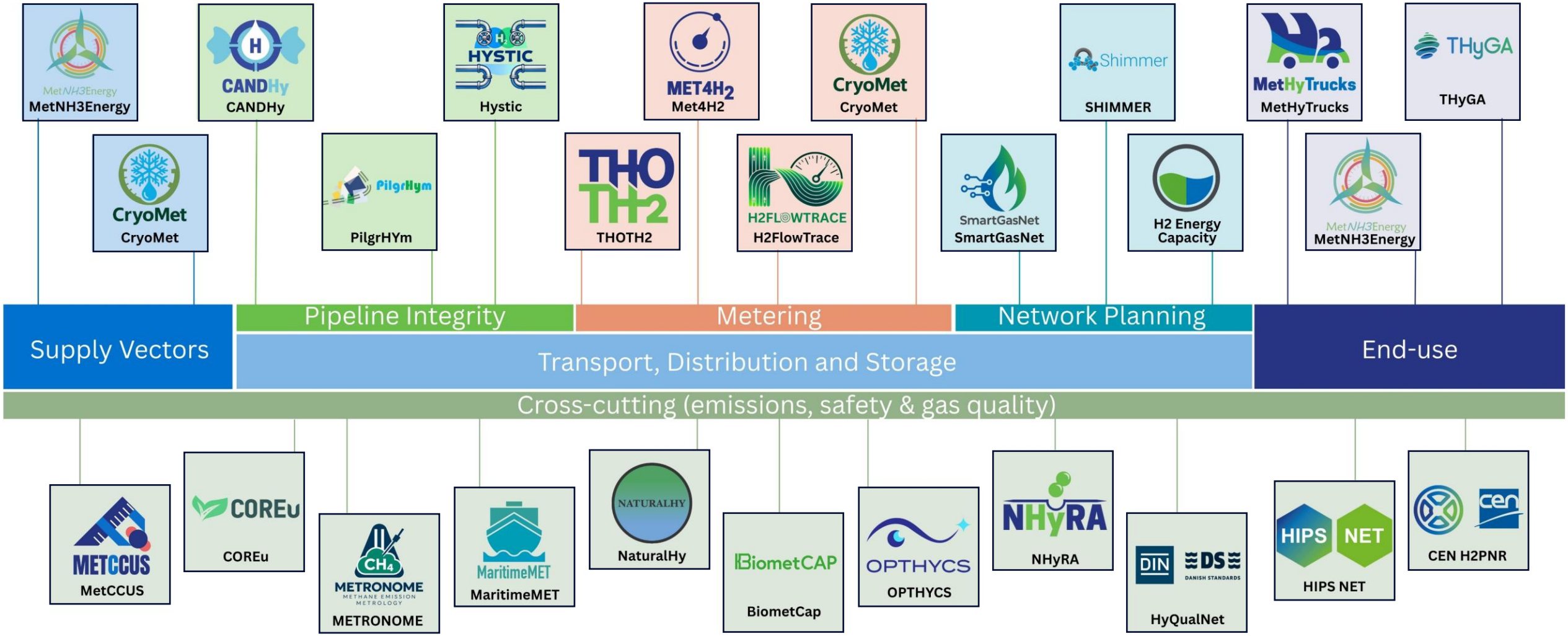
The results of this investigation will serve as a basis for developing future operational guidelines for biomethane injection and grid balancing.

Project to start in Q4 2026, currently finalising agreement with following partners:

Delivered by:

contact@gerg.eu for interest to join

Mapping of existing GERG collaborations to the roadmap



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Thank you for your attention!

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