



A
MARCOGAZ
and **GERG**
event

EGATEC2022

The 5th European Gas Technology Conference

Hosted by
DVGW e.V.
supported by
ERIG

Hamburg,
Germany
14–15 June
2022



www.egatec-conference.com | [#EGATEC22](https://twitter.com/EGATEC22)

ORGANISERS



HOST



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Conference Programme – EGATEC 2022

Dear EGATEC Community,

Following the successful fourth edition of the European Gas Technology Conference in Groningen, the Netherlands in 2019 and a slight delay due to Covid, we are more than happy to announce the 5th EGATEC in 2022.

The gas industry is changing more than ever before: climate change debates, new strategies connected with the use of hydrogen and continuing technological development are bringing a considerable change to the market. Lighthouse projects which are closely observed throughout the world, such as HEAVENN or HyDeploy, highlight the importance of intensive industry exchange at the European level.

For the EGATEC conference, the leading European gas technology and research associations join forces to shape the future of gas technology together with representatives of the gas industry. Let us demonstrate our commitment to creating a greener Europe through gas innovation!



Thea Larsen
President
MARCOGAZ



Dr Murès Zarea
President
GERG



Prof. Dr Gerald Linke
CEO
DVGW



Additional Side Events at EGATEC 2022



Get Together at Haus der Patriotischen Gesellschaft on the day of arrival (Monday, 13 June 2022) with welcome drinks and snacks



Scientific Poster Exhibition with poster presentations by GERG Young Researchers on day 1 and a poster breakfast on day 2



Evening Event at Hamburg Del Mar on the first conference day (14 June 2022) with a barbecue dinner and drinks



Introduction of new MARCOGAZ president and Award Ceremony of the GERG Young Researchers' Awards during evening event

ORGANISERS

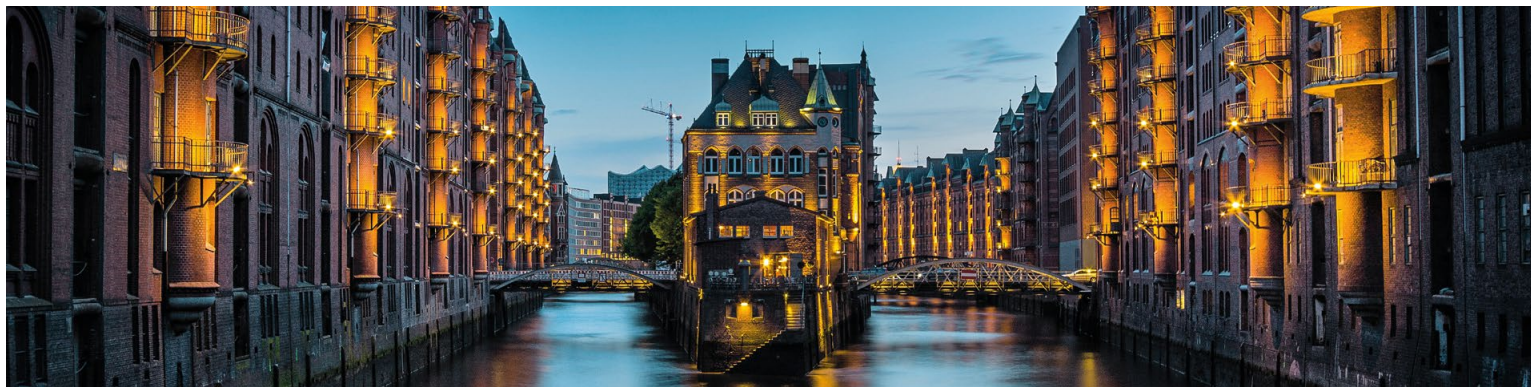


HOST



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"EGATEC is at the cutting edge of the technical changes happening in our industry today. Now more than ever we need to understand these changes and the roadmap to a decarbonised European gas industry."



Liam Nolan
Chairman of the EGATEC 2022 Programme Committee
Vice President, MARCOGAZ, Head of Technical Development & Technical Training, Gas Networks Ireland

DAY 1: 14 June 2022

► 9.15 am

Conference Opening



Thea Larsen
President, MARCOGAZ



Dr Murès Zarea
President, GERG



Prof. Dr Gerald Linke
CEO, DVGW and President, ERIG

Role of Gas in the Future Energy System

► 9.25 am

Security of Supply and Storage of Energy with Gas – Repower the EU

Alejandro Ulzurrun
Head of Unit for Energy Security and Safety, European Commission

► 9.45 am

Discussion: Enabling Security of Supply and Storage of Energy with Gas

Moderation:



Torben Brabo
SVP, Energinet Gas TSO, President of GIE

Panellists:



Thea Larsen
President, MARCOGAZ



Prof. Dr Gerald Linke
CEO, DVGW



Dr Ludwig Möhring
CEO, Association of German Oil/Gas Producers and Geothermal Energy (BVEG)

Alejandro Ulzurrun
Head of Unit for Energy Security and Safety, European Commission



Dr Murès Zarea
President, GERG

► 10.30 am

Coffee Break

How Gas Can Become Carbon Neutral

Moderator:



Harmen Dekker
CEO, European Biogas Association (EBA)

11.00 am

Perspective for Biogas and SNG from Biomass



Dr. Walter Haslinger
CEO/CSO, BEST – Bioenergy and Sustainable Technologies GmbH

11.20 am

Hydrogen from Natural Gas – Technology Options

- Gas reforming with CCS – proven technology at scale
- Pyrolysis-based hydrogen production – emerging technology
- Supply chain perspectives and emissions intensity
- Examples from Equinor hydrogen projects



Dr. Jostein Pettersen
Senior Advisor Process Technology, Equinor ASA

11.40 am

Green Gas Supply for Germany & Europe – a Technology Neutral Approach

- Understanding the challenge – primary energy demand in Europe
- Sources for sustainable hydrogen & biogases
- Example Germany: Domestic production and import options for green gases
- Challenges to the power systems & how green gases can help



Dr. Christoph Gatzen
Director, Frontier Economics

12.00 pm

Reducing Methane Emissions – Contributions on MARCOGAZ and GERG Projects



Dr. Tobias van Almsick
Head of Competence Center Gas Quality, Open Grid Europe GmbH

12.20 pm

Options for Gas to Reduce Carbon Footprint



Andrea Stegheer, Vice President,
International Gas Union

12.40 pm

Q&A

12.50 pm

Reflections: The Need for Research and Development in the Gas Sector

Moderator:



Frank Gröschl
Head of Technology and Innovation Management, DVGW

Guests:



Antony Green
Hydrogen Director, National Grid,
Board Member of MARCOGAZ,
GERG Vice President



Dr. Frank Graf
Chairman of the Standing Committee
New Gases, MARCOGAZ

1.10 pm

Lunch Break with GERG Young Researchers' Poster Presentations

Moderator:



Alexandra Kostereva
Consultant, GERG

LNG & Hydrogen Infrastructure

Moderator:



Antony Green
Hydrogen Director, National Grid,
Board Member of MARCOGAZ,
GERG Vice President



► 2.10 pm

Future Requirements for LNG Terminals

- Technical aspects of LNG Terminals
- H₂-readiness of LNG Terminals
- Import of H₂ via LNG Terminals by use of other derivatives, e. g. NH₃



Björn Munko
Head of Gas Technologies and Energy Systems, DVGW

► 2.30 pm

H₂ Readiness of Existing Gas Infrastructure



Aurélie Carayol
Hydrogen Project Director, GRTgaz
Technical Division and Chairwoman of
the Hydrogen Task Force, MARCOGAZ



Gert Müller-Syring
Managing Director and Spokesman,
DBI Gas- und Umwelttechnik GmbH,
Chairman of the Hydrogen Task Force,
MARCOGAZ

► 2.50 pm

Distribution Grids: a Performing and Resilient Asset for the Development of H₂ in Territories

- The place of grids in the European and French H₂ strategy
- The ways GrDF wants to explore to value H₂
- R&D actions and experimentations taken by GrDF
- Projects followed by GrDF (power-to-methane, pyrolysis)



Thomas Muller
Directeur Hydrogène, Gaz Réseau
Distribution France (GrDF)

► 3.00 pm

Q&A

► 3.10 pm

10th GERG Young Researchers' Awards: Finalists' Pitches

Moderator:



Alexandra Kostereva
Consultant, GERG

► 4.10 pm

Networking Break with Roundtables

► 4.10 pm

Short Coffee Break

► 4.30 pm

**MARCOGAZ
General
Assembly**

► 6.30 pm

Evening Event with Introduction of New MARCOGAZ President and Award Ceremony



Evening Event Location:

Hamburg Del Mar
St. Pauli-Landungsbrücken
20359 Hamburg

Directions



Shuttle Service from CCH to Hamburg Del Mar
at 5:45 pm

Programme Evening Event

► 6.00 pm

Welcome Drinks

► 6.30 pm

Welcoming Words

► 6.40 pm

Announcement of new MARCOGAZ President & Award Ceremony of the 10th GERG Young Researchers' Awards

► 7.15 pm

Networking Evening with Summer BBQ & Flying Dessert

Shuttle Service from Hamburg Del Mar to CCH
at 10:30 pm and 12:00 am

DAY 2: 15 June 2022

► 9.00 am

Poster Breakfast with Presentations & Discussion

Moderator:



Christian Copin
Vice President, GERG, Scientific
Adviser, GRTgaz and Chairman of
the Poster Selection Committee

Decarbonisation

The Transition of the Danish Gas System Towards Net Zero and Self-sufficiency

Johannes Stoedter-Rosien, Danish Gas
Technology Centre

CO₂ Capture and Utilization Technologies to Establish a Sustainable and Closed Carbon Cycle

Erwin Reichel, WIVA P&G – Wasserstoffinitiative
Vorzeigeregion Austria Power & Gas

Hydrogen: Production & Optimisation

HY-Core: Upscaling AEM electrolysis

Simon Nießen, FH Münster – University
of Applied Sciences, Dpt. Energy, Building
Services, Environmental Engineering

Hytech – Development and Application of Dark Fermentation for Hydrogen Production

Juliana Rolf, FH Münster – University of
Applied Sciences, Dpt. Energy, Building
Services, Environmental Engineering

Hydrogen: Infrastructure

Purging of New and Existing Gas Distribution Pipelines when Using Hydrogen

Sander Lueb, Kiwa Technology

Gas Pressure Reducing Stations on Hydrogen

Sander van Woudenberg, Kiwa Technology

Injection of Hydrogen into High Pressure Natural Gas Grids: Investigation of the Impact on Materials and Equipment at Relevant Environment

Tobias Weide, European Research Institute for
Gas and Energy Innovation (ERIG)

Techno-economic Modelling of Hydrogen in Gas Grids

Tobias Weide, European Research Institute for
Gas and Energy Innovation (ERIG)

Hydrogen: Appliances

Investigation of the Integration of Hydrogen in Thermoprocessing Technology in the Project „TTgoesH2“

Sven Eckart, TU Bergakademie Freiberg, Heat
Technology and Thermodynamics

Hydrogen Tracking in the City Grid of Hamburg

Katharina Kohn, SmartSim GmbH

Upscaling of Green Hydrogen for Mobility and Industry

Manuela Prieler, WIVA P&G – Wasserstoff-
initiative Vorzeigeregion Austria Power & Gas

Hydrogen-enabled Sector Coupling for the Energy Transition at the Industrial Site in Linz, Austria

Erwin Reichel, WIVA P&G – Wasserstoff-
initiative Vorzeigeregion Austria Power & Gas

Hydrogen: Storage

Potential Assessment of Large-scale Storage and Use of Hydrogen in Elemental and Chemically Bonded Form

Manuela Prieler, WIVA P&G – Wasserstoff-
initiative Vorzeigeregion Austria Power & Gas

Underground Storage of Pure Electrolytic Hydrogen from Renewable Sources

Manuela Prieler, WIVA P&G – Wasserstoff-
initiative Vorzeigeregion Austria Power & Gas

Methane

Characterization by TD-GCxGC-TOFMS of Volatile Organic Impurities in Renewable Gases Produced by Pyrogasification and Methanation

Dr Sandy Bsaibes, GRTgaz- RICE (Research
and Innovation Center for Energy)

GERG Projects on Site Level Quantification of Methane Emissions. Phase 1: State of the Art

Cristina Lopez Lazaro, GRTgaz- RICE
(Research and Innovation Center for Energy)

Biomethane: Handling O₂ Cost-efficiently

Anette Münther Hansen, Danish Gas
Technology Centre

Future Gas Utilisation

Moderator:



Kris de Wit
Technical Manager, Belgian Gas
Association (Gas.be)

10.00 am

Gas Based Technologies and Innovative Concepts for Sector Integration

- Why buildings are a hard to decarbonise sector
- How a multi-technology approach, including those based on gas based, can improve sector integration and system efficiency
- Different gas based technologies and their specific benefits
- Readiness of these technologies to work with decarbonised gases



Veerle Beelaerts
Head of Technology, European
Heating Industry (EHI)

10.25 am

Opportunities for H₂ and Renewable Methane in the Mobility Sector

- Availability of renewable hydrogen and Methane
- Distribution and fueling infrastructure
- Regulatory framework



Dr Dietrich Gerstein
Senior Advisor, TEAM CONSULT
G.P.E. GmbH, Independent Expert
for Renewable Mobility, DVGW

10.50 am

Hydrogen Combustion in Gas Turbines and H₂-ready Power Plants

- Fundamentals of hydrogen combustion in gas turbines
- Status and roadmap of H₂ combustion
- H₂ readiness for GT-based power plants
- References and proof points



Erik Zindel
VP Generation Sales – Hydrogen,
Siemens Energy

11.15 am

Hydrogen Powered Heat Appliances

- Why is hydrogen so important in the heating market?
- What solutions does the heating industry already offer today?
- Why is there little room for selectivity?
- Why does the steel industry benefit from hydrogen in the heating market?



Alexander Dauensteiner
Product Line Owner Fuel Cells
& Co-ordinator Global Hydrogen
Activities, Viessmann Climate
Solutions SE

11.40 am

Q&A

11.55 am

Short Video Clip by Video Sponsor



12.00 pm

Lunch Break



Lighthouse Projects

Moderator:



Dr Patrick Cnubben
LNG & Hydrogen, New Energy
Coalition, ERIG Board of Directors

► 1.30 pm

Ready4H2

Peter Kristensen
Chief Strategy Officer, Evida and
Chairman of Ready4H2

► 1.50 pm

Hydrogen Valleys – HEAVENN



Dr Patrick Cnubben
LNG & Hydrogen, New Energy
Coalition, ERIG Board of Directors

► 2.10 pm

WESTKÜSTE100: Industrial Scale Green Hydrogen from the North German Wind Energy Region – Heide



Dr Marcel Goelden
WESTKÜSTE100 Coordination
& „Green Refinery“ Team of
Heide Refinery, „Reallabor der
Energiewende WESTKÜSTE100“

► 2.30 pm

The UK Hydrogen Pathway

- Overview of the UK H₂ strategy
- Overview of UK projects supporting the roll out of hydrogen for heat
- Next steps for the UK



Adam Madgett
Principal Hydrogen Consultant, DNV

► 2.50 pm

Q&A

► 3.00 pm

Coffee Break

Next Steps for the Gas Industry

► 3.30 pm

Sectore Coupling



Prof. Horst Steinmüller
Chairman Scientific Advisory Board,
ERIG

► 3.50 pm

Green Hydrogen Market Economy: Symbiosis of Economic Growth, Climate Protection and Security of Supply

- Expected global trade in green hydrogen exceeds EUR 2,000 billion
- Climate targets 2030 already generate a demand of more than 55 TWh/a for green hydrogen in 2030
- By 2050, annual sales for electrolyzers will grow to more than 300 billion EUR
- Green hydrogen makes renewable energies feedable and globally tradable



Werner Diwald
Chairman of the Board, German
Hydrogen and Fuel Cell Association
(DWV)

► 4.10 pm

Recommendation on the Evolution of the Regulatory Framework



Alix Chambris
Vice President Global Public Affairs
and Sustainability, Viessmann

► 4.30 pm

Summary



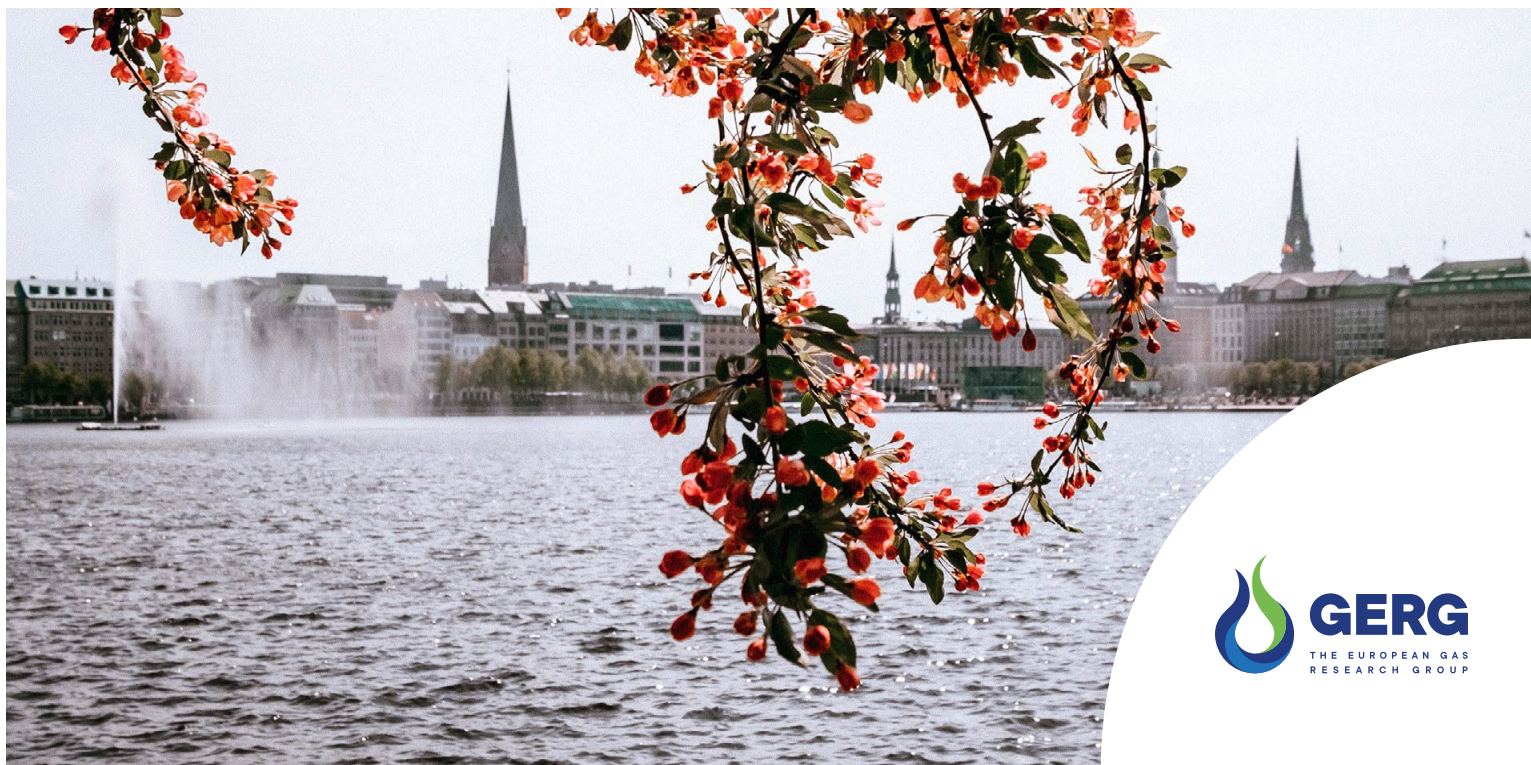
Liam Nolan
Vice President, MARCOGAZ, Head of
Technical Development & Technical
Training, Gas Networks Ireland,
Chairman of the EGATEC Programme
Committee



Dr Murès Zarea
President, GERG



Prof. Dr. Gerald Linke
CEO, DVGW and President, ERIG



The 10th GERG Young Researchers' Awards @ EGATEC 2022

EGATEC 2022 hosts the 10th edition of the GERG Young Researchers' Awards, supported by MARCOGAZ, DVGW and ERIG. The Awards recognise early career European researchers who have displayed a commitment to excellence in scientific research and in creating solutions for the future of Energy.

The Young Researchers' event promotes interaction between European Universities and Research Centres, on R&D topics related to gas in the energy system. The key objectives are to encourage a dialogue between industry experts and academia, raise awareness, and enhance cooperation between our different communities.

Where to Meet the Young Researchers:

Conference Day 1

- 1.10 pm @ Lunch Break: Poster Presentations
- 3.10 pm @ Main Stage: Finalists' Pitches
- 6.30 pm @ Evening Event: Award Ceremony



"Today, all professionals in the energy and gas sector are working in a fast-moving environment and setting themselves ambitious objectives to make our energy system cleaner and more efficient. Communication between R&D, technology providers, standardisation experts, decision makers, etc. is essential to reach those objectives; EGATEC provides this opportunity for meeting experts of the sector and sharing the most recent advances and innovations. We are also very excited to support the voice of the next generation of researchers through this platform, with the organisation of the GERG Young Researchers' Awards."



Alexandra Kostereva
Project Manager, GERG

**Good luck
from Team
EGATEC!**

And the 10 Finalists' Projects are ...

Acceleration of Gaseous Hydrocarbon/ Hydrogen Premixed Flames in Industrial Pipelines



Alexandre Auvray
GE Gas Power

Modelling Cryogenic Fluids for Application to LNG as Fuel in Small-scale Tanks



Nicolò Baiguini
Mines Paris

New Fundamental Equations of State for an Improved Description of Hydrogen-rich Mixtures with the Reference Model GERG-2008



Robin Beckmüller
Ruhr Universität Bochum

Improving Biogas Quality by CH₄/CO₂ Separation: the Pivotal Role of Sustainable Biomass-derived Activated Carbons



Gianluca Greco
Aragon Hydrogen Foundation

Technological and Economical Assessment on Hydrogen Energy Conversion Systems Based in Gas Turbines



Agata Horwacik
Aragon Hydrogen Foundation

Recovery and Purification of Seasonally Stored, High-pressure, Green Hydrogen from Depleted Natural Gas Reservoirs



Viktor Kalman
Technische Universität Wien

Intensified Methanation (SESaR) with Ni-Fe Based Catalysts for Biogas Upgrading



Víctor Daniel Mercader Plou,
University of Zaragoza

H₂ Sensor Based on Metal Oxide Semiconductor



Naguy Moussa
GE Gas Power

Techno-economic Viability of Different Power to Gas Integration Configurations in a BF-BOF Iron and Steel Plant



Jorge Perpiñán
University of Zaragoza

Design of an Integrated and Replicable Green Hydrogen-based System with a Gas Turbine for Large-scale Dispatchable Power Generation



Fatimatou Wade
General Electric

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