



SC New Gases Kick-off Meeting 20 April 2021

SESSION FILE



Frank GRAF

SCH2+ Chairman



SCNG-24
13/04/2021

MARCOGAZ SC New Gases Kick-off meeting 20th April 2021 DRAFT AGENDA

Venue: Webco

Schedule: 10h30 - 12h00

ITEM	SUBJET	ACTION
1.	Opening of the meeting	F. Graf
2.	Missions of SC New Gases	M. Coxe
3.	New <u>cooperations</u> and liaisons in Marcogaz	M. Coxe
4.	Ongoing activities on new gases in Marcogaz	All
5.	Terms of references and next steps	All
6.	AOB	All
7.	Date & place of the next meeting	All

List of experts

COUNTRY	MEMBER	COMPANY	FAMILY NAME	NAME
Belgium	Secretariat	MARCOGAZ	Coxe	Manuel
Belgium	Secretariat	MARCOGAZ	de Ville de Goyet	Benjamin
Denmark	DGC	DGC	Myken	Asger
Denmark	DGC	DGC	Van Gruijthuisen	Leo
France	AFG	GrDF	Berger	Marc
France	AFG	GRTGaz	Carayol	Aurélie
France	AFG	GRTGaz	Decaux	Anne-Sophie
France	AFG	AFG	Erhel	Christophe
France	AFG	Stoerngy	Giouse	Helene
France	AFG	GrDF	Mennereau	Maurice
France	AFG	AFG	Rossato	Stephane
France	AFG	GrDF	Souidi	Khamis
Germany	DVGW	DBI Gruppe	Müller-Syring	Gert
Germany	DVGW	DVGW	Graf	Frank
Germany	DVGW	DVGW	Schülken	Hiltrud
Greece	DESFA	Desfa	Gourioti	Vivi
Italy	CIG	Snam	Casola	Alejandra
Italy	CIG	Italgas	Salati	Eugenio
Netherlands	Gasunie	Gasunie	Brands	Henk
Netherlands	Gasunie	Gasunie	Hogewoning	Paul
Netherlands	Gasunie	Gasunie	Pronk	Leen
Spain	Enagas	Enagas	Lana	Jose
Spain	Sedigas	Nedgia	Soto Rey	Jairo
Spain	Enagas	Enagas	Tudela	Jose
UK	National Grid	National Grid	Sibley	Jim



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Missions & liaison of SCH New Gases

Composition of SCH2+

Manuel Coxe

Kick-off meeting of SCH2+ of 20 April 2021

Remit and Liaison

- Facilitate a top-down direction from the Executive Board on new gases.
- To coordinate and promote the work between the three SCs with regard to hydrogen, biomethane and synthetic gases.
- Facilitate liaison with experts in other Associations and to actively drive the agenda on Hydrogen and green gases.
- SCH2+ may have specific TFs or WGs but these will not overlap with existing groups in other SCs.
- The starting of SCH2+ does not prevent continuation of ongoing works in the working groups and task forces – it helps the Association to deliver the right material for the right topics.
- The liaison with Hydrogen Europe and H2GAR is undergoing formalisation through MoU and we will strengthen our cooperation with European Biogas Association.

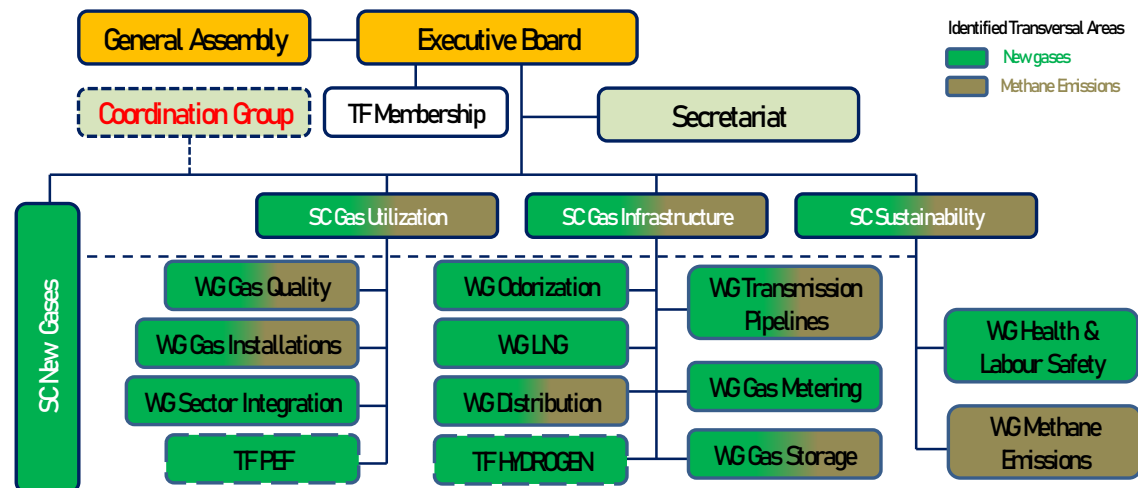
Composition of SCH2+

- **SCNG membership comprise:**

- a. Chair, 3 Vice-Chairs, Secretary of SCH2+

- b. Chairs and Secretaries of the following Working Groups/Task Force (25 persons in total):

- WG Gas Quality (1)
 - WG Gas Installations (2)
 - WG Sector Integration (2)
 - TF Hydrogen (3)
 - WG Odorization (2)
 - WG Transmission Pipelines (2)
 - WG Gas Metering (2)
 - WG Gas Storage (2)
 - WG Distribution (2)
 - WGLNG (1)
 - WG Health & Labour Safety (1)





Thank you for your attention



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TOP 4 Activities on new gases in SCGU

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Jairo Soto

SCGU chair

- **Main topics on new gases in SCGU**
 - Acceptance of increasing proportion of hydrogen in the grids and possible impact in the appliances.
 - To create a Primary Energy Factor (PEF) or similar concept for renewable gases
- **Current activities on new gases in SCGU**
 - CEN Sector Forum Gas
 - ENTSOG/DSO 's Prime movers initiative
 - Thyga project
- **Existing interactions and cooperations**
 - All the mentioned in the previous point and CEN TC 234

- **How can SC New Gases support the SCGU?**
 - Supporting in the participation of external working groups
 - Proposing a technical hydrogen road map to 2050

- **What will be the input of SCGU working groups to SC H2+?**
 - Relevant information especially from Gas Quality & Renewable Working Group
 - Definition of strategies for gas industry from the Sector Integration working group



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TOP 4 Activities on new gases in WG Gas Quality and Renewable Gases

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José A. Lana

Chairman WG GQ&RG

- **Main topics on new gases in WG**
 - Biogas/Biomethane (B/BM) has been in the scope of the WG for years, since 2005 (at least)
 - Hydrogen was included in the scope in 2014
 - Follow up of activities in both fields
- **Current activities on new gases in WG**
 - Regulation/standard for H2 injection into natural gas network ([WG GQ-405](#)). First revision in 2015 updated in 2020
 - Follow up of new developments of B/BM & H2: project, standards, ...
 - Follow up of standardization processes (see annexes)
- **Existing interactions and cooperation**
 - European Biogas Association
 - ENTSOG
 - EASEE-gas

- **How can SC New Gases support the WG?**
 - Information from any new issue/development related to gas quality due to new gases
 - Support in details concerning gas quality affected by new gases.
- **What will be the input of WG to SC H2+?**
 - Support in any issue related to gas quality
 - Support in the preparation of position papers

Wobbe Index harmonization process

- **WG SFGas Gas Quality Study WG**
 - Work started in 2016
 - Supported by Madrid Forum/EC DG Ener
 - To define and to agree a Wobbe Index range for inclusion in *EN 16726, Gas infrastructure – Quality of gas - Group H*
 - Many surveys (with the support of JRC) and studies performed
 - Biogas/biomethane and hydrogen taken into account
- **Prime Mover Group on Gas quality & H2 handling**
 - Promoted by TSO/DSO organizations
 - Supported by EC DG Ener
 - Goal: to reach a better understanding on the main principles to handle gas quality related to renewable, decarbonised and low-carbon gases
 - Stakeholders of all the gas value chain invited to participate
 - Sub Group 1: *Reflections on a framework for the implementation of the WI classification system proposal at exit points*

CEN SFGas GQS WG: Wobbe Index Proposal

1. Wobbe Index entry range: Recommendation

Minimum WI	Maximum WI
46.44	54.00

All units:
MJ/m³ [15°C/15°C at 1.01325 bar]

2. WI exit classification: Requirement

The distributed gases shall be classified according to:

Class	Indicated WI range	Bandwidth of WI of distributed gases at the exit point	Deviation (in percentage)(= Conclusion on percentiles)
Specified	Lower and upper limit values defined per exit point with an interval of 3.7 MJ/m ³ based on distributed gas, within the WI entry range	The WI of the distributed gases is ≤ 3.7 MJ/m ³ within the WI range of 46.44 to 53.00 MJ/m ³	The WI of the distributed gas can fall below the lower WI limit value of the range for a maximum of 1% of the duration of the class specification and above the upper WI limit value of the range for another 1% of the time.
Extended	Lower and upper limit values defined per exit point based on distributed gas, within the WI entry range	Any other situation of WI bandwidth and/or of the WI range	

Some additional details of the classification in Final Report (expected by beginning May 2021)



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TOP 4 Activities on new gases in WG SI

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Asger Myken

Chairman, WGSi

- **Main topics on new gases in WGSI**
 - Power-to-X: H2 blending and re-purposing of gas system (100% hydrogen)
 - Biogas: Decarbonisation of the gas system by increased supply of biomethane
 - Roadmap for a fully decarbonised European gas system in 2050
- **Current activities on new gases in WGSI**
 - Kick-off meeting 27th May 2021
 - Specific activities still to be discussed and specified
- **Existing interactions and cooperations**
 - Prime movers' group on Gas Quality and H2 handling

- **How can SC New Gases support the WGSII?**
 - Results and knowledge on
 - H2 blending and re-purposing of gas system to hydrogen
 - biomethane injection to gas system
 - More specific requests can be expected after kick-off
- **What will be the input of WGSII to SC H2+?**
 - To be determined after kick-off and formation of WGSII
 - Potentially:
 - Roadmap for a fully decarbonised European gas system in 2050?



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TOP 4 Activities on new gases in WG LNG

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Vivi GOURIOTI

WG LNG chairwoman

- **Main topics on new gases in WG**
 - LNG -LHydrogen potential mix-not possible
 - BioLNG
 - Synthetic LNG
- **Current activities on new gases in WG**
 - Position Paper “LIQUEFIED NATURAL GAS AND HYDROGEN AS TRANSPORTATION FUEL”, sent to SCGI and Ex. B. approval as public document
 - blending of LNG with renewable fuels such as bio LNG for use as a fuel in marine applications, including its carbon mitigating potential.
 - implications of blending natural gas with (green) hydrogen.
- **Existing interactions and cooperations**
 - CEN/TC 282, LH2 in existing LNG infrastructure
 - GERG PC LNG
 - MARCOGAZ TF H2
 - ISO TC 67/SC9
 - CEN/TC 326

- **How can SC New Gases support the WG?**
 - WG LNG to get involved in potentiality of LH2 in existing infrastructure
 - WG LNG to get involved in the applications of BIO-LNG & Synthetic LNG
- **What will be the input of WG to SC H2+?**
 - The publication of the position paper “LIQUEFIED NATURAL GAS AND HYDROGEN AS TRANSPORTATION FUEL”
 - Applications of BIO-LNG & Synthetic LNG



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**TOP 4 Activities on new gases in WG
Odourisation**

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Eugenio Salati

WG Chairman

- **Main topics on new gases in WG**

- Odorisation of biomethane: inclusion in the document GI-OD-09-04 "**Natural Gas Odorisation practices in Europe**" of a section on biomethane, with data on where the injections are performed (TSO, DSO) and if specific requirement/standards for odorization are foreseen.
- Hydrogen Odorisation: a first document was published in 2017 (GI-OD-17-02), while a more extensive document is under final approval.

- **Current activities on new gases in WG**

- Emission of the document WG_OD-182 "**Odorisation of natural gas/hydrogen mixtures**", with information on possible effects of Hydrogen, reports from ongoing projects of NGH2 and data from odorant's suppliers.

- **Existing interactions and cooperations**

- Marcogaz Hydrogen TF

- GERG

- **How can SC New Gases support the WG?**
 - Sharing information about Odourisation topics related to new gases.
 - Addressing requests of information to countries not actively represented inside the WG.
- **What will be the input of WG to SC H2+?**
 - Update of the information contained into GI-OD-09-04 "**Natural Gas Odourisation practices in Europe**" and WG_OD-182 "**Odourisation of natural gas/hydrogen mixtures**" with new results from the projects of injection of Hydrogen into natural gas grids, both mixed with natural gas and pure.



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**TOP 4 Activities on new gases in WG
Distribution**

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Khamis SOUIDI

WG Distribution Secretary

- **Main topics on new gases in WG**

- H2 :
 - injection in the distribution of blends
 - compatibility of networks and equipments
 - risk assessment
- Biomethan :
 - question of calorific power is a big issue (contribution to the work of TF Gas Quality).
 - exploitation of biomethan grids in a smarter way (automation of valves, reducing stations, ...), data handling and cybersecurity

- **Current activities on new gases in WG**

- WG_DIS-135 Renewable gases - Hydrogen injection - Suitability of the distribution system (MOP \leq 16 bar)

- **Existing interactions and cooperations**

- 5 WG Distribution participating to TF H2
- WG Distribution, as always, is willing to contribute as part of a solicitation from other WGs or TFs

- **How can SC New Gases support the WG?**
 - Instead we see other WGs and other SC as supports to the SCH2+
 - However, what would be very useful from the committee would be a synthetic and clear communication on the progress and main conclusions of the work in progress on renewable gases.
- **What will be the input of WG to SC H2+?**
 - Inputs to TF H2 inputs seem to be clear
 - Inputs to SC H2+, must be clarified
 - as we stated the WG Distribution is seen as a contributor to TFs and other WGs, what SC H2+ expected input should be?
 - Directly? WG is under SCGI, what i.



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TOP 4 Activities on new gases in TF H2

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Speaker name

Speaker function

- **Main topics on new gases in TF H2**
 - Analysis of mitigation need and costs using H2NG and H2 in European natural gas systems by extension of the Marcogaz Infographic
- **Current activities on new gases in TF H2**
 - Quantification of asset components
 - Estimation of mitigation need and costs per asset component for key concentrations (2, 5, 10, 20 and 100 vol.-% H2).
 - Identification of related safety aspects
- **Existing interactions and cooperations**
 - Liaison with Marcogaz WGs (TP, STO, OD)
 - Involvement EASEEgas, ENTSOG (+PMG), EUROGAS
 - Consultations with others (IFIEC, CEFIC...)

- **How can SC New Gases support the TF H2?**
 - verification of TF data and extrapolation for Europe when modelling of asset components and available data are compiled
- **What will be the input of TF H2 to SC H2+?**
 - Extended Infographic with H2 readiness, mitigation needed and costs for using H2NG and H2 in European natural gas infrastructure
 - Delivery with identified safety aspects and related considerations



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TOP 4 Activities on new gases in WG Gas Metering

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Jim Sibley

- **Main topics on new gases in WG**
 - Effect of non-conventional gases on gas meters
 - Non-conventional gases - high-pressure calibration
 - Non-conventional gas networks
- **Current activities on new gases in WG**
 - Clarify Marcogaz's role and goals (and in particular WG GM) compared to other European projects / workgroups where tests are performed for metering of non-conventional gases
 - List the applicable gas metering standards (ISO, EN,...) that are used and identify which ones need a revision for non-conventional gases
 - List all the initiatives and research projects on impact of non-conventional gases (national, EU, Int.) and monitor progress
 - Support Welmec WG11 Gas and Electricity Meters in drafting guidelines (as appropriate) for the MID

- **Existing interactions and cooperation**

- NewGasMet project – Flow metering of renewable gases
- FARECOGAZ – European manufacturers of gas meters, pressure regulators and associated equipment
- CEN TC 237 Gas Meters
- Welmec (European Cooperation in Legal Metrology) WG11 Gas and electricity meters
- OIML (International Organization of Legal Metrology) TC8 SC7 Gaseous Fuel (OIML R137)
- Commission Working Group on Measuring Instruments

- **How can SC New Gases support the WG?**
 - Coordination between activities
 - Provide all relevant information that is needed in order to ensure that the measuring industry is prepared for challenges from non-conventional gases
- **What will be the input of WG to SC H2+?**
 - State of the art on the metering of non-conventional gases
 - Support on questions related to measurement



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TOP 4 Activities on new gases in WG TP

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Leen Pronk

Speaker function

- **Main topics on new gases in WG (preliminary)**
 - Checklist for infrastructure repurposing
 - Comparison of safety aspects between NG and H2, to be aligned with SCS; operational issues to be considered
 - General public document on H2 impact on steel pipelines
 - CO2 to be decided
- **Current activities on new gases in WG**
 - Initiative towards GERG: Impact of H2 on transported energy
 - Workshop on H2 was organized December 2nd; 2020
- **Existing interactions and cooperations**
 - Marcogaz taskforce H2
 - Informal: CEN TC 234 / WG7
 - Informal: GERG board

- **How can SC New Gases support the WG?**
 - Sensoring relevant topics
 - Prevention of overlap
 - Provide platform for connectivity on new gas issues
- **What will be the input of WG to SC H2+?**
 - Positive drive to use our infrastructures for alternative gases
 - Identification of identified gaps if any
 - Identification of common interest issues (if any)
 - Document WG_TP-147 "*Preliminary findings related to supplying hydrogen into existing gas transmission systems*"



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TOP 4 Activities on new gases in WG Storage

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Hélène GIOUSE

Storengy, AFG-France. Leader of WG Storage

- **Main topics on new gases in WG Storage**
 - Hydrogen acceptance
 - Biomethane acceptance (including O₂)
- **Current activities on new gases in WG Storage**
 - Workshop on 6 H₂ storage projects in Europe (April, 19th)
 - Participation to H₂ task Force (by a WG Storage member)
- **Existing interactions and cooperations**
 - CEN/TC234-WG13 (supervisory board on GERG H₂GN project)

- **How can SC New Gases support the WG?**
 - Maintaining a strong involvement of WG Storage in H2 acceptance topic
 - Joint validation (with SCGI?) of a future position paper on Biomethane acceptance in UGS facilities (trace components and Oxygen topic).
- **What will be the input of WG to SC H2+?**
 - Contribution to H2 task Force
 - Production of a position paper on Biomethane acceptance in UGS facilities (trace components and Oxygen topic).



**SC New Gases
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Activities on New Gases in
S.C.Sustainability**

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Jose Tudela

SCS Chairman

- **Main topics on new gases in WG**
 - Climate Impact of H₂ – Global Warming Potential
- **Current activities on new gases in WG**
 - New Project “Climate Impact of H₂ on the Soil and in the Atmosphere”.
 - Call for Experts: expert group should compile the collected knowledge from the industry and the scientific literature and check it for completeness.
 - Project Leader: Eva Hennig – DVGW-Thüga
- **Existing interactions and cooperations**
 - Methane Emissions WG
 - SC New Gases

- **How can SC New Gases support the WG?**
 - Identification of Experts
 - Research activities should be given to close gaps if required, e.g. in above-ground detection methods.
- **What will be the input of WG to SC H2+?**
 - A final assessment should be published in a technical paper by Marcogaz from a technical-scientific point of view.
 - This could provide a neutral assessment for further political communication.



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TOP 4 Activities on new gases in WG HLS



Paul Hogewoning

Chairman WG-HLS – Project HSE Manager Gasunie

- **Main topics on new gases in WG**
 - “REACH Regulation Analysis” ([WG HLS-217](#), 2019)
 - Health and Labour Safety aspects of new gases in general
- **Current activities on new gases in WG**
 - Several activities on Hydrogen (next slide)
- **Existing interactions and cooperations**
 - Personal network active members of WG-HLS
 - Little interaction with other Marcogaz working groups

- **How can SC New Gases support the WG?**
 - Making an inventory of points for attention in general
 - Coordination knowledge and activities for complex points of attention
- **What will be the input of WG to SC H2+?**
 - Impact of hydrogen on existing ATEX equipment and zones ([WG HLS-269](#); finalized 2021)
 - Detection and Measuring of pure hydrogen and blends of natural gas with hydrogen ([WG HLS-268](#), finalized 2021)
 - Impact of hydrogen on work in confined spaces: under construction
 - Health effects of hydrogen and natural gas: under construction



Kick-off Meeting SC New Gases TOP 5 Terms of References 20 April 2021

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Frank Graf

Chairman SCH2+

Which gases are relevant?

- **Gases from biomass**
 - Biogas
 - SNG from biomass gasification
 - Hydrogen from biomass
- **Gases from PtG processes**
 - hydrogen
 - SNG
- **Hydrogen from natural gas**
 - Steam reforming with CCS
 - Pyrolysis of natural gas
- **Other gases**
 - CO₂
 - NH₃

Which tasks should be addressed?

- **Internal activities**
 - Support communication between groups and experts
 - Platform for information on new gases
 - Sensoring relevant topics and prevention of overlap
 - Identify/initiate relevant research activities
 - Technical hydrogen/green gases roadmap to 2050
 - Support the acceptance of new gases
- **External activities**
 - ???

Which cooperations already exist?

- **Standardisation an EC**
 - CEN TC 234, TC 237, TC 282
 - CEN Sector Forum Gas
 - Working group on Measuring instruments
- **Organisations and initiatives**
 - ENTSOG/DSO 's Prime Movers Initiative
 - EASEE-gas
 - EUROGAS
 - IFIECm CEFIC
 - FARECOGAZ
 - Welmec
 - OIML
 - European Biogas Association

Which cooperations already exist?

- **Research and projects**
 - GERG
 - Hydrogen Europe
 - H2GAR
 - Thyga
 - NewGasMet
 - ...