Gas Infrastructure Europe

marcogaz

Energy Community

Follow-up meeting on methane emissions in the gas sector

3rd of December 2020

Gas Infrastructure Europe

AGENDA

10:00 -10:15	Welcome and introduction *Predrag GRUJICIC (Energy Community)* *Jose TUDELA (MARCOGAZ)* *Francisco DE LA FLOR (GIE)*
10:15 – 10:30	EU strategy to reduce methane emissions *Brendan DEVLIN (European Commission - DG Energy)*
10:30 – 10:40	OGMP 2.0 *Manfredi CALTAGIRONE (UNEP)*
10:40 – 11:10	GIE & MARCOGAZ ongoing activities on methane emissions *GIE & MARCOGAZ team*
11:10 – 11:40	Energy Community ongoing activities on methane emissions *Karolina CEGIR (Energy Community)*
Break	
11:50 – 12:00	ACER views on ways and means to reduce methane emissions *Boyko NITZOV (ACER)*
12:00 – 12:15	Florence School of Regulation activities on methane emissions Andris PIEBALGS (*FSR)* *Maria OLCZAK (FSR)*
12:15 – 12:30	Next steps, wrap-up and concluding remarks *Predrag GRUJICIC (Energy Community)* *Jose TUDELA (MARCOGAZ)* *Francisco DE LA FLOR (GIE)*

Welcome and introduction

Predrag Grujicic (Energy Community)
Jose Miguel Tudela (MARCOGAZ)
Francisco de la Flor (GIE)

Methane emissions: The momentum

EUROPEAN
COMMISSION

Brussels, 14.10.2020
COM(2020) 663 final

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

on an EU strategy to reduce methane emissions

EU legislative proposal on methane emissions in 2021

Gas industry Declaration on the EU strategy to reduce methane emissions

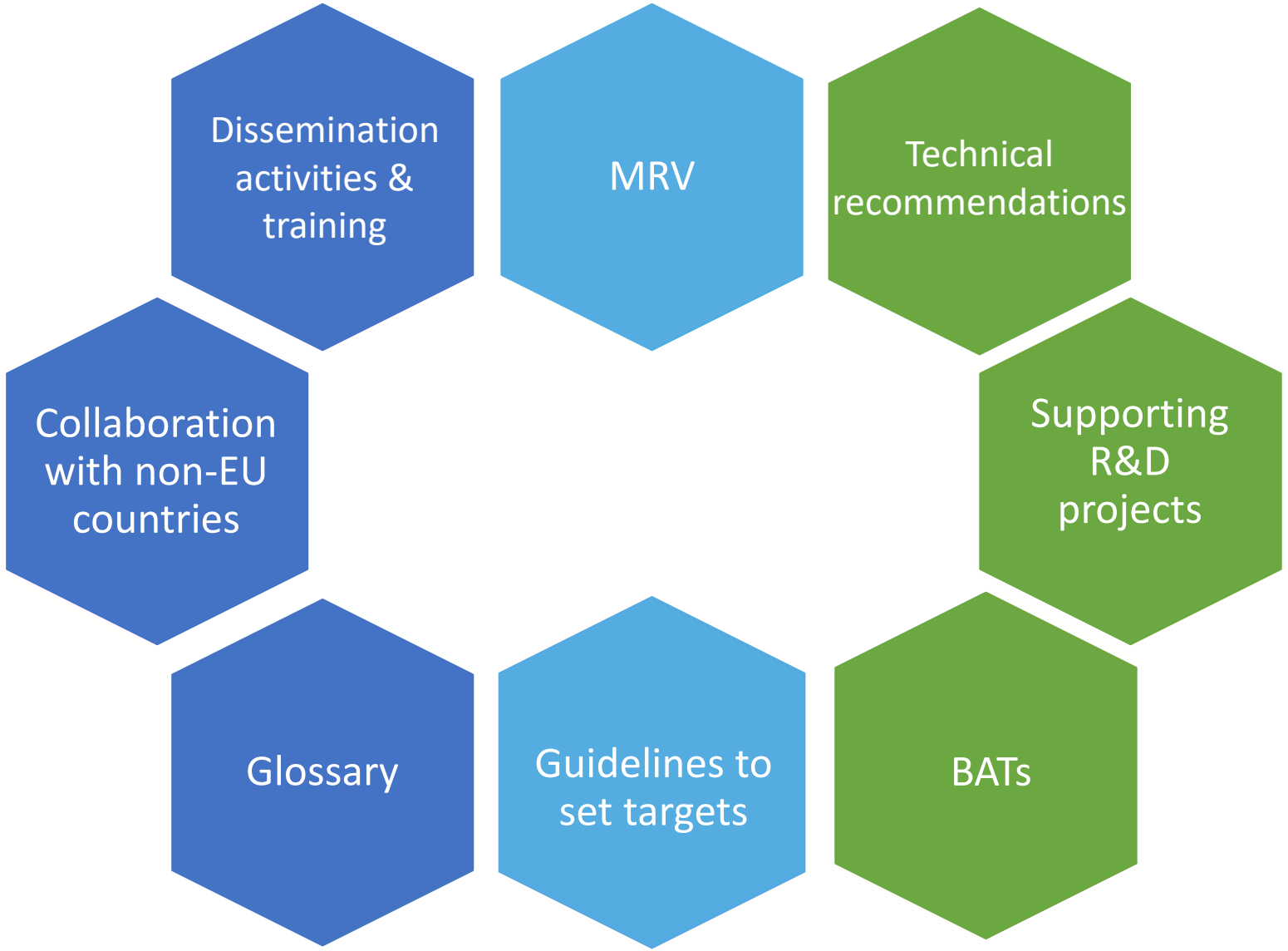
With the technical support of:

GMP Oil And Gas Methane Partnership 2.0

Oil & Gas Methane Partnership 2.0

The new gold standard for methane emissions reporting in the oil and gas sector

Some activities on methane emissions



Action plan on methane emissions

- Awareness and knowledge on CH_4 emissions
- Fragmented initiatives along the gas value chain and lack of harmonisation
- MRV-IV
- Technologies to detect, measure and quantify / Data accuracy & reconciliation
- Mitigation measures and best practices
- Reduction targets
- Cross sectorial opportunities and non-EU countries involvement
- Additional studies and initiatives

https://www.gie.eu/index.php/gie-publications/methane-emission-report-2019

EU Strategy to reduce methane emissions

Brendan Devlin (EC)

Methane *with regard to hydrocarbon production and transportation*

An EU strategy to reduce methane emissions

European Commission

Measures within the EU*

Mandatory

- Legislation on (1) measurement, reporting and verification based on OGMP Standards; and (2) leak detection and repair.
- Review environmental legislation.

To be considered

- Flare efficiency standards.
- Ban on routine flaring in all installations.
- Ban on venting.
- Enabling legislation to tackle mine Methane.

To be supported

- Use of 'waste methane' from coal-mines, as well as the agriculture and waste sectors.

To be developed

- Access to the market based on transparency of the supply chain.
- How to attribute and deal with associated gas losses.

Elements to be developed internationally*

1. Establish an International Methane Emissions Observatory. Validation and data integrity (accumulation and resolution).
2. Develop satellite capabilities and a detection and alert system for super emitters (and diplomatic follow up).
3. Promote methane emission reduction diplomatically amongst purchasers and producers of fossil gas.
4. Develop a methane supply index.
5. Consider methane emissions reduction targets, standards or other incentives for fossil energy consumed and imported into the EU in the absence of significant commitments from international partners.
6. World Bank / GGFRI.
7. UN Pathway.

European Commission

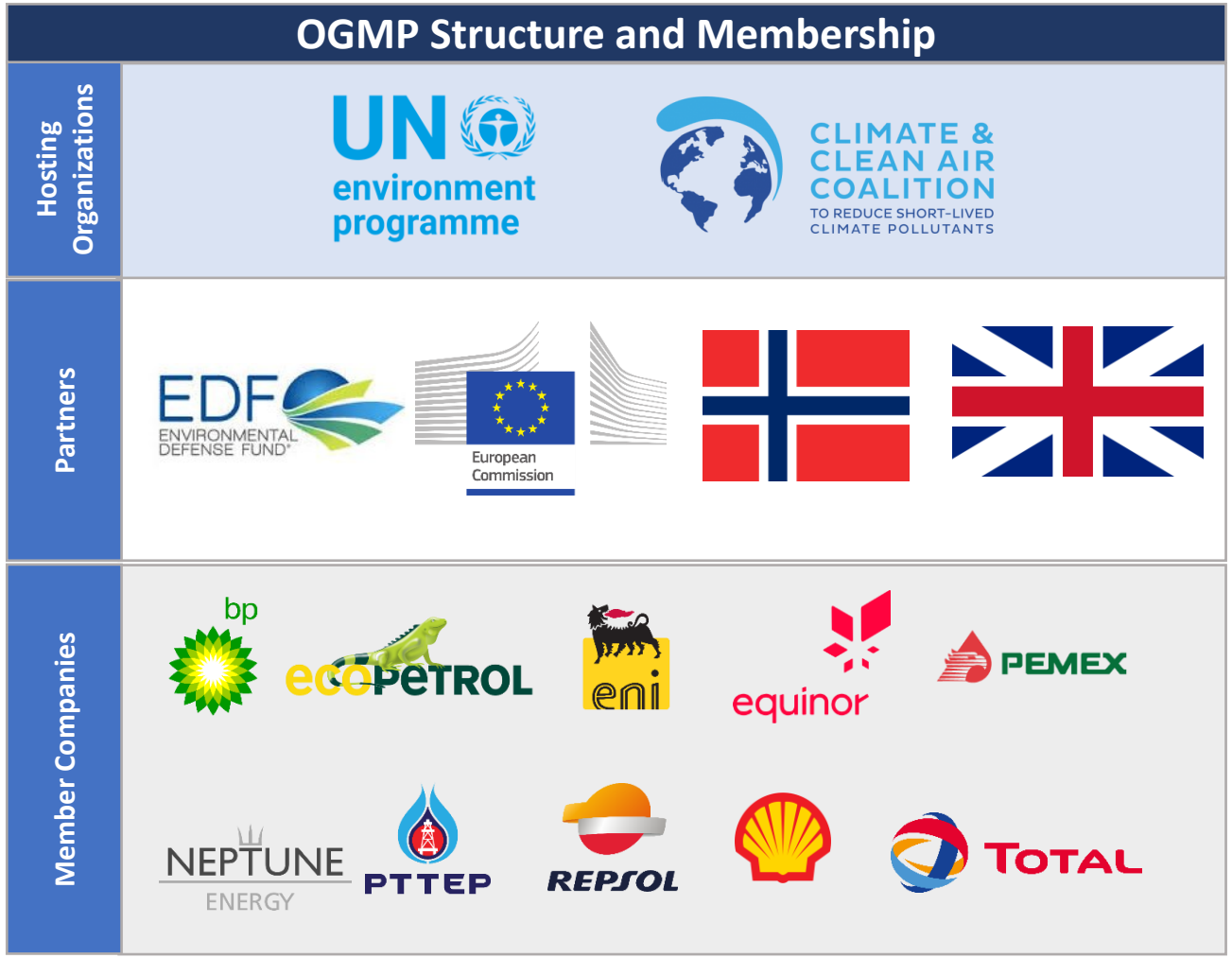
OGMP 2.0

Manfredi Caltagirone (UNEP)

Oil and Gas Methane Partnership 2.0

Manfredi Caltagirone
3 December 2020

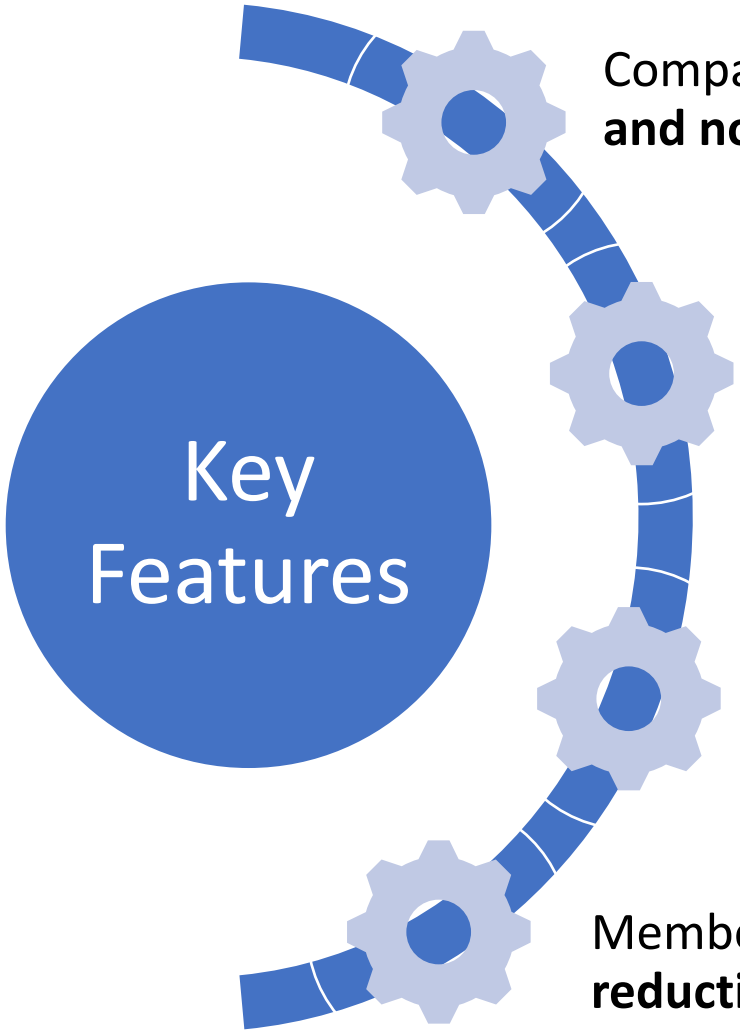
The Oil and Gas Methane Partnership (OGMP) brings together governments, international organizations, NGOs, and industry



Key Facts:

- Launched 2014
- The only multi-stakeholder initiative working on methane
- Raised awareness on methane globally
- Voluntary company initiative
- Covers 15% of oil and gas production
- Created series of Technical Guidance Documents

OGMP 2.0: The new “gold standard” of methane reporting



Companies report methane emissions from all assets, **operated and non-operated** in line with their reporting boundaries

All segments of the oil and gas sector

All material sources of methane emissions
(OGMP 1.0 nine sources + midstream and downstream sources, incomplete combustion from flaring, offshore sources

Member companies will announce individual **reduction targets** that will be periodically reviewed

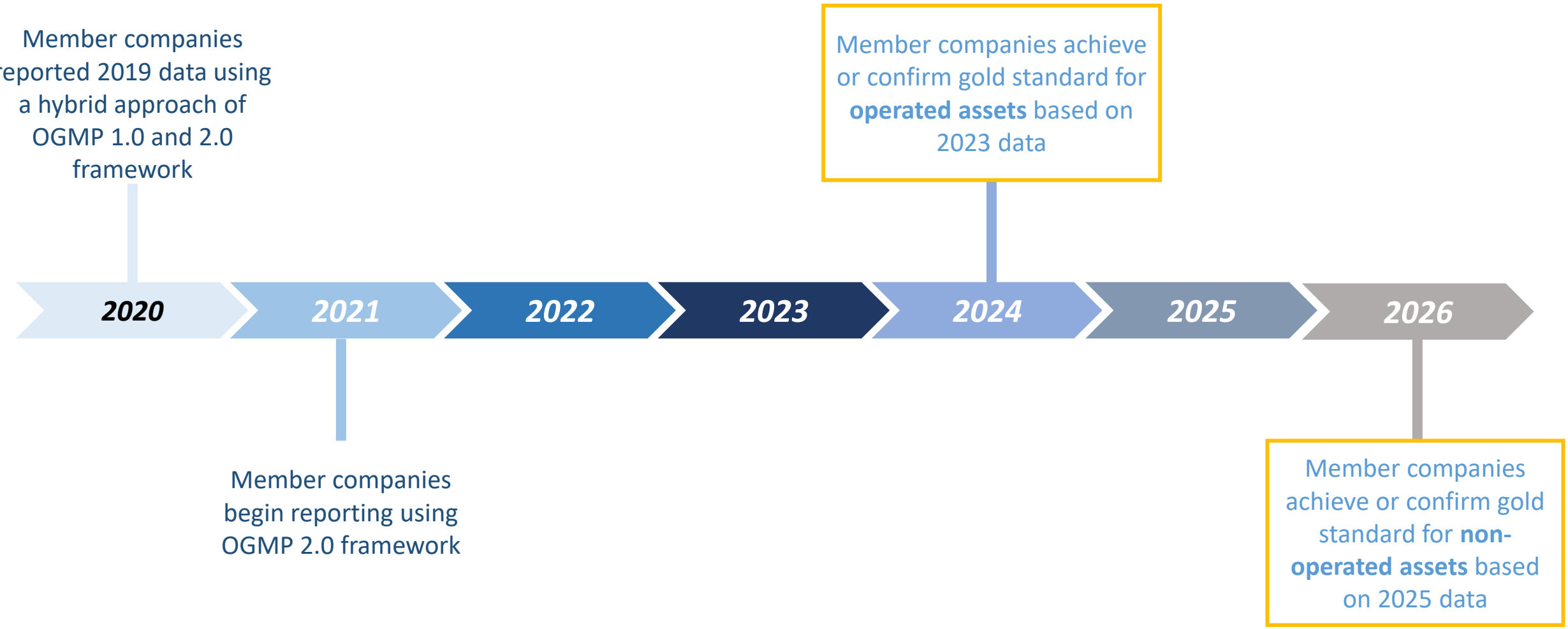
OGMP 2.0 allows companies to categorize asset-level reporting by 5 categories

UN environment programme

Level 1	**Venture/Asset Reporting** • Single, consolidated emissions number • Only applicable where company has very limited information sharing
Level 2	**Emissions Category** • Report emissions based on 5 IOGP and 3 Marcogaz emissions categories • Estimates based on emissions factors
Level 3	**Generic Emission Source Level** • Emissions reported by detailed source type • Estimates based on generic emissions factors
Level 4	**Specific Emission Source Level** • Emissions reported by detailed source type using specific emissions and activity factors • Based on direct measurement or other methodologies (e.g. OGMP TGDs, Marcogaz assessment)
Level 5	**Site Level** • Emissions allocated to individual source types • Reporting based on site-level measurements to reconcile source and site level emission estimates

**Gold standard is achieved when all assets with material emissions and where there are no demonstrable impediments report at level 4 and demonstrate efforts to move to level 5.*

OGMP 2.0: Member Company Reporting Timeline




schwaben netz
Gei
Reti Gas
ADNOC
BALANCE
reti
STEDIN NET
NAFTOGAZ GROUP
TERĒGA
wintershall dea
REN
Redes Energéticas Nacionais
gasunie
DESFA
Hellenic Gas Transmission System Operator S.A.
eustream
SLOVAK GAS TSO
enagas
Thyssengas
uniper
storengy
A company of ENGIE
OPAL
PTTEP
ecoPETROL
fluvius.
EWEnetz
NEPTUNE ENERGY
ADRIGAS
coteq
NETBEHEER
BBG
Bahía Bizkaia Gas
MEDGAZ
bp
empl
europe maghreb pipeline limited
REPSOL
enduris
Italgas
EWE
Liander
DUURZAAM DICHTBIJ
RENDO
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Wir transportieren Gas.
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grupo Gas Natural Fenosa
TAG
Trans Austria Gasleitung
GASCADE
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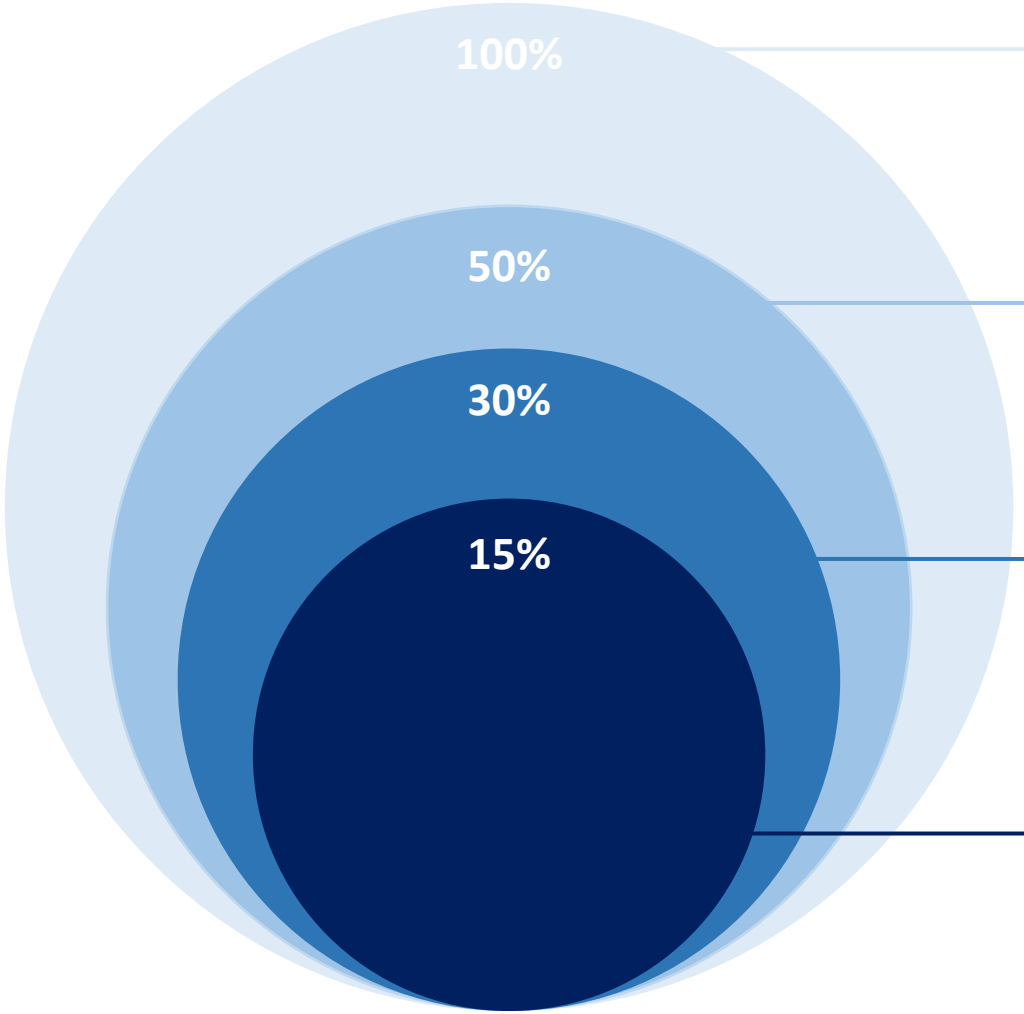
OGMP 2.0 could influence half of global oil and gas production



Total global oil and gas production
Gross production of all oil and gas companies globally

Zone of influence
Operating partners of OGMP member companies in direct operational control

Zone of commitment
OGMP member companies are non-operating partners

Zone of control
OGMP member companies in direct operational control

OGMP 2.0 Launch Highlights

Méthane : l'industrie gazière et pétrolière lance un programme de suivi de ses émissions

Oil and gas majors sign up to 'gold standard' of methane reporting

By Kira Taylor | EURACTIV.com

Nov 23, 2020

Kadri Simson announcing methane strategy in October [Lukasz Kobus / EC - Audiovisual Service]

Comments | Print

Sixty-two major oil and gas companies on Monday (23 November) agreed to a new framework for monitoring, reporting and reducing methane emissions as part of the Oil and Gas Methane Partnership 2.0.

Accordo tra l'Onu e 62 compagnie per ridurre le emissioni di metano

L'industria petrolifera e del gas si impegna a rispettare un nuovo quadro per monitorare, segnalare e ridurre le emissioni di metano. Governi, Nazioni Unite, società civile e aziende collaborano a un nuovo e credibile sistema d tracciabilità e divulgazione

Övervakning ska stoppa metanutsläpp

KLIMAT

Genom nytt samarbete med FN och EU-kommissionen ska fossilindustrin övervaka och minska sitt läckage av den starka växthusgasen metan. Men inom forskarvärlden hörs skeptiska röster.

– Industrin har mycket att bevisa, med tanke på hur mycket de tidigare hela tiden har spelat ned dessa utsläpp, säger Lena Höglund Isaksson, forskare vid IIASA, Internationella institutet för tillämpad systemanalys, i Wien.

Vid utvinning av kol, olja och naturgas uppstår läckage av metan, en växthusgas som är ungefär 30 gånger starkare än koldioxid. Enligt FN:s klimatpanel står metanutsläppen för ungefär en fjärdedel av den globala uppvärmningen.

Sedan förindustriell tid har utsläppen ökat med nästan 150 procent. Ett vanligt missförstånd är att rapande kor och jordbruk står för den största delen av den metangas som kan kopplas till mänsklig verksamhet. Minst lika mycket läcker ut från fossilindustrins verksamhet.

Fossilindustrins läckage av metan ska minskas. Foto: AP/TT

Nu har 62 företag inom fossilindustrin i samarbete med FN:s miljöprogram UNEP och EU-kommissionen förbundit sig att övervaka metanutsläppen, för att på så vis kunna kontrollera och minska dem. Samarbetet kallas för OGMP 2.0, en uppdatering av tidigare OGMP (Oil and Gas Methane Partnership).

Forskaren Lena Höglund Isaksson välkomnar initiativet, men är skeptisk till hur det kommer att genomföras.

– Både jag och många andra forskare har visat att fossilindustrin hittills har rapporterat ungefär hälften så stora utsläpp av metan jämfört med vad mätningarna i atmosfären och andra sätt att uppskatta utsläppen kommer fram till. (TT)

REUTERS

ENVIRONMENT NOVEMBER 23, 2020 / 4:01 PM / UPDATED 7 DAYS AGO

EU, UN-led pact commits oil and gas firms to tackle methane emissions

By Shadia Nasralla

3 MIN READ

OMGP 2.0

INITIATIVE SETZT NEUE STANDARDS FÜR METHANEMISSIONEN

GAS & WÄRME 24.11.2020 - 15:20

VON THORSTEN CZECHANOWSKY

INDEPENDENT

Environment

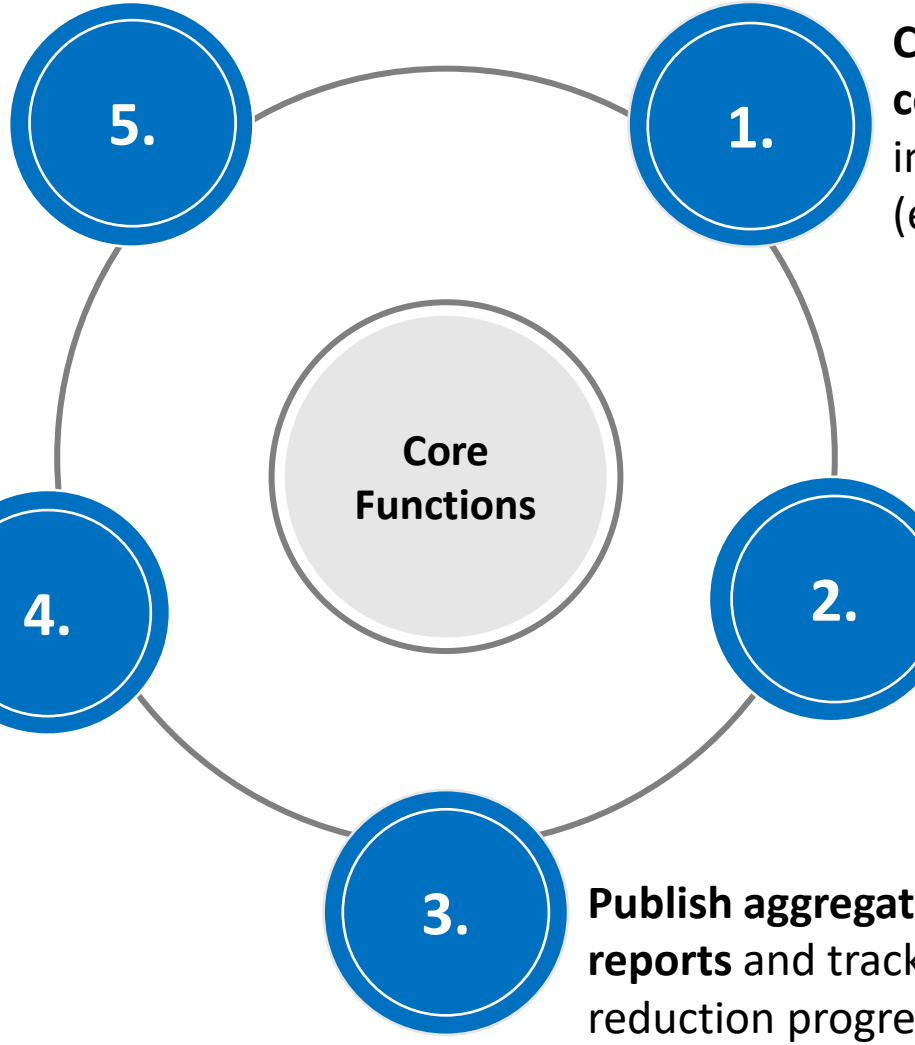
Climate crisis: Swathe of oil and gas industry agree 'ambitious' methane emissions reporting framework

Agreement paves way for stricter rules on fossil fuel accounting for one of the planets biggest contributing sectors

AXIOS

The oil sector's new methane pledge

A central function can provide consistency among multiple methane programs



Challenge and corroborate company reports using independent observations (e.g. satellite data)

Update core methodologies based on scientific advances to increase the accuracy of emissions estimates

Publish aggregated company reports and track emissions reduction progress against company targets

Aggregate confidential core source data and publish an annual report on the state of methane emissions

Provide technical support and knowledge to countries to reduce methane emissions

UN environment programme

Thank you

Manfredi Caltagirone
Programme Management Officer
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PO Box 30552 – 00100 GPO Nairobi, Kenya

www.unep.org

GIE & MARCOGAZ ongoing activities on methane emissions

GIE & MARCOGAZ Team

MARCOGAZ WG ME 485 - Assessment of methane emissions :

- Published : 11/2019
- TSO/DSO
- Scope :
  - ✓ Methane emission assessment strategy
  - ✓ Identification
  - ✓ Quantification / E.F. determination
  - ✓ Detection and Quantification techniques
  - ✓ Reporting
  - ✓ Uncertainties

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		Types of emissions						
		Fugitives		Vented				
				Operational emissions				
		Permeation	Leaks due to connections	Purging/venting for works, commissioning and de-commissioning	Regular emissions of technical devices (e.g. pneumatic)	Start & Stop	Incidents	Incomplete combustion
Groups of assets	Main lines & service lines	§ 6.4.1	§ 6.4.2	§ 6.5.2.1			§ 6.6	
	Connections (flanges, seals, joints)		§ 6.4.2					
	Measurement devices (chromatographs, analysers ...)		§ 6.4.2		§ 6.5.2.2			
	Valves[2] (regul, stations, blending stations, compressor stations, block valve stations)		§ 6.4.2	§ 6.5.2.1	§ 6.5.2.2			
	Pressure / Flow regulators		§ 6.4.2		§ 6.5.2.2			
	Safety valves		§ 6.4.2				§ 6.6	
	Combustion devices (turbines, engines, boilers...)		§ 6.4.2	§ 6.5.2.1		§ 6.5.2.3		§ 6.7
	Compressors & compressor seals		§ 6.4.2	§ 6.5.2.1	§ 6.5.2.2	§ 6.5.2.3	§ 6.6	
	Flares					§ 6.5.2.3		§ 6.7

https://www.marcogaz.org/app/download/8161672063/WG_ME-485-Assessment+of+methane+emissions+for+gas+Transmission+and+Distribution+system+operator.pdf?t=1602849054

CEN TC234 WG14 Technical Report

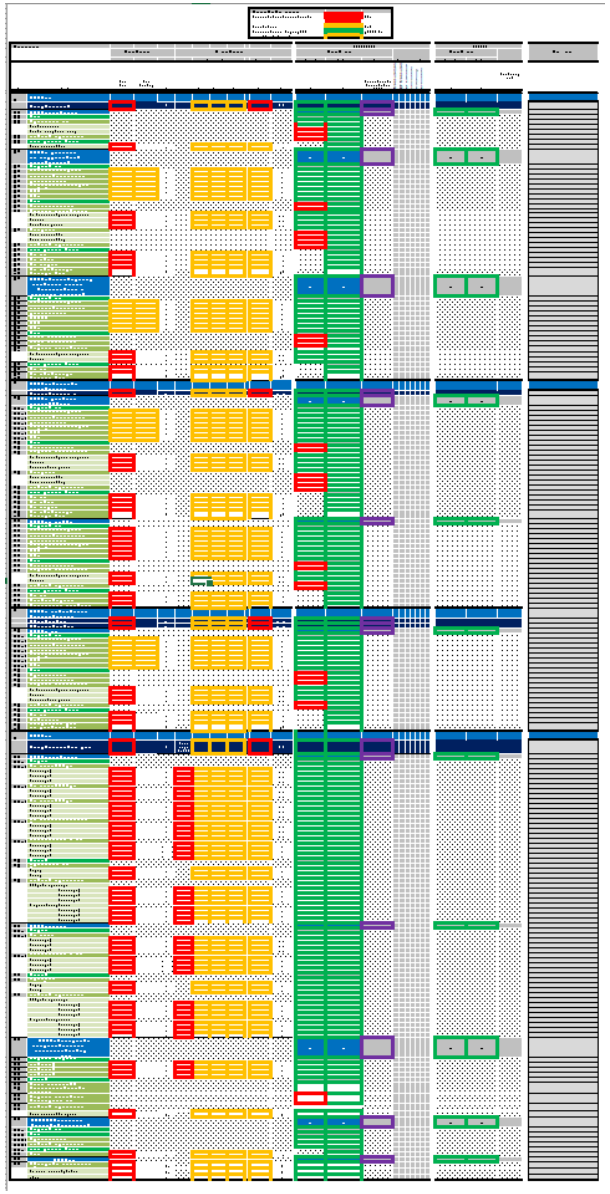
- Creation of CEN TC234 WG14 “Methane Emissions” 09/2020,
  - ✓ 26 committee members, 12 member states
- Adoption of a New Work Item for a CEN Technical Report :
  “TC234 WI 00234094 Assessment of methane emissions for gas transmission and distribution systems”
- 1st Draft based on the MARCOGAZ assessment document (equivalent scope, limited to TSO and DSO)
- Existing Liaison with IOGP and MARCOGAZ
- LNG and storage Operator experts to be included in the WG
- Comments on 1st Draft adressed, 2nd Draft will be issued early December :
  - ✓ with a scope enlarged to LNG and Storage
  - ✓ with reference to the OGMP2.0 Frame Work (level 4)
- Final document to be proposed for formal vote next June, to be available 3rd Q 2021

Methane emissions reporting template

Reporting Template for Methane Emissions in the Midstream Sector

- TSO, DSO, SSO and LNG
- Enables companies to report on either of the five OGMP-levels
- Reporting of mixed levels is possible, if necessary
- Based on users input: calculation of most emission data

Calculation		Activity Factors			Emission Factors					LEVEL 1 / 2 / 3 / 4 Total Emissions			Source for own data					
					Marcogaz Range			Company		Natural Gas	Methane	Level						
No..	System Category	Data (Total population)	Data (Leaking population)	Unit	Minimum	Average	Maximum	Data	Unit	Nm³/y	kg/y	Please indicate the Level of the data: 1 / 2 /3 / 4	Measurements	EF Measurements	EF Literature	Calculation	Modelling	Estimation
1.	TSO -Total																	
	Length of network			km					Nm³ / km²y	0	0							
1.1.	TSO - Pipeline Main lines									0	0							
1.1.a	Vents									0	0							
1.1.a.1.	Operational emissions									0	0							
	Vent Maintenance									0	0							
	Vent Commissioning / Decommissioning									0	0							
1.1.a.2.	Incident / Emergency vents									0	0							
1.1.b	Incomplete combustion										0							
	Total emission caused by flares			Nm³	0,00		0,00		mg/Nm³		0							
1.2.	TSO - Compressor station for transmission pipelines (Each one will be reported separately)									0	0							
1.2.a	Fugitive Emissions									0	0							
1.2.a.1.	Connections (flanges, seals, joints)			No.	0,00		0,00		Nm³/y	0	0							
1.2.a.2.	valves and control valves			No.	0,00		0,00		Nm³/y	0	0							
1.2.a.3.	pressure relief valves			No.	0,00		0,00		Nm³/y	0	0							
1.2.a.4.	BD-OEL (blow-down open ended line)			No.	0,00		0,00		Nm³/y	0	0							
1.2.a.5.	OEL			No.	0,00		0,00		Nm³/y	0	0							
1.2.a.6.	Others				0,00		0,00		Nm³/y	0	0							
1.2.b	Vents									0	0							
1.2.b.1.	Maintenance vents									0	0							
1.2.b.2.	Regular emission tec. devices (pneumatic)									0	0							
	Number of valves with pneumatic operation			No.	0,00		0,00		Nm³/No./y	0	0							
	Gas analyser			No.	0,00		0,00		Nm³/No./y	0	0							



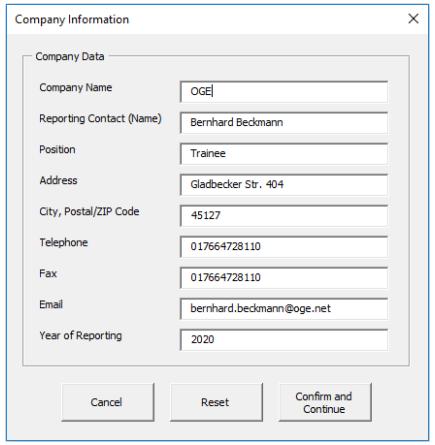
Methane emissions reporting template

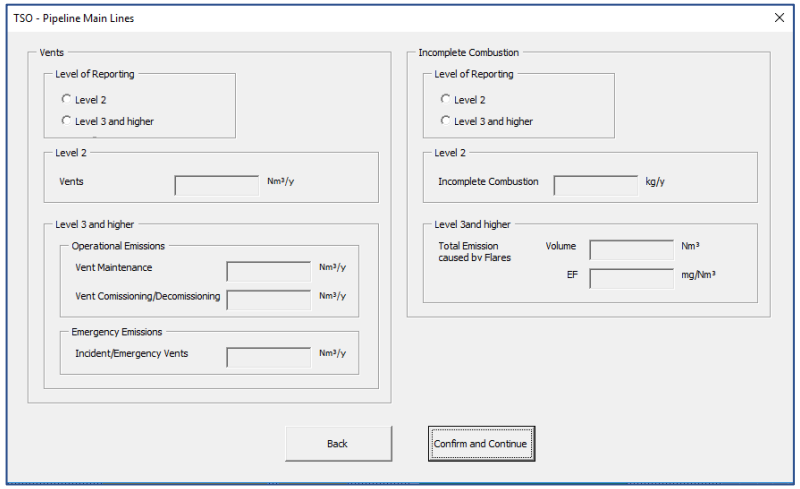
Reporting Template for Methane Emissions in the Midstream Sector

- Marcogaz' proposal as unique reporting tool for methane emissions
- Expandable to Upstream-Sector
- 100% in alignment with the OGMP 2.0 framework
- Comprehensive guidance-document for better ease of use

Future development

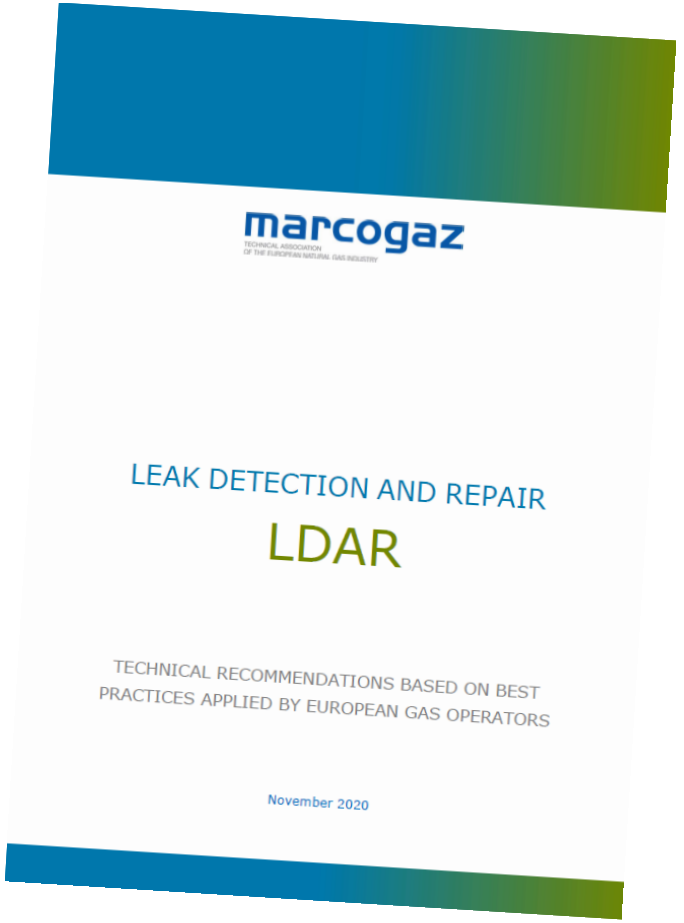
- Visual Basic based dialogues are guiding user
- Integration of non-operated assets
- Deduction and reporting of methane emission reduction targets
- Basis of a European / Worldwide database for emission factors



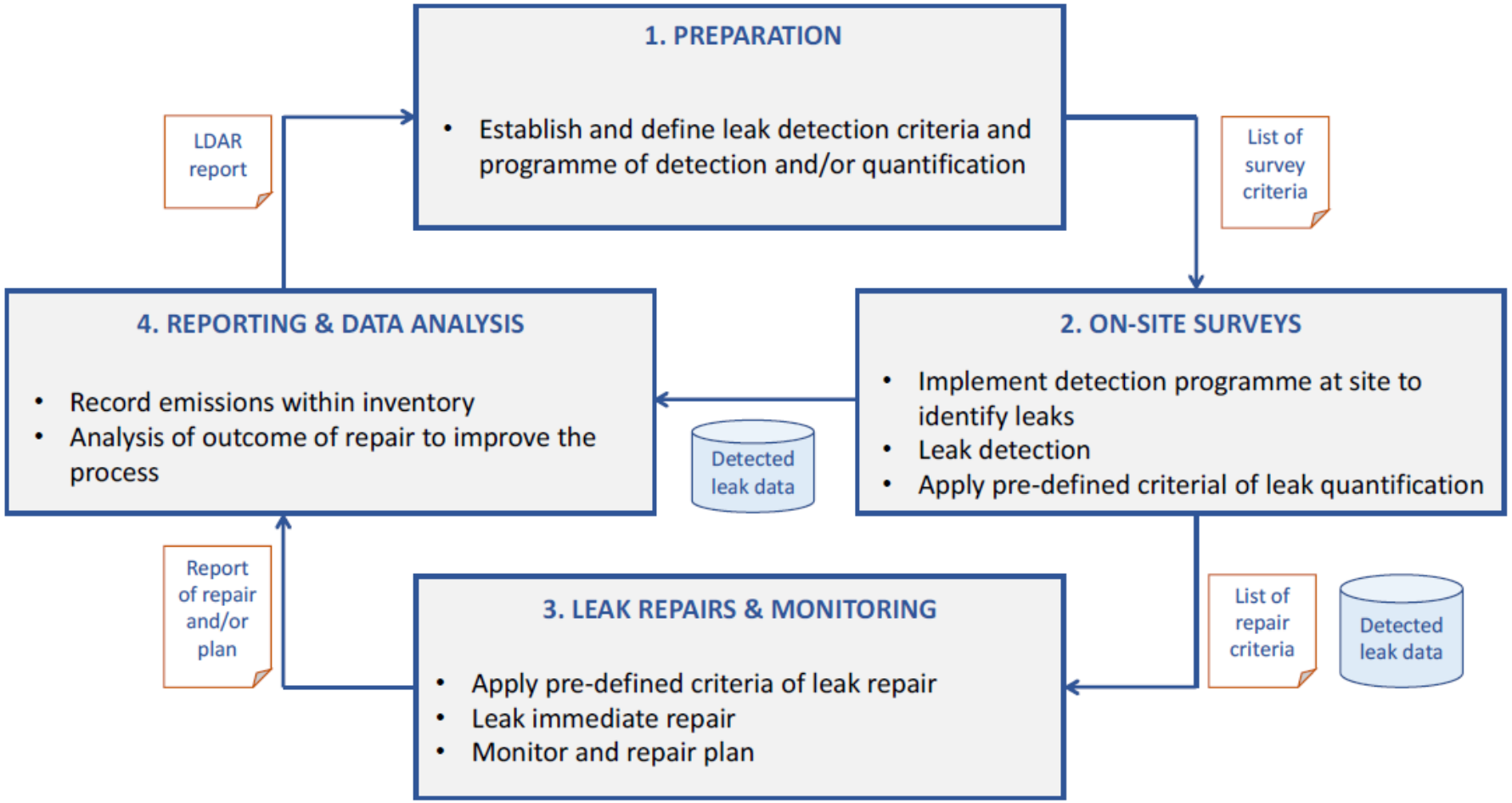


Leak Detection & Repair (LDAR)

- LDAR programmes in Europe follows the same principles but are not harmonized.
- MARCOGAZ has developed a technical recommendation for the gas midstream (above ground installations of transmission networks, LNG regasification terminals and underground gas storages) and downstream (distribution networks) segments taking into consideration the best practices applied in Europe.
- A questionnaire was prepared to gather information on the current practices (frequencies to detect methane emissions (inspections), frequencies to measure/quantify and the maximum period to repair the leaks after they were detected).
- Majority of the mid and downstream operators are regulated entities. Costs associated to LDAR should be recognised by NRAs.
- MARCOGAZ organized a workshop with the EU gas organisations (CEDEC, ENTSOG, Eurogas, GEODE, GERG, GIE, IOGP) on 25th of November to discuss the content of the technical recommendation and to collect views.
- Publication before the end of 2020



Process for LDAR programmes



MARCOGAZ – Technical recommendations

	TSO / LNG / UGS	DSO
Detection	1 year	…
Quantification	4 years	…
Repair	Pre-defined criteria < 1 year	Pre-defined criteria < 1 year

TSO / LNG / UGS

- Detection frequency to be reviewed based on previous results.
- For less complex and numerous assets (as network valve station), the quantification is extrapolated from a representative sample.
- Repairs
  - ✓ As soon as possible.
  - ✓ Major leaks can be subject to specific projects.
  - ✓ Cost, safety and environment impacts to be considered.
  - ✓ Non repaired leaks to be monitored.

DSO

- No recommendations for detection and quantification frequencies.
- The quantification is extrapolated from a representative sample.
- Repairs
  - ✓ As soon as possible (immediate during campaign).
  - ✓ Within 1 year.

Questionnaire on LDAR programmes

gie Gas Infrastructure Europe marcogaz

B) Policies, regulations and standards

B.1) Are there any binding rules in your country related to LDAR programmes?

Please indicate "Yes" or "No". If possible, please include the reference to the documents, the links and the competent authorities (E.g. Environmental Authorities, NRA, Energy Ministry, national gas association, national standardisation body, ...). Please feel free to add additional information.

B.2) If No. Is your company performing LDAR programmes on a voluntary basis?

Please indicate "Yes" or "No".

B.3) Are you aware of any non-binding documents (standards, guides) on LDAR programmes that are used in your country?

Please indicate "Yes" or "No". If possible, please include the reference to the documents and the links. Please feel free to add additional information.

B.4) Please feel free to provide additional information

C) Technical aspects on LDAR programmes

C.1) Could you please indicate the frequency of your on-site inspection (detection) and the technology(-ies) used? (Please specify the gas system type or asset or % of assets)

(E.g. yearly in the UGS using soap spray, every 3-years in the compressor station with FID)

C.2) Do you measure/quantify the emissions of the detected leaks? If yes, could you please indicate the frequency and the technology(-ies) used? (Please specify the gas system type or asset or % of assets)

(E.g. Yes. Every 3-years in the LNG terminal using IR camera and hi flow sampler)

C.3) Could you please indicate the maximum period to repair those leaks that cannot be repaired in parallel?

(E.g. 2 years after it was detected)

D) Costs and cost recovery

D.1) Could you please indicate an estimation of the yearly costs linked to LDAR programmes? (Please feel free to add additional information and if possible a disaggregation of the costs (e.g detection versus repair))

D.2) What part of these costs are included in your regulated revenues? (in the case of regulated companies)

D.3) Has your National Regulatory Authority set any kind of incentive linked to LDAR programmes?

E) Challenges

E1) In your opinion, what are the main challenges/barriers to implement ambitious LDAR programmes?

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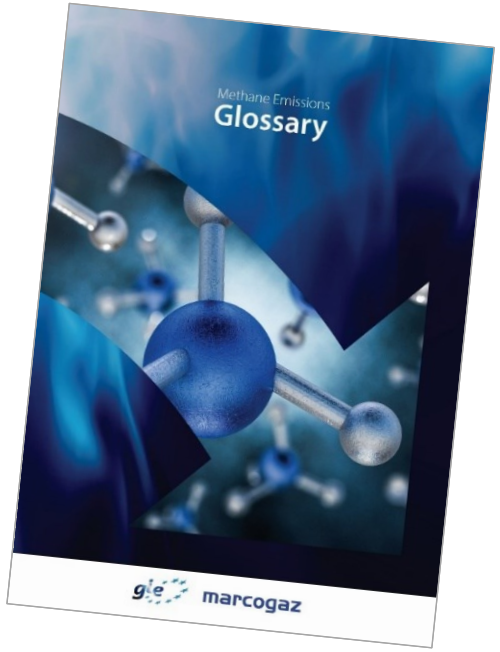
QUESTIONNAIRE ON LDAR PROGRAMMES

- Answers from 15 Member States covering transmission, storages, LNG terminals and distribution.

Glossary / Venting & Flaring

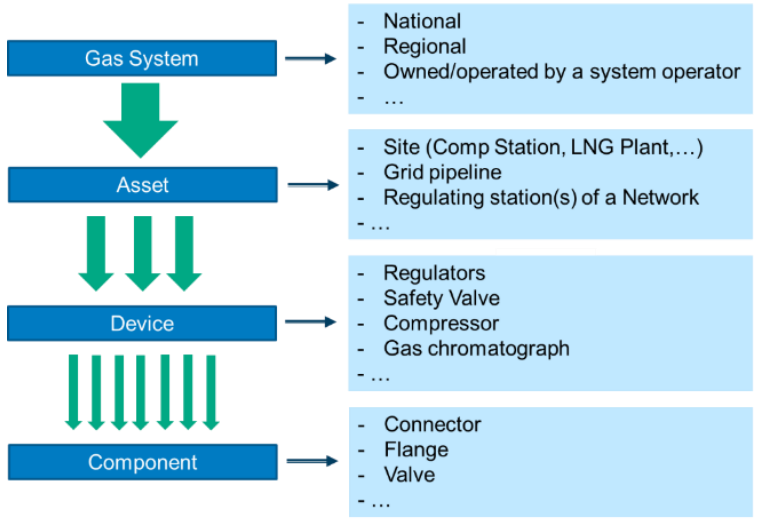
Glossary:

- Consistent terminology for the whole gas value chain,
- Based on the frequent references (IPIECA Methane Glossary, CEN standards, …),
- Can be used as reference for the legislative process.



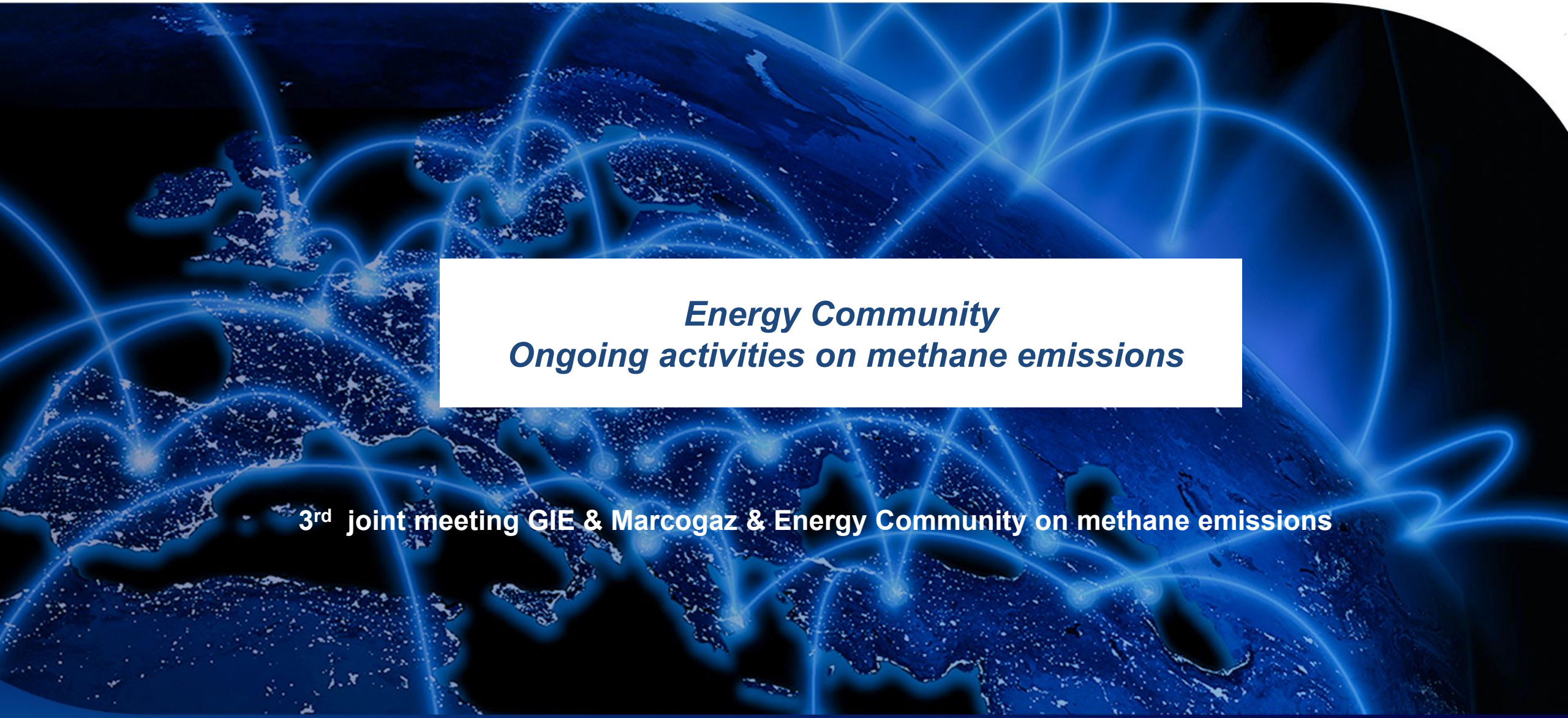
Venting & Flaring

- To identify and clarify the technical details and consequences of the EU Strategy
  - E.g. routine flaring, cost/benefits, reliability of service
- MARCOGAZ flagship publication for 2021
- Views and proposals from the audience ?



Energy Community ongoing activities on methane emissions

Karolina Cegir (Energy Community)



Energy Community
Ongoing activities on methane emissions

3rd joint meeting GIE & Marcogaz & Energy Community on methane emissions

3 December 2020

Focus on methane emissions in 2020

TF on losses in distribution network

within the ECDSO-g Coordination Platform

2019

Internal ECS project

To make base-line assessment of CH4 emissions by the gas industry of the Contracting Parties

Joining the Methane Guiding Principles as a Supporting Organisation

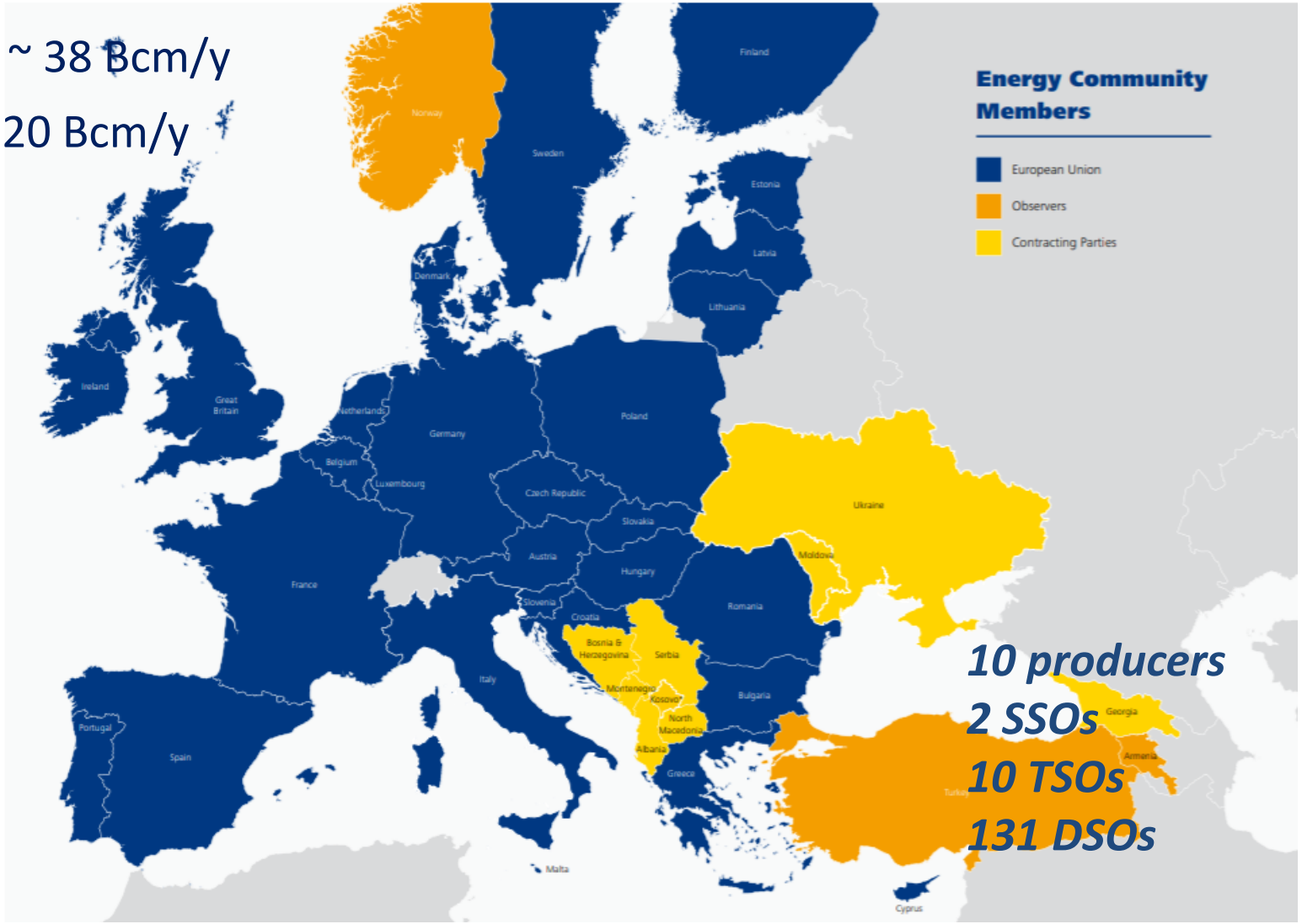
Following the development of EU Strategy

Supporting CP's companies to join OGMP 2.0 reporting framework (3 companies joined)

Sharing reports, guidelines, invitations to workshops

- Total natural gas consumption ~ 38 Bcm/y
- Total natural gas production ~ 20 Bcm/y
- UGS capacity ~ 31 Bcm
- No LNG terminals

- Transmission network
- ~ 45.000 km
- Distribution network
- ~ 370.000 km



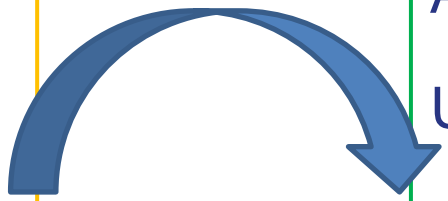
2020 - Internal CH4L project / Report under development

Marcogaz questionnaires & methodology

Translation, education, cooperation

Received answers by:

1 SSO
5 (+1) TSOs
22 (+1) DSOs



Background and reasoning

Activities (MGP, OGMP 2.0…)

Used methodology

Participation

Analysis & Findings

Proposals for follow up

Follow up of the report:

- Presentation to RAs
- Reporting framework
- LDAR practices
- Plans to decrease methane emissions

Trainings, knowledge sharing, webinars

Cooperation with EU institutions, CPs stakeholders

THANK YOU FOR YOUR ATTENTION

karolina.cegir@energy-community.org

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ACER views on ways and means to reduce methane emissions

Boyko Nitzov (ACER)

ACER
European Union Agency for the Cooperation of Energy Regulators

Energy Community gie marcogaz
TECHNICAL ASSOCIATION OF THE EUROPEAN NATURAL GAS INDUSTRY

FOLLOW-UP MEETING ON

METHANE EMISSIONS IN THE GAS SECTOR

December 3rd, 2020

WAYS AND MEANS TO REDUCE METHANE EMISSIONS

Remarks by Boyko Nitzov, Team Leader – Gas Infrastructure, ACER

The views expressed in this presentation are the views of the speaker and do not necessarily reflect the views of the European Union Agency for the Cooperation of Energy Regulators, or of any of its Boards.

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Measure, Report, Verify… and Act!

- **<u>One:</u> Existing infrastructure:**
  - Upgrades to prevent fugitive and vented emissions inherent to *deployed technology and routine operations* <u>AND</u>
  - Upgrades to *reduce the risk of anomalous events*
- **Likely regulatory needs to enable regulatory action (e.g. inclusion in RAB):**
  - Preferably direct site specific measurements, narrow confidence interval (OGMP Level 5 data specs), although lower OGMP levels could be used, too
  - 360º horizon: include non-GHG emissions (PM, SOx, NOx)
  - Emission savings based on actual gas flows, not capacity
  - Life cycle time horizon
  - Consistent costs and benefits analysis framework

Image source: https://cdn.egu.eu/media/filer_public/e4/1e/e41ee7f4-19f0-4f5e-b0a6-524c1f04342e/howarth_2019_biogeosciences_-_pipeline_blowdown_-_copy.jpg

Scoping Future Infrastructure: Decision Frameworks

- **<u>Two:</u> Future infrastructure:**
- **CBA in the TYNDP/PCI processes is limited:**
  - No computation of methane emissions
  - No computation of non-GHG emissions (PM, SOx, NOx)
  - CO2 emissions linked to capacity and not to gas flows
  - Low time granularity of the model
  - Dynamic interactions with electricity not captured
- **Sustainability of gas projects was – and is - highly debated**
- **Consider CH4 in the context of proposed technologies and modality of operations:**
  - All sources pertinent to the project (direct emissions - Greenhouse Gas Protocol Scope 1) – <u>mandatory</u>
  - GHG Scope 2 (indirect from purchased energy) and Scope 3 (emissions elsewhere in the chain – <u>for reference only</u>

Image source: https://www.energy-pedia.com/news/usa/sacgasco-provides-update-on-testing-at-the-dempsey-gas-well--onshore-california-172348

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Regulatory Fairness Needs Consistency

- **Consistency of Scope by Object*:**
  - **Scope 1 (own generated emissions – mandatory for all infrastructure, existing and future)**
    - Stationary combustion (process heaters, engines, turbines, flares, incinerators, oxidisers, production of electricity, heat and steam)
    - Process emissions (process vents, equipment vents, maintenance/turnaround activities, non-routine activities)
    - Mobile combustion (transportation of raw materials/products/waste; company owned vehicles)
    - Fugitive emissions (leaks from pressurised equipment, wastewater treatment, surface impoundments)
  - **Scope 2 (purchased energy – for info)** - stationary combustion (consumption of purchased electricity, heat or steam)
  - **Scope 3 (other energy consumption – for info)** - emissions related to other inputs not related to the direct purchase of energy; goods and services, employee commuting, business travel, etc.

*Cf. Scope in *"Comparison of methane reporting requirements"*, IOGP Report 630, February 2020, p. 10.

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Regulatory Fairness Needs Consistency

- **Domain: Intra-EU and 3rd countries** - be consistent across borders in each element of the MRV + the act sequence

- **Chain: apply consistent criteria across all links of the supply chain:**
  - ✓ Upstream – E&P, gas processing
  - ✓ Hi-pressure pipelines, compressor stations (CSs)
  - ✓ LNG: liquefaction, shipping, re-gasification
  - ✓ UGS – similar to upstream and CSs
  - ✓ Distribution
  - ✓ User-end

- **Mind the scale**: need consistency (and proportionality!) of:
  - The scale of the problem and the focus of the regulatory effort
  - The scale of the problem and the tools to address it
  - The costs and the benefits of the regulatory measures
  - Best industry practices and regulation
  - Best practices and technical norms and methods

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Impact Focus: Find the Elephant

- **The EU imports >80% of its gas over great distances**
- **Most of the EU gas chain GHG emissions occur outside the EU:**
  - 80+% (maybe more) of the upstream emissions
  - About 2/3 to 3/4 of the transmission, UGS and LNG emissions
- **Major CH4 emitters within the EU's internal gas supply chain*:**
  - Distribution (~53%, 0.3% of total GHG)
  - Transmission, UGS (~21%, 0.12% of total GHG)
  - Upstream (~17%, 0.1% of total GHG and declining)
- **Within-EU CH4 emissions in the gas supply chain* are:**
  - **Dwarfed by other GHG emissions**: 25.1 million tons vs. 4.3 billion tons **(0.5-0.6% of total intra-EU GHG emissions)**
  - Of those 0.5-0.6%, most (ca. 80%) are not related to transmission and UGS (their share is ca. 0.1% of total GHG emissions…)

- **Rendered to CO2 equivalent. Source: Annual European Union greenhouse gas inventory 1990–2016 and inventory report 2018. Submission to the UNFCCC Secretariat, 27 May 2018*

Florence School of Regulation activities on methane emissions

Andris Piebalgs and Maria Olczak (FSR)

European University Institute

ROBERT SCHUMAN CENTRE FOR ADVANCED STUDIES

FSR ENERGY

Florence School of Regulation

GIE/MARCOGAZ/Energy Community meeting on methane emissions

December 3, 2020

Andris Piebalgs and Maria Olczak

MRV & LDAR will be the basis of the legislative proposal

Actions in the energy sector

6. The Commission will deliver **legislative proposals in 2021** on:

- Compulsory **measurement, reporting, and verification** (MRV) for all energy-related methane emissions, building on the Oil and Gas Methane Partnership (OGMP 2.0) methodology.
- Obligation to **improve leak detection and repair** (LDAR) of leaks on all fossil gas infrastructure, as well as any other infrastructure that produces, transports or uses fossil gas, including as a feedstock.

7. The Commission will consider legislation on eliminating routine venting and flaring in the energy sector covering the full supply chain, up to the point of production.

8. The Commission will work to **extend the OGMP framework to more companies in the gas and oil upstream, midstream and downstream as well as to the coal sector and closed as well as abandoned sites**.

9. The Commission will promote **remedial work under the initiative for Coal Regions in Transition**. Best-practice recommendations and/or enabling legislation will be brought forward if necessary.

Measurement, reporting and verification of methane emissions: opportunities and barriers

Overall aim:

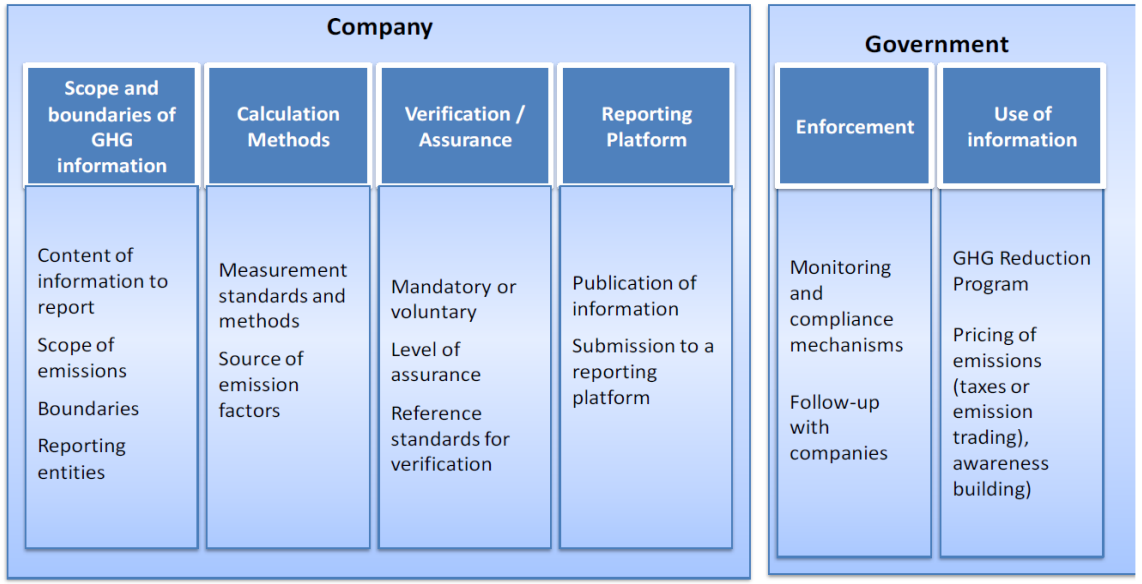
- to contribute to the creation of a robust MRV system for energy-related methane emissions

Specific objectives:

- to explore **what constitutes a robust MRV** system (elements, indicators)
- to investigate **what motivates** companies to report their emissions or to join voluntary initiatives such as OGMP 2.0
- to identify **the main barriers and opportunities** related to the creation of a MRV system
- to **provide recommendations** to address the identified barriers
- to identify **what could and what should happen** to create a robust EU MRV system and to reduce methane emissions (projections)

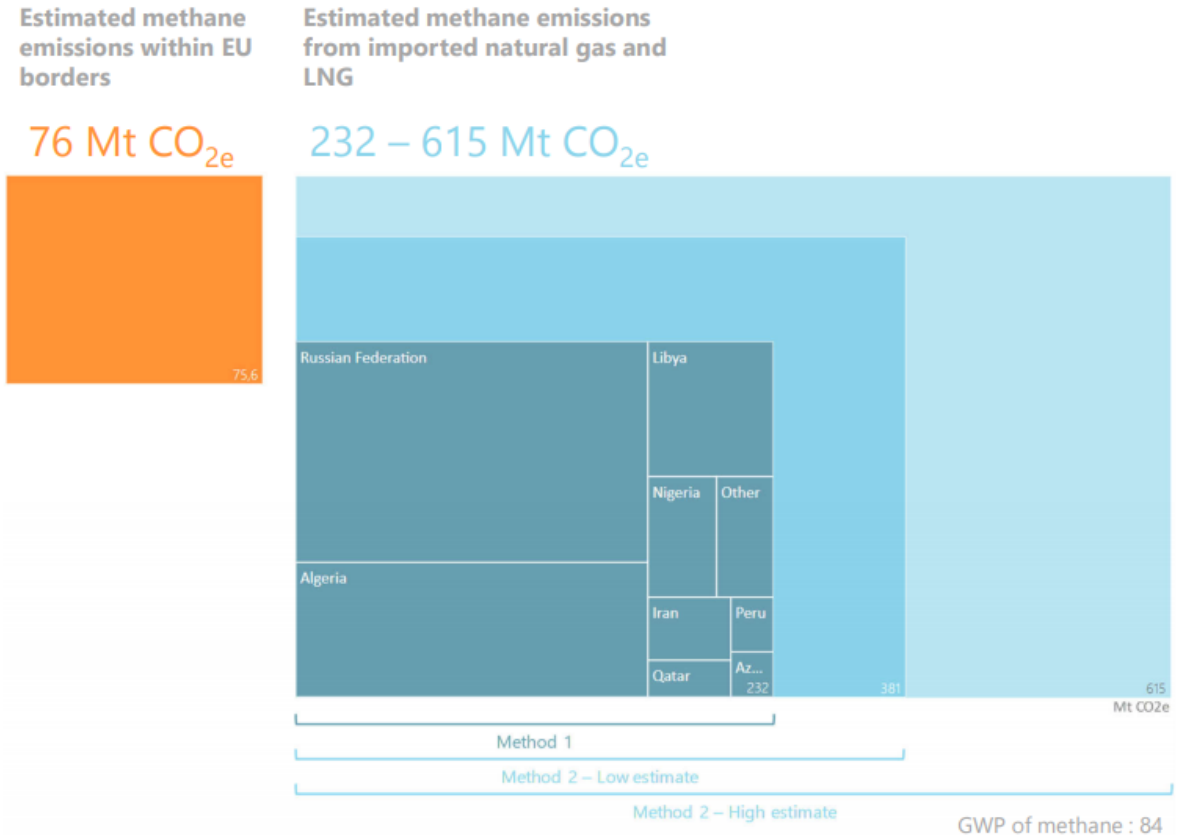
How?

- by conducting a series of semi-structured interviews with the main stakeholders: companies (upstream, midstream, downstream), investors, policy makers, regulators, civil society organizations, etc.



Building blocks of reporting schemes
Source: OECD, 2012.

How to track methane emissions from natural gas imports?

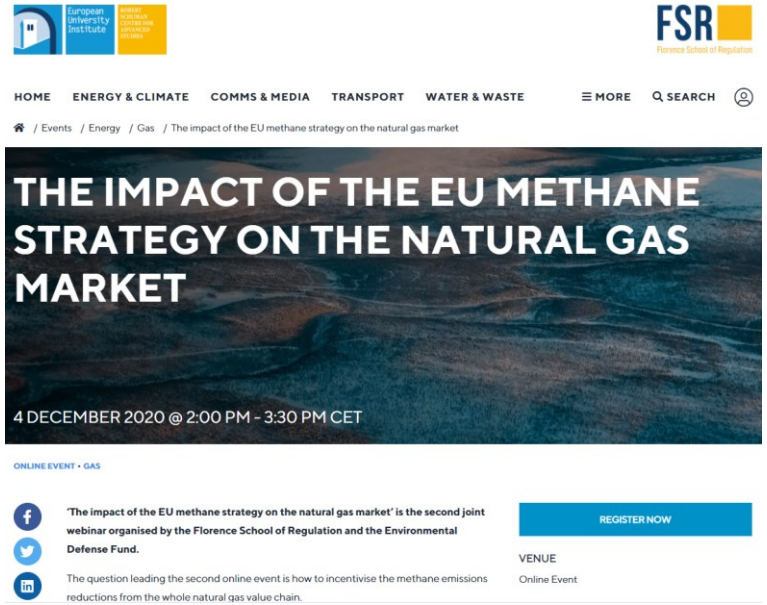


Source: [Carbon Limits, 2020]

- Carbon Limits analysed value chain methane emissions arising from natural gas imports
- less than ¼ of methane emissions from natural gas consumed in the EU occurs within the EU Member States borders.
- How to establish a transparent monitoring system?

2nd FSR-EDF webinar on December 4, 14.00-15.30 CET

- You can register here: https://fsr.eui.eu
- Opinion piece: The time is ripe to cut methane emissions in the natural gas value chain



Programme:

Introduction – Poppy Kalesi (EDF), Christopher Jones (FSR)

Keynote presentation by Stephanie Saunier (Carbon Limits)

Keynote presentation by Manfredi Caltagirone (UNEP)

Panel discussion – EU Commission, EU Parliament, Federal Ministry for Economic Affairs and Energy (GE) OIES, EDF, The Institute of Energy Economics (JPN), MiQ

Conclusions – Poppy Kalesi (EDF), Christopher Jones (FSR)

Closing remarks

Predrag Grujicic (Energy Community)
Jose Miguel Tudela (MARCOGAZ)
Francisco de la Flor (GIE)

Thank you for your attention!

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Gas Infrastructure Europe

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