Oil and Gas Methane Partnership 2.0

Starters Guide

OGMP 2.0
Reporting Timeline

The annual deadline for submitting the annual report and, optionally, the revised implementation plan is 31 May

Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
					
Company joins OGMP	Companies submit first report by 31 May based on previous year data		Member companies achieve Gold Standard Reporting status when all material operated assets are reported at Level 4 and Level 5 based on previous year data		Member companies achieve Gold Standard Reporting status for non-operated assets (*) when all material assets are reported at Level 4 and Level 5 based on previous year data

Companies may achieve Gold Standard Pathway status prior to years 3 and 5 via:

- **Submission of OGMP 2.0-compliant Level 1 (or higher) report for all in-scope assets**
- **Submission of a granular implementation plan per asset to get to Level 4/5 for all in-scope assets**
- **Establishing a methane reduction target: absolute reduction or intensity based**

(*) A new Task Force has been launched to work on Joint Ventures engagement, in particular on what constitutes ‘reasonable and demonstrable efforts’ to meet Gold Standard

OGMP 2.0
Governance Structure

Steering Group

- Formal governing body of OGMP 2.0
- All member companies + non-company members (incl. EC, EDF, CATF, UNEP)
- Meets at least 2/year to discuss high-level issues & make decisions by consensus (e.g. approve technical guidance)

Technical Task Forces

1. Technical Guidance Documents Task Force
2. Reporting Task Force
3. Uncertainty and Reconciliation Task Force (completed)
4. NOJV Engagement Task Force
5. Implementation Task Force
6. Target Setting Taskforce

2 Mirror Groups

- All companies represented to engage at technical level
- (1) Upstream and (2) Mid & downstream segment
- Meet bi-weekly/monthly to provide feedback on all technical deliverables to TFs
- Companies only – UNEP not involved

OGMP 2.0
Reporting Levels

Levels

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5
Venture/Asset Reporting	**Emissions Category**	**Generic Emission Source Level**	**Specific Emission Source Level**	**Level 4 + Site Level Measurement Reconciliation**
• Single, consolidated emissions number • Only applicable where company has very limited information	• Emissions reported based on IOGP and Marcogaz emissions categories • Based on generic emissions factors	• Emissions reported by detailed source type • Based on generic emissions factors	• Emissions reported by detailed source type using specific emissions and activity factors • Based on direct measurement or other methodologies	• Level 5: Integrating bottom-up source-level reporting (L4) with independent site-level measurements. • Site-level measurements: direct measurement technologies at a site or facility level on a representative sample of facilities

GOLD STANDARD REPORTING

Reporting all material assets at Level 4 and Level 5 within 3 years for operated assets and 5 years for non-operated assets

OGMP 2.0
Requirements and Data Disclosure

OGMP 2.0 requirements

- Define & disclose **methane reduction target**
- Submit **implementation plan** on pathway to **Gold Standard** guidance available on OGMP website)
- **Report annually** on methane emissions from **operated & non-operated assets**

Publicly reported data

- Declared methane **reduction targets** of companies
- Company total emissions (**aggregated** by core source and by level (1-5) & distinct operated and non-operated ventures)
  + **progress towards targets**
- Members can review company fact sheet before publication
- **Confidential asset level data and/or country level emissions data will not be publicly disclosed**

New Members - Journey to Gold Standard Pathway and Gold Standard Reporting

My company has signed the MoU – What is next?

- The company officially becomes OGMP 2.0 member – it is **represented in the Steering Group and introduced to mirror groups**. Company nominates technical, steering group, MARS focal points and share asset managers contact.
- Member to join the respective mirror group (UNEP to establish the contact).
- The company will start working on the elements to fulfil reporting requirements (submission deadline May 31of the year following signing year):

  1. **Compile a list of assets**
  2. **Determine the materiality of the assets**
  3. **Develop implementation plan, describing the company's pathway to reach the highest level of reporting (Gold Standard Pathway)**
  4. **Define corporate methane reduction target (to be included in the implementation plan and the webapp)**
  5. **Report on methane emissions from operated & non-operated assets (at least level 1)**

- Company is **encouraged to reach out to UNEP** to discuss its implementation plan and prepare its annual report.

OGMP 2.0 – Implementation plan key steps

UN environment programme

1 Preparation

- Methane and OGMP2.0 awareness
- Resource allocation
- Compile list of assets (to be validated by the OGMP2.0 team)

2 Materiality analysis: Portfolio level

- Emissions estimations for operated and non-operated assets (equity>5%)
- Identification of material and immaterial assets
- Commitment to reach L4 and L5 (required timeframe)

3 Materiality analysis: Asset level

- Emissions estimation based on the best available data
- Identification of material sources at asset level (at least L3)

4 Level 4 plans

- Planned or current Level 4 Technologies & Methodologies
- Resource allocation

5 Plans for site-level and L5 reporting

- Analysis of technologies to conduct site-level measurements
- Resource allocation

6 Non-operated assets

- Communication, access to data
- Works with NOJV partners to progressively achieve Level 4 and Level 5

Members are required to submit an **implementation plan** describing current methane emissions estimates and how they plan to achieve Gold Standard Reporting by the agreed dates.

Members have the option to revise their plan every year.

Methane Target

- Data availability, quality and further implications
- Scope
- Management involvement on target setting decisions

OGMP 2.0
1. Compile a list of assets

List your assets in the scope of the reporting framework

- Operated
- Non–operated
- Excluded - NOJV in which the operator is an OGMP2.0 member; NOJV **where my company has** a share of less than 5% equity in the asset (materiality rule), no permission to report, divestments

Please note that end users, oil product manufacturing i.e. refineries and chemical plants, biogas/biomethane plants, refueling stations are excluded

The reporting templates include tabs to report the assets

Refer to the Reporting Templates & Associated Guidance for a detailed list of asset types.

LIST OF OPERATED ASSETS/ VENTURES							
Asset/ Venture Name	Country	Location Latitude	Longitude	Operated?	Operator	% Equity	Comment/Additional information

2. Materiality analysis at portfolio level

Based on the list of your assets, perform the materiality analysis at the portfolio level (significance of emissions for assets in terms of total emissions):

- **Aggregate total absolute emissions** from all assets based on **best available data** and **rank them in terms of largest to smallest**. The **top 95%** of these assets are in scope for **L4/5 reporting**. Note - the ranking can be done for **operated and non-operated assets together or separately**.
- **Assets** account for **less than 5%** of total methane emissions are still reported but **not required to reach level 4/5**.
- **Non-operated assets** where the company has a share of **less than 5% equity** are not required to be reported (but they should be listed in the excluded tab).

*All material assets are ranked in terms of absolute emissions per asset. This step requires that emissions from operated assets are estimated at least at level 3. All assets that account for 95% of total emissions for a given operator are considered material. For purposes of this ranking we consider total emissions from each asset without accounting for equity (for reporting purposes only the equity share of emissions are attributed to a given operator).

Materiality analysis at portfolio level - Example

Super Operator – Absolute emissions from operated and non-operated assets are 10,000 t CH_4

Ranking of assets:

Asset	Description	Operator	Asset interest	Total Emissions (not equity based) (tpy)	Emissions Percent	Cumulative Percent
LNG liquefaction A	LNG liquefaction terminal; nominal capacity 9 MTPA; 6 trains and 4 LNG tanks; no flare installed	Super Operator	65%	4400	44%	**44%**
LNG liquefaction B	LNG liquefaction terminal; nominal capacity 3 MTPA; 3 trains and 2 LNG tanks	Super Operator	100%	3400	34%	**78%**
Compressor stations C	3 compressor stations	Super Operator	70%	1800	18%	**96%**
LNG liquefaction D (NOJV)	LNG liquefaction terminal; nominal capacity 2 MTPA; 2 trains and 1 LNG tanks	Operator 1	50%	300	3%	99%
LNG vessel 1	LNG vessel; Storage capacity 150,000 m3; Membrane; propulsion system: dual fuel engine	Super Operator	100%	100	1%	100%
LNG vessel 2 (NOJV)	LNG vessel; Storage capacity 180,000 m3; Spherical; propulsion system: ME-GI	Operator 2	**4%**			
LNG liquefaction E (NOJV)	LNG liquefaction terminal; nominal capacity 18 MTPA; 5 trains and 5 LNG tanks	Operator 3	**3%**			

Top **95%** of assets ➔ **material**
Require level 4/5 quantification for Gold Standard Reporting (3 years for operated & 5 years for non-operated)

Assets that account for less than **5%** emissions ➔ **non-material**
Required to report at L3, but level 4/5 not mandatory

Less than 5% equity:
➔ Can be reported as «Excluded»

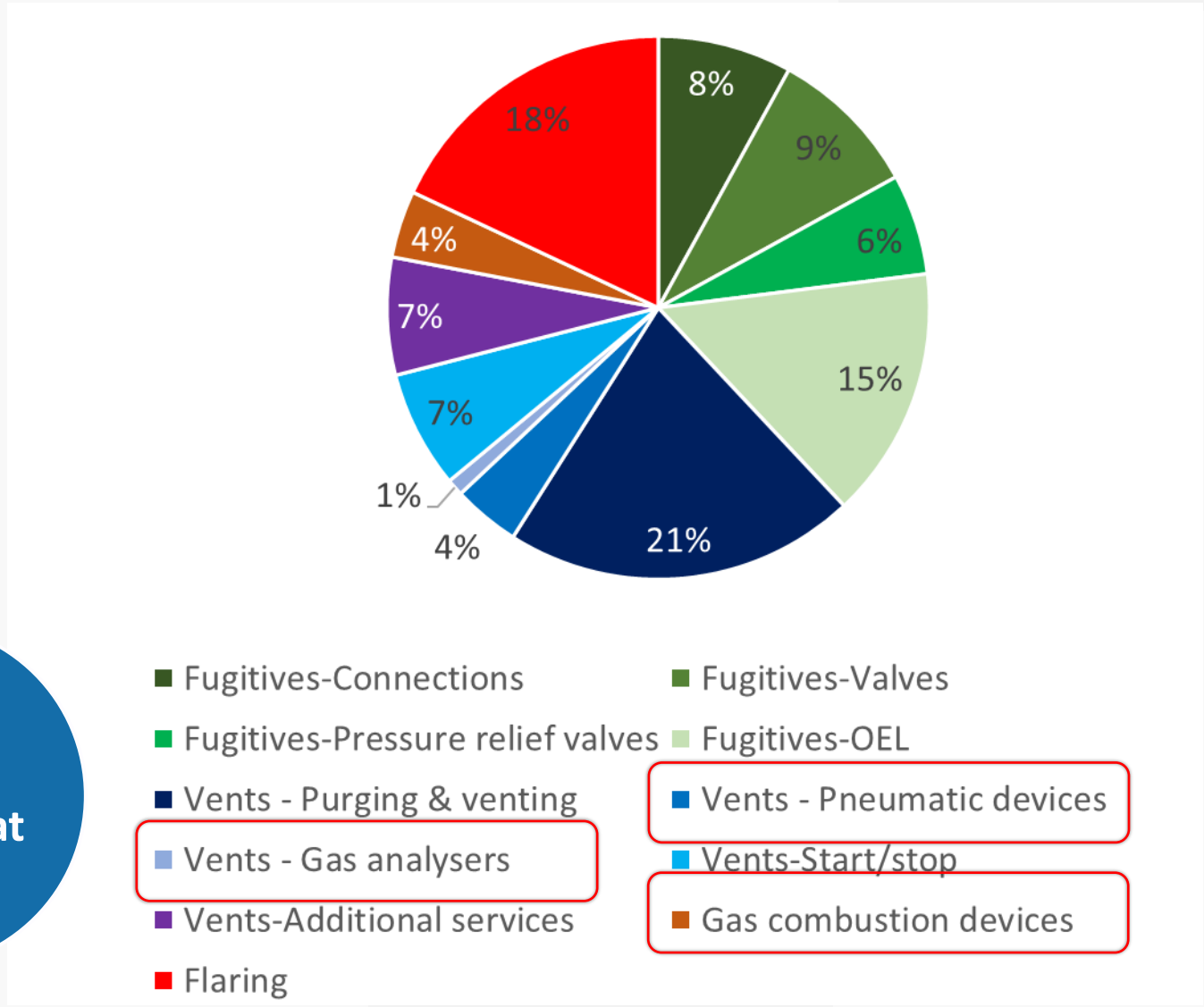
Materiality analysis

Asset Level Materiality

Materiality analysis should also be performed at asset level. The vast majority of emissions should be reported at level 4. In practice, this means:

- Prioritize more complete coverage of Level 4 measurements at assets that account for a larger share of operator-level emissions.
- For a given asset, rank all sources of emissions based on best available data (minimum L3).
- Perform L4 on sources that account for a minimum of 70% of the methane emissions from each asset with a justification as to why >90% is not reached.

Materiality analysis at asset level for each material asset - Example



9% of sources reported at L3

Emission sources contributing to top **90% of emissions at asset level➔ material sources**
Require level 4 quantification *

* Or at least 70% with a justification as to why >90% is not reached

Ranking based on best available data (minimum level 3 estimates)

De minimis (very minor) sources are out of scope of reporting (e.g. incomplete combustion in domestic boilers in the facility's buildings)

3. Company Performance Targets

Targets :

Individual performance targets for each company – to be reported on and ratcheted up with time

Either intensity or absolute target

UNEP Recommended Targets for industry as a whole:

45% by 2025

60-75% by 2030

or **'near zero'** emissions (0.2%) intensity

Targets for non-operated assets are desirable

Company chooses its own target!

Target setting – New members

- The target for new members should be set for no later than the 5th reporting year (rather than 2025 explicitly).
- Example: For a company signing the MOU in 2023, target should be no later than 2028.

Company Performance Targets

- OGMP 2.0 companies shall have a **methane emissions reductions target** that reflect ambitious emissions reductions goals. Additional targets – including for NOJVs - with further ratcheting are encouraged but not required. Companies announce their targets in the implementation plan, and not immediately upon joining the Partnership.
- Companies can decide to establish an **absolute** or an **intensity target**.
- Companies who set a **methane intensity target** will provide the information reflecting the denominator used in the methane intensity target. In case of upstream companies, they will provide, for example, the sum of all gas marketed or conveyed over the period to aid in calculation of methane emission intensity. In the case of mid- and downstream segments, they will provide, for example, transmitted gas, distributed gas, length of the pipeline, regasified gas, withdrawal gas, etc.
- Those companies who set an **absolute reduction target** should also report their baseline year and reference year for calculating the absolute reduction in methane emissions.

Relevant information to comply with the requirements (II)

Technical Guidance Documents - All approved TGDs are available on the OGMP 2.0 website:

- General Principles
- Level 1 and 2 reporting

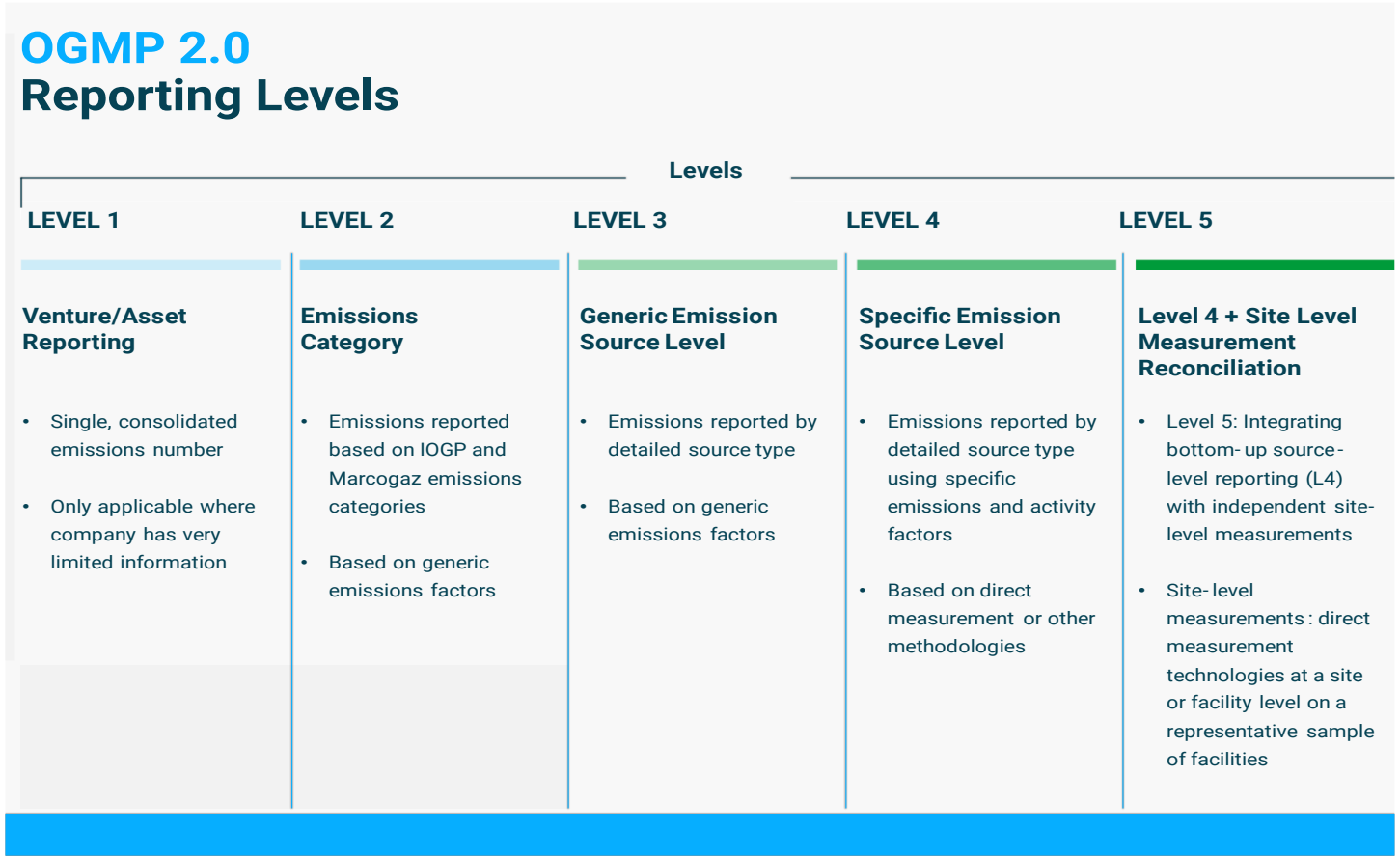
The following TGDs contain details on quantification methodologies for Level 3 and Level 4 reporting:

- Leaks
- Pneumatics
- Leaks and Permeation from Underground Pipes
- Gas Well Hydraulic Fracturing
- Oil Well Casinghead
- Purging and Venting
- Incidents, Emergency Stops and Malfunctions
- Liquids Unloading
- Reciprocating Compressors
- Centrifugal Compressors
- Incomplete Combustion
- Flare Efficiency
- Unstabilized Liquid Storage Tanks
- Glycol Dehydrators
- LNG Liquefaction
- LNG Shipping
- LNG Regasification

Guidance on uncertainty and emissions reconciliation (Link) – provides guidance on moving from Level 3 to 4 to 5.

Guidance is principles based (not rules based) because the guidance supports companies on a global basis across the full gas value chain. UNEP review will evaluate consistency with reporting framework and guidance to determine gold standard reporting status.

5. Report on methane emissions - Preparation



What is the understanding of my company about methane emissions? How are methane emissions quantified?

Analysis per asset to select the right level of reporting – Each asset needs to be reported **at least** at level 1

The same asset/facility can be reported at multiple levels (for different sources).

* Generic activity and emission factor-based emissions estimates that are not specific to the asset, but still detailed by source (e.g., US EPA Subpart W, US EPA AP-42, NGSI, GERG, Carbon Limits MIST) are generally level 3 (though some sources may be level 4) and may not represent a comprehensive list of sources for your asset.

Report on methane emissions – Reporting Levels

LEVEL 1 REPORTING

Level 1	**Venture/Asset Reporting** • Single, consolidated emissions number • Only applicable where company has very limited information

Supporting materials for this level of reporting are:

- General Principles
- Level 1 and 2 reporting

The company can select the general EF to be used. The TGD on Level 1 and 2 reporting contains a non-exhaustive list. Here is the list of the IPCC EFs per industry segment/part of the value chain.

The following formula is a general formula which allows to calculate methane emissions based on an emission factor:

$$E_i = EF_i * AF_i$$

Where:

E_i	Methane emission related to asset *i*
EF_i	Emission factor related to asset *i*
AF_i	Asset production/throughput activity factor *i*

Report on methane emissions - Reporting Levels

LEVEL 2 REPORTING

Level 2

Emissions Category

- Emissions reported based on IOGP and Marcogaz emissions categories
- Based on generic emissions factors

Supporting materials for this level of reporting are:

- General Principles
- Level 1 and 2 reporting

The company can select the general EF to be used. The TGD on Level 1 and 2 reporting contains a non-exhaustive list. Here is the list of the IPCC EFs per industry segment/part of the value chain.

UPSTREAM

Emission category	Quantification methodology	Example formula
Venting	Apply segment-specific IPCC disaggregation percentages for venting to Level 1 emission estimates factors to determine vented emissions for a given asset.	$Level\ 1\ Activity\ data * Level\ 1\ EF * IPCC\ share_{vents}$
Fugitive losses	Apply segment-specific IPCC disaggregation percentages for fugitive emissions to Level 1 emission estimates factors to determine fugitive emissions for a given asset.	$Level\ 1\ Activity\ data * Level\ 1\ EF * IPCC\ share_{fugitives}$
Flare	Calculate based on gas sent to flare. Assume 98% flare destruction efficiency for methane and if methane content of gas to flare is not known, assume 100% of the gas is methane. Can also be applied to thermal oxidizers and combustors	$Gas\ to\ Flare * Gas\ composition * CE$ e.g. $Gas_{flare} * 100\%\ CH_4 * 98\%$
Energy/Fuel combustion	Calculate based on fuel gas consumption by individual stationary and portable combustion equipment (except for flares). Multiply fuel consumption to combustion equipment by applicable emission factors (e.g. API compendium – see references section). Where applicable for a specific emission factor and not known, assume 100% of the gas to the combustion equipment is methane.	$Fuel\ consumption * Fuel\ composition * EF$ e.g. $Fuel_{consumption} * 100\%\ CH_4 * EF_{fuel}$
Other/Unspecified	Calculate based on company incident reporting (e.g. loss of primary containment tracking)	-

MID/DOWNSTREAM

Emission category	Quantification methodology	Example formula
Venting[1]	IPCC factors (per segment, choice of EF depending on available activity data) or reasonable endeavors at summing individual sources	$Level\ 1\ Activity\ data * Level\ 1\ EF * IPCC\ share_{vents}$
Fugitives	IPCC factors (per segment, choice of EF depending on available activity data) or reasonable endeavors using higher level approaches (e.g. facility) or equipment level EFs (API compendium (1))	$Level\ 1\ Activity\ data * Level\ 1\ EF * IPCC\ share_{fugitives}$
Incomplete combustion	Based on fuel consumption, fuel composition (if not readily available, assume 100% methane) and fuel based EFs (e.g. API compendium (2)) or combustion efficiency for flares (apply 98%) or IPCC factors (per segment, choice of EF depending on available activity data)	$Fuel\ consumption * Fuel\ composition * EF$ e.g. $Fuel_{consumption} * 100\%\ CH_4 * EF_{fuel}$ $Level\ 1\ Activity\ data * Level\ 1\ EF * IPCC\ share_{incomplete\ combustion}$

Report on methane emissions - Preparation

Level 3

- All possible sources across assets - > A complete inventory is required
- Generic emission factors

Level 4

- Guided by materiality assessment @ L3
- All possible sources across assets (considering asset level materiality analysis)
- Company-specific methodologies

Company specific methods:

- **Source level direct measurement**;
- Company/asset specific measurement-based emission factors/methods;
- Engineering calcs (as appropriate);
- Or any combination

Level 5

- Relies on L4 source level inventory as starting point
- Perform site-level measurements and estimate uncertainty
- Best estimates and associated uncertainty for each asset after measurement and reconciliation

Report on methane emissions - Reporting Levels

LEVELS 3 & 4 REPORTING

Level 3	**Generic Emission Source Level** • Emissions reported by detailed source type • 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

Company will report per source of methane emissions according to the reporting template structure. Supporting materials for this level of reporting are:

- General Principles
- Leaks
- Pneumatics
- Leaks and Permeation from Underground Pipes
- Gas Well Hydraulic Fracturing
- Oil Well Casinghead
- LNG Liquefaction
- LNG Shipping
- LNG Regasification
- Purging and Venting
- Incidents, Emergency Stops and Malfunctions
- Liquids Unloading
- Reciprocating Compressors
- Centrifugal Compressors
- Incomplete Combustion
- Flare Efficiency
- Unstabilized Liquid Storage Tanks
- Glycol Dehydrators

Report on methane emissions - Reporting Levels

Level 3 and **level 4** require a good understanding of the sources of methane emissions. Therefore, it is recommended to develop a full **inventory** of all potential sources. In some cases, the inventory is also required to comply with certain protocols and regulations.

The inventory should be built based on the following materials:

- P&ID’s
- Flow diagrams (PFD’s)
- Manufacturers information
- Heat material balances
- Safety data sheets

Report on methane emissions - Reporting Levels

LEVEL 5 REPORTING

Level 5	**Level 4 + Site Level Measurement Reconciliation** • Level 5: Integrating bottom-up source-level reporting (L4) with independent site-level measurements • Site-level measurements: direct measurement technologies at a site of facility level on a representative sample of facilities

Company will report at a site or facility level, reconciled with Level 4 estimates, considering the uncertainty analysis of both approaches. Supporting materials for this level is the **Guidance on uncertainty and emissions reconciliation** (Link)

Achieving **level 4** and **level 5** requires the use of detection and measurement technologies. OGMP2.0 is a technology-neutral initiative. Each company selects the technologies that are better adapted to its facility characteristics.

How do I lose the Gold Standard?

Companies will lose the Gold Standard in the following cases:

- Reporting is not submitted; or
- A corporate methane reduction target is not included in the implementation plan; or
- If the credible path defined in the implantation plan is not met; or
- If the company fails to report at levels 4/5 its operated assets in 3 years; or
- If the company fails to report at levels 4/5 its non-operated assets in 5 years; or
- If the company stops showing progress towards level 5 in its annual reporting under the Framework.

Other tools available

Publicly available and free technical references developed by third parties include:

- Mist by Carbon Limits
- Overview of methane detection and quantification technologies for offshore applications, 2024 update of a 2020 Carbon Limits report
- OGCI IOGP Ipieca Recommended Practices for CH4 emissions detection and quantification - upstream, 2023
- OGCI, OGCI & Ipieca Online Technology Filtering Tool
- Methane Reduction Management Best Practice Guides | MGP (methaneguidingprinciples.org)
- GIE, IOGP and Marcogaz Guidelines for Methane Emissions Target Setting

UN environment programme

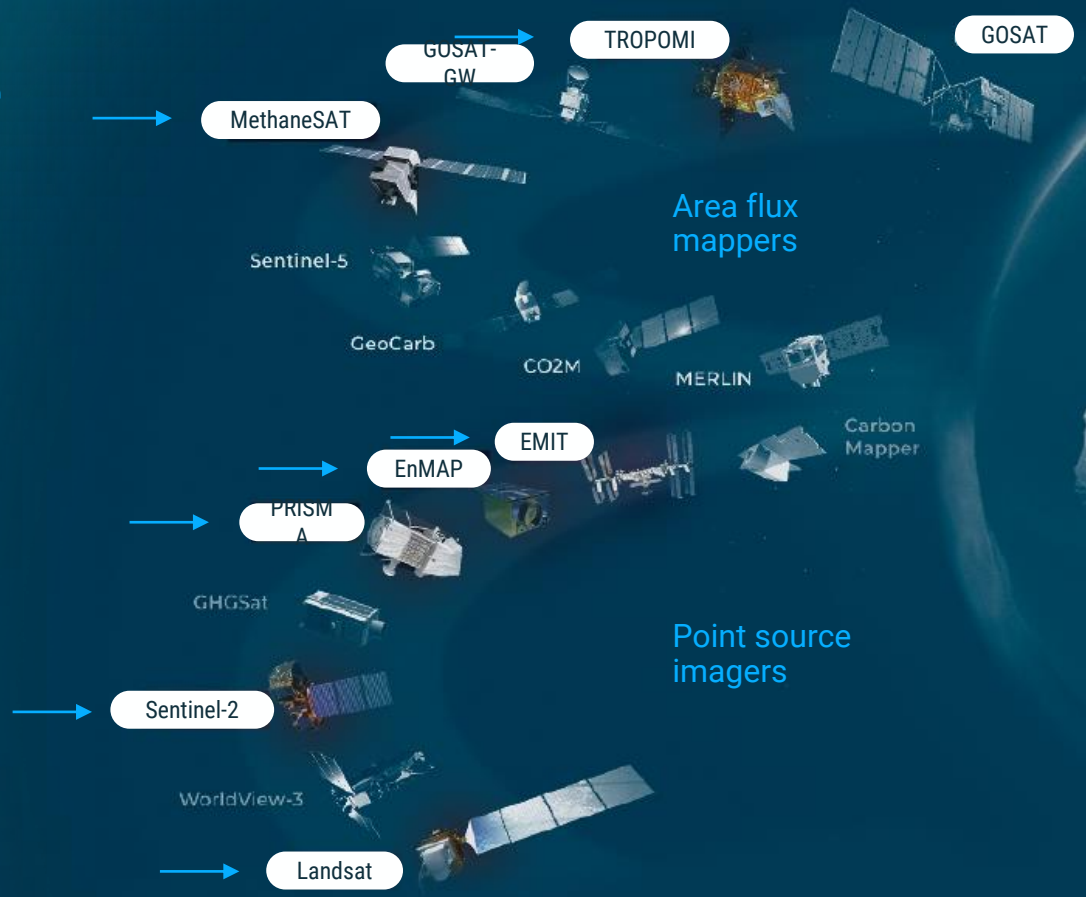
The International Methane Emissions Observatory's

Methane Alert and Response System

Component 1: MARS uses state-of-the-art, publicly available satellite data to drive notification and mitigation processes

Global mapping satellites are used to identify very large methane plumes and methane hot spots

Further analysis using other satellites and datasets **enables attribution**



Methane Observations from Space

SRON Netherlands Institute for Space Research

KAYRROS

Jacobs et al., ACPD, 2022

Component 2: MARS notification process (Initial and Full)

Initial Notification

1-3 days after detection of the plume

Initial notification on the event is communicated

Governments and MARS-participating OGMP 2.0 companies **notified simultaneously**
If non-OGMP 2.0, government **then** companies

Preliminary notice + feedback

- 1-2 days for acknowledgment
- 5 days for initial feedback

Maximum 2 weeks after detection

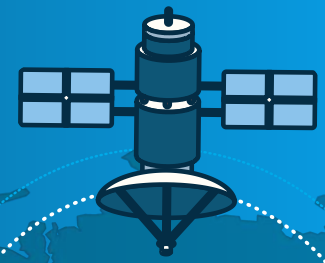
Additional analysis provided with a request to share next steps

Governments and companies notified **simultaneously**

Mitigation and Tracking

After 45-75 days, all non-proprietary data and metadata is made publicly available

UNEP invites stakeholders to participate in the MARS pilot programme



Governments work collaboratively with IMEO and its partners to identify focal points in the government to respond to any detected events, and to develop a process for response.

OGMP 2.0 member companies willing to participate in MARS share facility locations with UNEP to enable the localization of events and rapid mitigation action.

Non-OGMP 2.0 companies should join OGMP 2.0 to participate in MARS pilot.

Benefits include:

- Receive timely and direct notification from MARS on large emission events
- Access to support services from MARS partners, including potential assistance with assessing mitigation opportunities and support for mitigation actions

Meet the OGMP team

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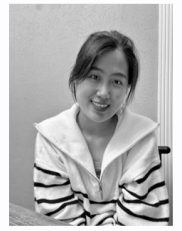

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Thank you