

OCTOBER 2021

# ENERGY

INDUSTRY REVIEW

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EC Endorses Romania's  
Recovery and Resilience Plan

**OGMP 2.0 REPORTING  
FRAMEWORK**

Achieving Gold Standard

**HEALTH IMPACT  
IN ROMANIA**

Human Toll from  
Western Balkan  
Coal-Fired Power Plants

**Oana Ijdelea, Partner at  
Ijdelea Mihailescu**

**Good Regulatory Practices  
to Support Business Development  
and Investment in Romania**



# OGMP 2.0 Reporting Framework: Definition, Where to Start, and How to Reach the Gold Standard

**Carbon capture, utilisation, and storage (CCUS) is an important emissions reduction technology that can be applied across the energy system. Also, CCUS could play a key role in oil and gas exporting countries low-emissions strategies increasing the resilience of core sectors of their economies in the era of the energy transition. The Oxford Institute for Energy Studies explains the most relevant things to consider when implementing this technology.**

**S**ince the launch of the Oil and Gas Methane Partnership (OGMP) 2.0 Reporting Framework, 71 oil and gas companies have now committed to report their methane emissions performances in compliance with this new framework. Has your company joined the partnership? Do you know what is required to comply? What does your plan to reach the Gold Standard look like? Which reporting level have you committed to? There is a lot of information to be processed and decisions to be made. In their recent whitepaper, The Sniffers gives some background information on OGMP 2.0, what the reporting requirements are, where to start, and how you can reach the Gold Standard.

## **The original Oil and Gas Methane Partnership (OGMP) summary**

The '2.0' indicates that there once was an original Oil and Gas Methane Partnership. The OGMP was created by the Climate and Clean Air Coalition (CCAC) as part of their Mineral Methane Initiative (MMI) and launched in 2015. The UN Environment Programme (UNEP), the European Commission, and the Environmental Defense Fund (EDF) lead the Oil and Gas Methane Partnership.

The OGMP is a voluntary initiative to help companies reduce methane emissions in the oil and gas sector. By participating, companies have the opportunity to address and demonstrate their methane emissions reductions and share their results with stakeholders.

Why? The Mineral Methane Initiative (MMI) aims to promote the following deep cuts in methane and black carbon emissions from the production, transmission, and distribution of mineral methane:

- A reduction of 45% in methane emissions over estimated 2015 levels by 2025,
- 60-75% reductions by 2030,
- Or a 'near zero' emissions intensity (such as the OGCI collective average target for upstream operations of 0.25% by 2025).

## **The launch of OGMP 2.0**

On 19 November 2020, members of the OGMP

		CH4 Emissions - Operated Assets/ Ventures		CH4 Emissions - Non-Operated Assets/ Ventures	
		Prior Year [Year]	Current Year [Year]	Prior Year [Year]	Current Year [Year]
Total CH4 Emissions Reported Using L4 - Emissions reported by detailed type and using specific EFs and activity factors	Stationary Combustion		0		0
	Flaring (Incomplete Combustion)		0		0
	Fugitive Component and Equipment Leaks		0		0
	Natural gas driven pneumatic equipment		0		0
	Centrifugal compressor shaft seals		0		0
	Reciprocating compressor rod packing		0		0
	Glycol dehydrators		0		0
	Tanks		0		0
	Well liquids unloading		0		0
	Well casinghead venting		0		0
	Hydraulic fracture completions		0		0
	Venting - Other		0		0
	Others Sources		0		0
	<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>TOTAL COMPANY METHANE EMISSIONS INCLUDED IN THIS SUBMISSION</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total CH4 Emissions Reported Using L5</b>	Total CH4 using Central Estimate				

Report example - Upstream Level 4 and 5

updated the framework. Why did they update it? Stakeholders now want to see companies' actual methane emissions performances and companies want to highlight their work on reducing methane emissions.

A robust methane reporting framework allows the industry to better understand the current situation, drive further reductions, and create more transparency towards the public and governments in the process.

Only when companies start monitoring and reporting their actual methane emissions situations externally in an accurate and transparent way, that collected data forms a credible baseline to assess progress towards targets, encourage mitigation activities, further improve methane detection technologies, and develop policies.

## Goals of the updated methane reporting framework

The OGMP 2.0 members have of course set goals when launching this updated framework agreement. Eventually, they aim to realize the following four goals:

1. Broaden the understanding of methane emissions across the value chain,
2. Improve methane emission reduction through credible and transparent methane reporting, flexibility, collaboration, and sharing best practices,
3. Assure governments and the public that methane is being

managed responsibly by the OGMP 2.0 members,

4. Attract oil and gas companies to join the OGMP 2.0 by providing a roadmap to meet the reporting expectations of the Gold Standard and to realize MMI objectives by 2025/2030.

## OGMP 2.0 updates: the reporting scope

The reporting scope for methane has been updated significantly. An overview:

### 1. All oil and gas segments are in scope

If your company has different assets and facilities along the oil and gas value chain, all these segments are now in scope. This includes methane emissions associated with oil refining, chemical manufacture, and gas end use.

### 2. Operated and non-operated ventures

If you have non-operated venture assets, you will have to include methane emissions figures from those assets in your report as well.

To accommodate this challenge, you have 3 years for your operated ventures and 5 years for non-operated ventures.

### 3. All sources of methane emissions

The reporting scope has been extended: all

COMMENTS (voluntary)		Levels 1, 2, 3, 4				Level 5	
		Methane	Level	Comments	Source for own data (please include one or more "X")	Methane	Comments
		kg/y	Please indicate the Level of the data: 1 / 2 / 3 / 4	Please feel free to provide additional information	Measurements EF Measurements EF Literature Calculation Modelling Estimation	kg/y	Please feel free to provide additional information
4.	Distribution	0				0	
4.3.	DSO - Reducing and/or metering stations; Valve stations; Injection stations; Blending stations						
4.3.a.	Fugitive Emissions (tightness failure)						
4.3.a.1.	Inlet Pressure 1						
4.3.a.2.	Inlet Pressure 2						
4.3.a.3.	Inlet Pressure 3						
4.3.b.	Vented						
4.3.b.1.	Maintenance (Valves/ Filter cleaning)						
4.3.b.2.	Regular emission technical devices						
4.3.b.4.	Incident / Emergency vents						
	Emergency						

Report example - Distribution System Operator (DSO) such as reducing and/or metering stations, valve stations, injection stations, blending stations

sources of methane emissions now have to be reported and there is no longer a limitation to the original nine core sources from the original OGMP framework.

Emissions from process venting, from unintentional leaks (meaning fugitive emissions), and from incomplete combustion (coming from heating, power generation, flaring) are now within scope.

#### 4. Direct emissions of methane

Direct emissions of methane (Scope 1 emissions as defined in the GHG Protocol Corporate Standard) have to be reported. Scope 2 or scope 3 emissions are out of scope.

#### 5. Five reporting levels

Five reporting levels have been defined. Why? The OGMP 2.0 acknowledges that companies and individual assets might not be on the same level for methane management and reporting.

Quite a lot has changed. It is challenging to start implementing all these changes in your methane emissions reporting approach. Even more so if you currently do not report your methane emissions performance.

## Legislative Framework European Commission on compulsory MRV

The OGMP membership of the 71 companies is a voluntary commitment to live up to the reporting standards.

However, the European Commission is planning to elaborate a legislative framework for the energy sector (oil and gas, coal, and biogas) on compulsory measurement, reporting and verification of all methane emissions, based on the OGMP2.0 framework.

58% of Europe's energy is imported and therefore, to guarantee an equal level playing field, imported energy streams will be in scope of this MRV requirement.

## The five reporting levels explained

As said previously, five reporting levels have been established in OGMP 2.0.

#### Level 1

- High level emissions reporting on gas system level or country level
- Using generic Emission Factors

#### Level 2

Reporting on asset level with distinction between 3 emission categories:

- Fugitive emissions
- Venting
- Incomplete combustion

#### Level 3

- Reporting on device or component level
- By detailed emission source type
- 13 different source types for upstream operators & 3 different main source types for mid/downstream operators
- Using generic Emission Factors (from literature)

#### Level 4

- Reporting on component level
- By detailed source type using direct measurements including sampling

- 13 different source types for upstream operators & 3 different main source types for mid/downstream operators
- Using specific Emission Factors and Activity Factors

#### **Level 5**

- Additional measurement validation on site level or asset level (drones, satellites) on top of the Level 4 reporting level
- Reconciliation of source-level and site-level emission estimates

## **How to achieve the Gold Standard of reporting**

Members of OGMP 2.0 are expected to work towards reaching the 'Gold Standard'. Where does this fit in the above five reporting levels? Well, you reach the Gold Standard reporting level when your company provides an explicit and credible multi-year roadmap with a commitment to report at level 4 and demonstrate efforts to move to level 5. Operated ventures will have 3 years to reach level 4/5, whereas non-operated ventures are given 5 years.

In other words, achieving the Gold Standard means reporting methane emissions annually on level 4, by detailed source type. Mid- and downstream operators have to classify their emissions in 3 main source types with 14 subcategories, depending on the nature of the assets. These 3 main categories are being fugitive emissions, vents, and incomplete combustion. Upstream operators are required to split their emissions in 13 different source types such as pneumatic equipment, flaring, stationary combustion etc. To reach the Gold Standard, you are required to use specific activity factors and emission factors coming from direct measurements on source-level, including sampling.

Please also bear in mind that you have to report your progress each year. Showcasing year-after-year efforts towards reduction and accurate methane emissions reporting is just as important as actually reaching the Gold Standard.

## **What OGMP expects you to submit to reach the Gold Standard**

1. An OGMP Level 1 compliant report on asset level for all your assets that are in-scope,
2. A granular plan per asset to get to Level 4/5 for all your in-scope assets within the required 3- or 5-year period.

Once you have achieved this level of reporting, you can keep the Gold Standard status by continuing to show your progress towards level 5 in your annual report and by eventually reporting annually in compliance with Level 5.

## **Recognition and loss of Gold Standard status**

If you wonder whether you will receive recognition for reaching the Gold Standard, the framework states that "companies that conform to the gold standard of reporting will be provided with the means to credibly demonstrate that they are contributing to climate mitigation and delivering



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COMMENTS (voluntary)		Levels 1, 2, 3, 4						Level 5	
		Methane	Level	Comments		Source for own data (please include one or more "X")		Methane	Comments
		kg/y	Please indicate the Level of the data: 1 / 2 / 3 / 4	Please feel free to provide additional information		Measurements EF Measurements EF Literature Calculation Modelling Estimation		kg/y	Please feel free to provide additional information
1.	Transmission							0	
	Total for transmission network								
1.1.	TSO - Pipeline Main lines								
1.1.a	Vents								
1.1.a.1.	Purging & venting (maintenance, process, commissioning&decommissioning)								
1.1.a.2.	Incident / Emergency vents								
1.1.a.3.	Other								
1.1.b	Incomplete combustion								
1.1.b.1.	Flaring								
1.3.	TSO - Reduction & regulating stations / Measurement stations / Valve stations / Consumer supply stations for metering and regulating								
1.3.a.	Fugitive Emissions								
1.3.a.1.	Connections (flanges, seals, joints)								
1.3.a.2.	Valves and control valves								
1.3.a.3.	Pressure relief valves								
1.3.a.4.	BD-OEL (blow-down open ended line)								
1.3.a.5.	OEL								
1.3.a.6.	Others								
1.3.b.	Vents								
1.3.b.1.	Purging & venting (maintenance, process, commissioning&decommissioning)								
1.3.b.2.	Regular emission tec. devices								
	Pneumatic devices								
	Gas analyser								
	Others								
1.3.b.3.	Incident / Emergency vents								
1.3.b.4.	Others								
1.3.c.	Incomplete combustion								
1.3.c.1.	Gas combustion devices								
	Heaters/pre-heating system/boilers, gas dehydration unit								
1.3.c.2.	Flaring								

Report example - Transmission System Operator (TSO)

against their methane improvement objectives and targets.”

Apart from receiving recognition, you can also lose the Gold Standard status. You will lose the status if you are unable to meet this credible path or report at levels 4/5 within the 3 or 5-year timeframes.

## Reporting requirements: timelines and templates

How long do you have to reach the Gold Standard? The initiators have set specific timelines to make it feasible for members to work towards the level 4/5 reporting target. This timeline is 3 years for operated ventures and 5 years for non-operated ventures.

These timings take the efforts that are necessary to execute these MRV programs into account while bearing in mind the goals of the Paris Climate Agreement. The OGMP 2.0 reporting templates, as visualized in this article, are based on earlier work from industry organizations; OGCI for upstream and Marcogaz for midstream and downstream.

## Who do I report to?

Who will you be reporting to? You will have to send your data to the OGMP, who will then monitor the progress of the industry. Individual data stays confidential, only consolidated, and aggregated data may be published.

The idea is that the International Methane Emission Observatory UNEP will process and aggregate the methane data and will be crosschecking data with the results of scientific studies.

## Measurement techniques to reach the Gold Standard

Before you start a measurement campaign, you have to fully understand the real actual emission situation, eliminating industry factors in order to move up from Level 1 to Level 4.

The Sniffers recommends creating an inventory of



all potentially emitting equipment or sources together with a proper classification. This is your starting point for an optimized on-site measuring campaign.

To reach Level 4 and the Gold Standard, it is necessary to measure directly at the source to determine the actual emissions of a leak or to determine specific Emission Factors for some devices. There are several techniques that you can use to determine the actual emission of a leak.

## **FID/PID devices**

FID or PID devices, such as a Toxic Vapour Analyzer, are ideal to detect methane leaks from 9 PPM onwards and they measure the PPM concentration. Ambitious companies, aiming for the best available technique, prefer to identify small leaks and get these repaired even before they can become bigger.

## **Optical Gas Imaging cameras**

Larger leaks can be detected with Optical Gas Imaging (OGI) cameras and are suitable to quickly screen large areas or safely check inaccessible sources.

However, OGI cameras do not tell you how big the leak is. With Optical Gas Imaging, you will simply get a leak/no-leak differentiation.

## **Remote Methane Laser Devices (RMLD)**

A Remote Methane Laser Device (RMLD) detects 'methane clouds' in non-accessible areas and gives a PPM value.

## **High Flow Sampling (HFS) or Bagging**

Another, superior technique, is High Flow Sampling (HFS) or bagging. This High Flow Sampler measurement device captures the gas leaking from the device or component and determines the mass leakage in kg/hour. In The Sniffers' opinion, this is currently the most accurate method to determine the size of a methane leak at source-level and is unique in the market.

While FID/PID and OGI are ideal measurement techniques for fugitive emissions, HFS is also advised to establish Emission Factors for venting devices such as regulators or gas-driven valves.

## **Ultrasonic measurements for vent and flare leaks**

Fugitive emissions are only a part of the total methane emissions in a facility. Vent or flare leaks can be responsible for large losses. They occur when internally passing equipment is defect.

These vent and flare losses can be detected with ultrasonic equipment.

## **IoT sensor networks, drones, and satellites**

The measurement techniques we mentioned so far are used for measurements directly at the source. However, if your company aims to reach the Level 5 reporting target, you will have to perform complementary site measurements to get a complete picture of your methane emissions performance.

Remote IoT sensor networks, UAV aerial surveys, such as drones or airplanes, or surveys with satellites are used to detect methane on a large scale. These site-level measurements are then reconciled with the aggregated source amounts from Level 4.

## **Which measurement technique works best?**

Every measurement technique has its benefits and limitations and gives different results. From The Sniffers' experience, the combination of measurement techniques, using a fit-for-purpose approach, gives the best results.

## **Data management**

When making an inventory and performing these measuring campaigns, you will collect a vast amount of data.

An emission management software platform makes it manageable to split the product stream in the correct composition ratios, execute the mass leak calculations according to the agreed protocols, process the repair information, and generate the consolidated OGMP compliant reports.

An emission management software platform helps bring structure to your strategy to comply with OGMP 2.0.

Collecting all these emission figures and executing the necessary calculations will generate the correct mass leak information to create an OGMP 2.0 compliant report.

Again, a proper emission management platform will enable you to prioritize and identify the biggest bad actors. These need the highest priority for repair or engineering change. ■