OGMP 2.0

March 2022

New technical guidance documents & news related to OGMP 2.0

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Oil and Gas Methane Partnership 2.0

What is OGMP 2.0?

- Comprehensive, measurement-based reporting framework
- Global coverage and scope (77 companies)
  - Upstream, midstream and downstream segments
  - Public, private and national oil companies
- Assets in scope represent over 50% of global oil and gas production in over 60 countries
- Over 20% of global natural gas transmission and distribution pipelines, over 10% of global storage capacity and nearly 15% of global LNG terminals

OGMP 2.0 Partners

Snapshot of Company Membership

OGMP 2.0: the “gold standard” of methane reporting

- OGMP 2.0 is the **only** comprehensive, measurement-based reporting framework for oil and gas industry
- Member companies report on **all material sources** of methane from both **operated and non-operated assets** across **all segments of the value chain**
- OGMP 2.0 provides assurance that member **companies who reach Gold Standard are managing emissions responsibly**
- EU Methane Strategy (Oct 2020) described OGMP 2.0 as “*the **best existing vehicle** for improving measurement, reporting and verification capability in the energy sector*"

OGMP 2.0 serves as **basis for the European Commission's methane regulation** (Dec 2021)

News about OGMP 2.0

- **Second OGMP 2.0 reporting round: deadline 31 May**
  Analysis of company data will be included in the second IMEO report to be released in the Fall

- **Uncertainty & Reconciliation Guidance** to be finalised and approved by Steering Group (March 2022)

- **Partnership continues to grow rapidly** with ongoing discussions with several interested companies

- **OGMP 2.0 Experience Sharing Workshops**:
  - 22 March: *Implementation Plans, Target Setting & Use of Reporting Templates*
  - Planned Next: *L4 Measurement Technologies, NOVJs Engagement, Uncertainty & Reconciliation, etc.*

New OGMP 2.0 members in the last months

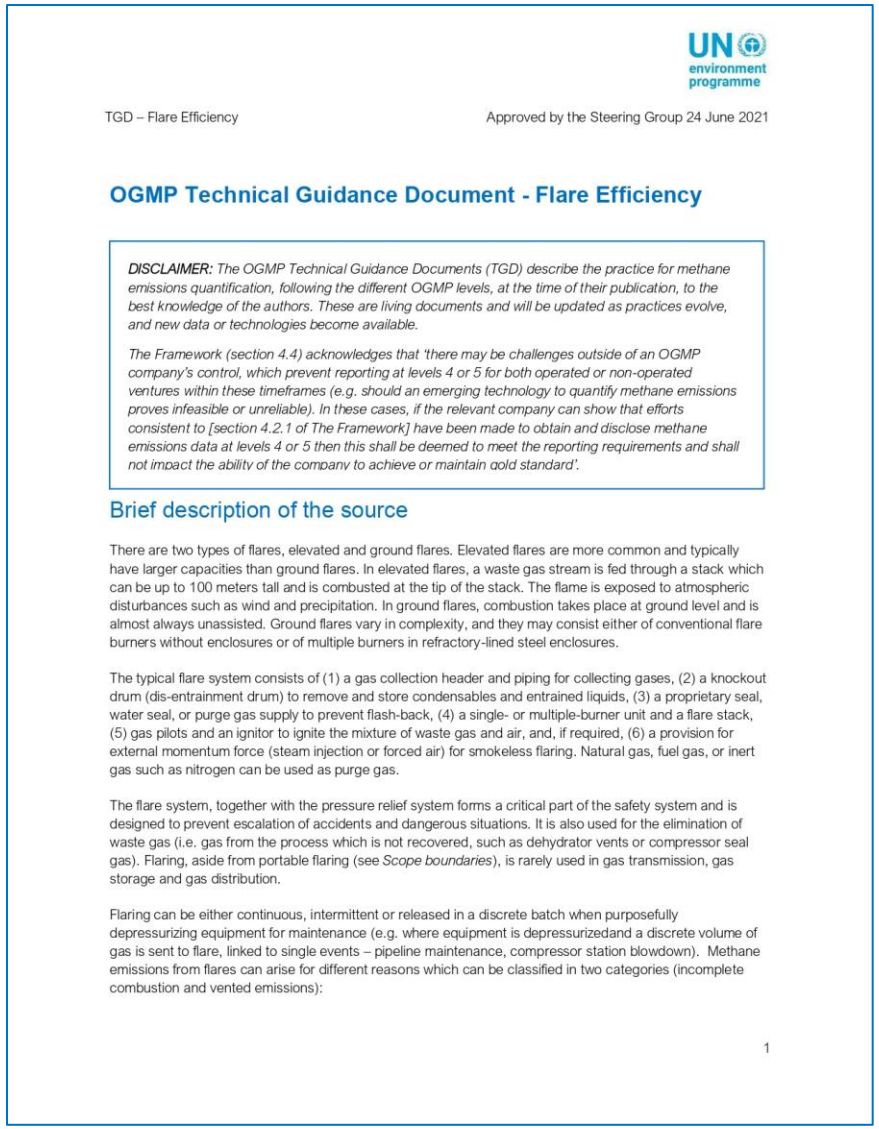
OGMP 2.0 Technical Guidance Documents

1. Technical Guidance Documents (to be finalized by March 2022)

- TGDs provide guidance on how to meet OGMP 2.0 reporting requirements for most common material sources
- Developed by TGD Task force, integrating inputs from both mirror groups
- Approved by Steering Group by consensus after 2 week no-objection period
- Approved TGDs available on the OGMP 2.0 website: https://www.ogmpartnership.com/templates-guidance

Natural gas driven pneumatic controllers, pumps and measurement devices	**Glycol dehydrators**	Gas well hydraulic fracture completion venting/flaring	**Incidents, emergency stops and malfunctions** (***under SG approval***)
Fugitive component and equipment leaks	Un-stabilized liquid storage tanks	**Flare efficiency**	**Level 1 and 2 reporting**
Centrifugal compressor shaft seals (wet and dry seals)	**Gas well liquids unloading**	**Incomplete combustion**	Permeation
Reciprocating compressors	Oil well casinghead venting/flaring	**Purging and venting, starts and stops and other process and maintenance vents** (***under SG approval***)	**General TGD** (***under SG approval***)

TGD example: Flare Efficiency



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TGD – Flare Efficiency | Approved by the Steering Group 24 June 2021

OGMP Technical Guidance Document - Flare Efficiency

DISCLAIMER: The OGMP Technical Guidance Documents (TGD) describe the practice for methane emissions quantification, following the different OGMP levels, at the time of their publication, to the best knowledge of the authors. These are living documents and will be updated as practices evolve, and new data or technologies become available.

The Framework (section 4.4) acknowledges that 'there may be challenges outside of an OGMP company's control, which prevent reporting at levels 4 or 5 for both operated or non-operated ventures within these timeframes (e.g. should an emerging technology to quantify methane emissions proves infeasible or unreliable). In these cases, if the relevant company can show that efforts consistent to [section 4.2.1 of The Framework] have been made to obtain and disclose methane emissions data at levels 4 or 5 then this shall be deemed to meet the reporting requirements and shall not impact the ability of the company to achieve or maintain gold standard'.

Brief description of the source

There are two types of flares, elevated and ground flares. Elevated flares are more common and typically have larger capacities than ground flares. In elevated flares, a waste gas stream is fed through a stack which can be up to 100 meters tall and is combusted at the tip of the stack. The flame is exposed to atmospheric disturbances such as wind and precipitation. In ground flares, combustion takes place at ground level and is almost always unassisted. Ground flares vary in complexity, and they may consist either of conventional flare burners without enclosures or of multiple burners in refractory-lined steel enclosures.

The typical flare system consists of (1) a gas collection header and piping for collecting gases, (2) a knockout drum (dis-entrainment drum) to remove and store condensables and entrained liquids, (3) a proprietary seal, water seal, or purge gas supply to prevent flash-back, (4) a single- or multiple-burner unit and a flare stack, (5) gas pilots and an ignitor to ignite the mixture of waste gas and air, and, if required, (6) a provision for external momentum force (steam injection or forced air) for smokeless flaring. Natural gas, fuel gas, or inert gas such as nitrogen can be used as purge gas.

The flare system, together with the pressure relief system forms a critical part of the safety system and is designed to prevent escalation of accidents and dangerous situations. It is also used for the elimination of waste gas (i.e. gas from the process which is not recovered, such as dehydrator vents or compressor seal gas). Flaring, aside from portable flaring (see *Scope boundaries*), is rarely used in gas transmission, gas storage and gas distribution.

Flaring can be either continuous, intermittent or released in a discrete batch when purposefully depressurizing equipment for maintenance (e.g. where equipment is depressurizedand a discrete volume of gas is sent to flare, linked to single events – pipeline maintenance, compressor station blowdown). Methane emissions from flares can arise for different reasons which can be classified in two categories (incomplete combustion and vented emissions):

1

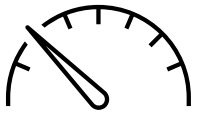
Approved by OGMP 2.0 Steering Group in **June 2021**

Structure:

- ***Brief description of the source***
  - Types of flares (elevated & ground flares)
  - What typical flare system consists of & its role
  - Types of flaring (continuous, intermittent or released in a discrete batch)
- ***Scope boundaries***
  - All sources of emissions related to incomplete combustion of waste gas as it is combusted in either a flare, enclosed flare or combustor should be reported under Flaring.
- ***Level 3 & 4 Quantification Methodologies***
- ***Example Models***

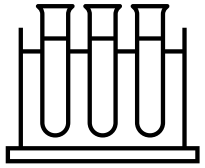
Flare Efficiency TGD – Level 3 Quantification Methodologies

The following quantification methodologies are considered as providing Level 3 estimates:



Gas flow

Directly measured
Mass balance



Gas composition

Directly measured
Mass balance
Process simulation
Regulated specification

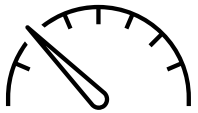
Destruction efficiency

Assume 98%

- **Accepted QMs/those prescribed by local regulation** are considered as providing L3 estimated if they consider all 3 parameters.

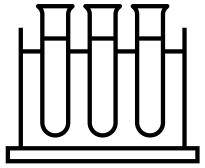
Flare Efficiency TGD – Level 4 Quantification Methodologies

The following quantification methodologies are considered as providing Level 3 estimates:



Gas flow

Continuous direct measurement
Mass balance
Process simulation



Gas composition

Continuous direct measurement
Sample measurement

Destruction efficiency

Measurement-based or determined via
Representative Sampling
Engineering calculations
Models

- **Uncertainty guidance** provides guidances on how to develop a statistically representative sample.
- **Importance of operators' judgment for both L3/L4**: practitioners should use methodologies that best represent conditions & practices of their facilities + adjust estimation methods given potential differences in their systems.

Thank you

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