

Methane policy recommendations for the EU

Upstream Venting and Flaring

I. CONTEXT

This document is focused on the upstream sector only.

Mid/downstream are outside the scope of this document due to the different nature of the assets and their characteristics, different definitions for some of the concepts included in the recommendations and different mitigation pathways. Recommendations on venting and flaring for mid/downstream can be found in the MARCOGAZ technical recommendations on venting and flaring ([link](#)).

Flaring and venting are the largest sources of methane emissions for the upstream oil and gas sector. According to IEA¹, in 2020, methane emissions from flaring and venting represents around 60 % of the global methane emissions for the upstream O&G sector.

For many years, upstream companies have individually, or through collective initiatives, taken actions to reduce flaring and venting, and associated GHG emissions. This includes the World Bank's Global Gas Flaring Reduction Partnership (GGFR)² a voluntary initiative composed of 33 governments, oil & gas companies, and multilateral organizations working to end gas flaring across the world. In 2014, the World Bank introduced the "Zero Routine Flaring by 2030" initiative (ZRF) which commits governments and oil & gas companies to no routine flaring (of associated gas) in any new oil field development and to end routine flaring, if economic, at existing facilities by 2030. This latter initiative, whilst voluntary, has gained traction over the last few years with many countries and companies now endorsing or aspiring to similar goals.

Published in October 2020, the EU Methane Strategy stated an intention for the Commission to consider a legislative proposal on eliminating routine flaring and venting, to complement the 2030 objectives of the World bank's Zero Routine Flaring initiative³. This paper aims to provide some recommendations for the EC to deliver legislative proposals to further reduce methane emissions from venting and flaring.

¹ IEA methane tracker database

² <https://www.worldbank.org/en/programs/gasflaringreduction>

³ <https://www.worldbank.org/en/programs/zero-routine-flaring-by-2030>

II. EXISTING FLARING AND VENTING REGULATION AND BEST PRACTICES

Flaring and venting sources are regulated in several jurisdictions. Regulations in Canada⁴, Mexico, Nigeria,⁵ Norway⁶, the US, UK⁷ are useful references and display the range of different regulatory mechanisms available such as consents, taxation and reporting. In Europe, the Emissions Trading System (EU-ETS) covers CO₂ emissions related to flaring.

The IEA “regulatory roadmap and toolkit”⁸ specifies several examples of prescriptive, performance based and economic regulatory approaches for flaring and venting. In its report “Putting gas flaring in the spotlight”⁹ published in December 2020, IEA indicates that successful strategies to reduce flaring and venting have certain common elements:

- Effective measurement and reporting systems in place;
- Incorporate productive use of associated gas at the planning stage, prior to the start of operations;
- For existing projects, obligations / incentives to encourage productive use of the gas;
- Strong, uniform regulatory oversight to ensure continuous improvement.

GGFR is currently conducting a comprehensive review of country-specific oil & gas flaring and venting regulations, building on specific reviews carried out in 2004 and 2011. This review, expected to be completed in Q4 2021, will address not only the regulations, but also how they are being applied, and will include an assessment of how effective they have been in reducing flaring and venting levels.

⁴ Canada Gazette, Part II

⁵ <https://ngfcp.dpr.gov.ng/media/1120/flare-gas-prevention-of-waste-and-pollution-regulations-2018-gazette-cleaner-copy-1.pdf>

⁶ Regulations relating to measurement of petroleum for fiscal purposes and for calculation of co₂-tax (the measurement regulations) - The Norwegian Petroleum Directorate (npd.no)

Regulations to Act relating to petroleum activities - The Norwegian Petroleum Directorate (npd.no)

⁷ Oil and Gas Authority: Flaring and venting - Consents - Licensing & consents (ogauthority.co.uk)

⁸ <https://www.iea.org/reports/driving-down-methane-leaks-from-the-oil-and-gas-industry>

⁹ Putting gas flaring in the spotlight – Analysis - IEA

III. FLARING AND VENTING BEST PRACTICES

Whilst flaring and venting will necessarily occur for safety purposes, there are opportunities to materially reduce both. Policy focus should be on sources where management and/or mitigation will result in a material reduction in emissions.

The reasons for flaring and venting are very varied. Whilst primarily for safety reasons, flaring can occur when there is no viable market for the gas, or re-injection of the gas is not technically possible and can also be as a result of conditions at specific locations such as the type and age of the asset, equipment choices and general operational performance. The EU should look for legislation to drive an overall reduction of all flaring and venting.

Whilst there are numerous best practice guides and technical notes the most relevant reference material is the Best Available Techniques Guidance Document on Upstream Hydrocarbon Exploration and Production¹⁰, published in 2019. This includes, under Section 11, flare and venting Risk Management and Best Available Techniques (BAT).

The Methane Guiding Principles initiative has developed a Best Practices Toolkit¹¹¹² which provides useful flare guidance and IPIECA, IOGP and GGFR are planning to publish a flaring best practice guide in late 2021. Flaring guidance is also available via the Oil and Gas Methane Partnership (OGMP)¹³, UNECE¹⁴ and the API¹⁵.

¹⁰ BAT Guide

¹¹ MGP, Best Practice Guide, reducing methane emissions, flaring

¹² MGP, Best Practice Guide, reducing methane emissions, venting

¹³ OGMP technical guidance

¹⁴

https://unece.org/fileadmin/DAM/energy/images/CMM/CMM_CE/Best_Practice_Guidance_for_Effective_Methane_Management_in_the_Oil_and_Gas_Sector_Monitoring_Reporting_and_Verification_MRV_and_Mitigation_FINAL_with_covers.pdf

¹⁵ API Standard, 520, 521, 537 and 2000

IV. ROUTINE FLARING AND VENTING

In the EU methane strategy and impact assessment consultations, the EU Commission shared its intent to address methane emissions from routine flaring and venting. Here we highlight the importance of clarity on key definitions and terminology in order to achieve emission reductions most effectively:

Routine flaring

The GGFR initiative, as described earlier in this note, provides a definition and guidance as to routine flaring. Company or regulatory definitions should broadly align with the World Bank guidance¹⁶. The GGFR defines routine flaring¹⁷ as the continuous flaring during normal oil production operations in the absence of sufficient facilities or amenable geology to re-inject the produced gas, utilize it on-site, or dispatch it to a market. Routine flaring does not include safety flaring, even when continuous. The definition as written applies to oil facilities (with associated gas) but the definition could be expanded to cover all upstream oil and gas operations. Examples of routine flaring include associated gas production where that exceeds existing gas infrastructure capacity, gas from equipment or processes, such as oil / gas separators, treatment units or storage tanks, where that is routed to the flare.

There remain some nuances that will need to be explored further to ensure that there is a consistent interpretation of routine flaring that keeps the focus on the most relevant sources and not, for example, on low pressure and low volume sources. The concept of ALARP (As Low As Reasonably Practical) is worth applying when considering measures to mitigate these minor flare sources.

Routing venting

There is not currently a universally accepted definition of routine venting and developing an agreed definition will be far more complex than for routine flaring given the characteristics and reasons for venting. Therefore, we recommend keeping the focus on an overall reduction in venting, targeting the more material sources. Existing best practices provide guidance on how to achieve such emission reductions for example through recapturing gas where possible and altering physical systems and operating practices to reduce venting¹⁸.

Should the EU wish to establish a routine venting definition and a related target then MGP would be happy to support the development, assessment and review of a definition.

¹⁶ World bank guidance

¹⁷ GGFR routine flaring definition

¹⁸ MGP, Best Practice Guide, reducing methane emissions, venting

V. FLARE DESTRUCTION EFFICIENCY

With methane from flaring being a major component of the total methane from many upstream facilities, it is recognized that the current assumption of 98% destruction efficiency is critical to the overall accuracy of reported methane. The flare destruction efficiency can be impacted by a number of factors including gas velocity, environmental conditions and the flare tip design. As such, it is recognized that the destruction efficiency can vary. Technology for determining the destruction efficiency is rapidly emerging but still at an early stage.

Efforts are underway to better understand the factors that impact flare destruction efficiency, identify improvements or design options and share experience with different approaches for determining destruction efficiency in the flares. These are anticipated to deliver guidance, reports or toolkits by end of 2021. We offer to work with the EU on the development and use of appropriate destruction efficiency in flares.

VI. RECOMMENDATIONS TO THE EU

EU proposals for legislation addressing flaring and routine venting in the oil and gas sector should include the following elements:

- The EU methane monitoring, reporting and verification standard should be based on the OGMP 2.0 reporting framework¹⁹ which includes venting and flaring amongst other sources of methane emissions.
- Requirement to eliminate routine flaring at all existing upstream Oil and Gas facilities by 2030 and require all new upstream Oil and Gas facilities are “zero routine flaring”.
- Requirement to reduce venting at existing upstream Oil and Gas facilities and require all new upstream Oil and Gas facilities to be designed minimising venting.
- Build upon the existing European Commission BAT Guide to formalize the safety and non-safety flare and venting mitigation options through a BREF or similar
- Develop or support work that will help define a default flare destruction efficiency and encourage improved methods for determination - as per guidance being developed by OGMP 2.0, the MGP flare project and others.
- Review the planned World Bank oil & gas flaring and venting regulations report due in late 2021 to develop suitable elements for inclusion in the EU legislative proposals.

¹⁹ MGP Methane policy recommendations for the EU -Measurement, Reporting & Verification of Oil and Gas methane emissions

Companies supporting the recommendations

