



METHANE
GUIDING
PRINCIPLES

Methane Guiding Principles Signatory Reporting

Enágas

May 10th 2021





COMPANY: **Enágas**

DATE: **May 10th 2021**

YEAR OF JOINING METHANE GUIDING PRINCIPLES: **2019**

SENIOR REPRESENTATIVE: **Claudio Rodríguez Suárez (Enagás' gas assets general manager and Steering Committee member)**

WORKING LEVEL REPRESENTATIVE: **Tania Meixús Fernández**

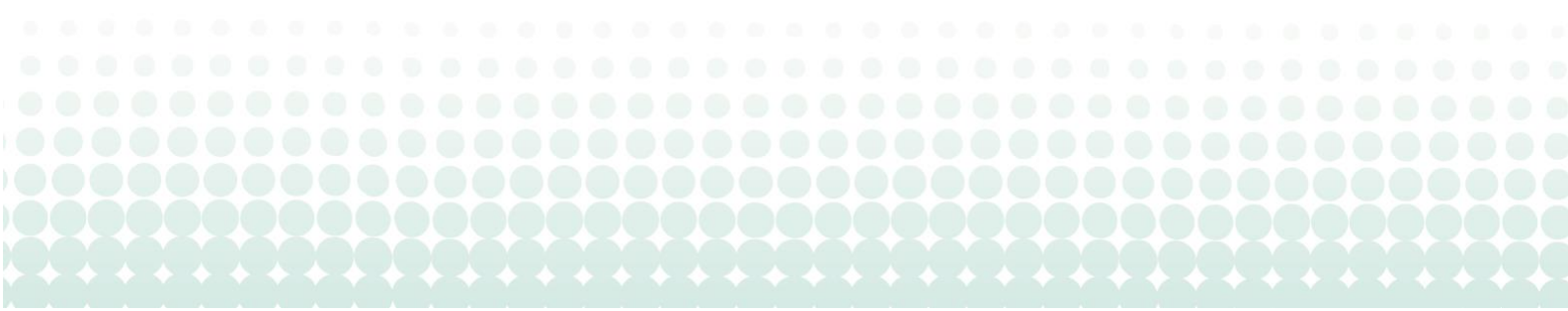
Principle One: Continually reduce methane emissions

2020 completed activity	2021 intended activity
<p>In 2020, methane emissions represented 26.1% of Enagás' carbon footprint (Scopes 1 and 2). Almost 63.5% of these emissions were due to venting during operation, maintenance and safety works or from technical devices and pneumatic valves- and the remaining 36.5% corresponded with uncontrolled and continuous gas leaks over time – fugitive emissions .</p> <p>In 2020, thanks to Enagás' efforts to reduce venting and fugitive emissions, methane emissions decreased by 20.6% compared to 2020.</p> <p>Regarding fugitive emissions, Leak Detection and Repair (LDAR) campaigns have been carried out since 2013 in our facilities according to European standard UNE-EN-15446 and US EPA's Method 21. The leaking components repaired during 2020 allowed a reduction of 291 tCH₄.</p> <p>In parallel with the LDAR campaigns, Enagás quantifies the detected fugitive emissions. It is worth highlighting that all facilities have been surveyed at least once since the first LDAR campaign in 2013. From 2020 onwards Enagás is carrying out annual LDAR campaigns at all its facilities, including the quantification of all the detected leaks.</p> <p>Venting of natural gas is more difficult to prevent as they are part of the operation and maintenance of the gas system and sometimes linked to safety.</p> <p>Measures implemented aimed at minimizing methane emissions include, among others:</p> <ul style="list-style-type: none"> • Annual Leak Detection And Repair (LDAR) Campaigns (including the quantification of all the detected leaks during the surveys). • Use of Boil-Off Gas (BOG) compressors in Liquefied Natural Gas (LNG) regasification plants. • Predominant use of air-operated or electric valves in regasification plants • Use in all our facilities of electric pumps. <p>Minimisation of vents by optimizing the use of natural gas analysers (gas analysers shutdown in periods of non-use) and natural gas valves removal.</p>	<p>Enagás will continue implementing mitigation measures and best available techniques to minimize its methane emissions.</p> <p>To reduce fugitive emissions in 2021 Enagás will continue performing annual LDAR campaigns in all our facilities ensuring that fugitives emissions are identified and repaired as soon as possible.</p> <p>Regarding vents, Enagás is analyzing the feasibility to incorporate improvements in its equipment to reduce the release of natural gas into the atmosphere. Some examples include:</p> <ul style="list-style-type: none"> - Gas recovery system for natural gas vented in a compressor station including the recovery of natural gas after each non-emergency stop and the natural gas from the primary seal. - Electrification of a turbocompressor.



What are your organisation's total methane emissions?

2020 completed activity	2021 intended activity
<p>In 2020, methane emissions accounted for 1,955 tCH₄. 63.3% correspond with vents (1,241) whereas fugitive emissions represents 26.5% (714 tCH₄) of total methane emissions. The following describes the emissions breakdown by type of facility:</p> <ul style="list-style-type: none"> - LNG terminals (3): 7% - Underground gas storages (3): 7% - Gas transmission (including compressor stations and reduction & regulating stations, measurement stations, valve stations): 86% <p>The boundaries of our reported data covers all assets over which Enagas has operational control (i.e. Spanish facilities). To develop our methane inventory we follow the guidelines set by international recognized standards/organizations such as GHG Protocol, IPCC, ISO 14064 and MARCOGAZ guides (e.g. <u>"Assessment of methane emissions for Gas Transmission & Distribution System Operators"</u>). Methane emissions are part of our carbon footprint which is annually verified by a third party (reasonable assurance).</p>	<p>In 2021 Enagás will perform a deep analysis of all methane emissions sources (scope 1 in operated assets) ensuring that all of them are included in our reporting boundaries. To this end, several internal working groups covering the different business lines have already been created.</p>



Does your organisation report methane intensity?
If so, please specify the intensity.

2020 completed activity	2021 intended activity
<p>In 2019, Enagás committed to reduce its methane emissions by 45% in 2025 and 60% in 2030 with respect to 2015 figures according to the <i>United Nations Global Methane Alliance</i> initiative. In this sense, given that our methane emission reduction target is an absolute target, we report and follow up absolute KPI figures to ensure that we are well in track to achieve targets set.</p>	<p>Enagás will continue following up its methane KPI figures to ensure that it is in track to meet the targets established.</p>

Do you have a methane emission target?

2020 completed activity	2021 intended activity
<p>In 2019, Enagás committed to reduce methane emissions from its activity by 45% in 2025 and 60% in 2030 with respect to 2015 figures (absolute target) according to the <i>United Nations Global Methane Alliance</i> initiative.</p> <p>In addition, in 2020, Enagás set a specific methane annual target that was achieved thanks to the implementation of methane reduction measures such as LDAR campaigns.</p> <p>Targets covers 100% of operations in which Enagás has operational control at the time of establishment. In this sense, data only covers assets in Spain, those in which we maintain management control. Targets covers CH₄ emissions from vents and fugitive emissions.</p>	<p>We plan to set a 2021 annual methane target so that we can closely track our progress towards meeting our 2025 and 2030 methane reduction targets.</p>



Principle Two:

Advance strong performance across the gas supply chain

2020 completed activity	2021 intended activity
<p>Enagás participates in a number of associations actively collaborating in the preparation of reports, studies and research related to methane emissions to engage industry players. During 2019 and 2020, the following were of note:</p> <ul style="list-style-type: none"> Enagás is an active member of GIE (Gas Infrastructure Europe) and MARCOGAZ. We are members of the Board of both organizations. In GIE we chair the methane emissions group. Enagás has the Presidency of the Sustainability Committee of MARCOGAZ. Enagás is also an active member of MARCOGAZ’s Methane Emissions and Sustainability Reports Working Groups among others. Within the framework of the “Methane Emission Working Group”, we participated in the development of CH₄ emissions quantification methodologies for the gas sector that will allow providing reliable information to governments, EU institutions, regulatory bodies and the civil society. <p>In this context, in 2019, Enagás, together with MARCOGAZ and GIE, led the study “<u>Potential ways the gas industry can contribute to the reduction of methane emissions</u>”. The report provides an overview of the status of CH₄ emissions in the EU gas sector and the actions undertaken by the gas industry until now while also containing information on ongoing initiatives and several proposed commitments for future actions of the industry.</p> <p>In 2019, information brochures on this study were published and a series of dissemination activities and training sessions were carried out (such as GasNaturally workshop at the European Parliament, EGATEC, Masterclass Outreach Training with the Energy Community and the Methane Guiding Principles).</p> <ul style="list-style-type: none"> MARCOGAZ also published the document “<u>Assessment of methane emissions for gas Transmission and Distribution system operators</u>”. It gives coherent technical guidance to gas grid operators across Europe to quantify their CH₄ emissions with a harmonized and transparent method. The principles of this methodology can also be applied to other parts of the gas value chain. This methodology can contribute to consistent CH₄ emissions data reporting, based and verified using the same methodology all over Europe, and contributing to comparability of data. This 	<p>Enagás will continue collaborating and participating with associations related to methane emissions to engage industry players. Some examples are:</p> <ul style="list-style-type: none"> GERG project on top-down detection / measurement technologies. MARCOGAZ technical recommendation on venting and flaring. CEN TC234 WG14 Technical Report to quantify methane emissions. Enagás, together with GIE and MARCOGAZ will continue disseminating information and raising awareness among the gas industry. <p>In addition, Enagás together with the CAMS (The Collaboratory to Advance Methane Science) have launched the project “LNG transport: measuring and minimising methane emissions”. The principal investigator is Paul Balcombe (Queen Mary University of London).</p> <p>Additionally, as already mentioned, Enagás will work with its affiliates in order to improve our engagement and their methane emissions data.</p>

document has become a reference for a CEN Technical Report which will be released next year.

- Moreover, in 2019 a **questionnaire on CH₄ emissions** was circulated among GIE, IOGP and MARCOGAZ members. The questionnaire aimed at evaluating the establishment of methane emissions reduction targets in the gas sector. As a result, Enagás, together with MARCOGAZ, GIE and IOGP, worked on the elaboration of "Guidelines for Methane Emissions target setting" (published in April 2020).
- Enagás together with GIE and MARCOGAZ, have provided information and data to the consortium (Wood, Carbon Limits, The Sniffers and TNO) hired by the European Commission to perform the study "Limiting methane emissions in the energy sector".
- In November 2020 Enagás joined the **Oil and Gas Methane Partnership (OGMP)**. The OGMP is a Climate and Clean Air Coalition initiative led by the UN Environment Programme, in partnership with the European Commission, the Environmental Defense Fund, and leading oil and gas companies. The **OGMP 2.0** is the new **gold standard** reporting framework that will improve the reporting accuracy and transparency of anthropogenic methane emissions in the oil and gas sector. In this context, Enagás together with GIE, MARCOGAZ and other gas companies have been collaborating with the European Commission (EC), UN Environment Programme and the Environmental Defense Fund, with the aim of having a common methane emissions reporting framework and a guideline to fill in the reporting template covering transmission networks, LNG regasification terminals, underground gas storages and distribution networks.

Within the OGMP 2.0 Framework Enagás has developed and sent a questionnaire on methane emissions to its affiliates to assess whether or not affiliates have set methane targets, methane reduction initiatives and how they are reporting methane figures.

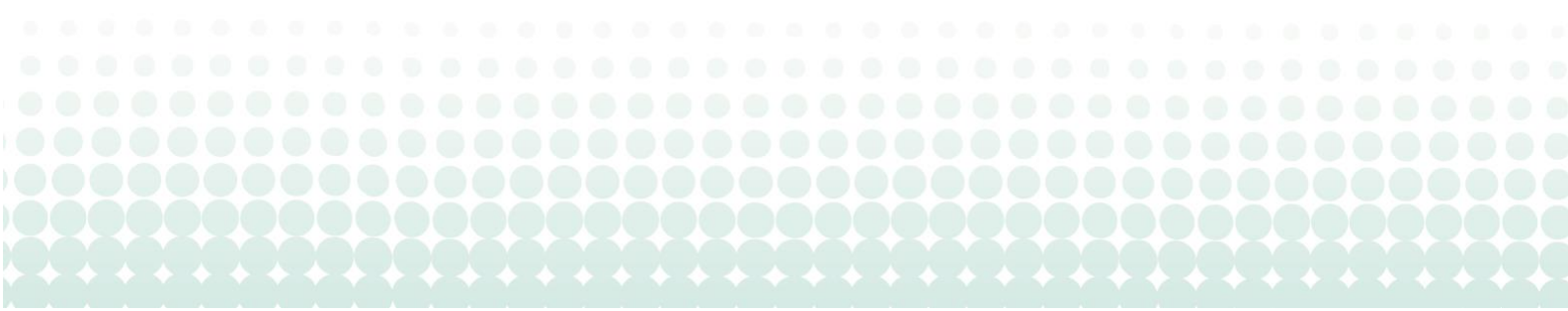
- Collaboration with the **Methane Guiding Principles** in the development of best practice guides for methane emissions reduction. In 2020 Enagás has collaborated in the elaboration of several case studies included in the publications Reducing Methane Emissions: Best Practice Guide Transmission, Storage, LNG Terminals and Distribution and Reducing Methane Emissions: Best Practice Guide Identification, Detection, Measurement and Quantification.



- Enagás also holds the presidency of the **UNECE Group** of Gas Experts within which one of the lines of work is methane emissions. In this field, the study “[Best Practice Guidance for Effective Methane Management in the Oil and Gas Sector: MRV and Mitigation](#)” and Enagás was a member of the Steering Committee. In this context Enagás provided a case study “[Enagás’ CH₄ emissions reporting, mitigation and commitment](#)” in 2020.
- Enagás is a member of the Board of the European Gas Research Group (**GERG**) which is meant to promote innovation in gas technology as a vital contributor to Europe's energy future. GERG is developing roadmaps in 3 important topics for the gas sector: methane emissions, biomethane and hydrogen. Under the framework of GERG, a project on bottom-up technologies has recently finished. The project focused on the analysis of different equipment for the measurement and quantification of fugitive emissions from transmission systems, and was supported by Enagás by constructing a test bench for the experiments.
- A new GERG project has been launched in 2020, focused on the analysis of methane emissions quantification methodologies following a top-down approach. The first phase will focus on the development of an state-of-the-art study, and it will be followed by the development of experiments and analysis of results. The project aims to set a harmonized approach for the application of top-down and bottom-up approaches to reduce uncertainty in methane emissions estimations.
- In addition, in 2020, The **Global Methane Initiative** published a case study on [Enagás: Commitment to “Global Methane Alliance” Targets](#).
- In 2020, Enagás has been working together with MARCOGAZ in the elaboration of “*Technical recommendations for LDAR Campaigns based on best practices applied by European gas operators*” which will be published in the near future.
- Enagás has also been working with GIE and MARCOGAZ in the development of a glossary on methane emissions.

Principle Three: Improve accuracy of methane emissions data

2020 completed activity	2021 intended activity
<p>To improve accuracy of methane emissions data, Enagás has been working on:</p> <ul style="list-style-type: none"> Leak Detection and Repair (LDAR) campaigns, including measurements, which have been carried out since 2013 in our facilities. At first, frequency of inspections have varied depending, among other factors, on the size and age of our installations, prioritizing those with the oldest equipment and with the biggest size. It is worth highlighting that from 2020 onwards Enagás is carrying out annual LDAR campaigns (including measurement) at all its facilities, thus increasing the frequency of LDAR campaigns and hence improving the accuracy of its data. Another important measure is the development in 2019 of a procedure and specific technical instructions for the measurement and quantification of fugitive emissions guaranteeing homogeneity in the measurements among all our facilities. In addition, during 2019, an IT application was developed to record fugitive emissions and enable increased control and management as well as data traceability, increasing data accuracy. In 2020 Enagás has also developed a specific IT application to register vents (compressor stations as well as gas transmission facilities) as per the OGMP 2.0 requirements in alignment with the gold standard. In addition, during 2020 an internal study was carried out trying out different bottom-up technologies to measure fugitive emissions. This study has enable us to determine what are the best devices to measure fugitive emissions in our facilities. This study has been complement with the results of the project developed by GERG on bottom-up technologies to measure and quantify methane emissions from the transmission systems. As already mentioned this study is supported by Enagás by allowing the test of selected devices to be taken in one of our installations. Finally Enagás is elaborating a state-of- the-art report where information on bottom-up and top-down technologies is being gathered taking into consideration our previous experiences using these kind of technologies (e.g. drones, helicopters, vehicles...). This report also includes a public-base review of satellites. 	<p>In the context of the OGMP 2.0, three task forces have been created (Reporting Template Task Force, Technical Guidance Task Force, Uncertainty and Reconciliation Task Force). In 2021 Enagás will be leading the Reporting Template Task Force and will also participate in the mirror group created to follow-up actions in all task forces.</p> <p>Additionally, Enagás is also part of the CEN TC234 WG14 that will develop a Technical Report to quantify methane emissions.</p> <p>Enagás will also continue with collaborative projects related to site-level measurements (wheeled vehicles, drones, satellites) in order to compare the on site measurements with available information on different sources of emissions.</p> <p>These activities will enable Enagás to improve its understanding on methane emissions and its data by integrating more accurate methodologies in our current quantification methodology.</p> <p>In addition, Enagás intends to closely work with its affiliates to engage in methane reduction initiatives as well as in improving methane reporting.</p> <p>Additionally, in 2021 Enagás has joined the “Methane from flaring working group” coordinated by the Methane Guidind Principles whose aium is to compile best methods used to more accurately calculate methane emissions from flaring and identify opportunities to improve the destruction efficiency of flares.</p>



Principle Four:

Advocate sound policy and regulations on methane emissions

2020 completed activity	2021 intended activity
<p>Enagás has participated in the workshops and public consultations organized by the European Commission to gather information for the EU strategy to reduce methane emissions. In this context, Enagás, together with GIE and MARCOGAZ, has been participating in bilateral meetings with the EC to provide sectorial information, real emissions data, best practices, etc.</p> <p>Enagás has also contributed towards the standardisation of comparable external methane reporting. In this sense, Enagás together with GIE and MARCOGAZ has been working in the development of the reporting template and technical guide to be used in the OGMP 2.0 Gold Standard which is referred to in the European Methane Strategy published on October 2020. Methane policy recommendations were also sent to the EC and other authorities (EC, ACER, FSR, UNEP, AIE, etc.) in 2020.</p>	<p>Enagás is fully committed to support the EC with the development of the legislation on methane emissions. In this sense, during 2021, Enagás will actively participate in EC public consultation as well as workshops.</p>

Principle Five:

Increase transparency

2020 completed activity	2021 intended activity
<p>To increase transparency on methane emissions we include relevant information on our mainstream report Annual Report and on our website. During 2020 we updated our website and included a specific section for methane emissions. Our response to CDP Climate Change Questionnaire includes methane data.</p> <p>In addition, we collaborate with several initiatives in sharing best practices and providing methane data which are included as case studies in public publications. Some examples include:</p> <ul style="list-style-type: none"> • Methane Guiding Principles: • Reducing Methane Emissions: Best Practice Guide Transmission, Storage, LNG Terminals and Distribution (Case study 5 and Case study 7) • Reducing Methane Emissions: Best Practice Guide Identification, Detection, Measurement and Quantification (Case study 5 and Case study 7) • UNECE: Enagás' CH₄ emissions reporting, mitigation and commitment 	<p>Enagás, as a leading company in the management of GHG and methane emissions, will continue providing information on external reports (i.e. annual report, website, OGMP) and in public publications made by organizations.</p> <p>In 2021 Enagás will submit its OGMP Implementation Plan to reach the "Gold Standard" in its operated and non-operated assets and will also submit 2020 methane data using OGMP reporting template.</p>





Additionally, in November 2020 Enagás joined the **OGMP Partnership**. The **OGMP 2.0** is the new **gold standard** (methane emissions) reporting framework that will improve the reporting accuracy and transparency of anthropogenic methane emissions in the oil and gas sector.

Commentary:

Additional information about methane emissions can be found in our [website](#) and in our latest [Annual Report](#).