METHANE GUIDING PRINCIPLES

Methane Guiding Principles Signatory Reporting

SNAM

January 2022

COMPANY: **SNAM**

YEAR OF JOINING METHANE GUIDING PRINCIPLES: **June 2018**

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Principle One:
Continually reduce methane emissions

2021 completed activity	2022 intended activity
Snam has a **multi-year programme (2018-2024)** to reduce methane emissions for all its businesses (gas transmission, storage and regasification). Some initiatives are described below: • Leak Detection and Repair (**LDAR**) according to **EN 15446** and **US EPA's Method 21**, implemented on a regular basis from 2020; • Use of the gas **in-line recompression** technology, to recompress gas instead of venting it on the occasion of maintenance or construction works on the gas transportation network; • Use of **hot-tapping technique** for pipeline connections; • **Pipeline pressure reduction** at the lowest possible level on the occasion of maintenance activities or construction works; • Recovery of blowdown gas at compressor stations using **stationary compressors**; • **Installation/replacement in pressure reducing stations of valves** to reduce emissions from the condensate tank of filters (approx. 350 stations) and from the blowdown vents (more than 200 stations); • **Replacement of gate valves with ball valves** in compressor stations (station and compressor blowdowns) and in pressure reduction stations (station blowdowns); • **Conversion of pneumatic controls** to compressed air or to electrically controlled devices; • **Replacement of high-bleed regulating valve control devices** with low emission devices in pressure reducing stations. More details can be found in the Methane Guiding Principles (MGP) Best Practice Guide for Transmission, Storage, LNG Terminals and Distribution, where several Snam initiatives are presented as case studies: https://methaneguidingprinciples.org/best-practice-guides/. 2021 emission data is not available yet and will be provided later in 2021; in 2020 Snam total methane emissions from operated assets accounted for **34.96 MScm of natural gas** (21.968 tons of methane):	Snam will continue implementing its multi-year programme, with a major focus on LDAR. Consequently, Snam emissions in 2022 are expected to decrease in line with the path towards the -55% reduction target by 2025 vs 2015. At least a **-40%** reduction is expected.

- 28,49 MScm from the transmission system (17.922 tons of methane);
- 5,18 Mscm from storage (3.260 tons of methane);
- 1,29 from Liquefied Natural Gas (LNG) (786 tons of methane).

The emission breakdown by source is:

- Vented emissions: 7,19 MScm (4.503 tons of methane);
- Fugitive emissions: 17,67 MScm (11.115 tons of methane);
- Pneumatic emissions: 9,83 (6.184 tons of methane);
- Unburnt: 0,26 MScm (165 tons of methane).

In 2021 Snam set a new absolute target to reduce total natural gas emissions from operated assets (gas transmission system, Underground Storage (UGS) and LNG) by **55% by 2025 vs 2015**, improving the previous target (-45%). This target is more ambitious than both the OGMP 2.0 recommended target (-45% at 2025 vs 2015) and the Global Methane Pledge target (-30% at 2030 vs. 2020). This commitment is also aligned with the Snam overall goal to become **Net Zero Carbon by 2040**.

In 2020 a reduction of 4.3 MScm of natural gas vs. 2019 was achieved (-10,9%), while **the reduction vs. 2015 (base year) was of 14,8 MScm (-29,7%),** in line with the path towards 2025. These reductions were achieved through the ongoing implementation of the mitigation measures mentioned above.

Snam also has a target **to recover every year at least 40% of natural gas** that can be potentially emitted from maintenance activities of the transmission system (on average over the last five years), and which is recovered with in-line recompression, hot-tapping, lowering pipeline pressure before venting and recovering blowdown gas with permanent compressors in compressor stations, instead of venting. In 2020 this target was **achieved (49% of gas recovered on average over the last five years).**

These targets are included, among others, in our **ESG scoreboard**, which is monitored and reviewed annually.

Please state what specific activities or projects your company has undertaken to reduce methane emissions. Please refer to the previous year's annual MGP reporting where applicable to refer to intended activity. Link to sustainability report where relevant to provide further detail. Describe how the reduction was achieved including description of the asset type, technology type, timeframe. What was the end result? Provide data to support your description e.g. the actual amount of emissions reduction achieved, or the reduction in methane intensity.

Principle Two:
Advance strong performance across the gas supply chain

Please include answers to the following questions:

1. Did you participate in any methane research or plan to do so?
2. Did you conduct any outreach on methane management?

- Describe what action you have taken to engage industry players across the value chain to better understand how to achieve robust methane emissions management. Outreach activity could include training sessions, participation in webinars, influencing of NOJV partners, or publication of guidance. Activity could also include commercial incentives or engagement with investors to drive better performance by others.
- Provide details of any outcomes that resulted from your action.

2021 completed activity	2022 intended activity
In 2021 Snam organized several meetings with its national (OLT and Adriatic LNG) and international **affiliates** (Terega, Desfa, TAG, GCA, TAP, IUK, ADNOC), to share best practices and methane reduction strategies, and provide guidance for the OGMP 2.0 implementation plan to achieve the Gold Standard. **A special mention** was awarded by Snam in the **IMEO 2021 Report**, for its effort to engage its affiliates to either join OGMP 2.0, or to provide methane emissions data and implemtantation plans to reach the Gold Standard (https://www.unep.org/resources/report/eye-methane-international-methane-emissions-observatory-2021-report). In addition, in 2021 Snam has reinforced its commitment to decarbonisation by also setting **targets on Scope 3 emissions**: • 46% of emissions from participating companies, fuel and electricity production, business travel and employee commuting by 2030 vis a vis 2019 values; • 55% tCO2e/M€ capex for suppliers by 2030 vis a vis 2019 values. To achieve the first target, futher engagement on methane emissions with the Non-Operated Joint Ventures (NOJVs) will be needed. In 2021 Snam actively participated in the debate on the preparation of the document **"Guidelines for an Italian strategy on methane emissions from the natural gas supply chain"**, a study carried out by the environmental association Friends of the Earth (Amici della Terra) with the support of Environmental Defense Fund Europe (EDF-Europe). This document is the result of direct participation of operators from several segments of the supply chain, technology providers, trade associations, environmental NGOs and relevant institutional players in Italy. The purpose of the document is to encourage an active participation of Italy in the stages of the European legislative process, starting from the measures provided for in the Methane Strategy. The strategy also includes, among other proposals, specific quantitative targets for the upstream, transport and distribution sectors (http://amicidellaterra.it/index.php/studi-e-attivita/energia/all4climate2021/269-verso-una-strategia-italiana-per-la-riduzione-delle-emissioni-di-metano-della-filiera-del-gas-naturale).	Snam will continue to engage and collaborate with its **NOJVs** to provide **guidance on methane emissions**, also in accordance to the data collection requirement of the OGMP 2.0 Framework and the new Scope 3 emission reduction target.

Principle Three:
Improve accuracy of methane emissions data

- Describe action taken to improve methane emissions data collection methodologies. This could be application of new technology at an operated site(s), investment and participation in R&D initiatives, development of monitoring/modelling software, or support to research that improves the accuracy of the quantification of methane emissions.
- Where new technology /software has been piloted or adopted, it is helpful to describe how it works, the reasons it was selected, and how it was deployed. Any data that can be shared to demonstrate improvements is useful.
- How these new methods/technolgies has been adopted into your accounting process if at all.

2021 completed activity	2022 intended activity
To determine emissions, Snam developed in the 1990s its own **methodology** in co-operation with the US-Gas Research Institute and Radian, compliant with the European Marcogaz methodology, developed by the European Gas Industry. This methodology is integrated with a series of **personalized emission factors determined through measures taken in the field**, on a representative sample of facilities, applying EN 15446 standard. Snam methodology is currently equivalent to a **Tier 3 approach, according to IPCC guidelines,** and the emission data quality corresponds to a **level between 3 and 4, according to the OGMP 2.0 Reporting Framework.** In 2021 Snam defined and started implementing an action plan to achieve the gold standard of the Framework, i.e. a path to move to level 4 and 5 of the Framework and in October **Snam was awarded with the Gold Standard of the OGMP 2.0 Framework** on methane emissions reporting. Snam, with other European Transmission System Operators (TSOs), is also participating in a **GERG project**, focused on the analysis of methane emissions quantification methodologies following a **top-down approach**. A first phase was focussed on a study on the available state-of-the-art technologies, and it was followed by some field tests and analysis of results. The project aims to set an harmonized approach for the application of top-down and bottom-up approaches to reduce uncertainty in methane emissions estimations. From 2020 Snam has started a **LDAR programme** on a regular basis with measurements of all the leaks according to **EN 15446** and **US EPA's Method 21** in over 1,000 facilities to be completed in four years, hence improving the accuracy of fugitive emissions data.	In 2021 Snam will continue implementing an action plan to achieve the gold standard of the OGMP Reporting Framework, i.e. a path to move to level 4 and 5 of the Framework, in particular with some tests of top down measurement techinques in its own facilities and measurement campaigns for pneumatic emissions.

Principle Four:
Advocate sound policy and regulations on methane emissions

Advocacy consists of active participation in legal consultation processes, external policy statements, and direct engagement with government

- Consider providing details on the region or regulation involved, how you undertook your advocacy, others involved, and the outcome.

2021 completed activity	2022 intended activity
Snam is actively participating in different **Working Groups and Task Forces** at EU / international level (IGU, Gas Naturally, Marcogaz, GIE, CEN, GERG, just to mention a few). In particular, within GIE and Marcogaz, several reference European gas industry documents were developed with Snam support. In 2021 Snam, in coordination with other European TSOs, participated in the **European Commission Public Consultation** on the new legislation to measure and mitigate methane emissions in the energy sector. In 2021 Snam also contributed to draft some of the **MGP methane policy recommendations** and supported those on: • Methane policy recommendations for the EU Measurement, Reporting & Verification of Oil and Gas methane emissions; • MGP input to the EC on legislation on leak detection and repair (LDAR) obligations in the oil & gas sectors; • Reducing methane emissions in the agricultural and waste sector. In 2021 Snam has also been participating in **CEN TC234 WG14** that developed a Technical Standard to quantify methane emissions.	Snam will continue its active participation to the international Working Groups and Associations.

Principle Five:
Increase transparency

Please include answers to the following question:

1. Are you participating in OGMP 2.0 or do you intend to do so? If you are participating in OGMP 2.0 you may provide a link to the website.

- Describe what activity you have carried out e.g. providing information in relevant external reports on methane emissions data, methodologies, and progress and challenges in methane emissions management.
- If you have contributed towards the standardisation of comparable external methane reporting describe the activity you have taken.

2021 completed activity	2022 intended activity
Snam activities to reduce emissions, targets and achieved results are disclosed in our **Sustainability Report** and in our **Financial disclosure on Climate Change Report**, which can be downloaded from: https://www.snam.it/en/Investor_Relations/Reports/Annual_Reports/index.html Snam has been confirmed among globally recognised companies included in the "A- List" from **CDP** (formerly the Carbon Disclosure Project) one of the leading non-profit organisations for **Carbon Disclosure** assessing transparency in the disclosure of information by companies on climate change. This index selects companies that stand out globally for their commitment and transparency in combating climate change. Snam also provides maximum disclosure on the main environmental, social and governance aspects through an **ESG scoreboard**, including, as already mentioned, methane reduction targets. The ESG scoreboard can be seen at: https://www.snam.it/en/Sustainability/strategy_for_future/esg_scorecard.html In 2020 Snam joined **OGMP 2.0** and participated to the working group that drafted the Framework. Snam is also currently participating to the OGMP Task Forces which are in charge to update the **Technical Guidance Documents and the Reporting Template.**	In addition to the existing reports, emissions data will also be shared with OGMP, according to the requested Reporting Template. Participation to the OGMP Task Forces and to the CDP will continue also in 2022.

Do you report absolute methane emissions within your sustainability report? *If so provide link.*	Yes https://www.snam.it/en/Investor_Relations/Reports/Annual_Reports/index.html
Do you report a methane intensity within your sustainability report? *If so provide link.*	Yes. https://www.snam.it/en/Investor_Relations/Reports/Annual_Reports/index.html
What are your organisation's total absolute methane emissions? **Provide a figure in tonnes.** **Provide latest data publicly available.**	21.968 tons of methane (2020 data)
State your methodology.	To determine emissions, Snam developed in the 1990s its own methodology in co-operation with the US-Gas Research Institute and Radian, compliant with the European Marcogaz methodology, developed by the European Gas Industry. This methodology is integrated with a series of personalized emission factors determined through measures taken in field, on a representative sample of facilities, applying EN 15446 standard. Snam methodology is currently equivalent to a Tier 3 approach, according to IPCC guidelines, and the emission data quality corresponds to a level between 3 and 4, according to the OGMP 2.0 Reporting Framework.
State your reporting boundary.	Emissions from operated assests, mainly gas trasmission systems, underground storage sites and LNG terminal.
What are your organisation's	0,55 Tons/Km (2020 data)

methane intensity? **Provide latest data publicly available.**	
State your methodology.	The KPI is defined as total methane emissions from operated assests per km of transmission network .
State your reporting boundary.	Total methane emissions from operated assests, mainly gas trasmission systems, underground storage sites and LNG terminal.
Do you have a methane emission target? **If yes, please state what it is, including the boundaries and methodology.** **If no, are you developing such a target? Please state your intended timeline.**	Yes -55% total natural gas emission reduction from operated assets by 2025 compared to. 2015 values. This target is also mentioned in our ESG scorecard, among the environmental targets: https://www.snam.it/en/Sustainability/strategy_for_future/esg_scorecard.html

Methane Emissions