METHANE GUIDING PRINCIPLES

Methane Guiding Principles Signatory

TotalEnergies

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Company: TotalEnergies

Year of Joining Methane Guiding Principles: May 2017

Senior Representative: Stéphane Michel, President Gas, Renewables and Power

Principle One:

Continually reduce methane emissions.

2023 Completed Activity	2024 Intended Activity
• In 2022, TotalEnergies' operated methane emissions stood at 42 kt, 98% of which came from upstream operations. TotalEnergies has reduced its company-wide operated methane emissions by 55% since 2015 (see TotalEnergies Sustainability & Climate 2023 Progress Report) • This represents a methane emissions intensity of 0.11% of commercial gas for all operated upstream oil and gas facilities and less than 0.1% for gas facilities. • TotalEnergies addresses the primary sources of methane emissions: flaring, venting and fugitive emissions. TotalEnergies has already reduced its routine flaring by ~80% since 2015 and is committed to zero routine flaring by 2030. • For new projects, the Company follows design standards intended to ensure near-zero methane emissions. They include eliminating the use of instrument gas and continuous cold venting and systematically installing closed flares. • To detect fugitive emissions, TotalEnergies uses ground-based infrared cameras during Leak Detection And Repair (LDAR) campaigns on a yearly basis.	• TotalEnergies has set two objectives to reduce its absolute operated methane emissions by 50% in 2025 and by 80% in 2030 compared to 2020 • TotalEnergies will continue to maintain methane intensities well below 0.2% on operated oil and gas facilities, and below 0.1% on operated gas facilities • TotalEnergies will continue to address the primary sources of methane emissions: flaring, venting and fugitive emissions. TotalEnergies has set a routine flaring target to less than 0,1Mm^3/d in 2025.

Principle Two:

Advance strong performance across the gas supply chain

2023 Completed Activity	2024 Intended Activity
• TotalEnergies has signed the Oil and Gas Decarbonization Charter (OGDC), announced during COP28, together with 50+ national and international oil and gas compagnies aiming for net zero operations by 2050, eliminating routine flaring by 2030 and aiming for zero methane. • As member of the Oil and Gas Climate Initiative (OGCI), TotalEnergies supports the Aiming for Zero Methane Initiative. • As part of its OGMP 2.0 commitment, TotalEnergies has engaged with partners in NOJVs and organized workshops with operators to share best practices and bring methane emissions reduction on the top of partners priorities. • TotalEnergies shared with OGMP 2.0 members from the whole value chain its strategy to measure and reduce methane emissions during OGMP 2.0 technical experience workshops. • TotalEnergies participated to the Methane Guiding Principles Non-Operated Joint Venture (NOJV) Working Group.	• TotalEnergies will continue to collaborate with UNEP and to share best practices with OGMP 2.0 members. • TotalEnergies is actively promoting OGMP 2.0 adhesion among the industry and among its partners. • TotalEnergies will continue to engage with partners in NOJVs and to organize workshops with operators in order to influence and bring methane emissions reduction on the top of their priorities.

Principle Three:

Improve accuracy of methane emissions data.

2023 Completed Activity	2024 Intended Activity
• Started in 2022, TotalEnergies has continued to deploy a worldwide detection and measurement campaign on all its operated upstream sites with its internal technology AUSEA (Airborn Ultralight Spectrometer for Environmental Application). • TotalEnergies made its AUSEA technology available to four national companies to measure and reduce methane emissions: Petrobras in Brazil, SOCAR in Azerbaijan, Sonangol in Angola and NNPCL in Nigeria. • AUSEA technology uses miniaturized CO_2 and CH_4 sensors mounted on drones to quantify emissions, estimate their dispersion pattern and locate their source. AUSEA has been co-developed by TotalEnergies and the GSMA (Groupe de Spectrométrie Moléculaire et Atmosphérique, Joint Research Unit of the CNRS and the University of Reims Champagne-Ardennes) • TotalEnergies Anomaly Detection Initiatives (TADI) of the Pôle d'Etudes et de Recherche de Lacq and the Colorado State University Methane Emission Technology Evaluation Center (METEC) have signed a Memorandum of Understanding in April 2023 in order to develop a path towards international standards for methane leak detection and quantification solutions, as part of EU-US bilateral cooperation.	• TotalEnergies will continue AUSEA drones deployment internally on all operated sites and continue to make it available for key partners. • TotalEnergies will continue its extensive research program to test detection and measurement technologies on TADI (TotalEnergies Anomaly Detection Initiatives) and collaboration with METEC (University of Colorado).

Principle Four:

Advocate sound policy and regulations on methane emissions

2023 Completed Activity	2024 Intended Activity
• TotalEnergies supports policies to reduce methane emissions in the oil & gas sector. • TotalEnergies has announced during COP28 its support to the Global Flaring and Methane (GFMR) trust fund of the World Bank, through a donation of 25M$ over 2024-2030 • As part of the Advancing Global Methane reduction (AGMR) initiative of the Methane Guiding Principles, TotalEnergies is leader in Angola. In November 2023, Angola signed the Global Methane Pledge. • TotalEnergies reviews on a yearly basis the alignment of its industry association on key climate criteria, including methane.	• TotalEnergies will continue to support policies to reduce methane emissions from natural gas production and consumption. • As part of the Advancing Global Methane reduction (AGMR) initiative initiative of the Methane Guiding Principles, TotalEnergies is willing to continue to support Angola to operationalize the Global Methane Pledge. • TotalEnergies will continue to review the alignment of its industry association on key climate criteria, including methane.

Principle Five:
Increase transparency

2023 Completed Activity	2024 Intended Activity
• A member since 2014, TotalEnergies joined in 2020 the second phase of the Oil and Gas Methane Partnership (OGMP 2.0) of the United Nations Environment Programme (UNEP). OGMP 2.0 is the only comprehensive, measurement-based reporting framework for the oil and gas industry that improves the accuracy and transparency of methane emissions reporting. OGMP 2.0 covers the entire gas value chain (upstream, midstream, downstream) and non-operated scope. • In 2023, TotalEnergies reported for the 3rd year its implementation plan and methane emissions reporting to UNEP. TotalEnergies was awarded Gold standard for the 3rd year in a row. • TotalEnergies discloses detailed information on its methane strategy and emissions in 2022 Universal Registration Document, its Sustainability & Climate 2023 Progress Report and in its answers to the CDP Climate change questionnaire	• TotalEnergies will continue to implement and to actively promote OGMP 2.0 reporting framework managed by UNEP which is key in terms of transparency, in terms of strategy and in terms of reporting both company-wide and at asset level.

Methane Emissions

Do you report absolute methane emissions within your sustainability report? *If so, provide link.*	• Yes, in TotalEnergies Sustainability & Climate 2023 Progress Report and in 2022 Universal Registration Document. • Since 2006, TotalEnergies has implemented methane emissions reporting, which is verified yearly by a third party. This detailed reporting system operates at each site level, at each emitter type level, and the data are aggregated at each level up to the corporate level. • The verification of methane emission is performed on an annual basis by a third party (currently EY), with a limited assurance. Detailed information is available in 2022 Universal Registration Document.
Do you report a methane intensity within your sustainability report? *If so, provide link.*	• Yes, in TotalEnergies Sustainability & Climate 2023 Progress Report and in 2022 Universal Registration Document.
What is your organization's total absolute methane emissions? Provide a figure in tons. Provide latest data publicly available.	• In 2022, TotalEnergies operated methane emissions stood at 42 kt and TotalEnergies equity methane emissions – operated and non operated - stood at 47 kt. • TotalEnergies operated upstream methane emissions declined by 65% between 2010 and 2022.
State your methodology.	• TotalEnergies reporting methodology is detailed in its 2022 Universal Registration Document.
State your reporting boundary.	• Both operated 100% emissions and equity emissions have been published
What are your organization's methane intensity? Provide latest data publicly available.	• In 2022, TotalEnergies methane emissions represented a methane emissions intensity of 0.11% of commercial gas produced at all operated upstream oil and gas facilities and less than 0.1% at all operated upstream gas facilities.
State your methodology.	• TotalEnergies's methane intensity is presented as percentage figures, which represent the volume of methane emissions for the upstream sector (oil and gas facilities or gas facilities) as a percentage of the volume of the commercial gas produced for the same upstream

	sector. This methodology is aligned with the methodology defined by OGCI.
State your reporting boundary.	• Operated upstream oil and gas facilities
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.	• TotalEnergies has set two objectives to reduce its absolute operated methane emissions by 50% in 2025 and by 80% in 2030 compared to 2020 • TotalEnergies targets to maintain methane intensities well below 0.2% on operated oil and gas facilities, and below 0.1% on operated gas facilities