



METHANE
GUIDING
PRINCIPLES

Methane Guiding Principles Signatory Reporting

WintershallDea AG

January 2023

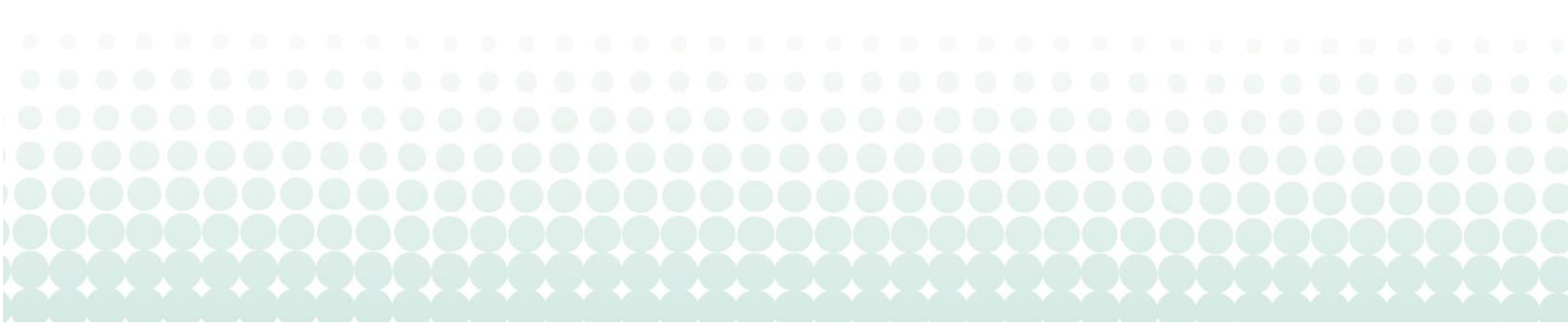




COMPANY: **Wintershall Dea AG**

YEAR OF JOINING METHANE GUIDING PRINCIPLES: **2017**

SENIOR REPRESENTATIVE: **Dawn Summers (COO)**



Principle One: Continually reduce methane emissions

2022 completed activity	2023 intended activity
<ul style="list-style-type: none"> Carried out comprehensive Leak Detection and Repair (LDAR) programmes in: Germany 100%, Egypt 100%, Mexico (50%); The relevant leaks were identified and immediately fixed Germany: Installed produced water heat exchanger to generate heat for living compound in Mittelplate; optimization of the heating system in Barnstorf Netherlands and Norway: Rebundling of compressors on offshore platforms to reduce fuel consumption. Norway: Njord platform and Snohvit LNG: Reached final investment decision for Power from Shore. Mexico: Installed backup compressors to eliminate flaring of LP gas. Libya: Developed, matured and addressed options to operator to reduce flaring in Libya. Egypt: Matured three reduction measures to reduce methane emission in Disouq. 	<ul style="list-style-type: none"> LDAR, MRV and site level measurement projects to be continued in Germany, in Egypt and Mexico. LDAR to be executed in Algeria (jointly with Repsol) Libya: Secure stable operation of Gas Utilization Plant in 2024 to stop flaring Egypt: Install recycling line and piping to compress seal gas of reciprocating compressors. Argentina: Reach final investment decision for a windfarm project in Terra del Fuego. Install connection to public grid in Neuquen to eliminate usage of gas driven generators. Mexico: Execute turbine overhauls in compressor plant to reduce shutdowns and flaring; Plan installation of instrument air system and vapor recovery units. Germany: Installation of a balancing line for the rail tank car loading in Barnstorf; Installation of a recompression system for compressor seal gas in Staffhorst; Completion of substitution of atmospheric burners in district Gas North; Switch to electrical power to heater in Staffhorst.

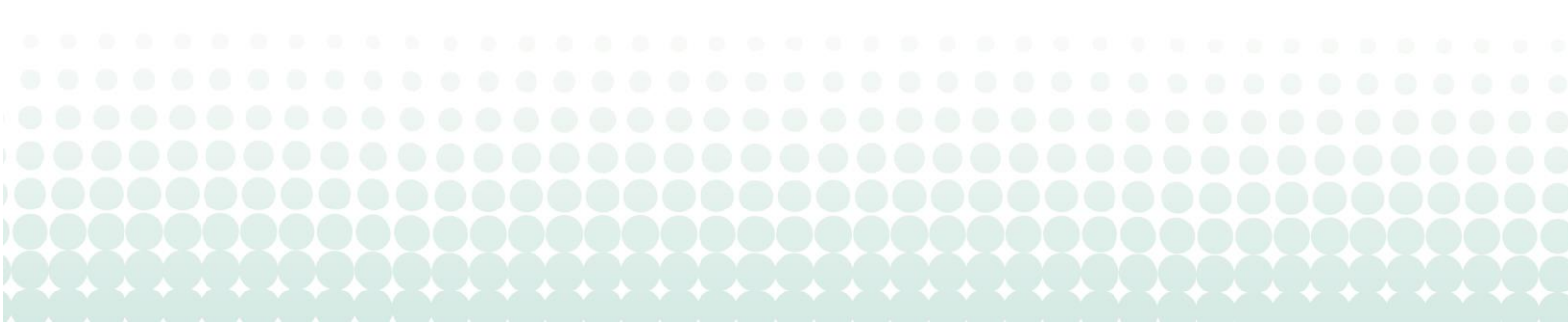
Principle Two:

Advance strong performance across the gas supply chain

2022 completed activity	2023 intended activity
<ul style="list-style-type: none"> • Ran several workshops on emission factors, OGMP 2.0 initiative and methane emission science with Libyan NOC • Held workshop with OMV Petrom on methane emissions and LDAR focussing on Romania • Actively engage with german stakeholders (mainly through BVEG) to improve Methane emission data, LDAR and development of a methane target for the members • Held several meetings with TotalEnergies to jointly address reduction of flaring on Al Jurf, offshore Libya. Technical solutions were identified and will be further pursued <p>Participated in 4 MGP projects:</p> <ul style="list-style-type: none"> - “Methane Source Identification and Calculation Tool” that will guide the user to identify emission sources and help in finding best quantification technologies (bp) - Flaring toolkit initiative (bp). - Partner Collaboration campaign (bp) - Data sharing Agreement (Shell) <ul style="list-style-type: none"> • Supported a GERG study on methane detection technologies and verification 	<ul style="list-style-type: none"> • Methane and GHG reduction outreach programme in Egypt • Engage in Task force for German Stakeholders (BVEG) to develop strategic approach towards methane emission data and reduction (including target setting) • Participation in the following MGP initiatives: <ul style="list-style-type: none"> - Embedding Methane Action Across the O&G value chain (IOGP) - Operationalizing the Global Methane Pledge (Exxon Mobil) • Midstream (subsidiary) to support a GERG study on site level measurements at compressor stations

Principle Three:
Improve accuracy of methane emissions data

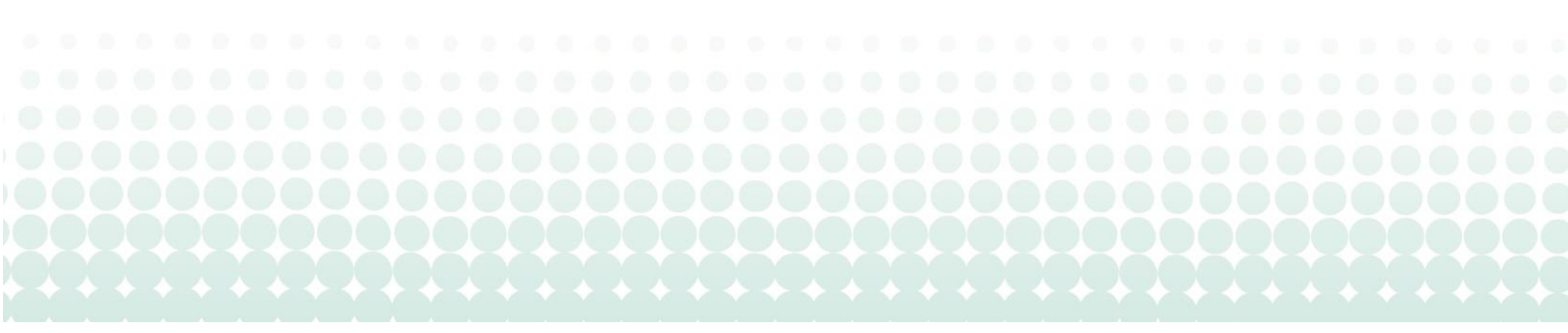
2022 completed activity	2023 intended activity
<ul style="list-style-type: none"> Reached OGMP 2.0 reporting level 4 for most assets in The Netherlands and several in Norway Ran a pilot study employing a variety of site level measurement technologies (drones, aircraft, permanent sensors) Kicked off Proof of Concept (POC) study to quantify the measurement uncertainty of methane emission data of one quantification and measurement method at one asset 	<ul style="list-style-type: none"> Achieve OGMP 2.0 level 4/5 reporting for all operated assets globally Measurement and establishment of Emission Factors in Germany, Mexico and Egypt to reach reporting Level 4 as per OGMP 2.0 requirements Completion of the WD Germany-wide measurements of methane emissions from incomplete combustion which started in 2022; Installation of fuel gas flow meters to increase the accuracy in the determination of methane from incomplete combustion; implementation of an environmental data accounting system Conclude the PoC study of 2022 and include additional sites, emission sources and technologies into the uncertainty analysis, to draw an increasingly complete picture of the measurement uncertainty of Wintershall Dea's asset portfolio



Principle Four:

Advocate sound policy and regulations on methane emissions

2022 completed activity	2023 intended activity
<ul style="list-style-type: none"> • Support commenting and implementation of EU legislation on methane emissions through active participation in work groups like the Methane working group of the “Bundesverband Erdgas, Erdöl und Geoenergie e.V. (BVEG)” • Hosted a site visit for EU parliament members jointly with BVEG in Germany focusing on important elements of the proposed EU methane legislation (abandoned wells, LDAR, technical challenges, frequency) • Intensive talks with new German government on importance of methane emissions along gas value chain, especially in view of international implications and potentially required regulations • Continue engagement in various methane expert groups (Eurogas, IOGP, BDEW, BVEG etc.) 	<ul style="list-style-type: none"> • Address the regulation of methane emissions in a Parliamentary Evening hosted in Brussels in February 2023 • Organizing a Parliamentary Breakfast in Berlin on methane emissions • Highlighting the importance of the methane emissions topic at key flagship events in Berlin (with our board on the panel), e.g. Handelsblatt Jahrestagung or BDEW Kongress • Continue active engagement in various methane expert groups both in Berlin and Brussels (e.g. Eurogas, IOGP, BDEW, BVEG)

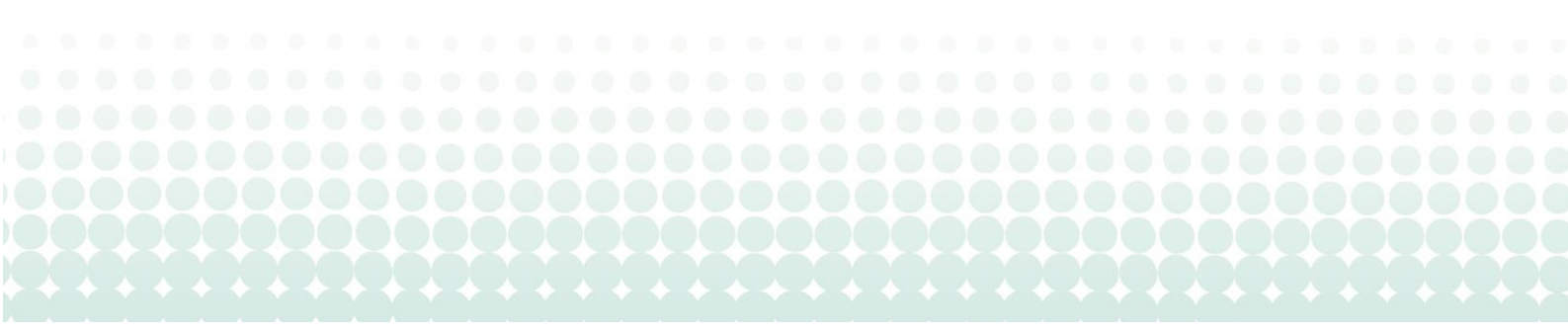


Principle Five:
Increase transparency

2022 completed activity	2023 intended activity
<ul style="list-style-type: none"> • Submit OGMP 2.0 report and updated implementation plan 2022, achieved OGMP gold standard for 2021 reporting • Carry out several measurement campaigns in Germany, Mexico, to reach OGMP 2.0 reporting level 4 for our own operated assets • Approach operators and National Oil Companies to obtain permits to report according to OGMP and carry out measurement and reduction projects in non-operated assets • Held workshops with our partners in e.g. Algeria, and Libya to address the topic (focus on OGMP 2.0) 	<ul style="list-style-type: none"> • Continue engaging with local NOCs in methane emission topic including OGMP 2.0 reporting and corresponding measurements focusing on Egypt, Algeria, Mexico • Support German association (BVEG) in methane emission data improvement and exchange, target setting and measurement technologies • Achieve OGMP 2.0 Level 4/5 conform data acquisition for operated assets and the majority of non operated assets



<p>Do you report absolute methane emissions within your sustainability report?</p> <p><i>If so provide link.</i></p>	<p>WD Sustainability Report 2021</p>																																													
<p>Do you report a methane intensity within your sustainability report?</p> <p><i>If so provide link.</i></p>	<table border="1"> <thead> <tr> <th colspan="5">METHANE</th> </tr> <tr> <th></th> <th>Unit</th> <th>Boundary</th> <th>2021</th> <th>2020²</th> </tr> </thead> <tbody> <tr> <td>CH₄</td> <td>t</td> <td>OC</td> <td>1,258</td> <td>2,957</td> </tr> <tr> <td>CH₄ intensity¹</td> <td>%</td> <td>OC</td> <td>0.05</td> <td>0.15</td> </tr> </tbody> </table> <p><small>OC: Operational control ¹ 100% volume of methane emissions of Wintershall Dea's operated assets divided by the volume of the own-operated gas marketed. ² Restated 2020 figure due to changes of calculation methods and improvement of internal reporting.</small></p>	METHANE						Unit	Boundary	2021	2020 ²	CH ₄	t	OC	1,258	2,957	CH ₄ intensity ¹	%	OC	0.05	0.15																									
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<p>What are your organisation's total absolute methane emissions?</p> <p>Provide a figure in tonnes.</p> <p>Provide latest data publicly available.</p>	<p>We publish the following figures in our sustainability report:</p> <table border="1"> <thead> <tr> <th colspan="5">GREENHOUSE GAS EMISSIONS</th> </tr> <tr> <th></th> <th>Unit</th> <th>Boundary</th> <th>2021</th> <th>2020²</th> </tr> </thead> <tbody> <tr> <td>GHG (direct, Scope 1)¹</td> <td>mt</td> <td>EB</td> <td>2.50</td> <td>2.09</td> </tr> <tr> <td>CO₂ (carbon dioxide)</td> <td>mt</td> <td>EB</td> <td>2.15</td> <td>1.83</td> </tr> <tr> <td>N₂O (nitrous oxide)</td> <td>t</td> <td>EB</td> <td>65.1</td> <td>56.2</td> </tr> <tr> <td>CH₄ (Methane)</td> <td>t</td> <td>EB</td> <td>11,722</td> <td>8,832</td> </tr> <tr> <td>GHG (indirect, Scope 2)</td> <td>mt</td> <td>EB</td> <td>0.06</td> <td>0.08</td> </tr> <tr> <td>GHG (indirect, Scope 3)</td> <td>mt</td> <td>EB</td> <td>80</td> <td>78</td> </tr> <tr> <td>GHG intensity (Scope 1, Scope 2)</td> <td>kgCO₂e/ boe</td> <td>EB</td> <td>10</td> <td>9</td> </tr> </tbody> </table> <p><small>EB: Equity basis ¹ Includes further small amounts of other GHG emissions. ² Restated 2020 figure due to revision of partner-operated data, changes of calculation methodology and improvements of our internal reporting.</small></p>	GREENHOUSE GAS EMISSIONS						Unit	Boundary	2021	2020 ²	GHG (direct, Scope 1) ¹	mt	EB	2.50	2.09	CO ₂ (carbon dioxide)	mt	EB	2.15	1.83	N ₂ O (nitrous oxide)	t	EB	65.1	56.2	CH ₄ (Methane)	t	EB	11,722	8,832	GHG (indirect, Scope 2)	mt	EB	0.06	0.08	GHG (indirect, Scope 3)	mt	EB	80	78	GHG intensity (Scope 1, Scope 2)	kgCO ₂ e/ boe	EB	10	9
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<p>State your methodology.</p>	<p>For 2022 we will report the methane emissions according to the methodology and the emission sources of the OGMP 2.0 framework and technical guidance documents. Corresponding reporting levels can be found in an aggregated manner for operated and non-operated assets in the International Methane Emissions Observatory (IMEO) report.</p>																																													
<p>State your reporting boundary.</p>	<p>Wintershall Dea reports operated (100%) and non-operated (equity basis) emissions for the upstream part of the value chain, including exploration, development and production operations.</p>																																													
<p>What are your organisation's methane intensity?</p> <p>Provide latest data publicly available.</p>	<p>Based on the published 2021 data the methane intensity of Wintershall Dea is 0.05 (on an operational basis according to the OGCI approach and methodology).</p>																																													
<p>State your methodology.</p>	<p>The emission intensity follows the OGCI formula and represents the volume of methane emissions for the upstream gas and oil sector as a percentage of the volume of the total gas marketed for the same upstream sector.</p>																																													
<p>State your reporting boundary.</p>	<p>Upstream (operated 100% and equity based)</p>																																													





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.

Wintershall Dea targets a 0.1 % or less methane emission intensity on operational basis by 2025. Further Wintershall Dea has set a net zero target for GHG emissions (scope 1 and 2) for the year 2030 on an equity basis.

Methane Emissions

