



METHANE
GUIDING
PRINCIPLES

Methane Guiding Principles Signatory Reporting

SOCAR

April 2022



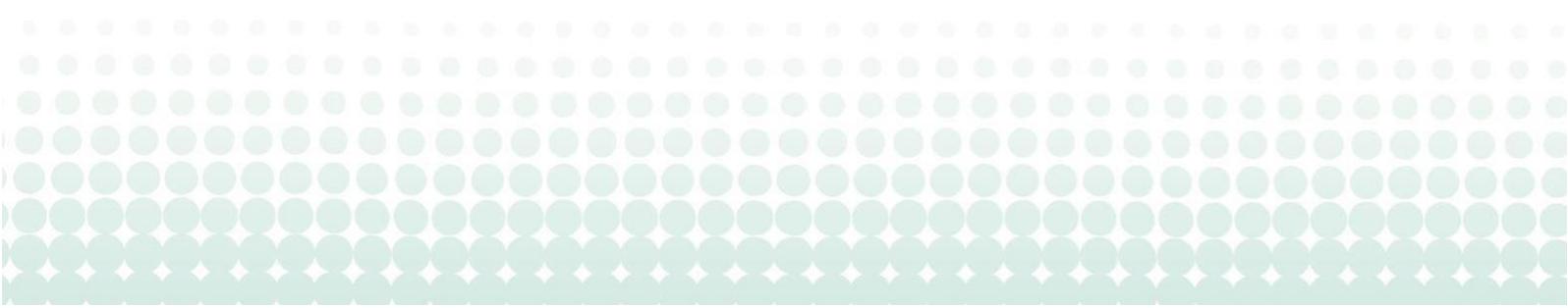


COMPANY: **SOCAR**

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

SENIOR REPRESENTATIVE: **Mrs Rafiqa Huseynzadeh**

WORKING LEVEL REPRESENTATIVE: **Elchin Bagirov, Mustafa Gurbanli**



Principle One: Continually reduce methane emissions

2020/21 completed activity	2022 intended activity
<p>SOCAR has joined the “Zero Routine Flaring by 2030” Initiative, introduced by the World Bank’s Global Gas Flaring Reduction Partnership (GGFR). In collaboration with GGFR “Associated Gas Reduction in SOCAR and SOCAR’s Joint Projects for 2017-2022” plan has been developed. In accordance with the plan SOCAR carries out instrumental measurements using infrared camera to verify the current status of associated gas emissions and flaring at SOCAR’s “Azneft” Production Unit (PU), Operating Companies and Joint Ventures.</p> <p>The list of measures taken for reduction of associated gas emissions, capturing and returning them to the system:</p> <ul style="list-style-type: none"> • Installation of new gas compressors; • Construction/ refurbishment of new pipes; • Sealing of the behind-pipe of wells; • Application of energy efficient methods in offshore oil and gas production. <p>In 2020, 29.2 million m³ of associated gas was emitted at “Azneft” PU. The total emitted volume decreased by 99.7 million m³ in comparison with the last year. In 2021, 7.2 million m³ was emitted into the atmosphere. The total emitted volume decreased by 22 million m³ in comparison with 2020.</p> <p>SOCAR continue to implement works in order to solve environmental problems, which were inherited from the former Soviet Union. Number of Feasibility Studies were performed to assess technologies and investments required to completely eliminate leaks in decommissioned or discontinued wells offshore and onshore.</p>	<p>It is planned to continue implementation of measures envisaged for 2022 under “Associated Gas Reduction in SOCAR and SOCAR’s Joint Projects for 2017-2022”:</p> <ol style="list-style-type: none"> 1) Installation of an additional second technological block for capturing associated gas released into the atmosphere at the site No. 1146, construction of the second tank line and construction of the 6” gas line to the offshore stationary platform No. 1201 (Oil Rocks OGPD). 2) Connection of new wells with the vacuum line (Balakhani OCL – SOCAR Joint Venture). 3) Replacement of unusable parts in existing vacuum collectors (6 ”1500m, 10” - 1000m) (Balakhani OCL – SOCAR Joint Venture). 4) Transferring oil and gas storage into a closed system in Oil and Gas Production Station No. 1-8 (Balakhani OCL – SOCAR Joint Venture). 5) Transfer of 850 wells operating with rod depth pump and centrifugal depth pump and 88 inactive wells to the closed system by wellhead equipment (Balakhani OCL – SOCAR Joint Venture). 6) Capturing of associated gas from 15 wells at Oil and Gas Production Station No. 2 and delivery to “Garachukhur” Gas Distribution System (Surakhani Oil Operation)



Company S.A SOCAR Joint Venture).

- 7) Replacement of unusable lines, elimination of leaks in tanks, measuring devices and separators (Neftchala Operating Company - SOCAR Joint Venture).
- 8) Changing the method of oil exploitation.

It is planned to reach "0" target for routine flaring of associated gas at oil-gas production in 2022.

It is planned to continue work with Carbon Limits in order to develop new methane reduction projects.

It is planned to continue work on elimination of leaks in decommissioned wells offshore and onshore.



Continually reduce methane emissions - continued

2020/21 completed activity	2022 intended activity
<p>Greenhouse Gas (GHG) emissions emitted to the atmosphere as a result of stationary combustion are calculated based on the Intergovernmental Panel on Climate Change (IPCC) methodology. Fugitive emissions are calculated based on internally approved methods for technological leaks assessment using results of the chromatographic gas analysis.</p> <p>Depending on the oil-field, the content of methane in the associated gas varies from 70 to 90 percent.</p> <p>“Oil Gas Scientific Research Project” Institute, a structural unit of SOCAR, conducts research to estimate measures to increase energy efficiency, carbon capture and storage.</p>	<p>The methodology is not expected to be changed in 2022.</p>

What are your organisation’s total methane emissions?

2020/21 completed activity	2022 intended activity
<p>Methane emissions data has been reported in the “Annual Report on Sustainable Development for 2020” (122,400 tons). Please refer to: https://socar.az/socar/assets/documents/en/socar-annual-reports/sustainable-development-report-2020.pdf</p> <p>As a large-scale company, SOCAR's activities are divided into three major components: upstream (Exploration, Drilling, Development, Oil/Gas Production); midstream (Transport/ Export/Sales); and downstream (Refining and Petrochemicals, Sales).</p> <p>In 2021, Methane emissions for each component are calculated on an annual basis:</p> <ul style="list-style-type: none"> • Upstream – 117.23 thousand tons; • Midstream - 10.19 thousand tons; • Downstream - 15.2 thousand tons. <p>The activity data are defined by the mass balance method and as a result of instrumental measurements. The amount of methane in gas samples is determined by laboratory analysis at SOCAR. A Global Warming Potential (GWP) of 21 for CH₄ has been applied in order to convert methane emissions to carbon equivalent (indicated in the Second Assessment Report of IPCC).</p>	<p>N/A</p>

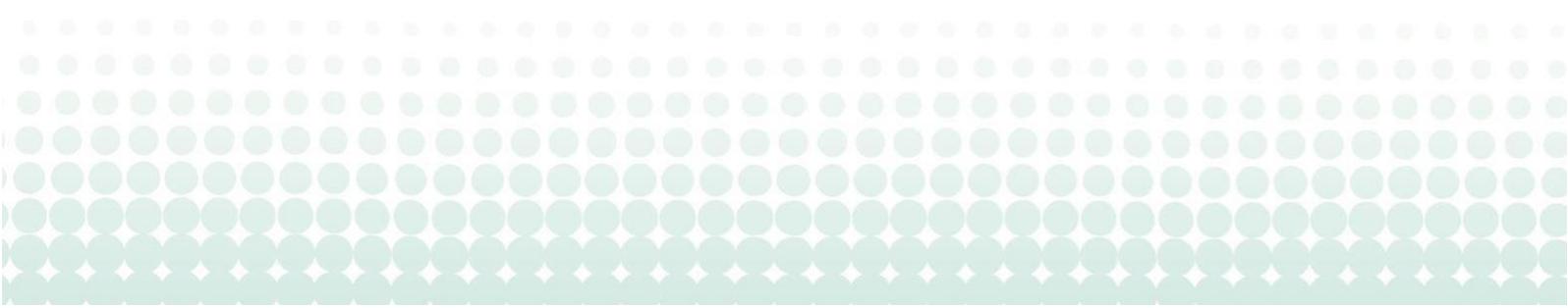


**Does your organization report methane intensity?
If so, please specify the intensity.**

2020/21 completed activity	2022 intended activity
<p>SOCAR has been a member of the International Association of the International Association of Oil & Gas Producers (IOGP) since 2018. Member companies are encouraged to submit data on Environmental Performance Indicators for exploration and production activities to the IOGP.</p> <p>The report submitted to the IOGP reflects the calculations for 2020. The calculated methane intensity for the report is 8.82 tons of CH₄ / thousands of tons of hydrocarbon production. The indicator was 10.6 tons of CH₄ / thousands of tons of hydrocarbon production for 2021.</p> <p>The provided data is calculated according to the IOGP guidelines, considering the activities of contractors.</p>	<p>N/A</p>

Do you have a methane emission target?

2020/21 completed activity	2022 intended activity
<p>According to Global Methane Pledge launched in COP26, SOCAR in close coordination with Ministry of Ecology and Natural Resources and Ministry of Energy of Azerbaijan Republic consider to join pledge of 30% methane reduction by 2030.</p>	<p>N/A</p>



Principle Two:

Advance strong performance across the gas supply chain

2020/21 completed activity	2022 intended activity
<p>As an international company SOCAR implements gas transportation (midstream) and distribution (downstream) activities.</p> <p>The staff of SOCAR regularly participate in relevant trainings, seminars and conferences in order to learn international experience. Simultaneously, it actively participates in the organization of relevant events and training courses on GHG inventory, Climate Change mitigation, energy efficiency, biodiversity conservation in order to exchange the acquired knowledge and skills with ecologists and other stakeholders at SOCAR.</p>	<p>It is planned to continue to participate in training courses on GHG inventory, Climate Change mitigation, energy efficiency, as well as biodiversity conservation.</p> <p>Online events could be organized to enhance knowledge of experts on climate change related issues using different platforms such as Coursera and etc.</p>

Principle Three:

Improve accuracy of methane emissions data

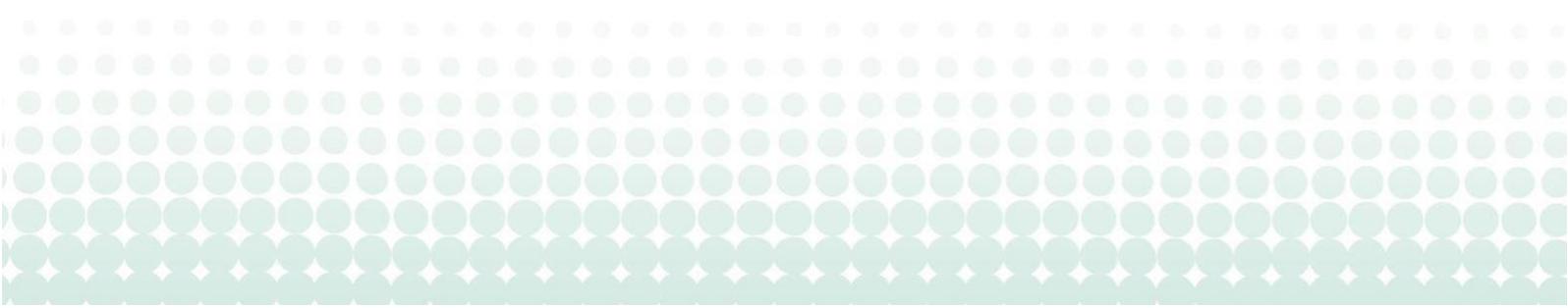
2020/21 completed activity	2022 intended activity
<p>A cooperation agreement has been signed between SOCAR and the Carbon Limits (CL) company. Within the cooperation a methane factor coefficient and a special inventory model for the inventory of methane emissions emitted by SOCAR have been developed.</p> <p>Within the intended activities in the "Emission Reduction Agreement", signed between the SOCAR and Carbon Limits (CL) company of Norway, SOCAR is implementing a pilot project in the oil production process called "Leak Detection and Repair" (LDAR).</p> <p>LDAR project has been registered under EU ETS in Germany approved by DEHSt. The first verified emission reduction approved as 21,7 thousand ton CO₂ eq.</p>	<p>In the coming years, it is planned to develop an Emission Module in the SAP program in order to inventories the emissions emitted into the atmosphere. That model will give opportunity for the estimating of pollutants along with GHG emissions.</p> <p>It is planned to continue instrumental measurements to detect and assess level of the methane leakages and account for fugitive emissions of methane base on factual volumes.</p> <p>Number of projects are defined for 2022 to assess leaks levels from oil-gas productions activities, oil storage and natural gas distribution networks</p>

Principle Four:

Advocate sound policy and regulations on methane emissions

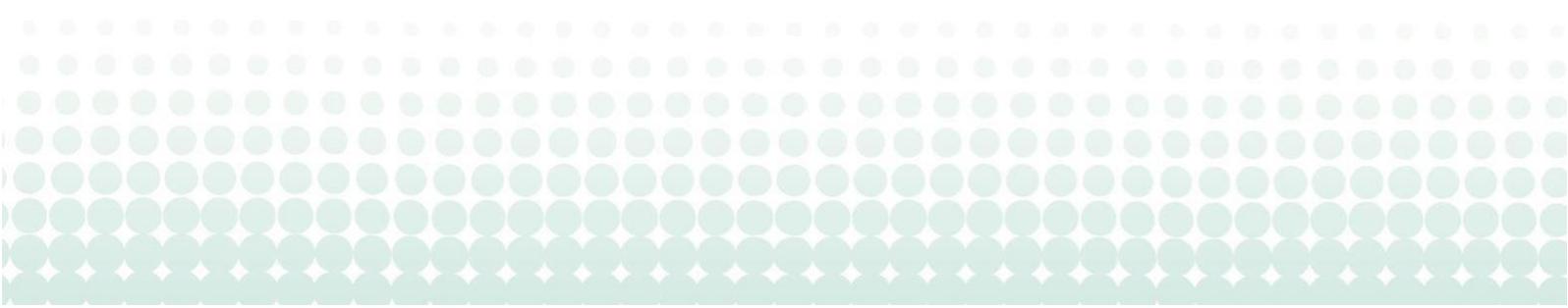
2020/21 completed activity	2022 intended activity
<p>In line with mitigation measures outlined in First NDC for oil and natural gas sector, as well as the target of 13th Sustainability Development Goals: Integrate climate change measures into national policies, strategies, and planning (target 13.2), SOCAR has developed and approved “SOCAR 2021-2030: Low Carbon Development Strategy” to reduce its activities impacts on climate change.</p> <p>The primary aim of the strategy to encourage the application of low-carbon technologies, including use of alternative and renewable energy, energy efficiency, carbon capture and storage technologies in all areas of SOCAR activity, such as upstream (oil and natural gas production), midstream (natural gas and oil transmission) and downstream (natural gas distribution, oil refinery, gas processing and petrochemicals industry). Strategy outlines implementation of cost-effective emission reduction measures to comply with NDC commitments and environmental protection decisions.</p>	<p>The implementation status of mitigation measures included in “SOCAR 2021-2030: Low Carbon Development Strategy” will be assessed.</p>

2020/21 completed activity	2022 intended activity
<p>SOCAR is a member of the World Bank’s Global Gas Flaring Reduction (GGFR) Partnership’s Steering Committee and has joined the “Zero Routine Flaring by 2030” Initiative, introduced by the World Bank. “Associated Gas Reduction in SOCAR and SOCAR’s Joint Projects for 2017-2022” Plan has been developed.</p> <p>From 2019 SOCAR is a member of Methane Guiding Principles and provided official report on current situation with methane reduction activities planned and implemented.</p>	<p>It is planned to continue annual reporting to GGFR on actual situation with flaring at SOCAR.</p>



2020/21 completed activity	2022 intended activity
<p>In collaboration with Carbon Limits, actions to reduce gases affecting climate change have been successfully continued since 2016.</p> <p>SOCAR is a member of the Working Group (WG), which was established to organize the activities of the State Commission on Climate Change and consists of the representatives of relevant government agencies. As a member of this WG, SOCAR executes the relevant measures indicated in the Actions Plan (AP) of the WG.</p>	<p>It is planned to continue work under State Commission on Climate change in order to implement measures indicated in AP of WG.</p>

2020/21 completed activity	2022 intended activity
<p>On September 14, 2020, a Memorandum of Understanding on CEPI-Caspian Environmental Protection Initiative was signed at Ecopark, SOCAR's Environmental Research Center. CEPI, initiated by SOCAR and established by SOCAR, KazMunayGas, BP, Equinor Absheron AS and Total E&P Absheron B.V., considers proactive steps toward combating climate change, emissions of greenhouse gases and hazardous substances to the atmosphere.</p>	<p>State Oil Company of the Republic of Azerbaijan (SOCAR) will continue to implements the most advanced environmental measures and solutions to ensure environmental safety and efficient use of resources, reduce carbon intensity and ensure sustainable development of the region under CEPI signed in 2020.</p>



Principle Five:
Increase transparency

Historical completed activity	2022 intended activity
<p>The data has been included in SOCAR's Annual Report on Sustainable Development since 2011 and the indicators shown in the report are audited by one of the world's leading independent audit companies "Ernst & Young". The data covers all activity areas of SOCAR. Please refer to: http://www.socar.az/socar/az/economics-and-statistics/economics-and-statistics/socar-reports</p> <p>SOCAR is a member of the International Association of Oil & Gas Producers (IOGP) since 2018. Member companies are encouraged to submit data on Environmental Performance Indicators for exploration and production activities to the IOGP.</p>	<p>It is planned to continue to submit data on Environmental Performance Indicators for exploration and production activities to the IOGP.</p> <p>It is planned to reinforce SOCAR internal MRV arrangements in order to ensure sustainable reporting to the Ministry of Energy on SOCAR GHG emissions level twice per year as per action plan adopted by State Commission on Climate Change.</p> <p>It is planned to implement the recommendations of the Task Force on Climate-related Financial Disclosures</p>

Commentary:



Methane Emissions

<p>Do you report absolute methane emissions within your sustainability report?</p> <p><i>If so provide link.</i></p>	<p>Yes</p> <p>https://socar.az/socar/assets/documents/en/socar-annual-reports/sustainable-development-report-2020.pdf</p>
<p>Do you report a methane intensity within your sustainability report?</p> <p><i>If so provide link.</i></p>	<p>Yes</p> <p>https://socar.az/socar/assets/documents/en/socar-annual-reports/Sustainable%20development%20report-2019.pdf</p>
<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>Upstream – 117.23 thousand tons; Midstream - 10.19 thousand tons; Downstream - 15.2 thousand tons.</p>
<p>State your methodology.</p>	<p>Greenhouse Gas (GHG) emissions emitted to the atmosphere as a result of stationary combustion are calculated based on the Intergovernmental Panel on Climate Change (IPCC) methodology.</p> <p>Fugitive emissions are calculated based on internally approved methods for technological leaks assessment using results of the chromatographic gas analysis.</p>
<p>State your reporting boundary.</p>	<p>SOCAR upstream and subcontractors</p>
<p>What are your organisation's methane intensity?</p> <p>Provide latest data publicly available.</p>	<p>The report submitted to the IOGP reflects the calculations for 2020. The calculated methane intensity for the report is 8.82 tons of CH₄ / thousands of tons of hydrocarbon production. The indicator was 10.6 tons of CH₄ / thousands of tons of hydrocarbon production for 2021.</p>
<p>State your methodology.</p>	<p>2GHG emissions emitted to the atmosphere as a result of stationary combustion are calculated based on the IPCC methodology.</p> <p>Fugitive emissions are calculated based on internally approved methods for technological leaks assessment using results of the chromatographic gas analysis.</p>
<p>State your reporting boundary.</p>	<p>SOCAR upstream and subcontractors</p>
<p>Do you have a methane emission target?</p> <p>If yes, please state what it is, including the boundaries and methodology.</p> <p>If no, are you developing such a target? Please state your intended timeline.</p>	<p>N/A</p>