



METHANE
GUIDING
PRINCIPLES

Methane Guiding Principles Signatory Reporting

NOVATEK

27.01.2023





COMPANY: **NOVATEK**

DATE: **January 27, 2023**

YEAR OF JOINING METHANE GUIDING PRINCIPLES: **October 2020**

SENIOR REPRESENTATIVE: **title, name**



Principle One:
Continually reduce methane emissions

- 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.

2022 completed activity	2023 intended activity
<p>Start-up of, or commissioning activities at, the following operation facilities:</p> <ul style="list-style-type: none"> ▪ – screw compressor to improve low-pressure APG utilization at NOVATEK–TARKOSALENEFTEGAS (reduced APG flaring and methane emissions); ▪ – facilities to reinject formation water into absorbing horizons at NOVATEK–YURKHAROVNEFTEGAS (achieving zero wastewater combustion at horizontal flares and zero methane emissions); ▪ – upgrade (revamp) of existing flares, introduction of smokeless gas combustion technology at NOVATEK–TARKOSALENEFTEGAS (booster station), methane emission reduction through its complete combustion. ▪ Conducting well gas dynamic testing and gas condensate studies without emitting gas into the atmosphere at Arcticgas, NOVATEK–YURKHAROVNEFTEGAS, NOVATEK–TARKOSALENEFTEGAS, Yamal LNG. ▪ Boil-off gas recovery system at LNG storage and loading facilities within Yamal LNG (4 x 9 MW Siemens compressors). In 2022, 285.861 mmcm of methane was recovered for the process (instead of flaring). ▪ Boil-off gas recovery system at LNG storage and loading facilities within Cryogas-Vysotsk. In 2022, 30.619 mmcm 	<ul style="list-style-type: none"> ▪ Instrumentation-based monitoring of carbon dioxide and methane emissions at emission sources within NOVATEK-TARKOSALENEFTEGAS, Arcticgas and Cryogas-Vysotsk. ▪ Electrically-driven 1 MW booster compressor station at the Cryogas-Vysotsk LNG plant.



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- Introduction of waste heat exchangers at KTO-1200 effluents decontamination unit within the Cryogas-Vysotsk LNG plant. Reduced fuel consumption and methane emissions at the boiler unit.
- Using compressors with electric drives:
 - NOVATEK–YURKHAROVNEFTEGAS
 - ARCTICGAS
 - Yamal LNG
 - TERNEFTEGAS
 - . - NOVATEK–TARKOSALENEFTEGAS

Yargeo

Yamal LNG

Unlike gas-turbine and gas-piston-driven compressors, electrically driven compressors do not emit methane (no methane slipping).

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 publications of guidances. 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.

2022 completed activity	2023 intended activity
In December 2022, NOVATEK and Rosatom signed a Memorandum of Cooperation in decarbonization. The MoU provides that NOVATEK Group entities, in particular, the Ust-	Verification of the Carbon Footprint Methodology for Yamal LNG and Cryogas-Vysotsk products.



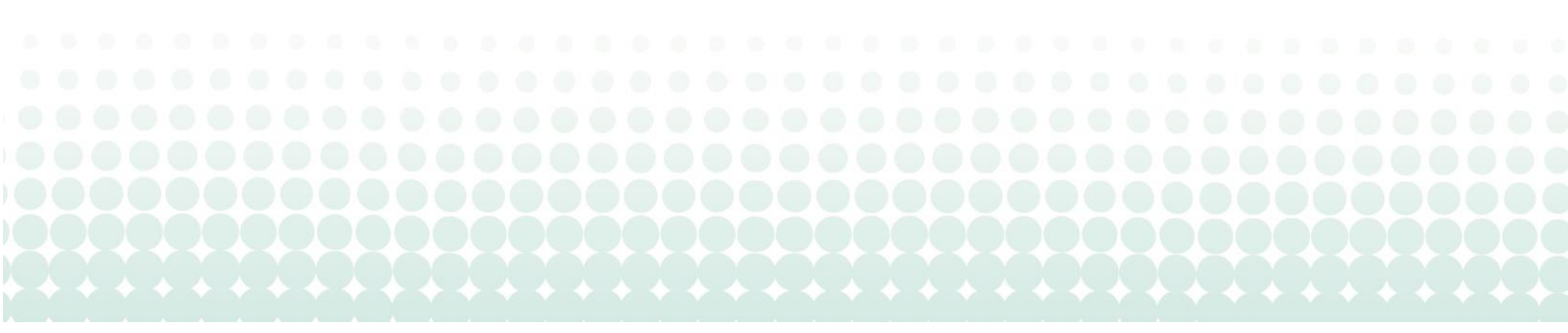


Luga Gas Condensate Fractionation and Transshipment Complex, will be purchasing electricity generated at Rosatom's wind farms. Buying green electricity will help reduce indirect greenhouse gas emissions, including methane.

In 2022, Cryogas-Vysotsk purchased electricity produced by a Russian company from renewable sources.

All of the electricity required for the Company's Cryogas-Vysotsk LNG plant was produced at Russian wind farms.

Buying renewable energy from third-party producers is a cost-effective solution which also contributes to reducing greenhouse gas emissions, including methane.

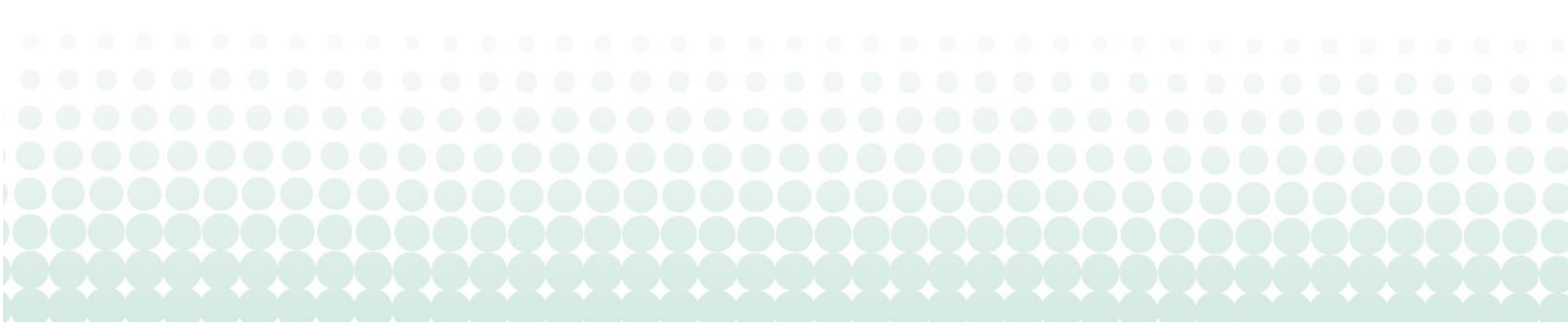


Principle Three:

Improve accuracy of methane emissions data

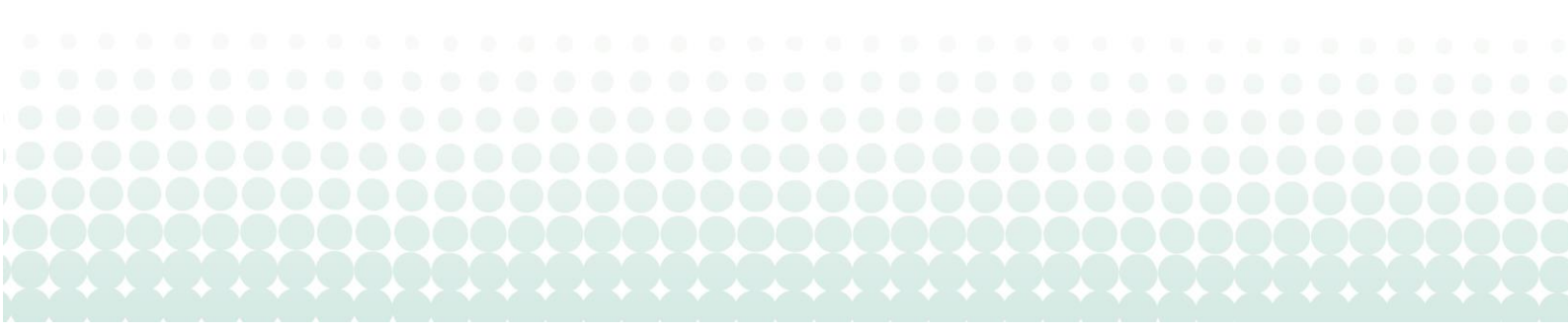
- Describe action taken to improve methane emissions data collection methodologies. This could be employment of new technology at an operated site(s), investment and participation in R&D initiatives, development of monitoring/modelling software, or support to research that improves the accuracy of the 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/technologies has been adopted into your accounting process if at all.

2022 completed activity	2023 intended activity
<p>Completed the inventory of GHG emission sources which allow instrumental measurement of emissions for subsequent measurements. Completed instrument-based measurements of CO₂ and methane emissions.</p> <p>Tested equipment (acoustic imaging camera and a thermal imager) for remote detection of methane leaks at the production facilities of NOVATEK-YURKHAROVNEFTEGAS, as well as the systems for methane leaks quantification and visualization, which allow to calculate the mass and volume rate of the leak.</p> <p>NOVATEK-YURKHAROVNEFTEGAS has implemented a project for methane leak monitoring with unmanned aerial vehicles (“UAVs” or “drones”) as part of developing of a multi-level leak detection system. Using UAVs for methane leak monitoring enables more accurate and faster measurements as well as lower costs compared to other monitoring methods. The project involved using domestically-sourced drones to inspect the facilities of the Yurkharovskoye field, one of the largest in the Company's portfolio, and the West-Yaroyakhinskoye field, spanning almost 100 hectares as well as a 50-km long section of NOVATEK's gas pipeline. Sporting hypersensitive gas analyzers, the drones are equipped to operate in remote areas and deliver real-time video feed within a range of up</p>	<p>Ground surveys of methane leaks along the UAV flight path around the NOVATEK-YURKHAROVNEFTEGAS facilities.</p> <p>Performing instrument-based monitoring of CO₂ and methane emissions at the emission sources.</p>





to 50 km. The UAVs are an important element of the multi-level methane leak detection system, which already includes satellite imaging and ground monitoring during site tours.



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.

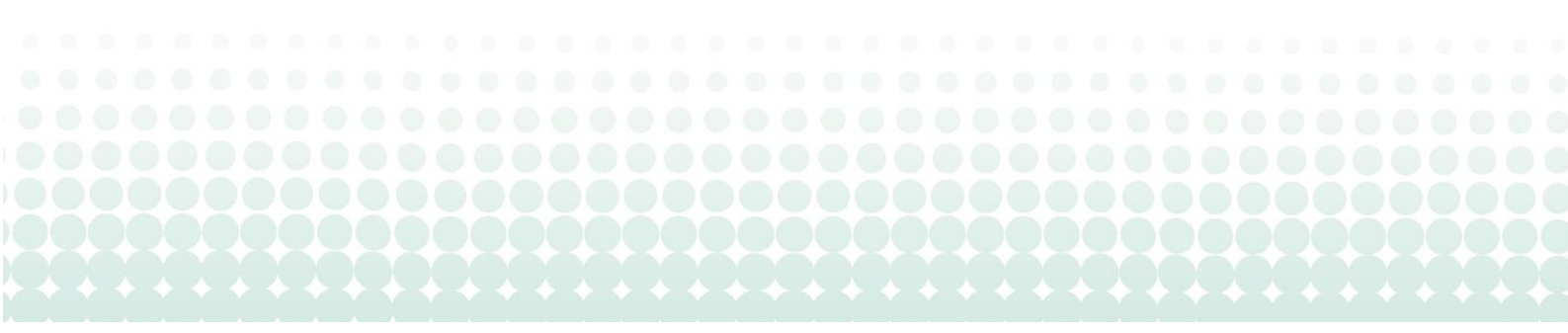
- Consider providing details on the region or regulation involved, how you undertook your advocacy, others involved, and the outcome.

2022 completed activity	2023 intended activity
<p>NOVATEK is involved in discussing legislative initiatives and policy papers regarding regulation of GHG emissions (including methane) and other efforts towards carbon neutrality of its business. Consultations were held on the following draft laws:</p> <ul style="list-style-type: none"> – Russian Federation Government Decree on amending Russian Federation Government Decree No. 518 dated March 30, 2022 On the Procedure for Determining the Fee for Provision by an Operator of Services regarding Performing Operations in the Carbon Units Register; – On amending the Federal Law On Limiting Greenhouse Gas Emissions; – Draft Russian Federation Government Decree On the Fee for Exceeding the Greenhouse Gases Emissions Quota; – Draft Russian Federation Government Decree On Approving the Rules for Calculating and Collecting the Fee on Exceeding the Greenhouse Gases Emissions Quota; – Draft RF Ministry of Natural Resources Order On Approving the Methodology for Quantitative Estimation of Greenhouse Gas Emission Volumes by Organizations Having Their Business or Other Activity in the Russian Federation. 	<p>NOVATEK intends to improve the way its results and plans to control and reduce methane emissions are presented in the Sustainability Report.</p>

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.

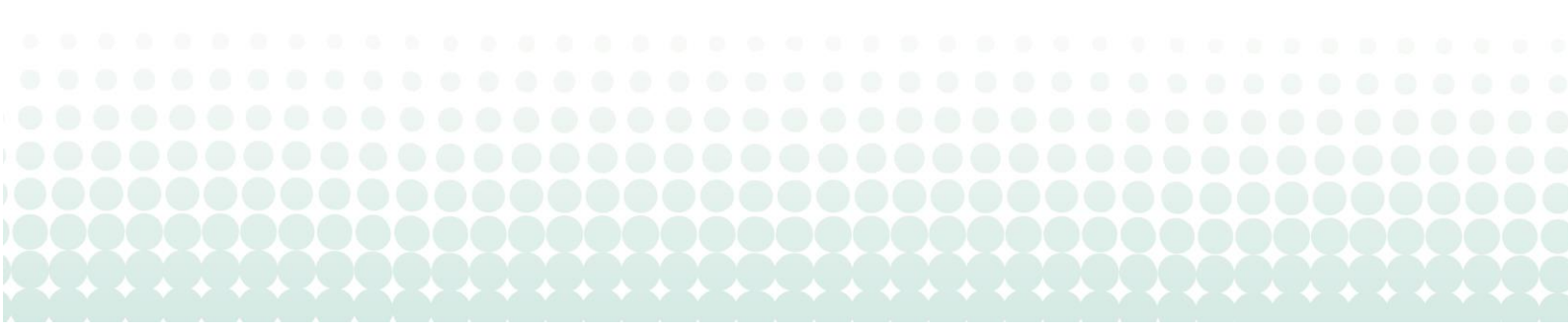
If you have contributed towards the standardisation of comparable external methane reporting describe the activity you have taken.

2022 completed activity	2023 intended activity
<p>NOVATEK's controlled entities switched to quarterly reporting on GHG emissions, including methane.</p> <p>NOVATEK's reports which contain information on methane emissions include:</p> <ul style="list-style-type: none"> - annual reporting in the Rosstat's format for the federal statistic observation purposes, which later serves as the basis used for regional and federal reports on environment protection (in particular, governmental reports on the environmental situation in the Yamal-Nenets Autonomous Area). <p>NOVATEK Sustainability Report.</p> <p>Methane emissions are reported annually to the State Information System of the Fuel and Energy Complex of the Russian Federation.</p>	<p>In addition to the existing reporting, it is planned to submit annual GHG reports to the State Information System of the Ministry of Economic Development of the Russian Federation in accordance with the Decree of the Russian Government No. 707 dated April 20, 2022 "On approval of Rules for reporting and verification of greenhouse gas emissions, the forms of reporting on greenhouse gas emissions, the Rules for establishing and maintaining a register of greenhouse gas emissions".</p>

Methane Emissions

Do you report absolute methane emissions within your sustainability report?
If so provide link.

Yes (by business areas). The information is available on the company's website (<https://www.novatek.ru/ru/development/dataesg/>), in the Sustainability Report (published on the company's website at <http://www.novatek.ru/ru/development/>).



<p>Do you report a methane intensity within your sustainability report? <i>If so provide link.</i></p>	<p>Yes (methane intensity data for upstream, processing and LNG entities) The information is available on the company's website (https://www.novatek.ru/ru/development/dataesg/), in the Sustainability Report (published on the company's website at http://www.novatek.ru/ru/development/).</p>
<p>What are your organisation's total absolute methane emissions? Provide a figure in tonnes. Provide latest data publicly available.</p>	<p>This information for 2022 is to be included in the 2022 Sustainability Report which is drafted in 2023.</p>
<p>Specify your methodology.</p>	<p>Order No. 371 of the Ministry of Natural Resources and Environment of the Russian Federation dated May 27, 2022, On Approving the Methodology for Quantitative Estimation of Greenhouse Gas Emission and Absorption.</p>
<p>State your reporting boundary.</p>	<p>Emissions from the following assets are taken into account:</p> <ul style="list-style-type: none"> NOVATEK-Yurkharovneftegas 100% NOVATEK-Tarkosaleneftegas 100% Arcticgas 50% Northgas 50% Yargeo 100% Yamal LNG 59.97% Terneftegas 100% Arctic LNG 2 60% NOVATEK-Purovsky Plant 100% NOVATEK – Ust-Luga 100% Cryogas-Vysotsk 51% NOVATEK-Chelyabinsk 100% NOVATEK-Transervice 100% NOVATEK-Energo 100% Obsky GCC 100% NOVATEK–AZK 100% NOVATEK – LNG Fuel 100%
<p>What is your organisation's methane intensity? Provide latest data publicly available.</p>	<p>Specific methane emissions are 12.9 t/mmboe. The information for 2022 is planned for inclusion in the 2022 Sustainability Report which is issued in 2023.</p>
<p>Specify your methodology.</p>	
<p>State your reporting boundary.</p>	
<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.</p>	<p>The year 2030 was set as the horizon for strategic planning of the company's environmental efficiency. For methane, the goal is to reduce specific emissions from production, processing and LNG facilities by 4% by 2030 compared with the 2019 level. (2021 Sustainability Report)</p>



Comments

Use this space to provide any general context or statements around the information and data provided.

