مؤسسة نفط
الشارقة الوطنية
SNOC

2024 Greenhouse Gas (GHG) Performance Report

CEO's Message

At SNOC, we recognize that the energy industry has a pivotal role to play in advancing the UAE's vision to achieve Net Zero by 2050. As a national oil and gas company operating in one of the world's most significant hydrocarbon regions, our responsibility is twofold: to meet today's energy needs securely and reliably, while actively contributing to a lower-carbon future.

We are taking deliberate steps to reduce our Scope 1 and Scope 2 emissions, in alignment with national goals and international best practices. Our actions are guided by the principles of sustainability, accountability, and transparency. While the path ahead is complex, we are committed to integrating environmental responsibility into the core of our operations — balancing people, planet, and profit.

Transparency is essential. That's why we are reporting our greenhouse gas (GHG) performance openly and consistently. This report reflects our commitment to measurable progress, informed decision-making, and responsible leadership in a transitioning energy landscape.

Khamis Al Mazrouei
CEO
Sharjah National Oil Corporation

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WHO ARE WE?

Sharjah National Oil Corporation (SNOC) has a rich history that dates to its establishment in 2010. As a state-owned company, SNOC has played a significant role in the development and management of oil & gas resources in the Emirate of Sharjah. Over the years, SNOC has evolved into a key player in the energy sector in the UAE, contributing to the growth and sustainability of the economy of Sharjah. The corporation has demonstrated commitment to the efficient extraction of the Emirates' hydrocarbon resources, exploring new opportunities, and adopting innovative technologies to enhance operational efficiency and minimize environmental impact. SNOC has established strategic partnerships and collaborations with international stakeholders, utilizing their expertise to achieve the common goal of providing energy in an efficient, safe, and socially responsible manner. With a clear vision for the future, SNOC continues to adapt to evolving market dynamics, making substantial investments in sustainable energy solutions and embracing a diversified portfolio.

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INTRODUCTION

SNOC is delighted to present this comprehensive report focusing on the Green House Gases (GHG) emissions of SNOC. This report aims to provide a transparent and detailed assessment of SNOC's GHG emissions inventory, highlighting the company's commitment to transparency, sustainability, and its target of achieving Net-Zero GHG emissions. Consequently, SNOC intends to make this report readily available to the public.

In today's global landscape, addressing climate change and reducing GHG emissions have become imperative across various industries. SNOC, as a responsible energy provider, recognizes the importance of assessing and mitigating its GHG emissions to contribute to global sustainability goals. By proactively disclosing its GHG emissions, SNOC sets a high standard of transparency and accountability within the energy sector, showcasing its dedication to sustainable practices.

This report provides a comprehensive analysis of SNOC's GHG emissions, focusing on both direct and indirect emissions associated with the company's operations.

Aligned with the UAE's national commitment to a sustainable future, SNOC's pursuit of Net-Zero GHG emissions is fully in line with the UAE's broader goal of achieving Net-Zero emissions by 2050.

This assessment has been performed in accordance with the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report, as well as other standards and guidelines applicable to the subject matter.

SNOC has selected 2021 as the base year for reporting emissions.

EMISSION SCOPES COVERED

SNOC currently focuses on reporting Scope 1 and Scope 2 emissions associated with its operations. Scope 3 emissions encompass the indirect emissions that occur along the product and service value chain, outside of SNOC's direct control and ownership. Additionally, due to the challenges in reporting Scope 3 emissions in terms of data collection and certainties, and the risk of double-counting with other parties, SNOC decided to exclude Scope 3 from the reporting for the time being.

EXCLUSIONS

This report aims to address all significant sources of GHG emissions from assets operated by SNOC. No major sources of emissions have been excluded from the report. However, as noted earlier, scope 3 emissions are not included in SNOC's current GHG reporting.

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DESCRIPTION OF SNOC OPERATIONS

SNOC owns and operates five different gas fields: Sajaa, Kahaif, Moveyeid, Mahani and Hedebah. To boost production from the wells, multiple compression units are used. Production from the fields is received at the Sajaa gas processing plant, located at the Sajaa Industrial Area in Sharjah. The following operations are carried out at the Sajaa plant:

- Separation
- Gas compression
- Condensate stabilization
- Solid desiccant dehydration
- NGL fractionation
- LPG blending & loading
- Amine sweetening
- Glycol dehydration
- Gas Storage injection compression
- Water disposal (evaporation pond)
- Flares

Additionally, SNOC owns and operates an LPG export terminal as well as a condensate export terminal, both located in Hamriyah Free Zone.

FIGURE 1:

Overview of assets owned and operated by SNOC (field and Sajaa plant)

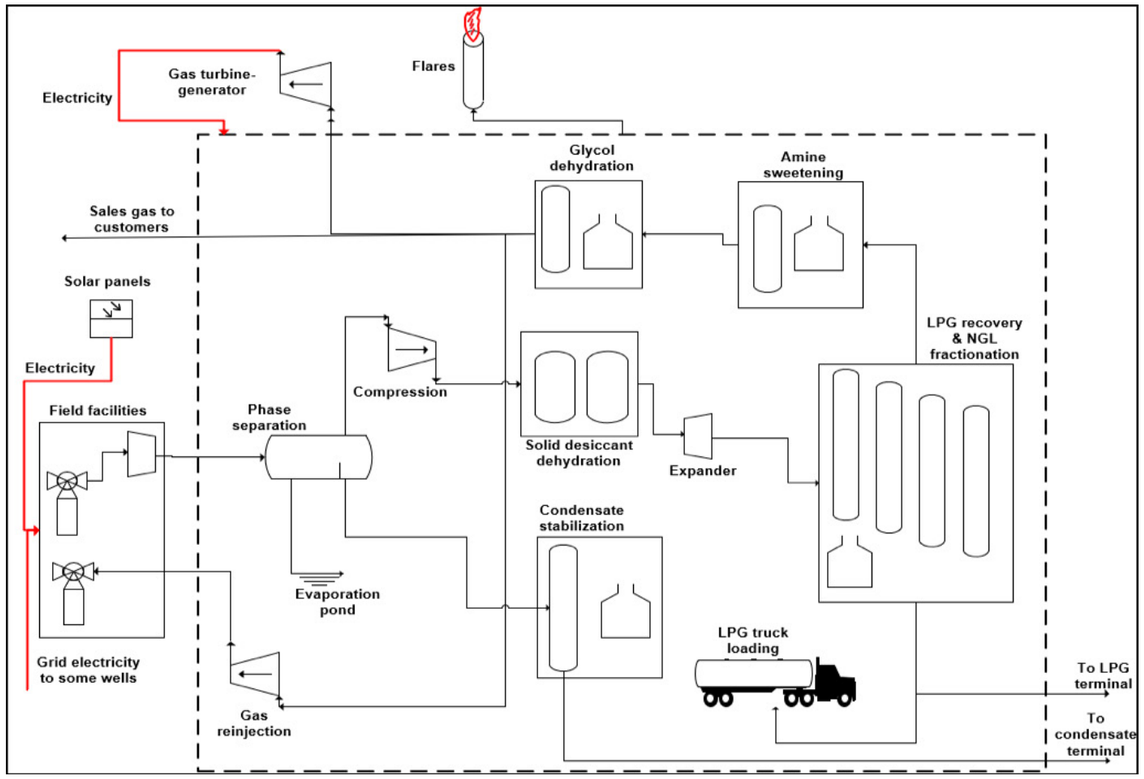
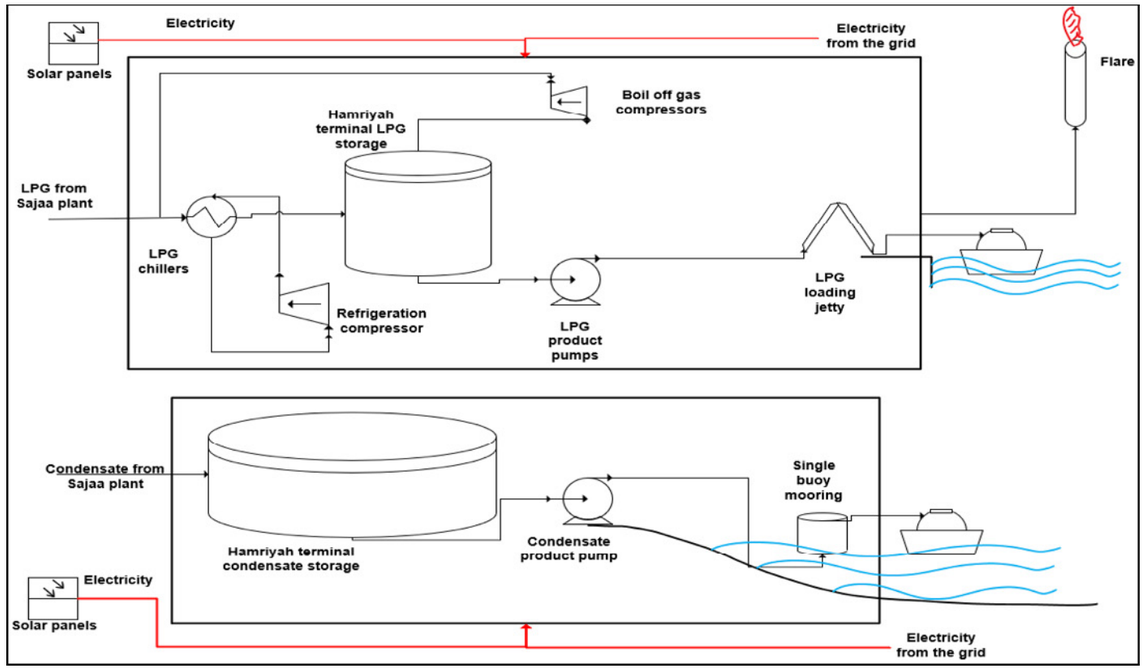


FIGURE 2:

Overview of assets owned and operated by SNOC (LPG and Condensate Terminals)



SNOC has consistently led the way in reducing emissions by strategically phasing out high-emission fuels, such as diesel, in favor of cleaner alternatives. The company has successfully transitioned to using a cleaner fuel option – sales gas – across its operations, significantly reducing potential GHG emissions. This has contributed to a substantial elimination of potential GHG emissions. However, in certain situations, where emergency operations or test runs are essential, SNOC still relies on diesel fuel for specific equipment, including fire water systems and backup generators. By limiting the usage of diesel to these critical emergency scenarios, SNOC effectively balances the need for operational readiness with its commitment to emissions reduction and environmental responsibility.

In addition to its hydrocarbon production, SNOC has expanded into gas storage. The company has deployed one of its depleted gas fields, Moveyeid, into a gas storage facility where gas is injected during periods of low power generation demand and withdrawn during peak demand seasons. Under the gas storage scope, SNOC operates gas turbine-driven compressors, gas engine-driven compressors, and a relief system. The gas storage asset operates as a separate business unit with its own emission intensity reported separately. The facility sources gas from multiple points within Moveyeid, including SNOC wells and purchased gas from other suppliers.

Emission intensity is reported per unit of MBOE (thousand barrels of oil equivalent) of well production for all assets, excluding the gas storage facility, and is referred to as upstream emission intensity. For the gas storage facility, emission intensity is reported per unit of MBOE of injected gas, referred to as downstream emission intensity. The gas storage facility does not have any associated Scope 2 emissions.

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GHG EMITTERS

GHG emissions can be attributed to combustion reactions or venting of process gases. The GHG emissions due to combustion from SNOC-owned assets can be categorized as follows:

1) Stationary combustion including:

a. Fired heaters

b. Gas engines
– Reciprocating compressors

c. Gas turbines
– Centrifugal compressors

d. Flares

e. Diesel engines
– Fire water pumps

2) Mobile combustion including:

a. Gasoline vehicles

b. Diesel vehicles

Additionally, GHG emissions from non-combustion sources such as vents and leaks, are accounted for.

As of 2024, SNOC is not engaged in any carbon-credit trading schemes. However, the company recognizes the potential need to enter the carbon credit market in the future to support the achievement of its Net-Zero target.

SNOC ASSETS EMISSION REDUCTION HISTORY

SNOC-operated assets have been actively working toward GHG emissions reduction since the 1980s, achieving key milestones in 1986, 1994, 1998, 2003, and 2019. Further details are available in the 2021 GHG Report.

ORGANIZATION BOUNDARY

The emissions reported in this report are based on operational control. This includes emissions from:

- Field facilities (e.g., wellheads and their associated drilling, hydraulic workover and well interventions activities, field compression, utilities… etc.)
- Sajaa gas processing facilities
- LPG terminal
- Condensate terminal
- Offices including their electricity consumption and vehicles use

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GHG PERFORMANCE

In 2024, the combined Scope 1 and Scope 2 emissions from SNOC's upstream and downstream business units totaled **320.6 $ktCO_2e$** with Scope 1 emissions accounting for the majority at an estimated **318.8 $ktCO_2e$**, while Scope 2 is estimated at **1.7 $ktCO_2e$**. The combined Scope 1 and Scope 2 emissions for 2024 are 2.4% higher than 2023 figures. This is due to a higher quantity of flared gas from drilling activities and process upsets.

TURBINES & ENGINE EMISSIONS

The Scope 1 emissions from gas turbines amounted to **157.6 $ktCO_2e$**, while gas engines contributed **46.3 $ktCO_2e$**. In 2024, emissions from gas engines decreased by 13.9% compared to 2023, primarily due to the reduced volume of gas injected into the Moveyeid field. This reduction is significant, as a substantial portion of emissions from gas engines is driven by the operation of gas injection compressors.

DRILLING ACTIVITIES EMISSIONS

Additionally, approximately **8.1 $ktCO_2e$** were emitted by diesel engines, which are mostly used for drilling.

GAS STORAGE EMISSIONS

The 2024 combined scopes 1 & 2 emissions, excluding gas storage facilities, are estimated to be **283.2 $ktCO_2e$**.

In 2024, the emissions from the gas storage facilities are estimated to be **37.4 $ktCO_2e$**.

FIGURE 3:

Scope 1 GHG emissions (Total Upstream & Downstream)

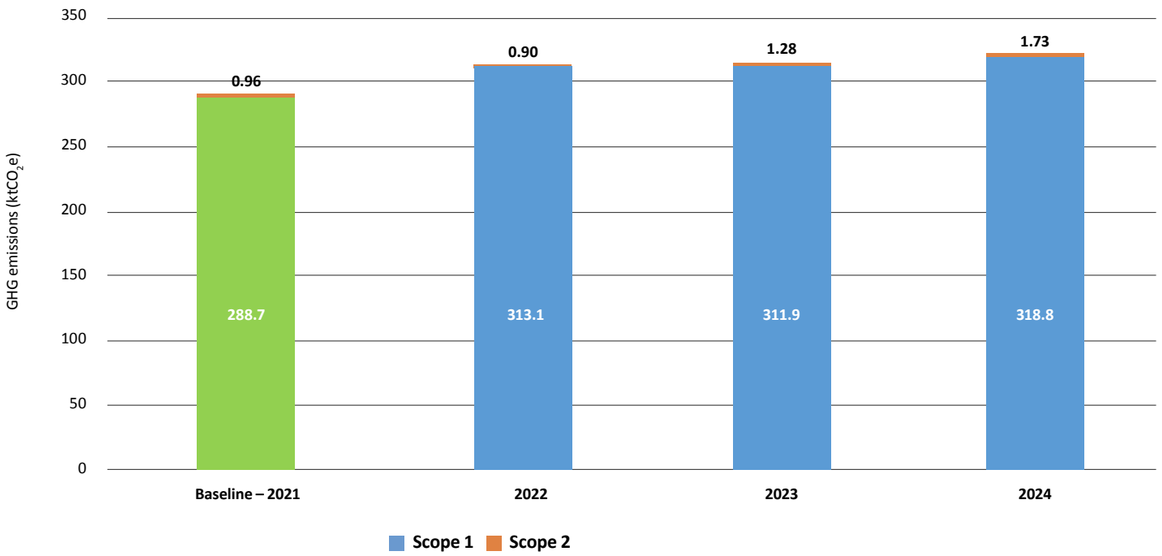
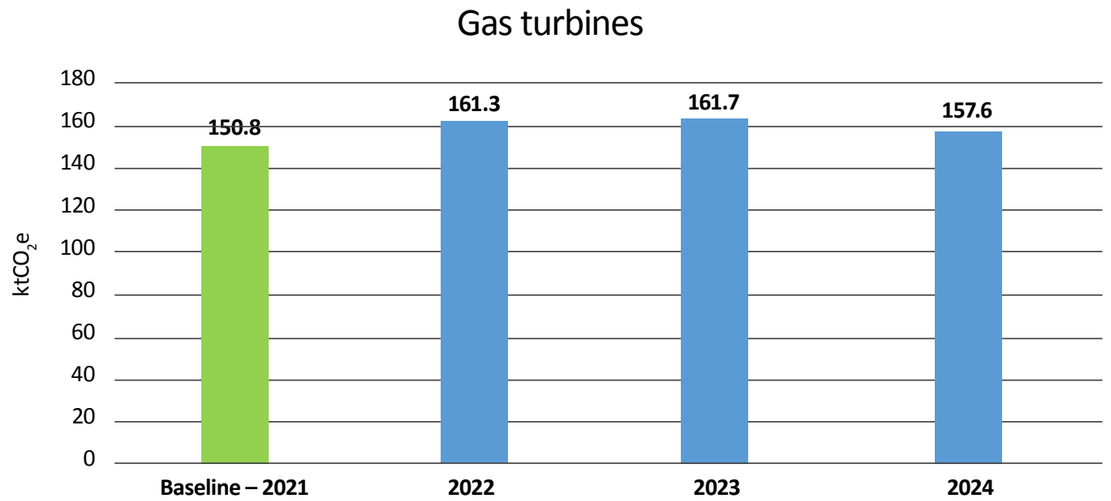
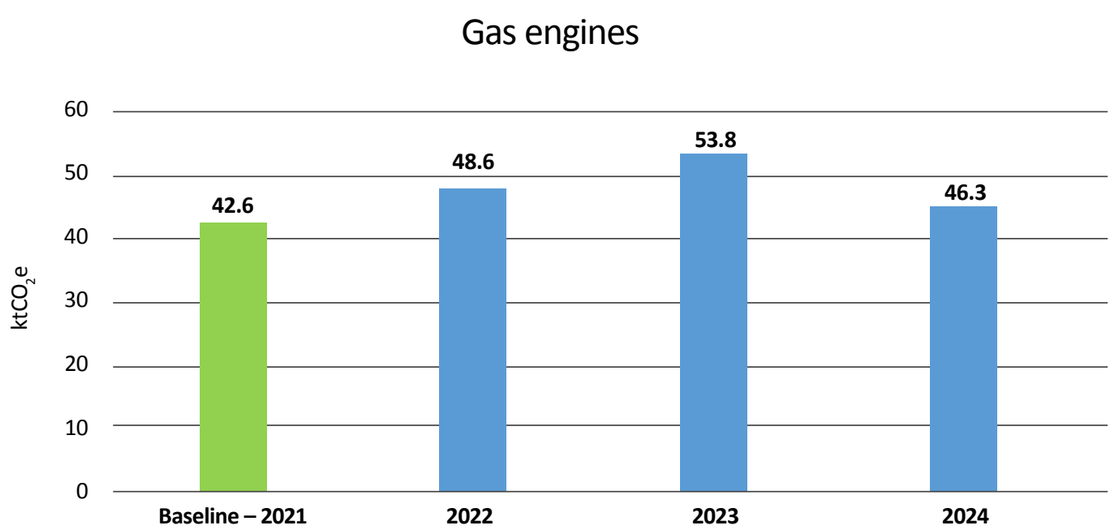


FIGURE 4:

GHG emissions from gas turbines and gas engines (Operating under Upstream & Downstream)





FLARING EMISSIONS

In 2024, flaring activities resulted in approximately **41.6 $ktCO_2e$** of emissions.

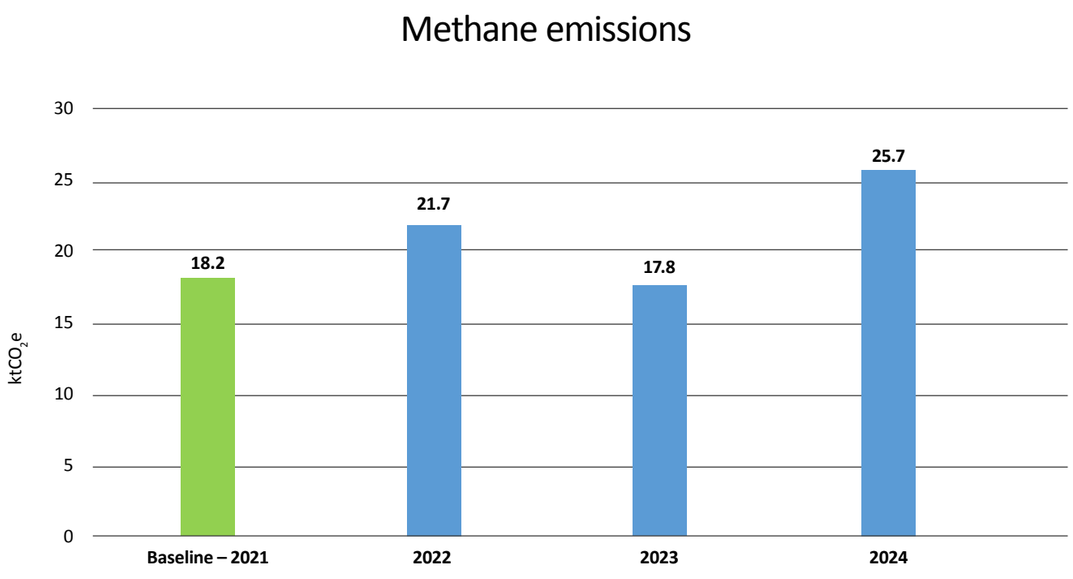
METHANE EMISSIONS

Methane emissions for the same year were estimated at **25.7 $ktCO_2e$**. These reported figures align with IPCC reporting requirements and include methane released from the following sources:

1) Cold vents
2) Leaks from compressor seals
3) Online analyzer vents
4) Glycol dehydrator vents
5) fugitive leaks

FIGURE 5:

Methane emissions in terms of kilotonnes of CO_2 equivalent



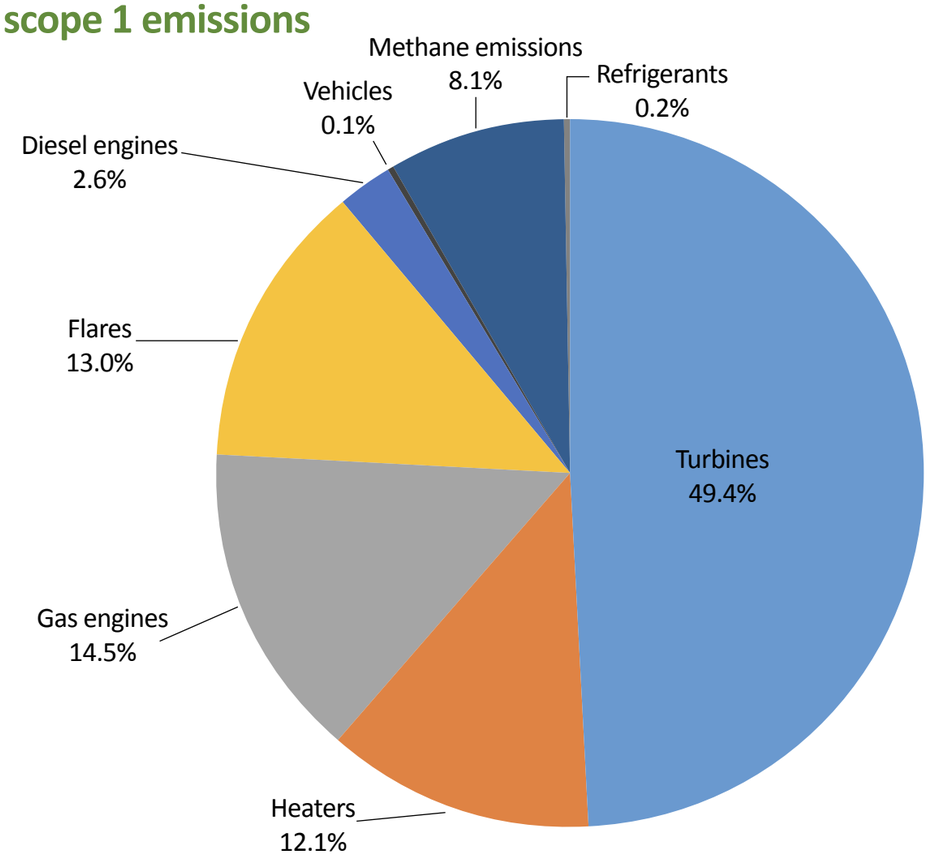
EMISSIONS INTENSITY

The upstream emission intensity in 2024 reached **108.3 tCO_2e/MBOE**, marking a 23.1% increase compared to 2023. This rise was primarily driven by a decline in production, which significantly impacted the emissions-per-barrel ratio. Meanwhile, the downstream emission intensity for the year stood at **17.1 tCO_2e/MBOE**.

Figure 6 provides a pie chart showcasing the proportionate contribution of various emitter categories to Scope 1 emissions as a percentage.

FIGURE 6:

Contribution of the different types of GHG emitters to scope 1 emissions



SOLAR ENERGY CONTRIBUTION TO GHG SCOPE 2

In 2024, the solar farms supporting the LPG and condensate terminals generated a total of **129.5 MWh** of electricity. This renewable energy contribution offset approximately **0.05 $ktCO_2e$** in emissions that would have otherwise resulted from grid-based power imports.

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DISCUSSION OF UNCERTAINTIES

The GHG protocol defines three types of uncertainties: scientific, parameter, and model uncertainties.

The uncertainties in GHG emissions estimation presented in this report primarily arise from two factors: metering errors and limited data availability for certain emitters, collectively contributing to “parameter uncertainty.” This refers to the cumulative uncertainty across all components of the metering and calculation methodologies. SNOC recognizes the critical importance of enhancing the accuracy of emissions estimation and measurement. The company remains committed to implementing necessary improvements to minimize uncertainties in the reported figures.

The figure for fugitive leaks is derived from a desktop study with limited available data, falling under the category of “model uncertainty.” This type relates to uncertainty in the model of estimation. Fugitive emissions are expected to be the largest contributor to the overall uncertainty in total emissions estimates, as the calculation relies on approximate estimates of the number of leaking components and generic “leaker emission factors” sourced from the Oil and Gas Methane Partnership (OGMP) technical guidance.

In addition, the total liquid fuel consumption for drilling and projects in 2023 was not categorized between stationary engines and mobile engines (vehicles). For estimation purposes, a 50-50 split was assumed. While this assumption is not expected to significantly affect the overall emissions figure, SNOC recognizes this as an area for improvement and is committed to implementing necessary actions to enhance data accuracy in future reporting.

NOx AND SOx

NOx and SOx emissions primarily result from fuel combustion, with SOx emissions occurring only if the fuel contains sulfur. The primary fuel used in SNOC's operations is fuel gas, sourced from clean gas that meets sales gas quality specifications, containing approximately 0.0 – 16.0 ppm of H2S. Liquid fuels contribute minimally, as they are used only for vehicles and emergency equipment.

In 2024, estimated NOx emissions totaled 2,318 Mt, while SOx emissions were estimated at 210.5 Mt.

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EMISSIONS SUMMARY HIGHLIGHTS

TABLE 1:

Summary of GHG data with respect to GRI requirements

GRI Disclosure	2024 Actual figure	Page number(s)
305-1 Direct GHG emissions (scope 1) ($ktCO_2e$)	318.8	7&8
305-2 Energy indirect GHG emissions (scope 2) ($ktCO_2e$)	1.7	7&8
305-3 Other indirect GHG emissions (scope 3)	Not reported	-
305-4 Upstream & Downstream GHG emission intensity (tCO_2/MBOE)	108.3 a & 17.1b	9
305-5 Reduction of GHG emissions ($ktCO_2e$)	0.o5 c	10
305-6 Emissions of ozone-depleting substances (ODS)	0.0 d	-
305-7 NOx/SOx, and other significant area emissions (Mt)	2,318/210.5	10

a. Intensity excluding emissions from the gas storage facility, and reported per unit of MBOE produced from the wells

b. Intensity from emissions caused by the gas storage facility only, and reported per unit of MBOE re-injected

c. Emissions offset by the solar power produced

d. No ODS are used in SNOC assets

GLOSSARY

CO_2e	CO_2 Equivalent
GHG	Greenhouse Gases
GRI	Global Reporting Initiative: an international independent standards organization
GWP	Global Warming Potential
$ktCO_2e$	Thousands Metric Tons of CO_2 Equivalent
LPG	Liquified Petroleum Gas
MBOE	Thousand barrel of oil equivalent
NGL	Natural Gas Liquids
ODS	Ozone Depleting Substances
tCO_2e	Metric Tons of CO_2 Equivalent. Metric ton is defined as 1000 kilograms.