



**Equinor UK Limited**

# OSPAR Offshore Environmental Performance Report

Public Annual Statement **2023**



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# 1 Introduction

This document is the 2023 annual public environmental statement for the offshore petroleum activities of Equinor UK Limited. It has been prepared in accordance with recommendation 2003/05 of the

Convention for the Protection of the Marine Environment of the North-East Atlantic ("The OSPAR Convention") which has been adopted by the United Kingdom government and offshore industry.

The statement summarises the environmental performance of our upstream offshore facilities and the data used in the statement has been previously reported to the relevant UK environmental regulators. The offshore facilities reporting is done via the Environmental Emissions Monitoring System (EEMS) to the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED).

Equinor is an international energy company with operations in over 30 countries and approximately 23,000 employees worldwide. The company's headquarters is in Stavanger, Norway. Equinor was founded as The Norwegian State Oil company (Statoil) in 1972, and it was listed on the Oslo Børs (Norway) and New York Stock Exchange (US) in June 2001. On 15 May 2018 the Board of Directors decided to change the name of the company from Statoil to Equinor. The new name reflects the company's strategy and aim to become a leading integrated energy company.

For further information about Equinor and its UK activities, please see [www.equinor.com](http://www.equinor.com). Details of media contact personnel can be found at: <https://www.equinor.com/news-and-media/media-relations>.

## 2 Equinor UK Limited

Equinor is among the world's largest net sellers of crude oil and condensate, and the largest supplier of natural gas to the European market. Equinor has substantial processing and refining operations. Equinor's Renewables business area was set up in 2015 as a separate business area to develop renewables, primarily within offshore wind, and low-carbon solutions.

Equinor aims to maximise and develop the value of our unique position on the Norwegian Continental Shelf and our international business, focusing on our strategic pillars: Always Safe; High Value and Low Carbon. We have six business areas: Exploration & Production Norway (EPN), Exploration & Production International (EPI), Renewables (REN), Marketing, Midstream & Processing (MMP), Technology, Digital & Innovation (TDI) and Projects, Drilling & Procurement (PDP).

Equinor UK Limited is a company registered in the United Kingdom. Our principal and registered office is at 1 Kingdom Street, London W2 6BD, in addition to which there is an operational office for offshore oil and gas development activities at Prime Four Business Park, Kingswells, Aberdeen, AB15 8QG.

At the end of 2023 Equinor UK Limited had interests in 24 seaward production licences on the UKCS and was operator of 20 of those. The locations of the licences are shown in Figure 1.

Equinor's UKCS operatorships include the Mariner Field (Licence P.335) where there is ongoing production and development drilling. Equinor is also operator of the Rosebank Field (Licences P.1026, P.1191 & P.1272) where development work is ongoing. Details of recent, current and planned licence activity are provided in the next section.

Equinor also has operatorship of wind energy projects offshore UK and in low carbon (Carbon Capture and Storage (CCS) and Hydrogen) projects. Such projects are outside of the normal scope of an OSPAR public statement but are summarised in the next section because of their relevance to Equinor's Energy Transition Plan.

Equinor supports the Paris Agreement and aims to be a leader in the energy transition by building the energy industry of tomorrow and becoming a net-zero company. To achieve this, we will reduce emissions from our own oil and gas production, accelerate growth within renewables and develop markets for low carbon technologies such as hydrogen and Carbon Capture and Storage.

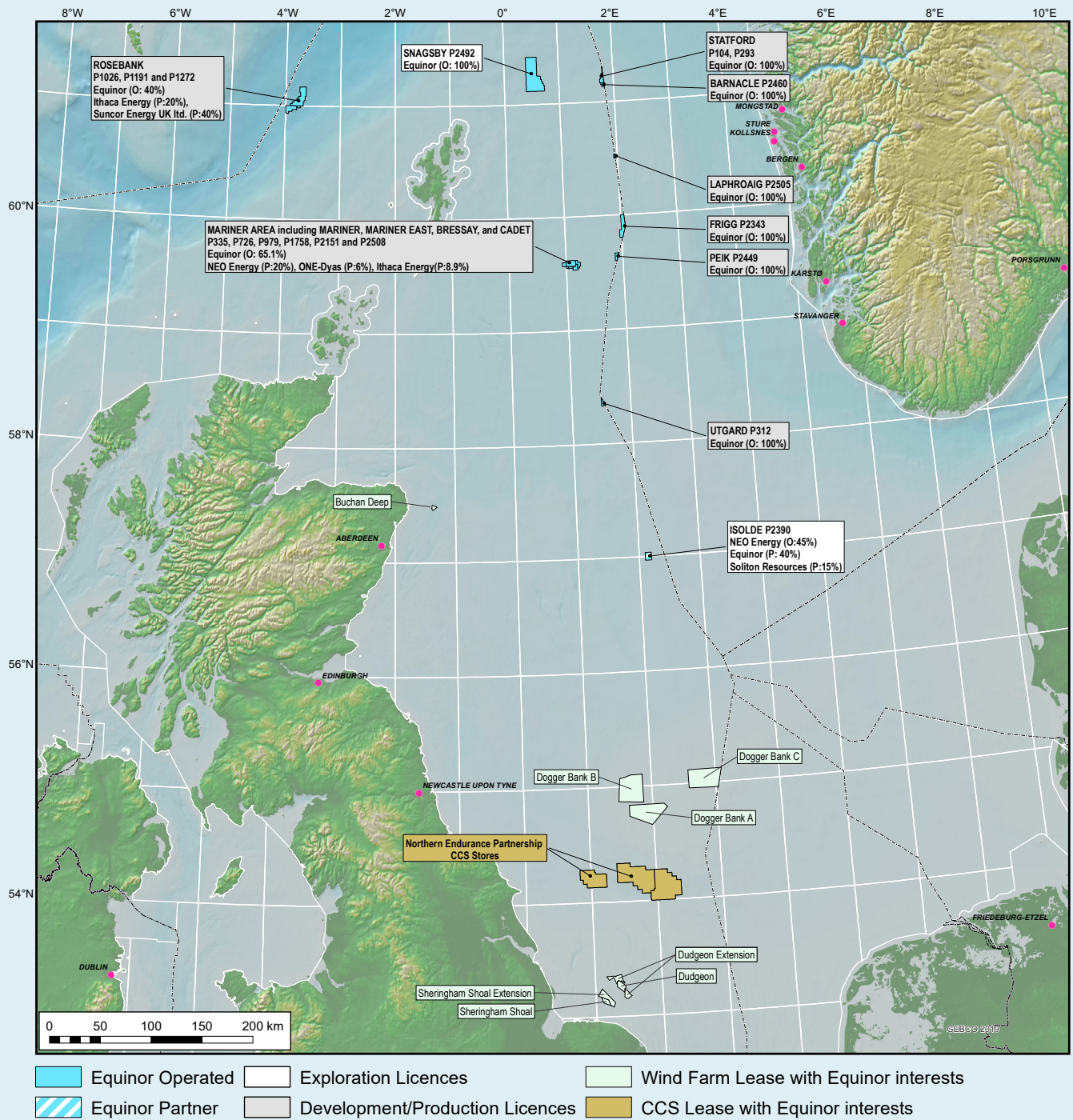


Figure 1: Location of Equinor’s UKCS oil and gas interests and activities at end of 2023, also including offshore wind leases and CCS lease locations

## 3 2023 UKCS Activities

### 3.1 Oil & Gas Exploration Activities

At the end of 2023 Equinor UK Limited operated no exploration licences. One exploration licence was relinquished in 2023 – P.2492, which was operated by Equinor UK Limited. In December 2023, Equinor was awarded one non-operated exploration licence from the 33rd Offshore Licensing Round – P.2610.

### 3.2 Seismic Surveys

No seismic surveys were conducted in 2023.

### 3.3 Exploration and Appraisal Drilling

No exploration drilling was conducted in 2023.

### 3.4 Oil & Gas Development Activities

#### 3.4.1 Mariner

Equinor UK Limited is the majority equity holder and operator, with partners NEO Energy Petroleum Limited, Ithaca SP O&G Limited and ONE-Dyas E&P Limited, for UKCS seaward production licences P.335, P.2151, P.979 & P.726 covering the Mariner field. A schematic of the Mariner field is presented in Figure 2.

During 2023 the following activities took place:

- Ongoing production from the Mariner Field.
- The successful completion of the first full platform Turnaround
- Drilling of new production and water injection wells from the Mariner platform drilling rig
- Commissioning and start-up of the Interventions and Completion Unit.

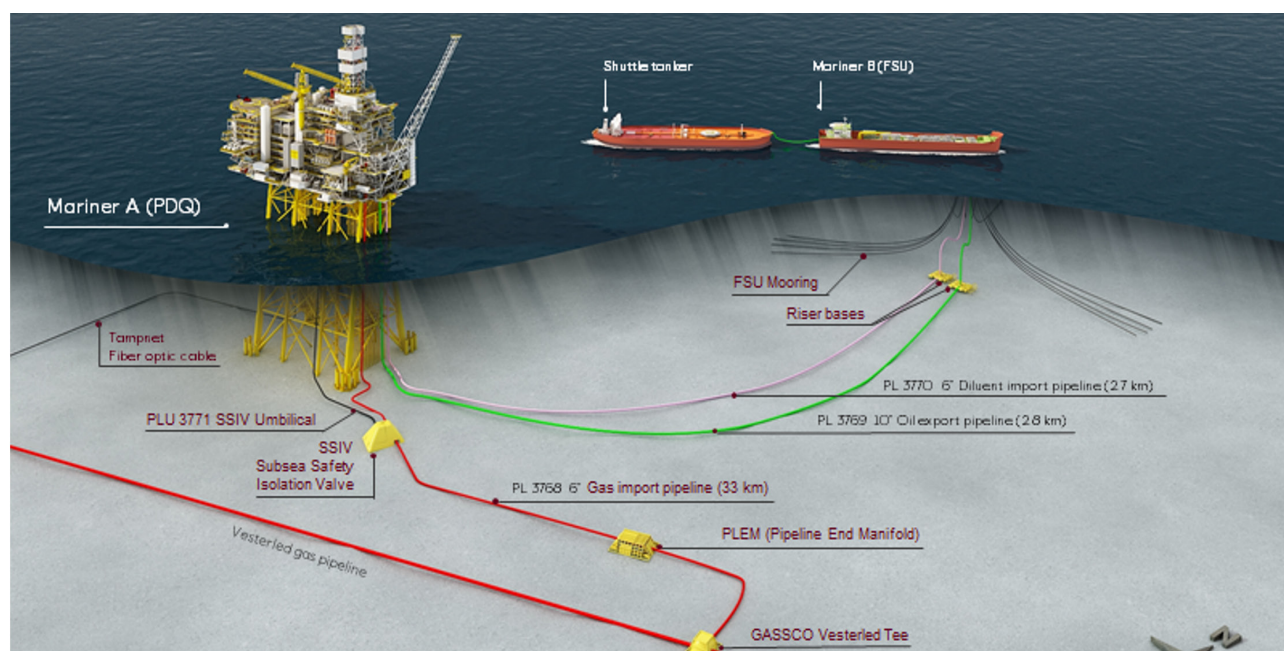


Figure 2: Schematic of the Mariner Field

### 3.4.2 Cadet

Equinor UK Limited is the majority equity holder and operator for the UKCS seaward production licence P.1758 covering the Cadet field, adjacent to the Mariner field. In 2019, Equinor and its then licence partners, JX Nippon, Ithaca SP E&P Limited and One Dyas, submitted a Field Development Plan (FDP), which was subsequently approved in Q4 2019.

### 3.4.3 Rosebank

Equinor UK Limited is field operator for UKCS seaward production licences P.1026, P.1191 & P.1272 covering the Rosebank field. In 2023 Equinor and its licence partner, Ithaca Energy, took the final investment decision to progress Phase I of the development following the grant of regulatory consent by the NSTA.

The Rosebank field is an oil and gas field located about 130km north west of Shetland in approximately 1100m water depth. The field will be developed with subsea wells tied back to a redeployed Floating Production Storage and Offloading vessel (FPSO) with start up planned in 2026/27. The FPSO has been designed to be electrification ready and Equinor is collaborating with government and industry to pursue a regional solution for power from shore to the field.

### 3.4.4 Utgard

Equinor UK Limited is the sole equity-holder and operator for UKCS seaward production licence P.312 that covers the UK portion of the Utgard field. Equinor Energy AS (one of the Equinor Group's Norwegian entities) is operator of the licence covering the Norwegian portion of the field and is the overall field operator. The Utgard field started production on 16th September 2019 via two wells from a subsea template located in the Norwegian licence. At the end of 2023, the UK production well was partially abandoned, and a new production well sidetracked from it, which is due to come into production in 2024.

### 3.4.5 Statfjord

Equinor UK Limited acquired 100% equity in licences P.104 and P.293 from Spirit Energy during 2022. The licences contain the UK part of the cross-border Statfjord Field, which is produced from the Statfjord B platform which lies entirely within Norwegian waters. The field operator is Equinor Energy AS (one of the Equinor Group's Norwegian entities). The Statfjord Field has been producing oil and gas since 1979.

### 3.4.6 Barnacle

Equinor UK Limited is the operator of UKCS seaward production licence P.2460 covering the Barnacle oil field. Field production started on 6th December 2019 via a single long reach well drilled from the Statfjord B platform in the Norwegian sector which is operated by Equinor Energy AS (one of the Equinor Group's Norwegian entities) which also is field operator for Barnacle.

### 3.4.7 Mariner East

Equinor UK Limited is the majority equity holder and operator for UKCS seaward production licence P.726 covering the Mariner East field, in addition to licence P.2508 covering the Minotaur discovery and the recently awarded licence P.2573 which includes the Bluebeard discovery.

### 3.4.8 Frigg

Equinor UK Limited is the sole equity-holder and operator for UKCS seaward production licence P.2343 that covers the UK portion of the abandoned Frigg field. Evaluation of a possible field redevelopment is ongoing.

### 3.4.9 Peik

Equinor UK Limited is the sole equity-holder and operator for UKCS seaward production licence P.2449 that covers the UK portion of the Peik discovery. Equinor Energy AS is operator of the licence covering the Norwegian portion of the field. Field evaluation is ongoing.

### 3.4.10 Laphroaig

Equinor UK Limited is the sole equity-holder and operator for UKCS seaward production licence P.2505 that contains the Laphroaig undeveloped discovery. Field evaluation is ongoing.

### 3.4.11 Burdock

Equinor UK Limited is the sole equity-holder and operator for UKCS seaward production licence P.2571, which was awarded to Equinor in 2023 in the 33rd Offshore Licensing Round and contains the Burdock undeveloped discovery. Field evaluation is ongoing.

### 3.4.12 J-Discovery

Equinor UK Limited is the sole equity-holder and operator for UKCS seaward production licence P.2611, which was awarded to Equinor in 2023 in the 33rd Offshore Licensing Round and contains the J undeveloped discovery. Field evaluation is ongoing.

### 3.4.13 Buzzard

Equinor UK Limited is an equity holder of the CNOOC operated Buzzard field, with additional partners of Premier Oil UK Ltd (Harbour Energy and One Dyas, for UKCS seaward production licences P.928 and P.986 covering the Buzzard field). Buzzard came online in 2007 and Equinor acquired equity in 2023. A picture of the Buzzard field is presented in Figure 3.



Figure 3: Buzzard Field



### 3.5 Wind Energy Activities

Equinor continues to make progress on its strategic aim to accelerate profitable growth in renewables. We aim to install 12-16 GW of renewables capacity and produce more than 80 TWh from renewables and decarbonised energy annually by 2030. We will achieve this by becoming a global offshore wind major and establishing ourselves as a market driven power producer in selected markets by pursuing opportunities in onshore renewables.

In the UK, Equinor is the operator of the Sheringham Shoal wind energy development located off the North-Norfolk coast. The development comprises of 88 wind turbines with a combined generating capacity of 317 MW (see photograph in Figure 4).



Figure 4: Sheringham Shoal wind farm

Equinor is operator of the nearby Dudgeon offshore wind energy project, located 32 miles offshore from Cromer in North Norfolk. The development comprises of 67 wind turbines with a combined generating capacity of 402 MW (see photograph in Figure 5).



Figure 5: Dudgeon offshore wind farm

Equinor is operator of the Hywind Scotland park (75%) with partner Masdar. Hywind Scotland is a pilot project of 5 floating wind turbines located off the Scottish coast, 25km offshore from Peterhead at Buchan Deep. Construction and installation were completed in 2017. The pilot park covers around 4 square kilometres at water depths of 95-120 metres. Each of the five floating wind turbines can produce 6 MW for a combined generating capacity of 30 MW. Unused power can be stored in lithium batteries for later use (see photograph in Figure 6).

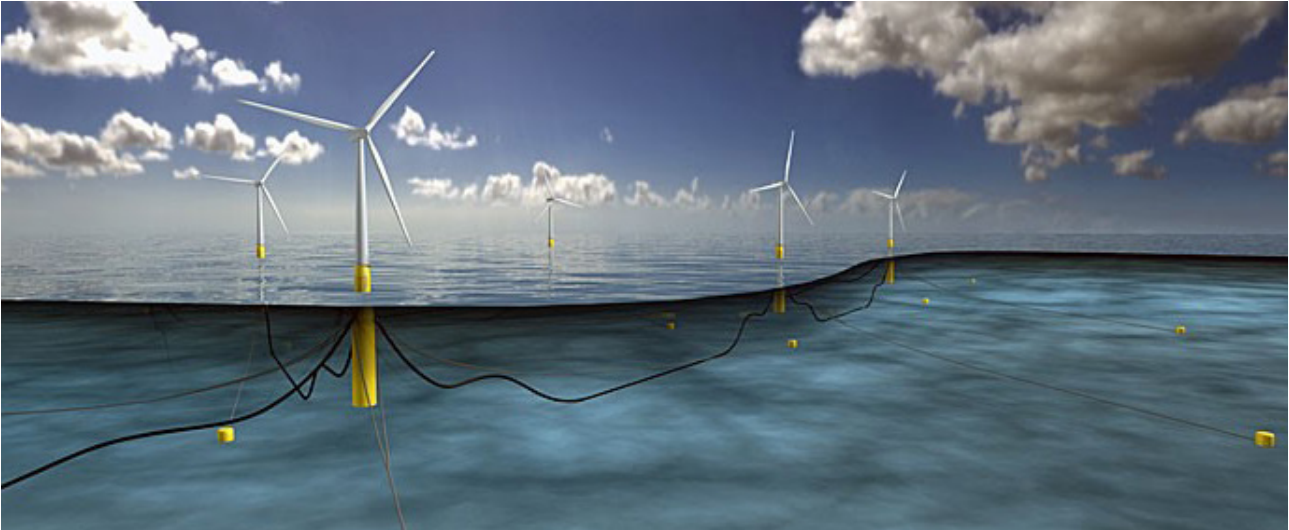


Figure 6: Schematic of completed Hywind pilot project

Equinor is engaged in a joint venture (40%) with SSE and Vårgrønn in the development of the Dogger Bank Wind Farm. This project comprises three phases: Dogger Bank A, Dogger Bank B and Dogger Bank C, each with a generating capacity of up to 1.2GW. When installed, the Dogger Bank Wind Farm this will be the world's largest offshore wind farm and can supply up to 5% of the UK power requirements.

### 3.6 Carbon Capture and Storage and Hydrogen

In 2023 Equinor made significant progress on industrial CCS and blue and green hydrogen projects which are the result of combined effort of government, industry, investors and customers working together toward Net Zero emissions.

## 4 Values and Commitments

### 4.1 Vision and Values

Our aspiration is to be a leading company in the energy transition committed to long-term value creation in a net zero future. We are transforming our company to be a broad energy provider by optimising oil and gas, accelerating our high value growth in renewables and positioning for new market opportunities in low carbon solutions. We are reducing the carbon footprint of our energy production and aim to be a net zero company by 2050.

The future of energy will be net zero. That is why our ambition is to be a leader in the energy transition. Demand for renewable energy and low carbon solutions will grow and offer new business opportunities, while oil and gas will remain part of the energy mix to provide affordable and available energy to cover global demand. Building a new energy business will support our long-term future as a leading global energy provider.

The Equinor Group's core values set out in the Equinor Book are: Open, Collaborative, Courageous and Caring.

**The Caring value requires Equinor to:**

- Seek zero harm to people
- Respect each other and contribute to a positive working environment
- Act in a sustainable, ethical and socially responsible manner

### 4.2 Commitments

To meet the values and implement what they stand for, Equinor has made a firm set of commitments, also described in the Equinor Book.

**These commitments are:**

- In all our business activities, we comply with applicable laws, act in an ethical, sustainable and socially responsible manner, practise good corporate governance and respect internationally recognised human rights. We maintain an open dialogue on ethical issues – both internally and externally. Open, honest and accurate communication is essential to our integrity and business success.
- Our approach is integrated in our Management System, and we have developed guidance and tools for everyone who works for us. Our Code of Conduct details our commitments and clarifies expectations and requirements of individuals. We do not tolerate any breaches of the law, governing documentation or the Code of Conduct.

#### 4.2.1 Respecting People

We are committed to providing a safe and secure environment for everyone working at our facilities and job sites. Equinor's safety and security vision is zero harm. We provide an environment recognised for its equality and diversity, and we treat everyone with fairness, respect and dignity. We do not tolerate any discrimination or harassment of colleagues or others affected by our operations.

#### 4.2.2 Conducting Operations

We have zero tolerance of corruption in any form and take active steps to ensure that corruption does not occur in relation to Equinor's business activities. We are committed to conducting our business activities in an open manner, promoting transparency in our industry. We protect information created by us, or given to us, to ensure appropriate confidentiality and integrity.

#### 4.2.3 Relating to Business Partners

We seek to work with others who share our commitment to ethics and compliance. We believe in the benefits of competition, and Equinor always competes in a fair and ethically justifiable manner.

#### 4.2.4 Working with Communities

We aim to create lasting value for local communities through our business activities. Our contribution may include direct and indirect local employment, local procurement of goods and services, local infrastructure development and capacity-building as well as social investments.

We will conduct our business consistently with the United Nations Guiding Principles on Business and Human Rights and the ten principles of the United Nations Global Compact.

We are committed to preventing harm to the environment and aim for outstanding natural resource efficiency in our business activities. We actively work to limit greenhouse gas emissions from our activities and comply with all applicable environmental laws and regulation.

### 4.3 Environmental Goals and Objectives

Equinor is committed to long-term value creation in support of the Paris Agreement. Our strategy consists of three pillars and combines focussed, carbon efficient oil and gas production with accelerated, value-driven expansion in renewables and leadership in building out new low carbon technologies and value chains. Equinor's sustainability strategy is summarised in Figure 7 below.

Further information on the strategy can be found in Equinor's integrated Annual Report 2023 available via: <https://www.equinor.com/investors/2023-annual-report>

Equinor's climate ambitions can be found at: [www.equinor.com/sustainability/climate-ambitions](http://www.equinor.com/sustainability/climate-ambitions)

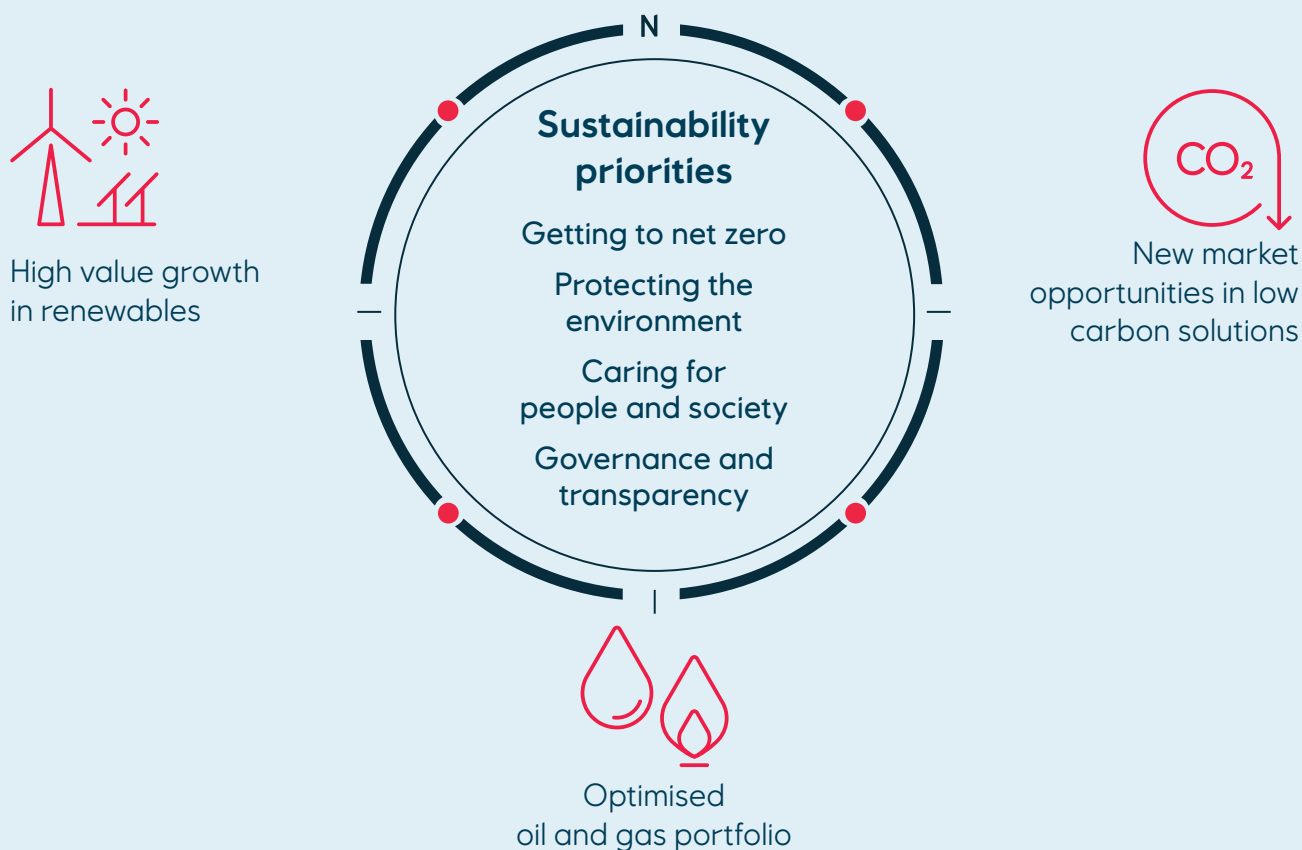


Figure 7: Equinor sustainability strategy

Each of these three pillars will contribute individually and collectively as Equinor's transitions into a broad energy company and towards our ambition of net zero by 2050, including emissions from the use of sold products. To realise our transition strategy, a detailed set of medium-term ambitions have been developed and summarised below:

- Halving operated greenhouse gas emissions by 2030 relative to 2015 levels with 90% of the cuts coming from absolute reductions, demonstrating the commitment to reduce emissions under our control in line with a Paris-aligned trajectory;
- Further improving the industry-leading carbon and methane efficiency of the upstream portfolio;
- Making global commitments and partnerships to address the reduction of methane emissions:
  - Signed to Oil and Gas Decarbonisation Charter (OGDC), committing to achieve near zero upstream methane intensity and end routine flaring by 2030 as well as publicly report emissions data;
  - Pledged U\$25 million for the Global Flaring and Methane Reduction (GFMR) fund to support countries that lack the necessary financial and technical resources to implement measures to support flaring reduction and methane abatement;
  - Became member of the Oil & Gas Methane Partnership (OGMP) 2.0;
- Allocating more than half of annual gross capital expenditure to renewables and low carbon solutions by 2030;

- Deploying profitable renewables capacity and CCS and hydrogen solutions according to specified milestones, providing a clear guide to creating long-term value by delivering energy with progressively lower emissions;
- Reducing net carbon intensity, including emissions from the use of sold products, by 20% by 2030 and 40% by 2035, addressing the systemic challenge of delivering energy that has lower – and eventually net-zero – emissions to end-users.

Equinor has a robust plan contributing to the delivery of these ambitions and energy transition across the UK:

#### 4.3.1 Oil and Gas portfolio

New oil and gas assets are designed to minimise atmospheric emissions using best available technology. For existing assets an emissions reduction plan is in place to systematically identify and reduce emissions from Equinor's oil and gas assets, including projects to reduce emissions from power generation and flare use, by minimising power consumption and recycling gas for power use. Energy use through operations is systematically tracked and improved through the energy and production optimisation group, where a set of digital tools which allow for performance to be regularly monitored have been implemented, allowing further energy saving measures to be put in place.

#### 4.3.2 Renewables

Equinor operates three UK offshore wind farms; Dudgeon and Sheringham Shoal, off the Norfolk Coast, and Hywind Scotland, the world's first floating wind farm, off the coast of Peterhead, Scotland, and plans to extend both Dudgeon and Sheringham Shoal, to be able to provide 1.5 million homes with renewable energy. With SSE Renewables and Vårgrønn, Equinor is a partner in the world's largest offshore wind farm, Dogger Bank. The 3.6 GW project will be capable of providing around 6 million UK homes with renewable electricity.

#### 4.3.3 Low Carbon Solutions

In the Humber, the UK's largest industrial region by emissions, Equinor is a leading partner in the Zero Carbon Humber (ZCH) partnership that plans to decarbonise a mixture of power and industrial sites on both sides of the Estuary by rolling out hydrogen and CO<sub>2</sub> infrastructure, enabling each to fuel switch to hydrogen or capture their emissions. The Equinor-led H2H Saltend hydrogen production plant will be the first to use this infrastructure, converting natural gas to low-carbon hydrogen and capturing at least 95% of the associated CO<sub>2</sub> emissions. H2H Saltend forms part of Equinor's ambitions for low-carbon hydrogen in the Humber, adding up to 1.8GW of production to meet local demand using the ZCH infrastructure. In addition to this, Equinor is developing projects in zero-carbon hydrogen (from water electrolysis using renewable power). Equinor is also working with partner SSE Thermal on two other ZCH projects, a gas-fired power station with carbon capture, and the first power station entirely fuelled by hydrogen.

In Teesside, Equinor is a partner in the Net Zero Teesside project to capture CO<sub>2</sub> emissions from local industry and from a gas-fired power station that will start operations in the mid-2020s, making use of the offshore CO<sub>2</sub> storage developed by The Northern Endurance Partnership (NEP).

In Aberdeenshire in Scotland, Equinor is collaborating with SSE Thermal to develop Peterhead Carbon Capture Power Station, a new gas-fired power station with carbon capture that is expected to start operations by 2027.

# 5 Environmental Management System

## 5.1 Introduction

The Equinor environmental management system (EMS) is an integral part of the group's overall management system. The management system has three main objectives:

- Contribute to safe<sup>1</sup>, reliable and efficient operations and enable us to comply with external and internal requirements
- Help us to incorporate our values, our people and our leadership principles in everything we do
- Support our business performance through high-quality decision-making, fast and precise execution, and continuous learning

Our management system helps us to operate in a predictable way, to tackle challenges, manage changes, utilise opportunities and perform tasks in a systematic manner. That is why compliance with our management system is a requirement for everyone working for Equinor.

<sup>1</sup> Equinor's use of the term "safe" includes no damage to the environment.

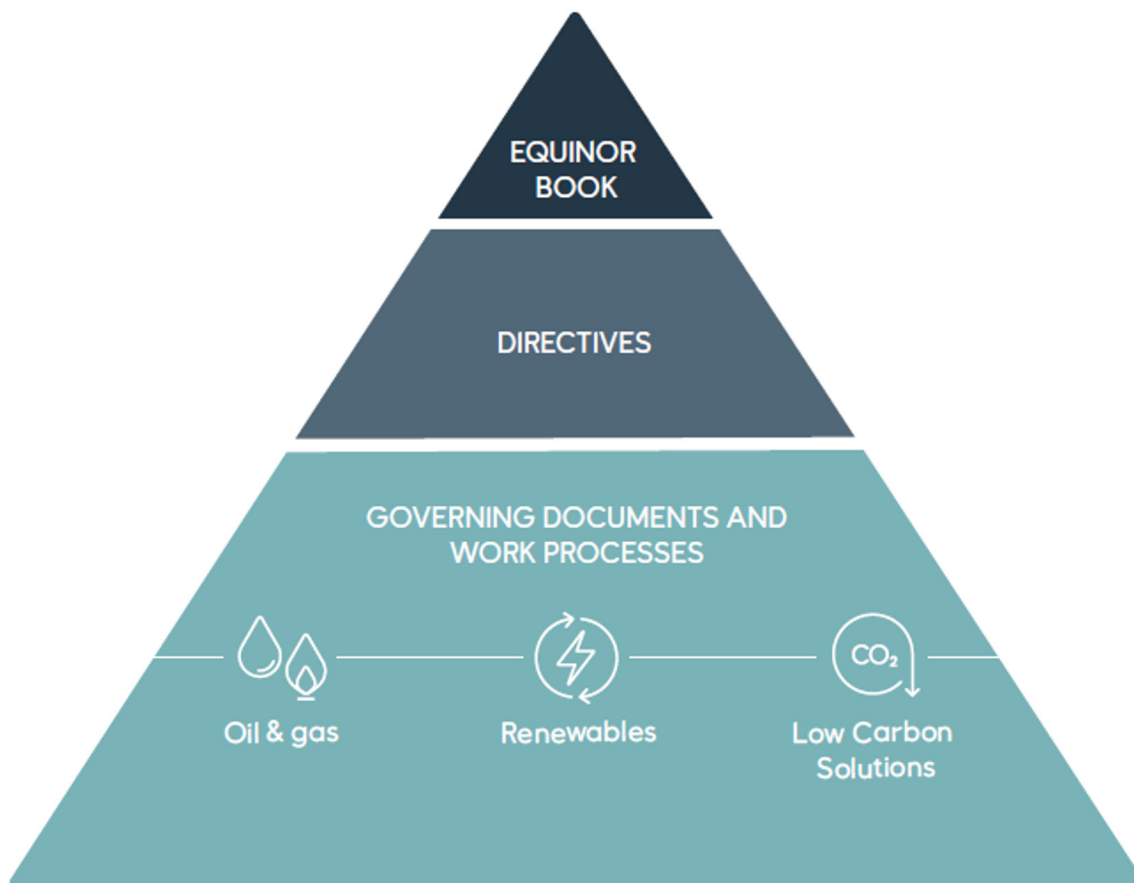


Figure 8: Equinor management system structure

### 5.1.1 Fundamentals

Fundamentals are essential principles for the company and are valid company wide. They describe what the company wants to achieve and include our values, commitments, and mandates. Fundamentals are documented in the Equinor Book and in our Functional Requirement documents.

## 5.1.2 Requirements

Requirements are used to manage risks and to ensure safe and efficient operations. They describe what we need to comply with when performing tasks. Requirements are set out in our organisation, management and control documents, work processes, work requirement documents, technical requirement documents, system and operation documents, key control documents and emergency response plans.

## 5.1.3 Recommendations

Recommendations support people when performing tasks and enable compliance with fundamentals or requirements. They describe suggestions or proposals for the best course of action and are based on the collective learning and experience in the company.

## 5.2 Fundamentals for Sustainability

Equinor's sustainability fundamental requirements (FR11) consists of the following:

1. Management of sustainability performance shall be an integrated part of governance, strategies, business planning, risk and performance management and decision-making processes following the principles of internationally recognised management standards for sustainability.
2. We shall systematically identify, analyse and manage our significant sustainability aspects to achieve continual improvement in a verifiable, efficient and effective manner.
3. We shall implement measures according to the mitigating hierarchy: avoid, minimise, remediate/compensate for or offset adverse sustainability-related impacts, and enhance positive impacts, in accordance with good international practices and principles.
4. We shall record, report and control our sustainability performance data in accordance with regulatory reporting requirements and the corporate framework to ensure consistency, quality and regulatory compliance.
5. We shall aim and identify, develop and implement measures to reduce scope 1 and 2 greenhouse gas (GHG) emissions, and increase energy efficiency to promote Equinor's climate ambitions and responsible resource use.
6. All Equinor operated oil and gas assets shall work systematically to fulfil our commitments of zero routine flaring and near zero methane emissions by 2030. In our partner-operated assets we shall work actively to help achieve the same objective.
7. We shall consider scope 1, 2 and 3 greenhouse gas (GHG) emissions quantification throughout our supply chain in Equinor's portfolio planning, project and business development as a one of the drivers for our decision-making processes.
8. We shall establish, implement and maintain practices for managing and reducing impacts and pressures from our operations on biodiversity and ecosystems.
9. We shall, throughout all our activities, not impact areas of particularly high importance.
10. We shall work systematically pursuing opportunities to promote circularity and optimize the use of resources, competitiveness and regulatory compliance.
11. We shall ensure that our activities do not have a significant negative direct impact on the freshwater resources in the areas we operate.



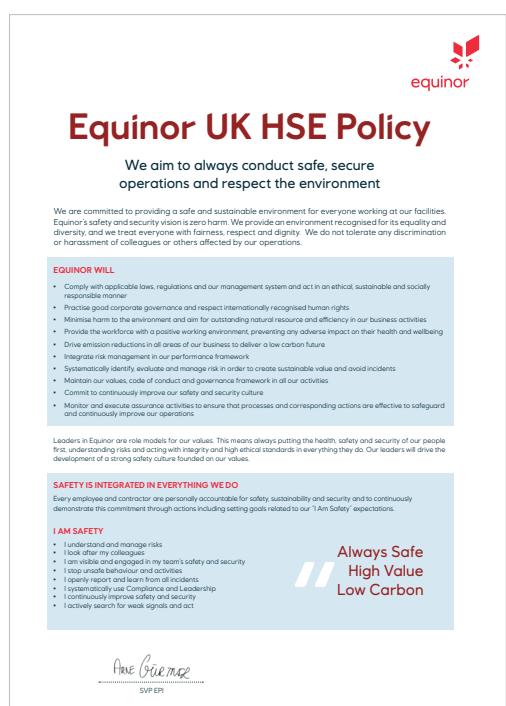
12. We shall assess, monitor and effectively manage biodiversity inventories on existing and new assets to ensure delivery on Equinor’s nature ambitions, reversing biodiversity loss and increasing biodiversity performance.
13. We shall actively assess and identify risks of potential and actual adverse human rights impacts within all our activities to prevent or limit harm to people and comply with Equinor’s human rights policy and regulatory requirements.
14. We shall avoid, effectively mitigate or appropriately remediate adverse human rights impacts linked to Equinor’s activities.
15. We shall conduct meaningful engagement with potentially affected communities, making their grievances or concerns inform our actions, decisions and follow-up.
16. We shall pursue positive contributions to host communities enhancing social investments, local procurement and employment, creating a shared benefit of Equinor’s activities.

### 5.3 ISO 14001

Equinor UK Limited has an EMS which applies to all exploration, drilling, development, production and associated activities. This EMS was independently verified by Lloyd’s Register Consulting Ltd and was declared compliant with OSPAR and associated OPRED requirements on 19th September 2023.

Equinor UK’s contractors operate facilities according to their own management system with bridging and/or interface documents to match Equinor UK’s EMS requirements and best industry practices.

Equinor company policy is that the overall group does not seek certification of its management system against ISO or other international standards. However, the management system is designed to be compatible with recognised standards, such as ISO 14001 for environmental management, allowing individual entities to seek accredited certification if there is a specific business need or local legal requirement to do so.



Equinor’s UK Health, Safety & Environment (HSE) policy has been provided in Figure 9 and applies throughout all Equinor’s UK operations. It is the aim of Equinor to ensure that best environmental practices and procedures are followed and that continual improvement in environmental performance is strived for at all times.

Emergency Response Bridging Documents are prepared for all offshore activities involving contractor facilities and vessels. Management System Interfacing and procedural precedence is defined in contract documents, and for high-risk activities is further clarified by preparation of Management System Interface documents. These documents clearly define the interfaces and establishes the agreed arrangements including responsibilities, systems, procedures and practices, for managing health, safety and environment during contracted works.

Figure 9: Equinor UK HSE Policy

## 6 Environmental Performance in the UK

This section presents environmental performance data for operated UKCS licence activities carried out by Equinor UK Limited during 2023. The data presented includes:

- Quantities of regulated chemicals that were used and discharged to sea during offshore oil and gas licence activities, i.e. regulated chemical use/discharge during Mariner production operations and development drilling.
- Quantities of waste generated, atmospheric emissions, and discharges to sea at installations operating at Equinor UK Limited’s oil and gas licence areas:
  - Mariner field:
    - Mariner A
    - Mariner B

Waste, emissions and discharges from the vessels that support operational activities are excluded as these vessels fall under maritime legislation and are not considered to be ‘offshore installations’ for the purposes of OSPAR.

The quantities of regulated chemicals used/discharged, waste generated, atmospheric emissions and discharges to sea presented below were reported to OPRED monthly or at year end as required by the relevant environmental permits or will be reported following expiry of any term permits. This reporting is via the OPRED Environmental Emissions Monitoring System (EEMS). Permit non-compliances and any unplanned discharges were reported to OPRED as per legal environmental compliance requirement.

### 6.1 Discharges

#### 6.1.1 Planned Discharges of Oil in Produced Water

An oil discharge permit is in place for Mariner A covering the open drains, drilling drains and produced water discharges. Produced Water was discharged to sea from Mariner A in accordance with the discharge permit conditions. Figure 10 shows the monthly oil in water averages for 2023. The monthly variation is due to occasional process changes and the introduction of production from new wells that required process and production chemical adjustments.

Another permit is in place for Mariner B, with the only oily water discharges being treated and batch discharged from the slops tank. There is no specific produced water discharge as there is no produced water drop out from the oil in the cargo tanks on Mariner B. The bulk of the discharged slop water comes from cargo tank washing.

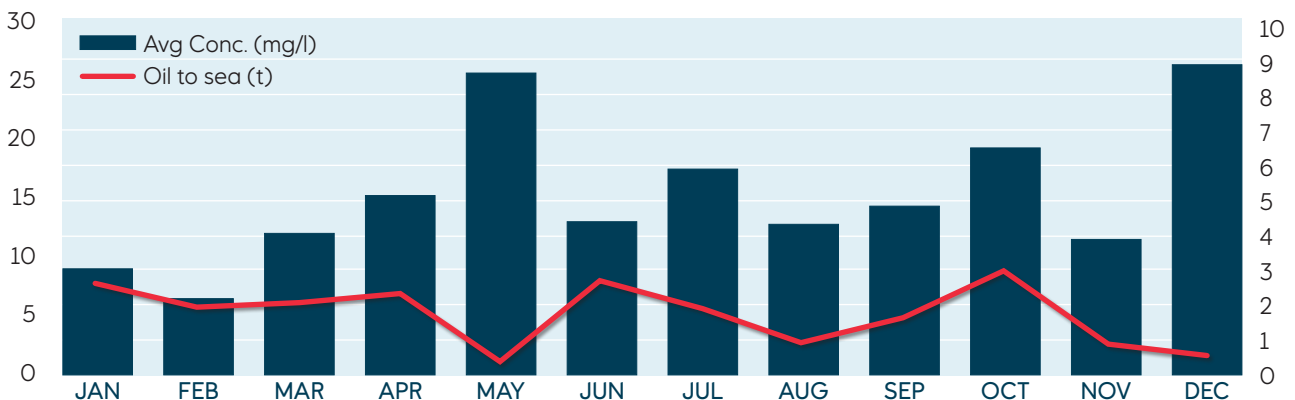


Figure 10: Mariner A - oil in water 2023

### 6.1.2 Unplanned Discharges

Equinor has in place a variety of mechanisms and procedures aimed at avoiding the accidental release of hydrocarbons or chemicals to sea. All unplanned releases are closely monitored, recorded and investigated internally regardless of volume. Releases that enter the sea are reported to the regulator at the time of the release using a Petroleum Operations Notice (PON1). The improvement activity addressing governance, competence, awareness and performance in this area continues with maintenance activities among others.

In 2023, there were four PON1s reported at Mariner A due to deluge testing, loss of hydraulic control fluid and mineral oil release. One PON1 was reported at Mariner B caused by a drain box blockage. All five releases accounted for only 0.07 tonne of chemicals and oil discharged.

There were eight Oil Pollution, Prevention and Control (OPPC) non-compliances reported in 2023, all from Mariner A. They were caused by process upsets (leading to high oil in water) and maintenance activities (deluge testing).

## 6.2 Regulated Chemical Use and Discharge

Equinor seeks to select only those chemicals which are categorised as low toxicity. However, in some cases this is not possible due to the lack of a suitable alternative. All chemicals are risk-assessed and justified for the specific operations, both as part of project planning and for permit applications. In addition, chemicals flagged for substitution are re-assessed annually to appraise if suitable alternatives are available.

The major proportion of chemicals used in 2023 were drilling chemicals used during Mariner drilling operations, the quantities of chemicals used and discharged in 2023 is shown in Figure 11 below.

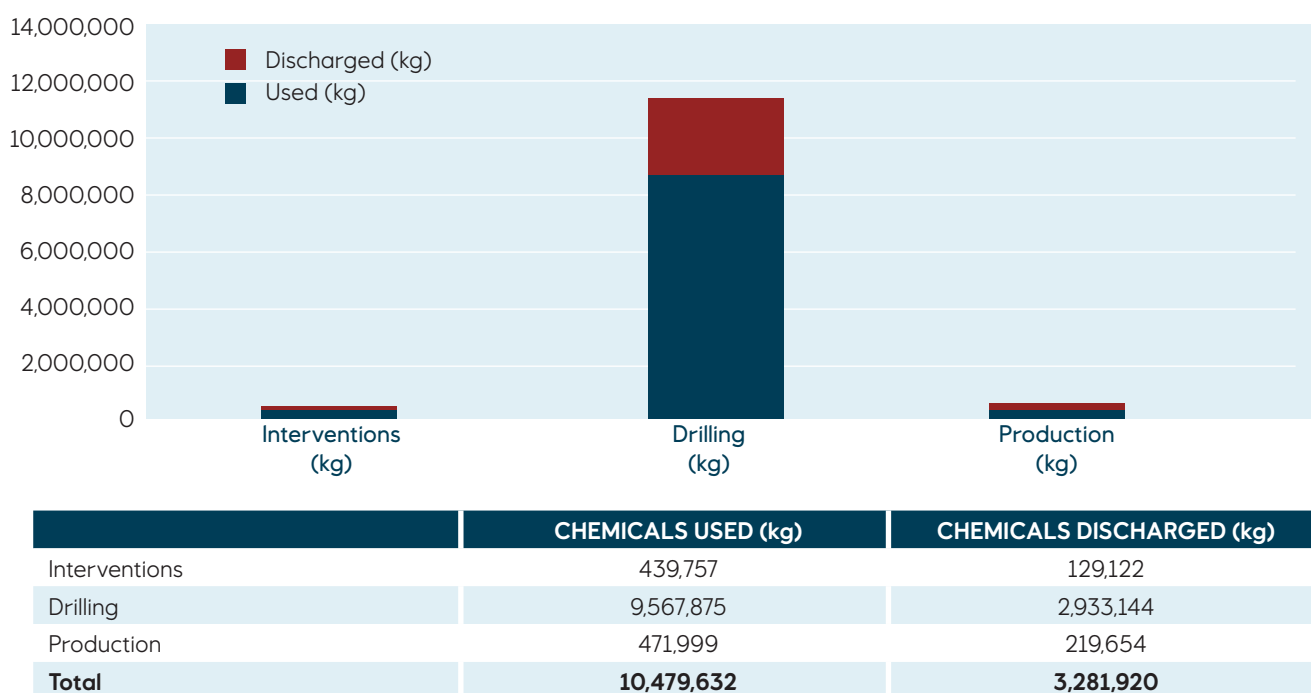


Figure 10: Use and discharge of chemicals on Mariner and by drilling operations 2023

There were four reportable Offshore Chemical Regulations (OCR) non-compliances in 2023.

### 6.3 Waste Products Generated

In 2023 waste products generated by the Mariner field - Mariner A and Mariner B during offshore activities were returned to shore for treatment and disposal. The breakdown of these wastes and their disposal routes is as shown in Figure 12 below. Equinor has a target of 75% diversion from landfill and in 2023 only 1% of waste went to landfill.

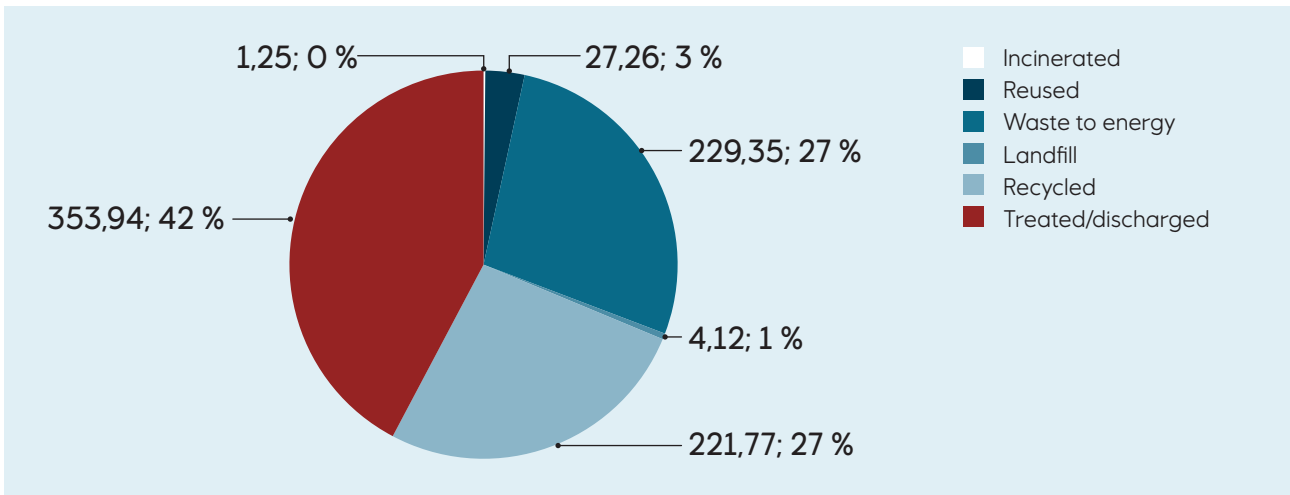


Figure 12 Disposal routes for operational waste generated offshore 2023. Weights depicted in tonnes with % of whole indicated (tonnes, %).

During 2023 there were no mobile drilling units operating at Mariner, only platform drilling. The quantities and disposal routes for drill cuttings, from drilling activities in 2023, are shown in Figure 13.

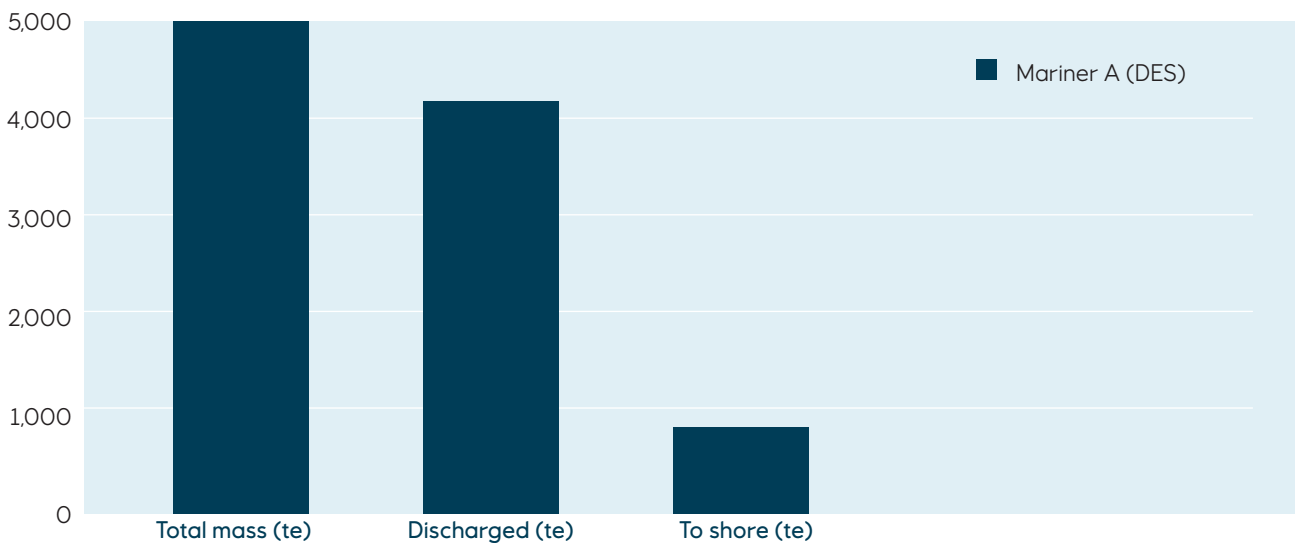


Figure 13: Drill cuttings - discharged & shipped to shore in 2023

## 6.4 Atmospheric Emissions

In 2023 the main sources of atmospheric emissions from the Mariner field were:

### Mariner A:

- Exhaust gases generated when using diesel as fuel in engines and gas turbines
- Exhaust gases generated when using fuel gas used in the gas turbines
- Flaring of excess associated gas not required as fuel gas

### Mariner B:

- Exhaust gases generated from diesel use in the boilers for cargo and domestic heating
- Exhaust gases generated from diesel use in the main engines

Fuel consumption and resultant emissions are shown in Figures 14 and 15.

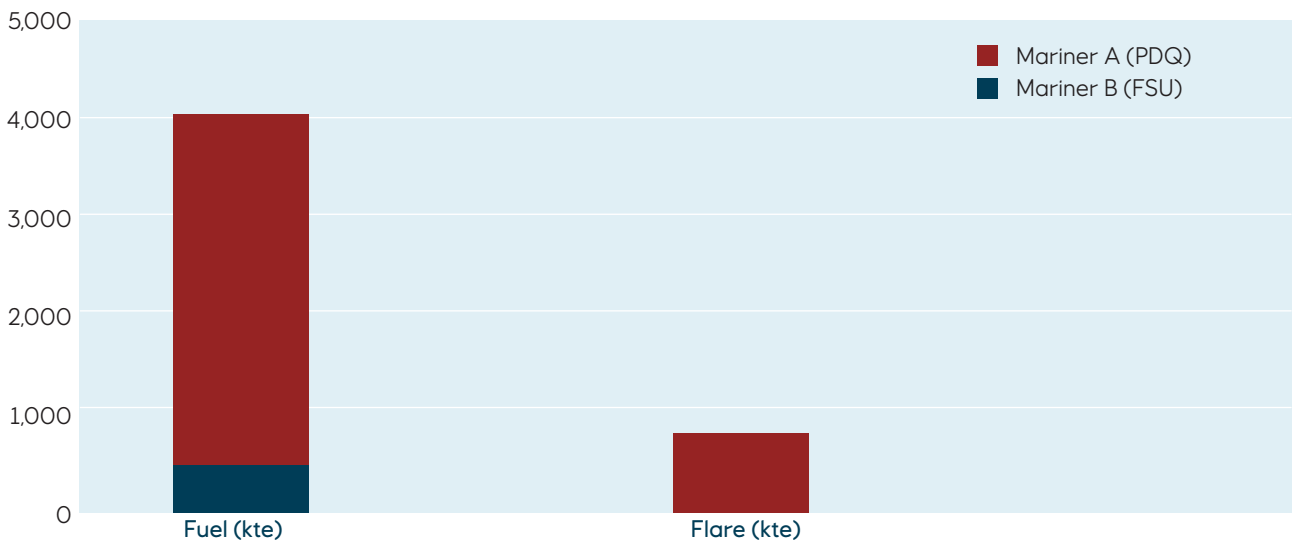


Figure 14: Fuel & Flare Mariner A, Mariner B, 2023

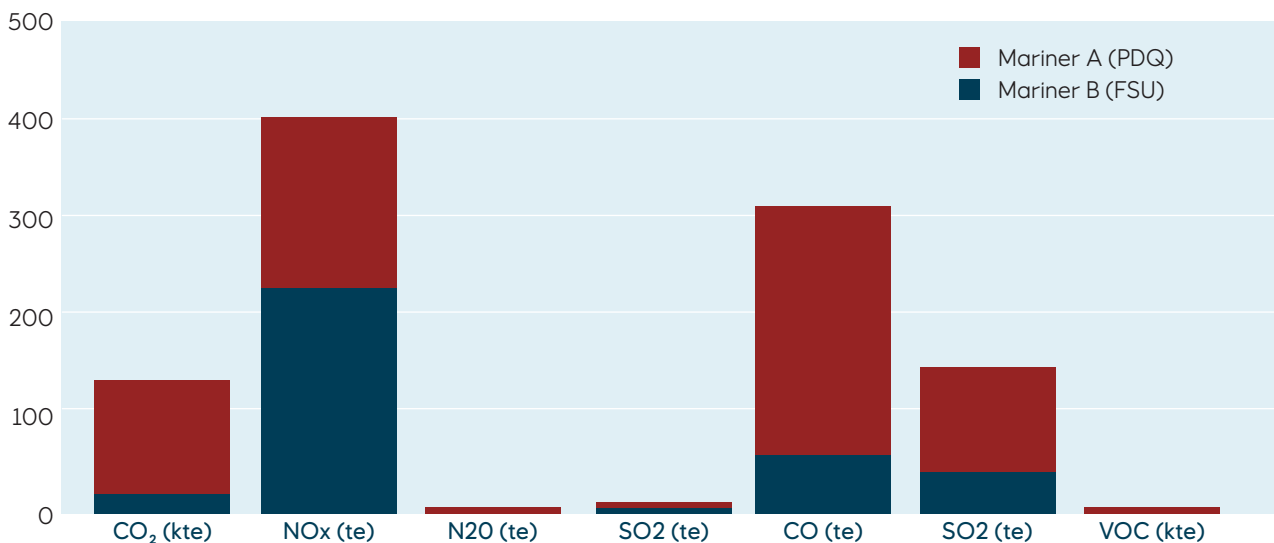


Figure 15 Atmospheric emissions offshore - Mariner A, Mariner B, 2023

Mariner CO<sub>2</sub> intensity is shown in Figure 16 below, for the year 2023 it remained relatively steady, apart from the planned shutdown of the plant in May.

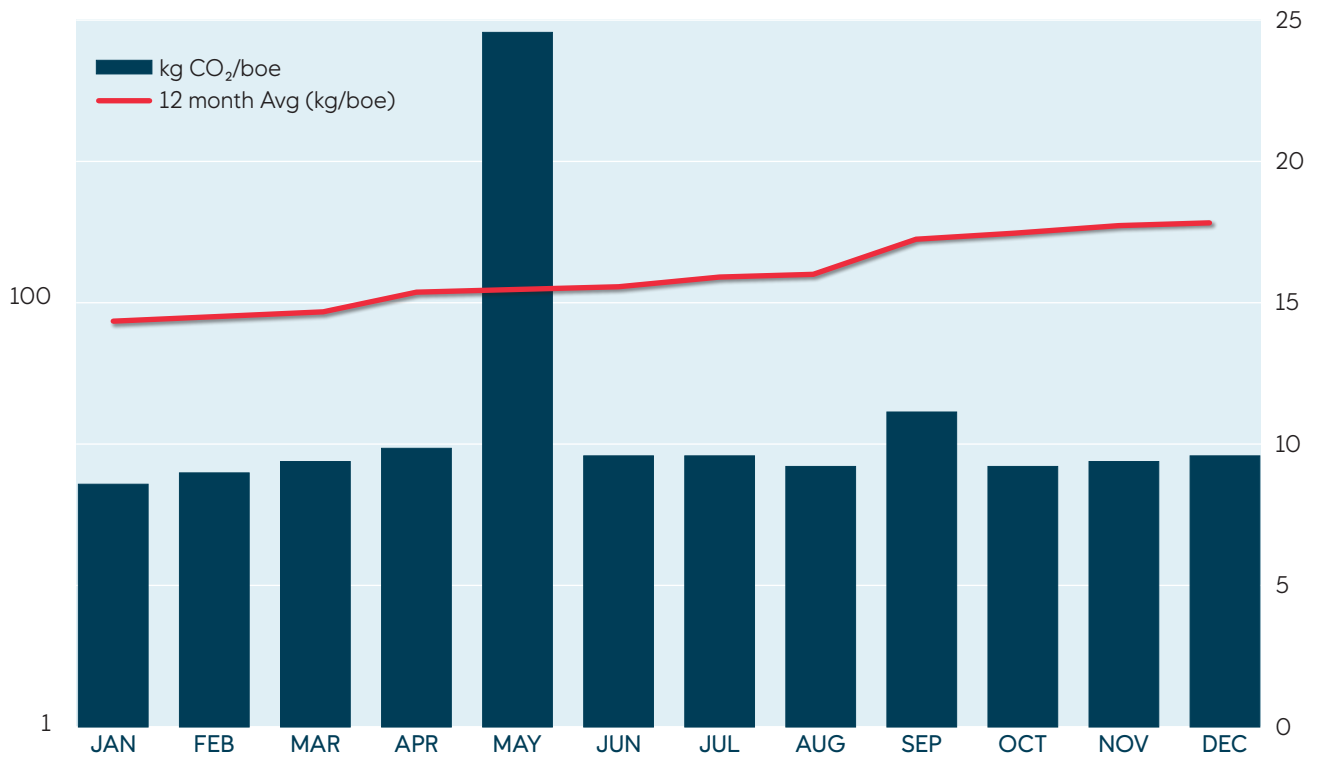


Figure 16: Mariner CO<sub>2</sub> intensity in 2023

## 7 Abbreviations

BEIS	Department of Business, Energy and Industrial Strategy
CCS	Carbon Capture and Storage
CH <sub>4</sub>	Methane
CO	Carbon Monoxide
CO <sub>2</sub>	Carbon Dioxide
EEMS	Environmental Emissions Monitoring System
EMS	Environmental Management System
FPSO	Floating Production Storage and Offloading
FR11	Fundamental Requirements 11 - Sustainability
FSU	Floating Storage Unit
GFMR	Global Flaring and Methane Reduction
GW	Gigawatt
IOGP	International Oil and Gas Producers (association)
ISO	International Standardisation Organisation
ISO 14001	International Standard for Environmental Management Systems
kg	Kilogram
KPIs	Key Performance Indicators
MEG	Monoethylene Glycol
MW	Megawatt
NCS	Norwegian Continental Shelf
NO <sub>x</sub>	Nitrogen Oxides
N <sub>2</sub> O	Nitrous Oxide
OBM	Oil-Based Mud
OCNS	Offshore Chemicals Notification Scheme
OCR	Offshore Chemicals Regulations
OGDC	Oil & Gas Decarbonisation Charter
OGMP	Oil & Gas Methane Partnership
OPRED	Offshore Petroleum Regulator for Environment and Decommissioning
OSPAR	Oslo-Paris (convention)
PDQ	Production, Drilling and Quarters (platform)
PON	Petroleum Operations Notice
RQ	Risk Quotient
SO <sub>2</sub>	Sulphur Dioxide
STL	Submerged Turret Loading (buoy)
SSU	Safety and Sustainability
te	Tonnes
UKCS	United Kingdom Continental Shelf
VOC	Volatile Organic Carbon
WBM	Water-Based Mud