

# Equinor UK Limited

## OSPAR Offshore Environmental Performance Report

### Public Statement 2019



Equinor UK Limited  
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## 1 Introduction

This document is the 2019 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.

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## 2 Equinor UK Limited

Equinor UK Limited is a company registered in the United Kingdom. Its 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.

Equinor UK Limited is wholly owned by Equinor ASA, an international integrated energy company that has its headquarters in Norway and is listed on the Oslo and New York stock exchanges.

Equinor is the leading oil and gas company on the Norwegian Continental Shelf (NCS), where it is operator of over 25 surface production installations and over 500 sub-sea wells. It also has many licence interests worldwide, including the Peregrino development offshore Brazil, the Bakken and Marcellus onshore USA, deep-water licence areas in the Gulf of Mexico, and the Mariner field on the UK Continental Shelf (UKCS). Equinor is also a joint venture partner of the In Salah and In Amenas gas and condensate fields onshore Algeria.

Equinor UK Limited has interests in 36 seaward production licences on the UKCS and is operator of 28 of these. The locations of these licences are shown in Figure 1.

Equinor's UKCS operatorships include the Mariner licence (P.335) where there is on-going production and drilling for an approved field development. Details of recent, current and planned licence activity are provided in the next section.

Equinor also has operatorship of wind energy projects offshore UK. 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 climate roadmap.

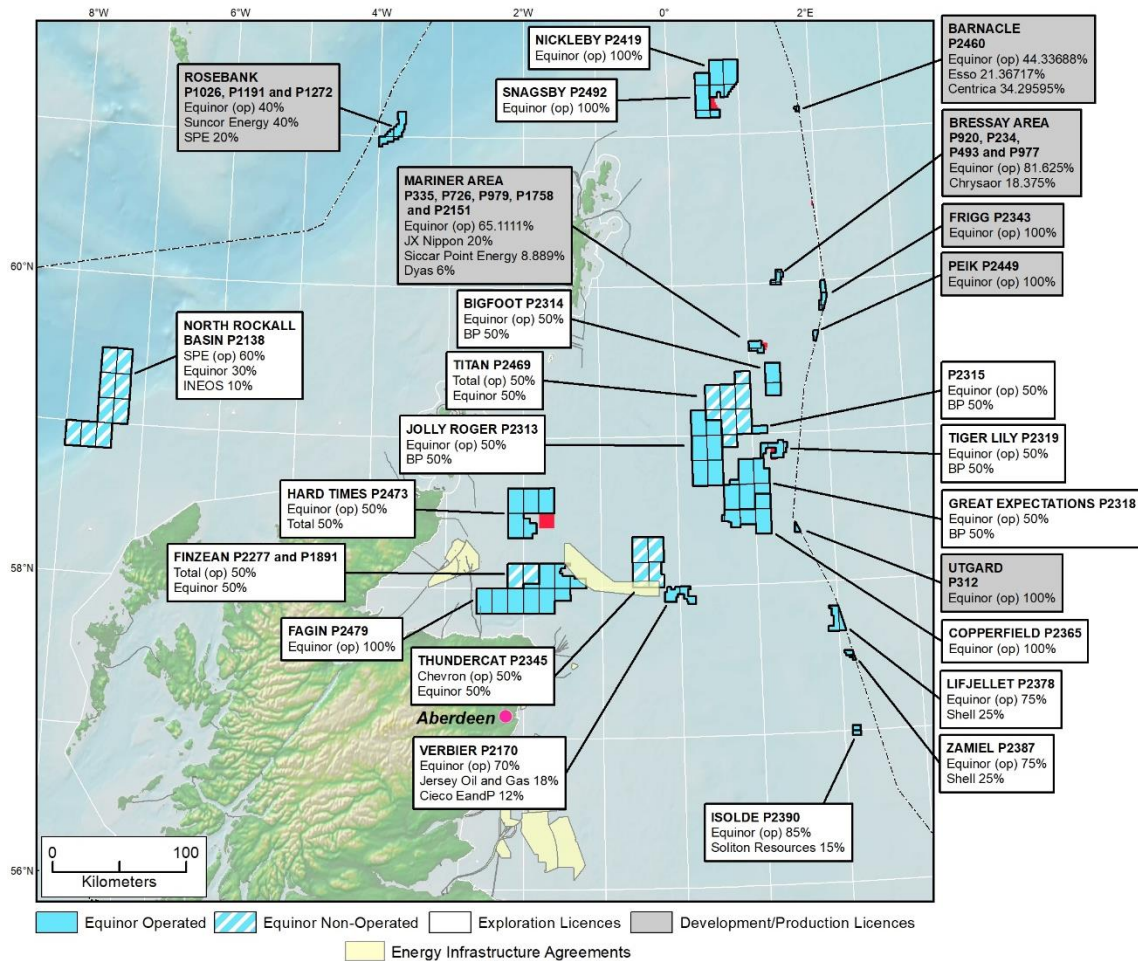


Figure 1: Location of Equinor's UKCS Oil and Gas Interests and Activities (as of 31<sup>st</sup> December 2019)

## 2019 UKCS Activities

### 2.1 Oil & Gas Exploration Activities

#### 2.1.1 Seismic Surveys

One site survey involving shallow-seismic and other survey methods was undertaken as part of planning for an exploration well scheduled to be drilled during 2020. The survey covered a proposed drilling site within UKCS blocks 016/02a (Tiger Lily prospect).

#### 2.1.2 Exploration and Appraisal Drilling

Equinor UK Limited undertook a 5 well drilling campaign during 2019 on the UKCS, 4 of which were operated by the organisation:

- Lifjellet prospect (22/10b - 9&9A)
- Bigfoot prospect (09/22- 4&4A)
- Verbiér appraisal (20/05b -14)
- Pip prospect (15/15- 2)

In addition to exploration activity, an appraisal well was drilled on the Frigg licence (P.2343).



## Oil and Gas Development Activities

### 2.1.3 Mariner

Equinor UK Limited is the majority equity holder and operator, with partners JX Nippon, Siccar point Energy and One Dyas, for UKCS seaward production licence P.335 covering the Mariner heavy oilfield. A Field Development Plan for the Mariner oilfield was approved in February 2013 (and revised in 2016), with first production achieved in August 2019.

During 2019 the following activities took place:

- Completion of hook-up and commissioning on the Mariner A (PDQ).
- The Noble Lloyd Noble drilling rig remained alongside the Mariner A PDQ providing accommodation and pre-production and production drilling.
- A flotel, Safe Boreas, was stationed, on Dynamic Positioning (DP), at the South East corner of the Mariner A platform to provide accommodation for up to 490 personnel during the final stages of hook up and commissioning. The flotel departed the field in September 2019.

During 2020, drilling activities will continue with new production and water injection wells. Mariner production will be optimised building on the learnings from the initial production wells.

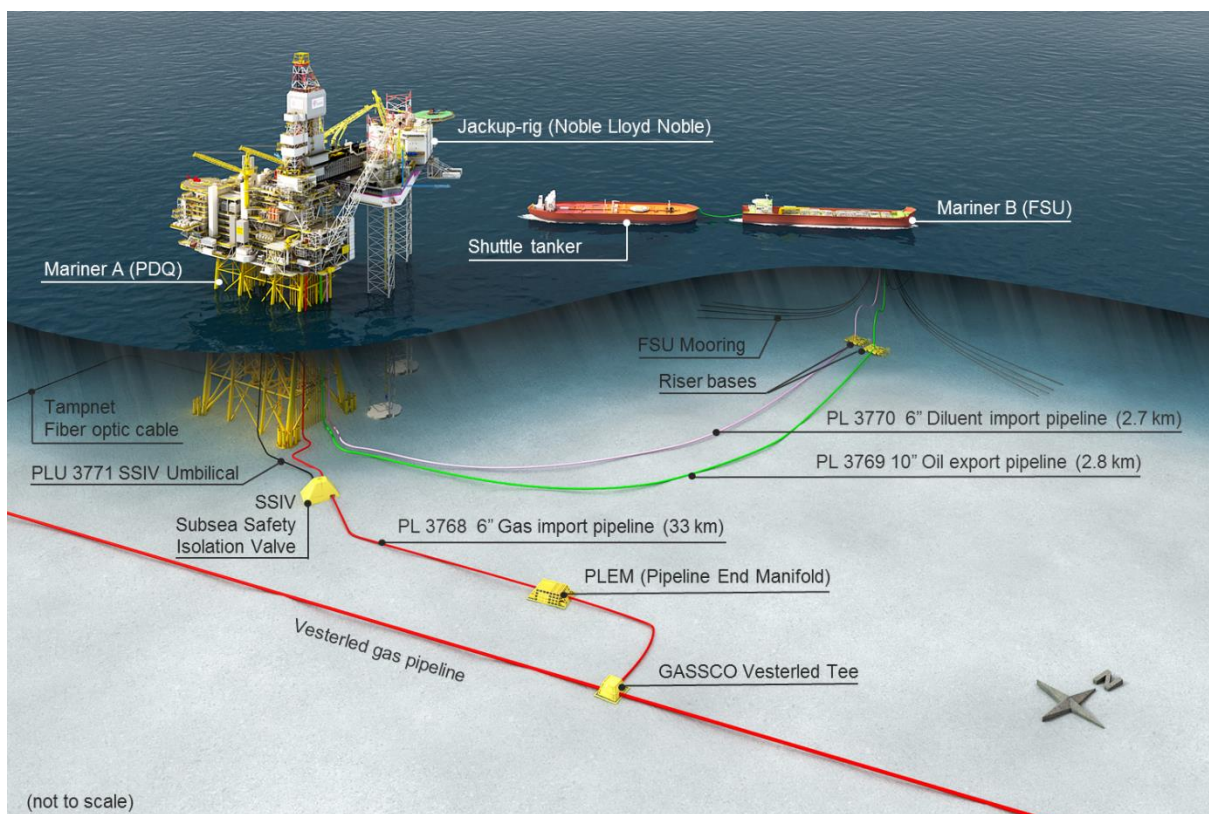


Figure 2: Schematic of the Mariner Development

### 2.1.4 Cadet

Equinor UK Limited is the majority equity holder and operator for the UKCS seaward production licence P.1758 covering the Cadet heavy oilfield. In 2019, Equinor and its licence partners, JX Nippon, Siccar Point

Energy and One Dyas, submitted a Field Development Plan (FDP), which was subsequently approved in Q4 2019.

#### **2.1.5 Rosebank**

Equinor UK Limited is operator for UKCS seaward production licences P.1026, P.1191 & P.1272 covering the Rosebank field. Equinor and its licence partners, Suncor Energy & Siccar Point Energy, are currently reviewing development options for this field.

#### **2.1.6 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 Petroleum AS (one of the Equinor Group's Norwegian entities) is operator of the licence covering the Norwegian portion of the field. The Utgard field started production on 16<sup>th</sup> September 2019.

#### **2.1.7 Barnacle**

Equinor UK Limited is the operator of UKCS seaward production licence P.2460 covering the Barnacle oil field. Equinor and its licence partners, Esso Exploration and Production UK Limited and Spirit Energy Resources Limited, were awarded the licence in the UK 30th Licensing Round on the 1st October 2018. The field started production on 6th December 2019.

#### **2.1.8 Mariner East**

Equinor UK Limited is the majority equity holder and operator for UKCS seaward production licence P.726 covering the Mariner East field. Licence extension was granted in 2019 through to March 2023 by when, Equinor and its licence partners, JX Nippon, Siccar Point Energy and One Dyas, aim to sanction the project as a tieback to the Mariner A platform.

#### **2.1.9 Bressay**

Equinor UK Limited is the majority equity holder with licence partner Chrysaor and operator for the licences covering the Bressay field.

#### **2.1.10 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 Frigg field. Equinor Petroleum AS (one of the Equinor Group's Norwegian entities) is operator of the licence covering the Norwegian portion of the field. An appraisal well was drilled in December 2019.

#### **2.1.11 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 field. Equinor Petroleum AS (one of the Equinor Group's Norwegian entities) is operator of the licence covering the Norwegian portion of the field.

## 2.2 Wind Energy Activities

Equinor's offshore wind portfolio

In production					
Bottom fixed			Floating		
Sheringham Shoal, UK 317 MW Equinor (40%) Production start: 2012	Dudgeon, UK 402 MW Equinor (33%) Production start: 2017	Arkona, Germany 385 MW RWE operator Equinor (23%) Production start: 2019	Hywind Scotland, UK 30 MW Equinor (75%) Production start: 2017		
Project pipeline					
Bottom fixed			Floating		
Dogger Bank, UK 3.6 GW Equinor/SSE (50%) Production start: 2023	UK extensions 0.7 GW Extensions to Sheringham Shoal and Dudgeon	East coast, US > 4 GW Equinor (100%) (Empire wind - production start: 2024)	Baltic L, E & S, Poland ~3 GW Equinor/Potensargo (50%)	Hywind Tampen, Norway 88 MW Equinor (41%) Production start: 2022	

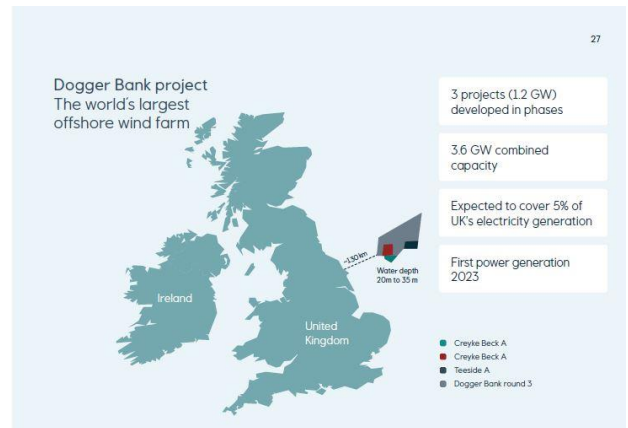


Figure 3: Summary of Equinor Wind portfolio

Equinor is the Operator of the Sheringham Shoal wind energy development located off the north-Norfolk coast. The development comprises 88 wind turbines having a combined generating capacity of 317 MW. Equinor is also Operator of the nearby Dudgeon offshore wind energy project, located 32 miles offshore from Cromer in North Norfolk. The development comprises 67, 6 MW, wind turbines with a combined generating capacity of 402 MW.



Figure 4: Dudgeon offshore wind farm

Equinor is also the 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, sufficient to power around 20,000 households. Unused power can be stored in lithium batteries for later use.





*Figure 5: Schematic of Completed Hywind Pilot project*



*Figure 6: Hywind Pilot project installed turbines*

Equinor is also engaged in a joint venture (50%) with SSE in the development of the Dogger Bank windfarm. This project comprises three developments: Creyke Beck A, Creyke Beck B and Teeside A each with a generating capacity of up to 1.2GW. When installed, in combination with other Dogger area windfarms, this will be the world's largest offshore wind development and can supply up to 5% of the UK power requirements.

### 3 Values and Commitments

#### 3.1 Values

The Equinor Group's Core Values – set-out in the [Equinor Book](#) – are that we are Open, Collaborative, Courageous and Caring. The value Caring requires all of 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*

#### 3.2 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.*

##### **3.2.1 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.*

##### **3.2.2 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.*

##### **3.2.3 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.*

##### **3.2.4 Working with communities**

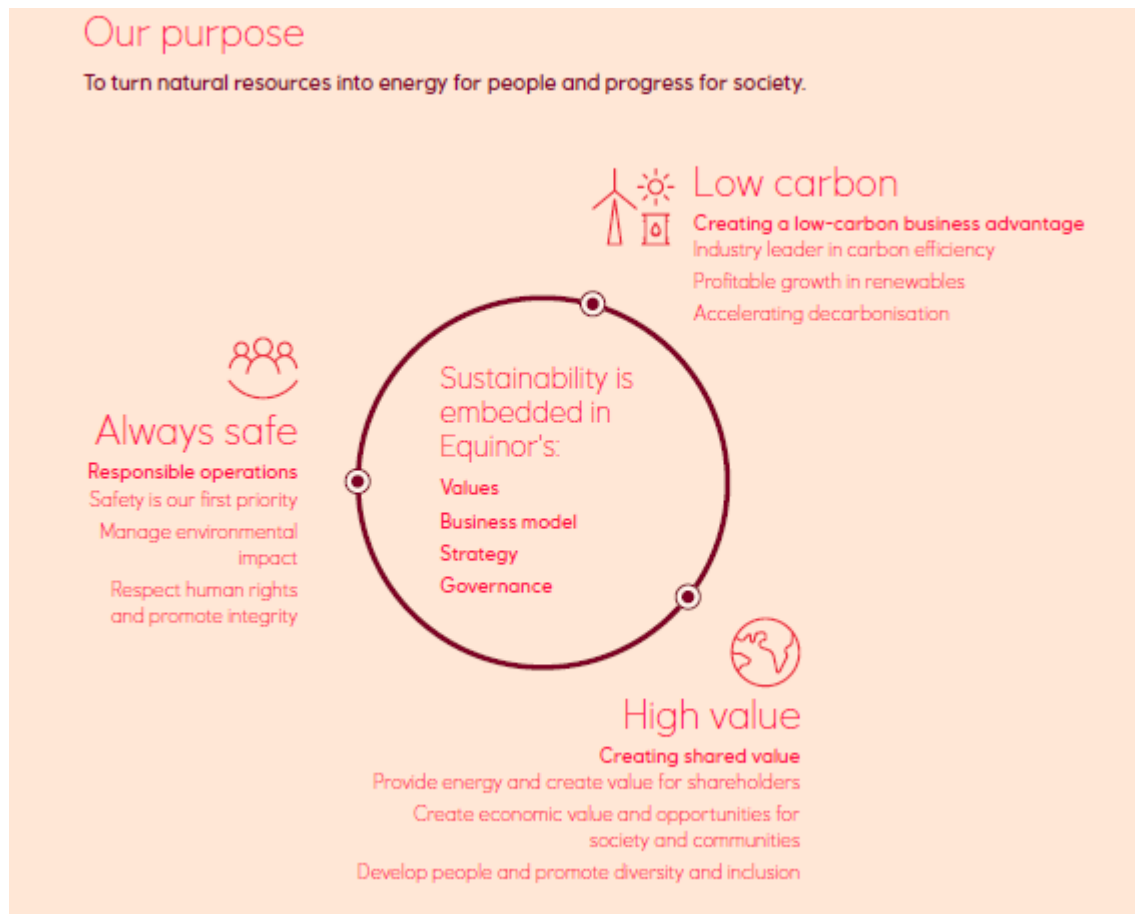
*We aim to create lasting value for local communities through our business activities. Our contribution may include direct and indirect local employment, local procurement of goods and services, local infrastructure development and capacity-building as well as social investments.*

*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 Environmental Goals and Objectives

The 2019 Sustainability Report sets out the Equinor vision and sustainability ambitions:

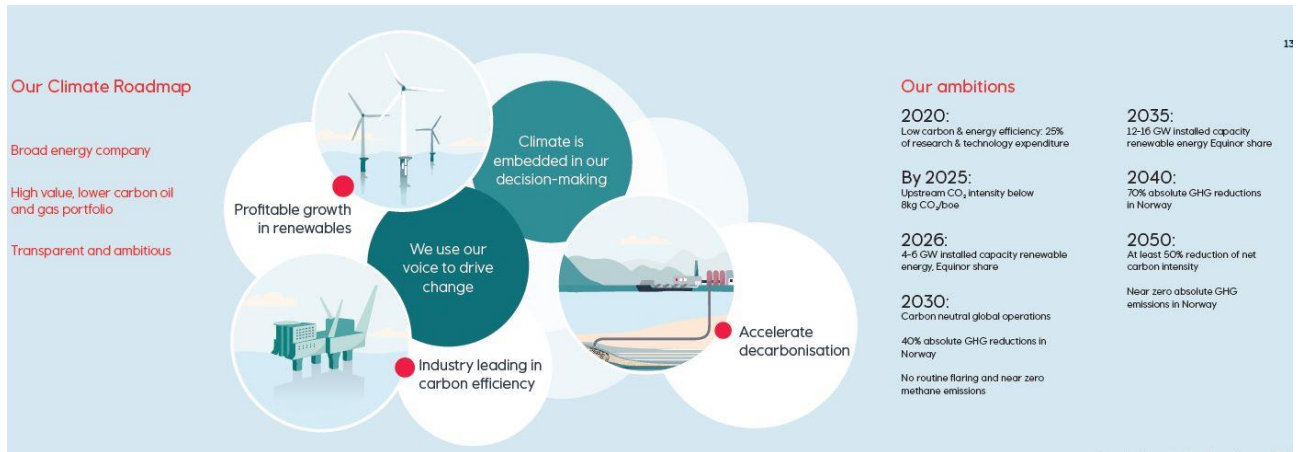


Equinor measures progress, performance and results in a holistic way using key performance indicators (KPIs).

Objectives, KPIs and actions are established at all levels of the company, including for safety and sustainability (more widely known as health, safety and environment). At a corporate level the objectives, KPIs and actions for 2019 included the following:

<b>Corporate level health, safety and environmental perspective 2019</b>		
<i>Strategic objective: An industry leader in safety, security and carbon efficiency</i>		
<b>KPIs</b>	<b>Targets</b>	<b>Actions</b>
<i>Upstream CO2 intensity</i>	<i>Top quartile in IOGP benchmark</i>	<i>Implement Equinor's Climate Roadmap</i>
<i>Total serious incident frequency SIF (per million hours worked)</i>	<i>Less than 0.6</i>	<i>Further clarify safety expectations throughout the company</i>
<i>Total recordable injury frequency TRIF</i>	<i>Less than 2.5</i>	<i>Define Safety Leadership Independent safety verifications</i>
<i>Serious oil and gas leakages (number per year)</i>	<i>Less than 9</i>	<i>Quality assessment of Safety and Security Assurance plans</i>

Equinor has also set long-term objectives to reduce CO<sub>2</sub> and greenhouse gas emissions. There is a firm objective to achieve a reduction of 3 million tonnes CO<sub>2</sub> emissions per year by 2030. The target portfolio carbon intensity for 2030 is 8 kg per barrel of oil equivalent, with an intermediate target of 10 kg per barrel in 2025. This compares to Equinor's current performance of 9.5 kg per barrel and a current industry average of 18 kg.





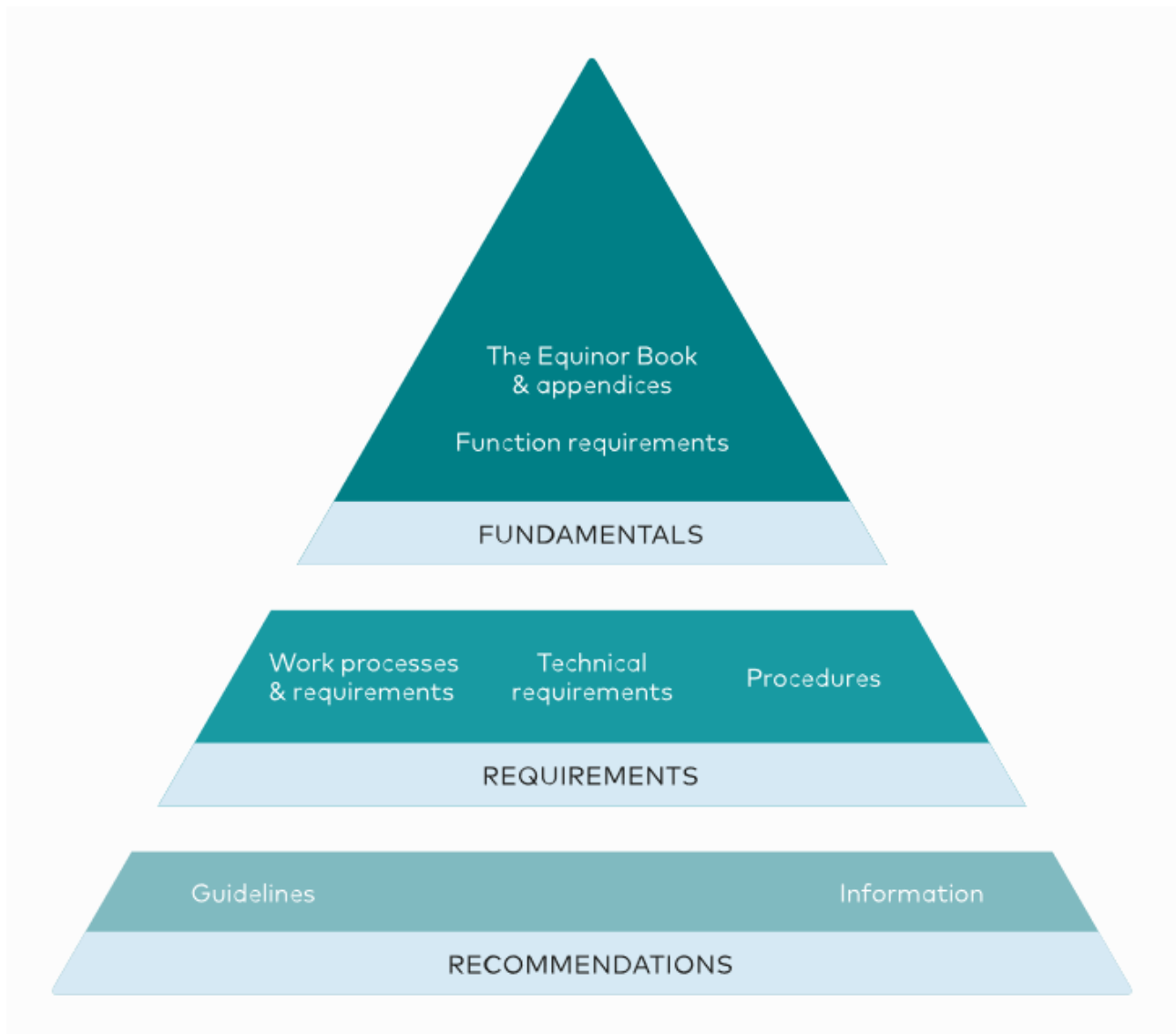
## Environmental Management System

### 4.1 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*

The management system is hierarchical, with mandatory business fundamentals – defined by the Equinor Book and the Function Requirement documents – supported by work processes, technical requirements, procedures, guidelines and information documents:



<sup>1</sup> Equinor’s use of the term “safe” includes no damage to the environment.

Figure 7: Equinor Management System Structure

#### **4.1.1 Fundamentals**

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

#### **4.1.2 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.*

#### **4.1.3 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. Recommendations are documented in Guidelines or integrated in our governing documentation as Information elements and ‘Should’ sentences.*

## **4.2 Fundamentals for Sustainability**

The non-negotiable fundamentals for sustainability are:

1. *Management of environmental and social performance shall be an integrated part of strategies, business planning, risk management and decision-making processes.*
2. *Continual improvement shall be achieved through systematic analysis of significant environmental and social aspects, setting ambitious targets and implementing measures.*
3. *Energy demand shall be minimised and energy efficiency optimised through design and operation of our facilities.*
4. *We shall actively work to limit greenhouse gas emissions from our activities.*
5. *All Equinor operated assets shall work systematically to reduce all flaring and to eliminate routine flaring in order to fulfil our commitment to zero routine flaring by 2030. In our partner-operated assets we shall work actively to help achieve the same objective.*
6. *Efficiency of natural resource use shall be optimised through substitution, reduction, reuse and recycling efforts.*
7. *Management of our planned activities shall include development and implementation of cost-effective measures to avoid, minimise or mitigate adverse environmental and social impacts, all in accordance with good international practice and applicable laws and regulations.*
8. *Communities significantly affected by our activities shall be actively consulted, and their views considered in the decision processes.*
9. *Our activities shall contribute to social and economic development in communities where we operate*
10. *Adverse impacts on human rights of those affected by our activities shall be avoided. Appropriate remedy shall be provided if adverse impacts have occurred.*
11. *Our sustainability reporting shall be open, clear and reliable, reflecting material sustainability issues and impacts, and in accordance with relevant requirements and reporting frameworks.*

### 4.3 ISO 14001 Status

Equinor 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, so that individual entities may seek accredited certification if there is a specific business need or local legal requirement to do so.

Equinor UK Limited has been independently verified compliant with ISO14001 on five occasions – in 2008, 2014, 2016, 2018 and 2019. In 2019 the management system and its implementation were verified as meeting the OSPAR and BEIS EMS requirements without comments. The current verification will expire in December 2021 and a new verification will be carried out in early Q4 2021.

## 5 Environmental Performance

This section presents quantitative environmental performance data for UKCS licence activities carried out by Equinor UK Limited during 2019. 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 hook up and commissioning activities.
- Quantities of waste generated, the emissions to air, and discharges to sea at installations operating at Equinor UK Limited's oil and gas licence areas:
  - Mariner field:
    - Mariner A
    - Mariner B
    - Safe Boreas flotel
    - Noble Lloyd Noble (NLN) jack up rig
  - West Phoenix drilling rig

Wastes, emissions and discharges from the vessels that supported hook up activities at Mariner are excluded because the relevant vessels fall under maritime legislation and are not considered to be offshore installations for the purposes of OSPAR. However, it may be noted that these maritime operations were conducted without any significant adverse health, safety or environment incidents or effects.

The quantities of regulated chemicals used/discharged, waste generated, emissions to air and discharges to sea that are presented below were reported to OPRED at year end 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 soon as possible following their occurrence.

### 5.1.1 Discharges

#### **Planned:**

Discharges of chemicals are included in the following sections.

An oil discharge permit is in place for Mariner A covering the open drains, drilling drains and produced water discharges. Production commenced at Mariner A on 15th August 2019 from four Maureen reservoir producer wells. Produced Water in 2019 was discharged to sea from Mariner A, in accordance with the discharge permit conditions. As can be viewed in Figure 8 below the initial high oil in water levels following start up fell rapidly to permitted levels and have remained there.

There were no permitted discharges to sea from Mariner B in 2019

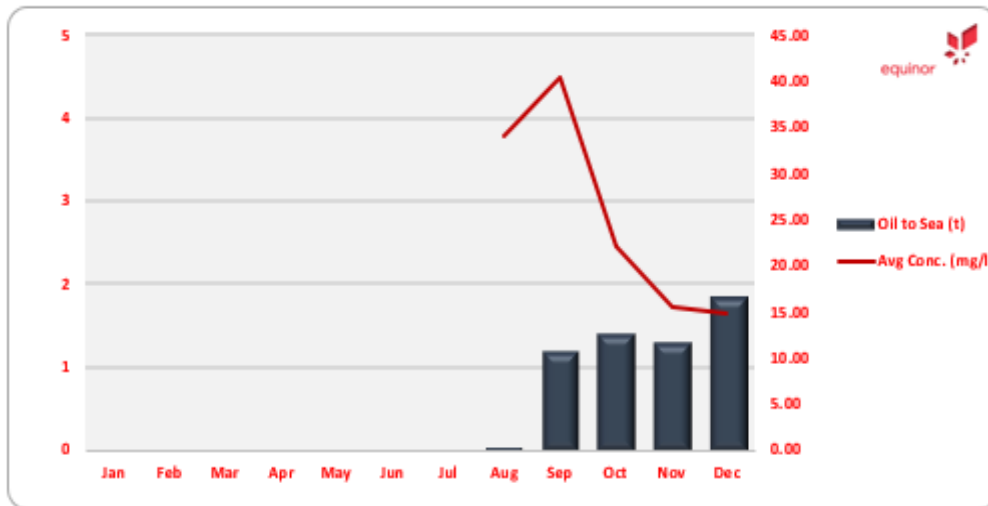


Figure 8: Mariner A - Oil in Water 2019

### Unplanned:

There were three incidences in 2019 of unplanned, accidental oil/chemical discharge reported to OPRED under a Petroleum Operations Notice 1 (PON1) and three OPPC non-conformances for oil in water at Mariner A in the early phase of start up:

#### Mariner A:

- Small release from a deck drain to sea following overflow of a bund where diesel filters were being cleaned.
- An initial PON 1 for a sheen from a short term, high oil in water value for produced water to sea. This sheen still persists and has been subject to much investigation. Following investigation and continued close monitoring the OIW content is well below permitted levels and the PON 1 has been downgraded by OPRED to a Permitted Discharge Notification (PDN).
- Two OPPC non-conformances for exceedance of 30mg/l OIW monthly average and one OPPC Non-conformance for spot exceedance of 100mg/l, all due to plant adjustments in early start up.

#### Mariner B

- There was small discharge of diluent (Asgard condensate) to sea following a release on the main deck caused by an overflow of the closed drains vent pipe.

#### Exploration

- PON 1 release of BOP fluid from the Seadrill West Phoenix rig while drilling Bigfoot.

### 5.1.2 Regulated Chemical Use and Discharge

As a general principle Equinor selects only those chemicals which are categorised as Gold / Low RQ or are in OCNS category E. 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.

The majority of chemicals used in 2019 were drilling chemicals used during Mariner drilling operations from the NLN rig and during exploration drilling using the West Phoenix rig. There was an increase in production chemical use on Mariner A in Q3 2019 following the start of production in August 2019. The quantities of chemicals used and discharge in 2019 is shown in Figure 8 below.



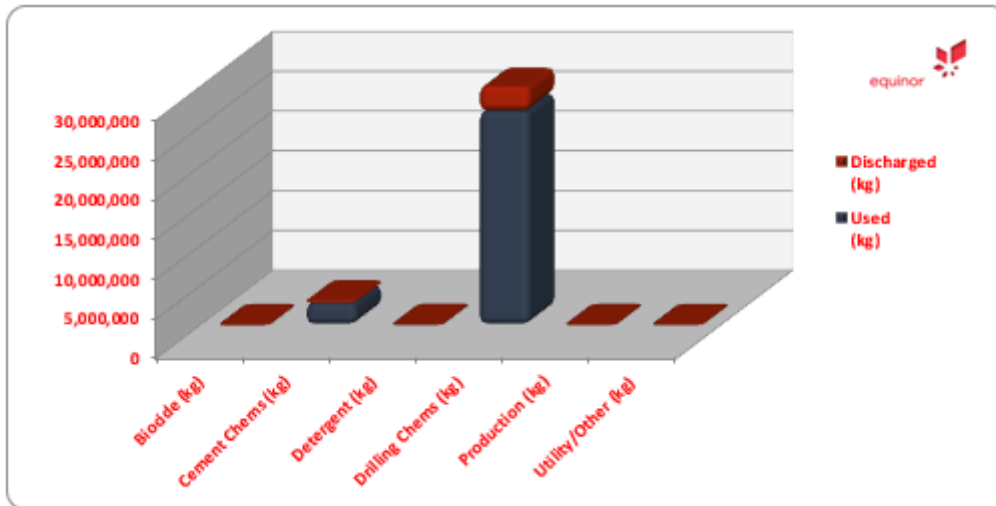


Figure 9: Use and Discharge of Chemicals on Mariner and by Drilling 2019

There were two reported Offshore Chemical Regulations (OCR) non-conformances in 2019.

### 5.1.3 Waste Products Generated

In 2019 waste products generated by the Mariner field - Mariner A, Mariner B, NLN, the Safe Boreas flotel (which departed the field at the end of September 2019) and the West Phoenix exploration drilling rig - during offshore activities were returned to shore for treatment and disposal. These wastes, and the relevant disposal routes are as shown in Figure 10 below.

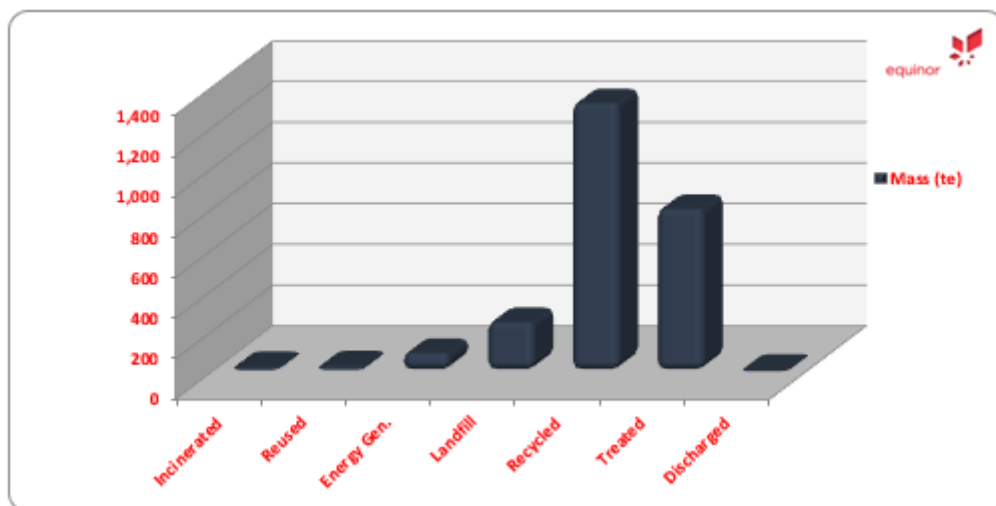


Figure 10: Disposal routes for Operational and Exploration Wastes Generated Offshore 2019

The amounts and disposal routes for drill cuttings, from both the Mariner and Exploration drilling activities in 2019, are shown in Figure 11.

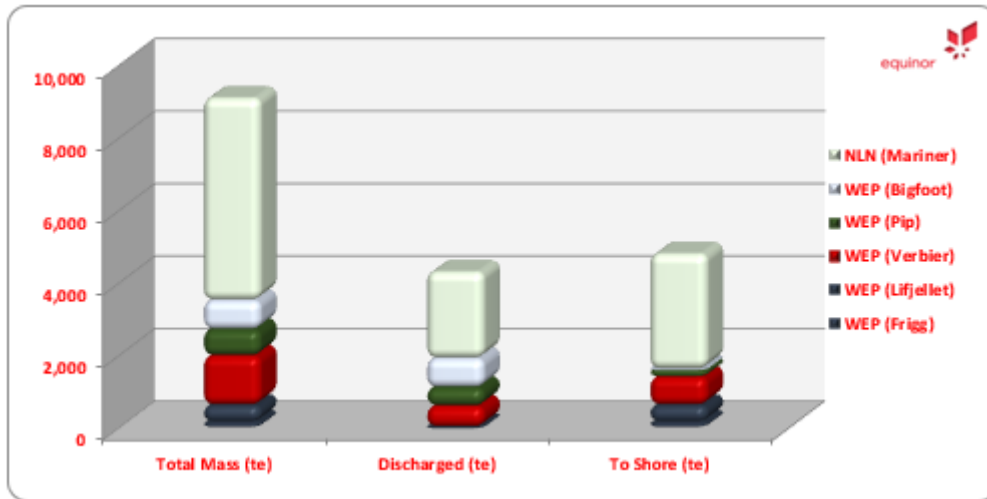


Figure 11: Drill Cuttings - Discharged & Shipped to Shore 2019

### 5.1.5 Atmospheric Emissions

In 2019 atmospheric emissions were from diesel fuel in engines on Mariner A, Mariner B and the Noble Lloyd Noble, boilers on Mariner B and from flaring on Mariner A. Fuel consumption and resultant emissions are shown in Figure 12.

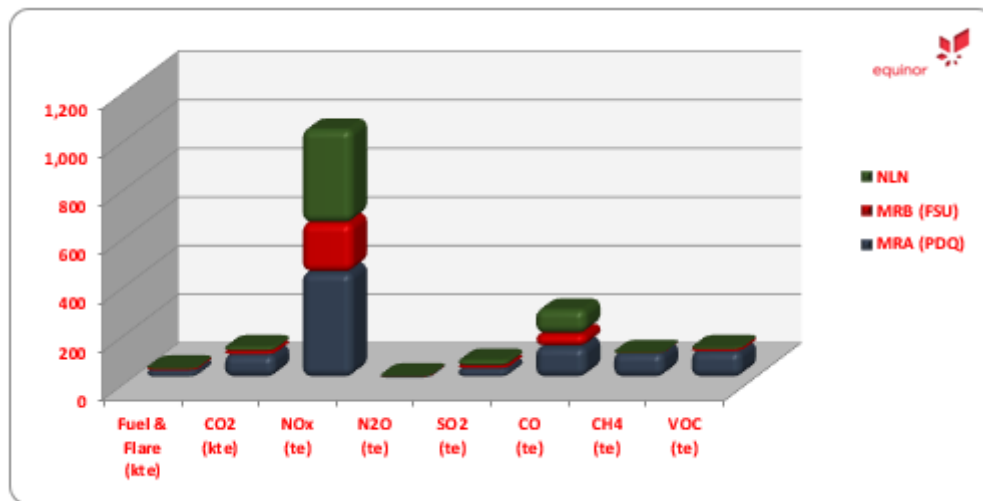


Figure 12: Atmospheric Emissions Offshore - Mariner and Noble Lloyd Noble 2019

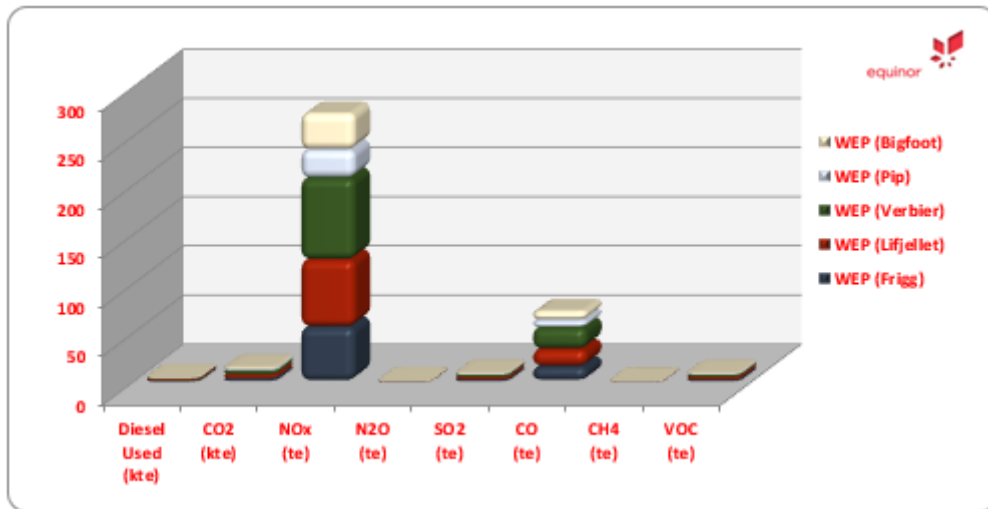


Figure 12: Atmospheric Emissions Offshore - Exploration Drilling 2019

## 6 Abbreviations

BEIS	Department of Business, Energy and Industrial Strategy
CH <sub>4</sub>	Methane
CO	Carbon Monoxide
CO <sub>2</sub>	Carbon Dioxide
DP	Dynamic Positioning
EEMS	Environmental Emissions Monitoring System
EMS	Environmental Management System
FSU	Floating Storage Unit
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
NLN	Noble Lloyd Noble
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
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 Carbons
WBM	Water-Based Mud

## 7 Links to Further Information

### 7.1 The Equinor Book

- [Values](#)
- [Commitments](#)
- [Management System](#)

### 7.2 Equinor's Web-Site

- [Our business](#)
- [Our locations](#)
- [Sustainability](#)
- [Climate Change](#)
- [Impact Assessments](#)