



# **Statoil (U.K.) Limited**

**OSPAR EMS Public Statement 2017**

**Offshore Environmental Performance Report**



Statoil (U.K.) Limited  
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London W2 6BD

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## Introduction

This document is the 2017 public environmental statement for the offshore petroleum activities of Statoil (U.K.) 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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## **Statoil (U.K.) Limited**

Statoil (U.K.) 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. Statoil also has an office at 50 South Denes Road, Great Yarmouth, NR30 3PN for its UK wind energy developments.

Statoil (U.K.) Limited is wholly owned by Statoil ASA, an international integrated energy company that has its head-quarters in Norway and is listed on the Oslo and New York stock exchanges.

Statoil 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 in North America, South America, North Africa, sub-Saharan Africa, Europe, Asia, the Middle East and Oceania.

Operatorships outside Norway include the Peregrino development offshore Brazil, the Bakken, Marcellus and Eagle Ford fields onshore USA, deep-water licence areas in the Gulf of Mexico, and the Mariner field on the UK Continental Shelf (UKCS). Statoil is also a joint venture partner of the In Salah and In Amenas gas and condensate fields onshore Algeria.

- Approximately 20,500 employees in more than 30 countries
- World's largest deep-water oil and gas operator
- Operator of over 40 producing oil and gas fields
- Market capitalisation of more than £40 billion
- Production of around 2 million barrels of oil equivalent per day
- Proven reserves of around five billion barrels of oil equivalent
- World leader in the use of deepwater technology
- World leader in carbon capture and storage
- One of the world's largest crude oil and gas suppliers
- Second largest supplier of gas to Europe
- One of the world's 500 largest listed companies

Statoil (U.K.) Limited has interests in 27 seaward production licences on the UKCS and is operator of 20 of these. The locations of these licences are shown in Figure 1.

Statoil's UKCS operatorships include the Mariner licence (P.335) where there is extensive on-going construction and drilling activity for an approved field development, and the early-phase licences P.2097 and P.2170 where exploration wells were drilled during 2017. Details of recent, current and planned licence activity are provided in the next section.

Statoil also has operatorship of wind energy projects offshore UK. Such projects are outside of the normal scope of an OSPAR public statement but are described in the next section because of their relevance to Statoil's climate roadmap.

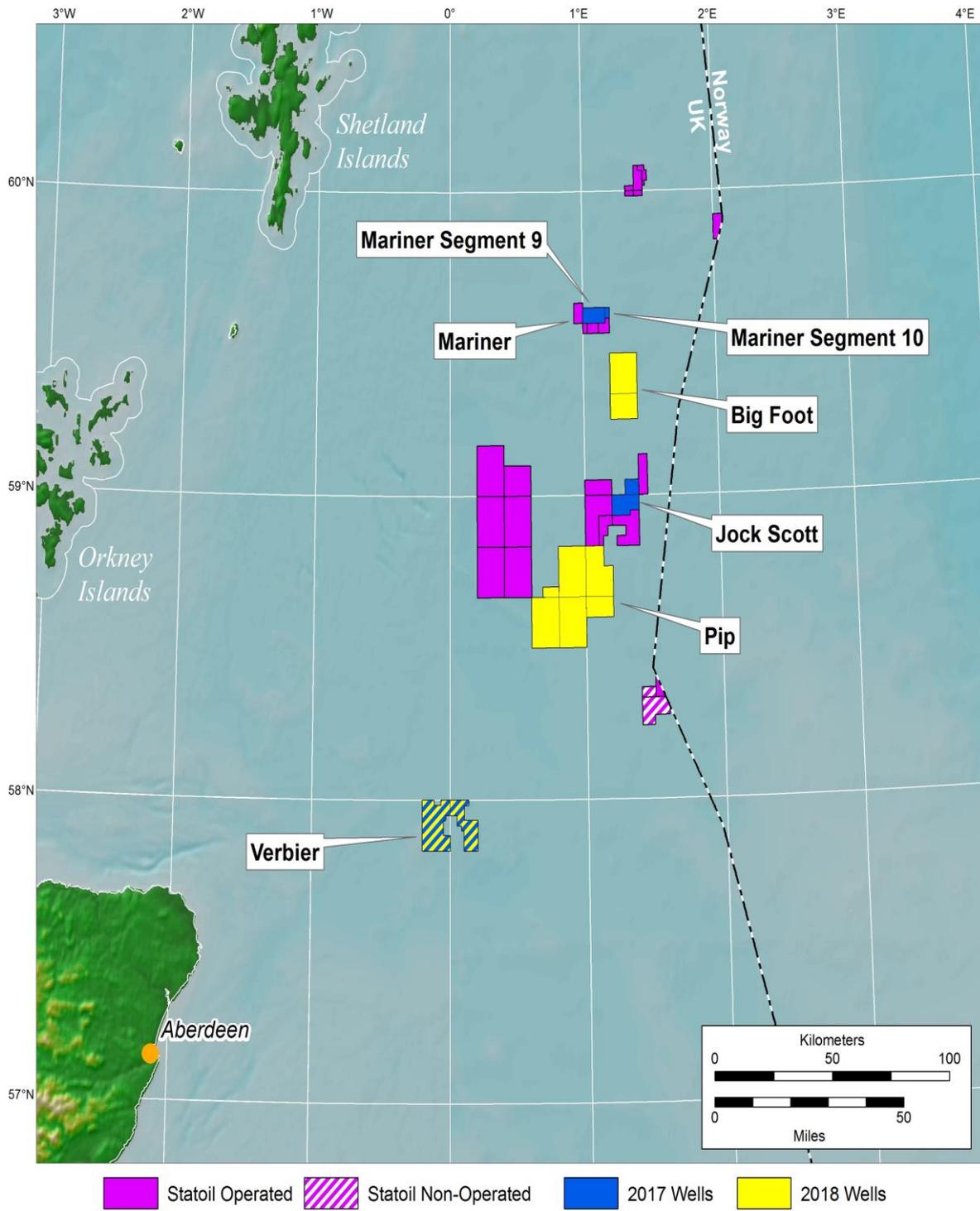


Figure 1: Location of Statoil's UKCS Oil and Gas Interests and Activities

## **2017 UKCS Activities**

### ***Oil & Gas Exploration Activities***

#### *Seismic Surveys*

Statoil (U.K.) Limited did not undertake any seismic exploration activity on the UKCS during 2017. However, two site surveys involving shallow-seismic and other survey methods were undertaken as part of planning for exploration wells that are scheduled to be drilled during 2018. The surveys covered proposed drilling sites within UKCS blocks 9/22a (Bigfoot prospect) and 15/15 (Pip prospect).

#### *Exploration Drilling*

Statoil (U.K.) Limited drilled four exploration and appraisal wells on the UKCS in 2017, as follows:

- An appraisal well was drilled within segment 10 of the Mariner field using the *Noble Lloyd Noble* jack-up drilling unit. This well found oil within the Heimdal Formation reservoir, and water within the Maureen Formation reservoir targets.
- Exploration wells were drilled within Mariner Segment 9, and at the Jock Scott and Verbier prospects, including side-tracks at Mariner Segment 9 and Verbier, all using the *Transocean Spitsbergen* semi-submersible drilling unit. The Mariner Segment 9 well found oil within the Heimdal Formation reservoir and water within the Maureen Formation reservoir targets, in both the main bore and the side-track. The Jock Scott well was dry, due to a lack of reservoir. The Verbier main bore found water-wet sand, but discovered oil within Upper Jurassic sandstones in the side-track.

### ***Oil and Gas Development Activities***

#### *Mariner*

Statoil (U.K.) Limited is the majority equity holder and operator for UKCS seaward production licence P.335 covering the Mariner heavy oil-field. A Field Development Plan for the Mariner oil-field was approved by the Secretary of State in February 2013, since when there has been substantial progress towards an operational development.

During 2017 the following development activities took place:

- In Q1 and Q2 2017 the jack-up drilling unit *Noble Lloyd Noble* continued the “predrilling “of five wells and set the conductor for a sixth well before departing to allow installation of the Mariner topsides. During this time, it relocated to Mariner Segment 10 to drill an appraisal well.
- The Mariner A (PDQ) topsides modules were delivered from Korea and installed on the jacket, during July and early August 2017, using the Saipem S7000 heavy lift vessel. Hook up and commissioning activities commenced in August 2017 and are scheduled to continue until late 2018.
- The *Noble Lloyd Noble* returned to its original position alongside Mariner A to provide accommodation during the hook up and commissioning period and to recommence drilling in 2018.
- A flotel, *Safe Boreas*, was stationed, on DP, at the SE corner of the Mariner A platform to provide accommodation for up to 490 personnel during hook up and commissioning.

Up to 850 personnel will be involved in the hook up and commissioning and are accommodated across Mariner A, Safe *Boreas* and Noble Lloyd Noble. Drilling will recommence in 2018, using both the *Noble Lloyd Noble* and the PDQ platform rig. First oil production is scheduled for Q4 2018.

Figure 2 shows an overall schematic of the completed Mariner development.

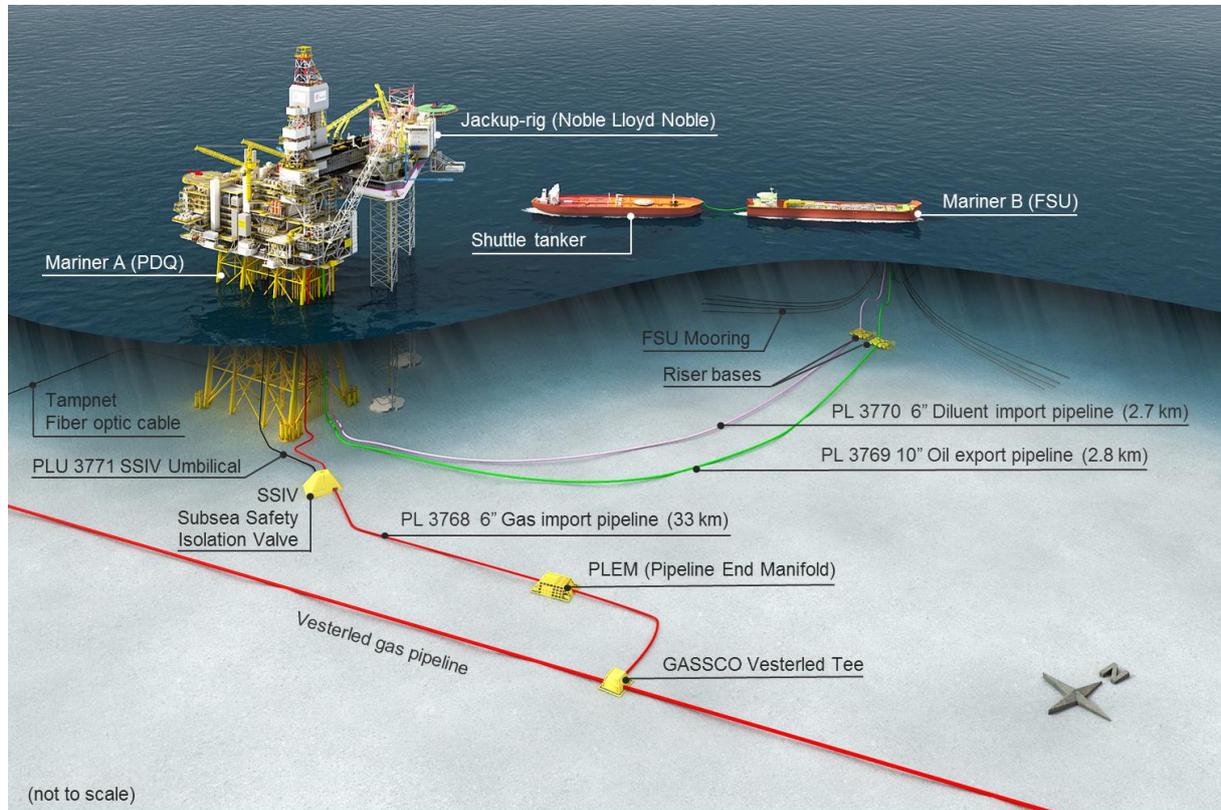


Figure 2: Schematic of Completed Mariner Development

**Bressay**

Statoil (U.K.) Limited is the majority equity holder and operator for the licences covering the Bressay heavy oil-field. Statoil and its licence partner, Shell, have been assessing development options for this field, although this work has now paused and there was no offshore activity at Bressay during 2017.

**Utgard**

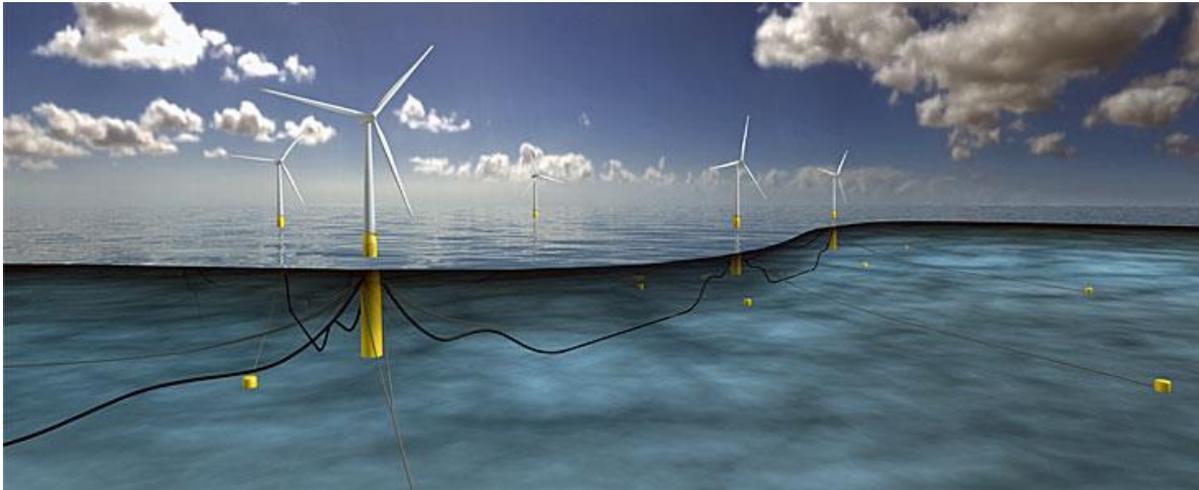
Statoil (U.K.) Limited is the sole equity-holder and operator of the licence that covers the UK portion of the Utgard field. Statoil Petroleum AS (one of the Statoil Group’s Norwegian entities) is operator of the licence covering the Norwegian portion of the field. A Field Development Plan has been approved by the Secretary of State and a corresponding Plan for Development and Operations has been approved by the Norwegian Minister. Development drilling will commence in 2018.

**Wind Energy Activities**

Statoil is a partner in – and on 1<sup>st</sup> April 2017 became 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.

Statoil is also Operator of the nearby Dudgeon offshore wind energy project. Construction at Dudgeon commenced in 2016. Construction and commissioning was completed in September 2017. The development comprises 67, 6 MW, wind turbines with a combined generating capacity of 402 MW.

Statoil is also the Operator of the Hywind Scotland park (75%) with 25% divested to Masdar. Hywind Scotland is a pilot project of 5 floating wind turbines located off the Scottish coast near Peterhead. Construction and installation was completed in 2017. The turbines were constructed in Spain and finished in Stord, Norway before being towed, complete, to their current location off Peterhead. The pilot park covers around 4 square kilometres 25 km offshore Peterhead at water depths of 95-120 metres. The combined generating capacity will be 30 MW.



*Figure 3: Schematic of Completed Hywind Pilot project*

Statoil is also engaged in a joint venture (50%) with SSE in the development of the planned 4.8 gigawatt, Dogger Bank offshore wind development. When installed this will be the world's largest offshore wind development and can supply up to 5% of the UK power requirements.

## Values and Commitments

### Values

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

### Commitments

To meet our Values, and implement what we stand for as a company, Statoil has made a firm set of commitments, also set-out in the Statoil Book. These commitments are as follows:

*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.*

#### Respecting people

*We are committed to providing a safe and secure environment for everyone working at our facilities and job sites. Statoil'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.*

#### 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 Statoil'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.*

#### 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 Statoil always competes in a fair and ethically justifiable manner.*

#### 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.*

## Environmental Goals and Objectives

The 2017 [Sustainability Report](#) sets out the Statoil vision and sustainability ambitions:

### *Shaping the Future of Energy*

*We turn natural resources into energy for people and progress for society*

- *Competitive at all times*
- *Transforming the oil and gas industry*
- *Providing energy for a low carbon future*

*We measure progress and results in a holistic way using key performance indicators (KPIs) when relevant, allowing for sound judgement. Updates are done as business conditions change. In our integrated performance process (Ambition to Action) we translate our purpose, vision and strategy into strategic objectives, risks, KPIs and actions describing what we want to deliver. In our process for managing people development, deployment, performance and reward (People@Statoil), we set goals for what and how we want to deliver as teams and individuals, and to drive our personal development.*

- **Always Safe**
- **High value**
- **Low carbon**

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 2017 included the following:

### **Corporate level health, safety and environmental perspective 2017**

*Strategic objective: An industry leader in safety, security and carbon efficiency*

| <b>KPIs</b>  | <b>Targets</b>                        | <b>Actions</b>   |
|--|---------------------------------------|--|
| <i>Upstream CO2 intensity</i>  | <i>Top quartile in IOGP benchmark</i> | <i>Implement Statoil'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 2.7</i>                  | <i>Define Safety Leadership<br/>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>     |

These KPIs, targets and actions are reflected in the Ambition to Action for business units and local entities. For example, Development and Production International business division and its UK/Ireland unit both adopt the above SIF and TRIF targets, whilst drilling and wells unit within the Technology, Projects and Drilling business division has set itself a target of zero well control incidents.

Statoil has also set long-term objectives for improvement. For example, there is a firm objective to achieve a reduction of 3 million tonnes CO2 emissions per year by 2030, in addition to the 1 million tonnes reduction achieved by 2016. The target portfolio carbon intensity for 2030 is 8 kg per barrel of oil equivalent, with an intermediate target of 9 kg per barrel in 2020. This compares to Statoil's current performance of 10 kg per barrel and a current industry average of 17 kg. Statoil UK Limited current. Current CO<sub>2</sub> intensity is 8.8.kgCO<sub>2</sub>/BOE.

Statoil's commitment to health, safety and the environment has been reflected in awards won by the company, and in its ranking in relevant global surveys. For example, Statoil was ranked fourth amongst oil, gas and consumable fuels companies in the most recent Corporate Knights Global 100 results, and was ranked the number one oil and gas major on climate strategy in a recent report from the Carbon Disclosure Project.

## Environmental Management System

### Introduction

The Statoil 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 Statoil Book and the Function Requirement documents – supported by work processes, technical requirements, procedures, guidelines and information documents:

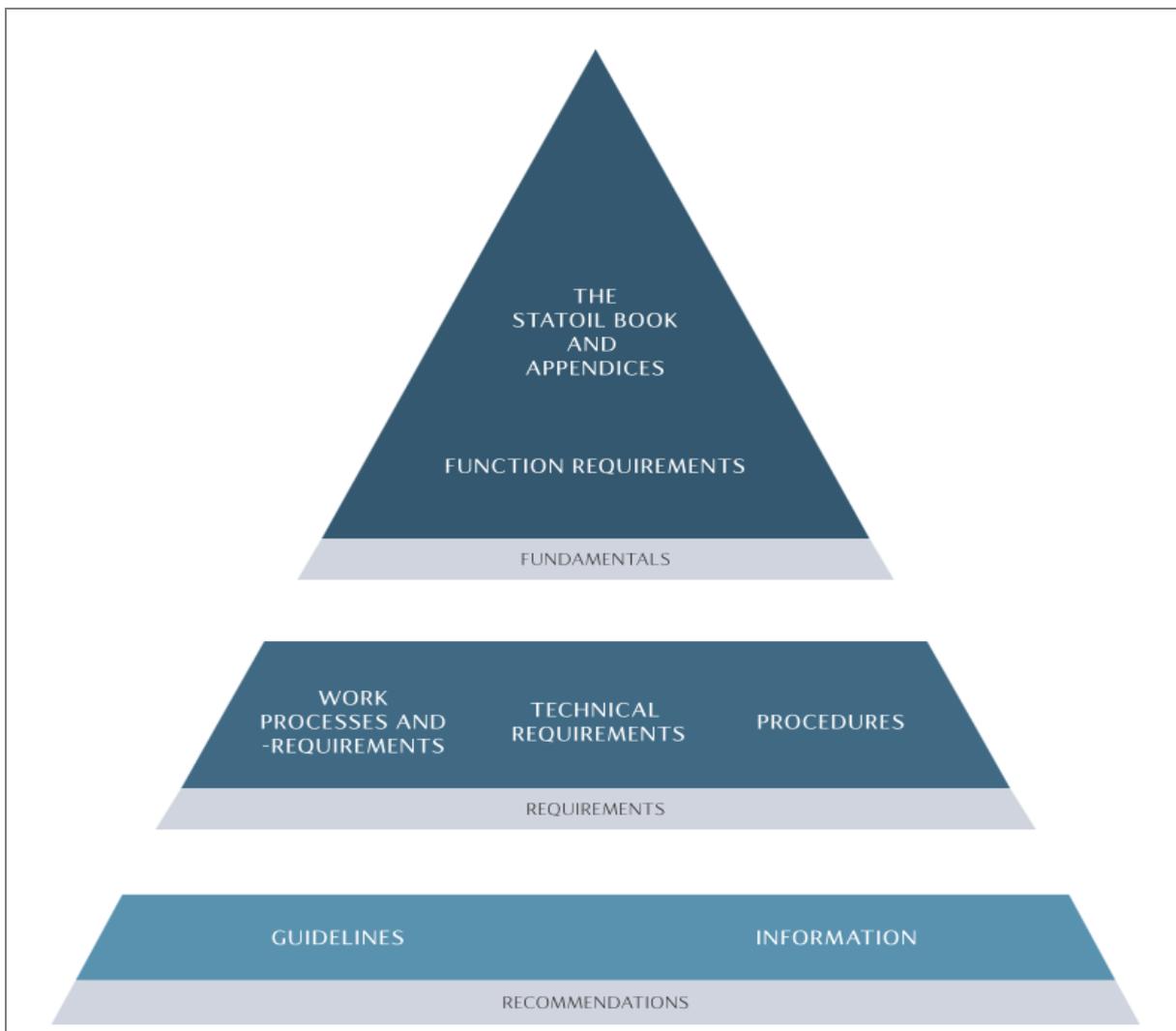


Figure 4: Statoil Management System Structure

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

### 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 Statoil Book and in our Functional Requirement documents.*

### 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.*

### 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.*

## **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 Statoil 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.*

***ISO 14001 Status***

Statoil 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.

Statoil (U.K.) Limited has been independently verified compliant with ISO14001 on three occasions – in 2008, 2014 and 2016. In 2014 the management system and its implementation were verified as meeting the OSPAR and DECC EMS requirements “with comments”. The comments from the verifier were acted upon prior to exploration drilling operations that commenced in 2015. In 2016 the verification was passed without comment. That verification expires in February 2018 and a new verification will therefore be carried out in early 2018.

## Environmental Performance

This section presents quantitative environmental performance data for UKCS licence activities carried out by Statoil (U.K.) Limited during 2017. The data that are presented include:

- Quantities of regulated chemicals that were used, and discharged to sea during our offshore oil and gas licence activities, i.e. regulated chemical use/discharge during Mariner hook up and commissioning activities and during Mariner development drilling by the *Noble Lloyd Noble*.
- Quantities of waste generated, the emissions to air, and discharges to sea at installations operating at our oil and gas licence areas:
  - Mariner field:
    - *Mariner B*
    - *Safe Boreas* flotel
    - *Noble Lloyd Noble* jack up rig
  - Exploration drilling:
    - *Transocean Spitsbergen*

Wastes, emissions and discharges from the vessels that were used for the installation activities at Mariner are not included, nor are wastes, emissions and discharges from vessels that were used to support the exploration drilling operations or hook up activities at Mariner. These 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.

### **Discharges**

#### **Planned:**

Exploration drilling discharges of chemicals and WBM are included in the following sections. There have been no permitted discharges for Mariner A or Mariner B. An oil discharge permit is in place for the drains on Mariner A, however, these were not commissioned in 2017 so no discharges have occurred.

#### **Unplanned:**

There were also four incidents of unplanned, accidental oil/chemical discharge reported to OPRED under a Petroleum Operations Notice 1 (PON1):

- One at Mariner A: a sheen from the *Safe Boreas* exhaust deluge system, still under discussion with OPRED; and
- Three at Noble Lloyd Noble: two for small amounts of dry powders (11 barite, 1 cement) and one for a minor release of base oil during bunkering (under 0.05 litre).

### **Regulated Chemical Use and Discharge**

As a general principle Statoil 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-justified annually.

Use and discharge of regulated drilling chemicals was as shown in Figure 5, below. Chemical quantities are typical for the nature and scale of the activities.

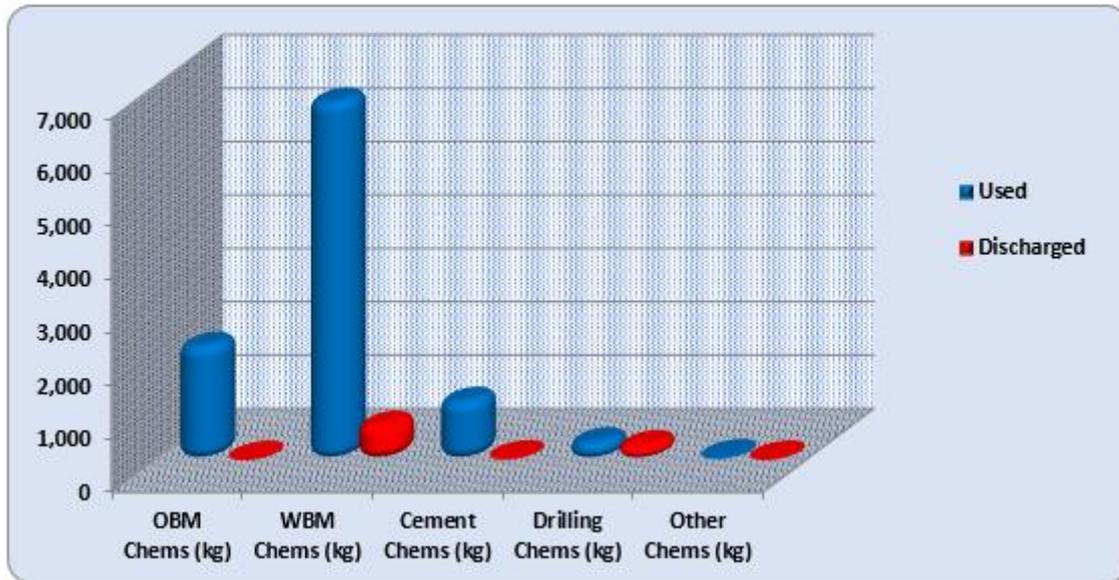


Figure 5: Use and Discharge of Regulated Drilling Chemicals

Use and discharge of non-drilling chemicals were limited to biocides, oxygen scavengers and dyes, which are necessary to control biological growth, inhibit corrosion and detect leaks during leak-testing. This was associated solely with completion and pre-commissioning of the Mariner pipelines. All chemical quantities were small, and typical for the nature and scale of the activities.

No chemical permit use/discharge non compliances were reported in 2017

**Waste Products Generated**

In 2017 exploration drilling generated 3,424 tonnes of drill cuttings (1,358 tonnes of WBM cuttings were discharged to sea and 2,066 tonnes of OBM cuttings were taken to shore for treatment). See figure 6.

Mariner drilling generated 8,117 tonnes of OBM cuttings which were back loaded for treatment onshore.

This quantity is typical for the nature and scale of the activities. The WBM and cuttings met all regulatory requirements for disposal offshore and were discharged to sea.

Other waste products generated by the offshore drilling activities were taken to shore for treatment and disposal. These wastes, and the relevant disposal routes, were as shown in Figure 7.

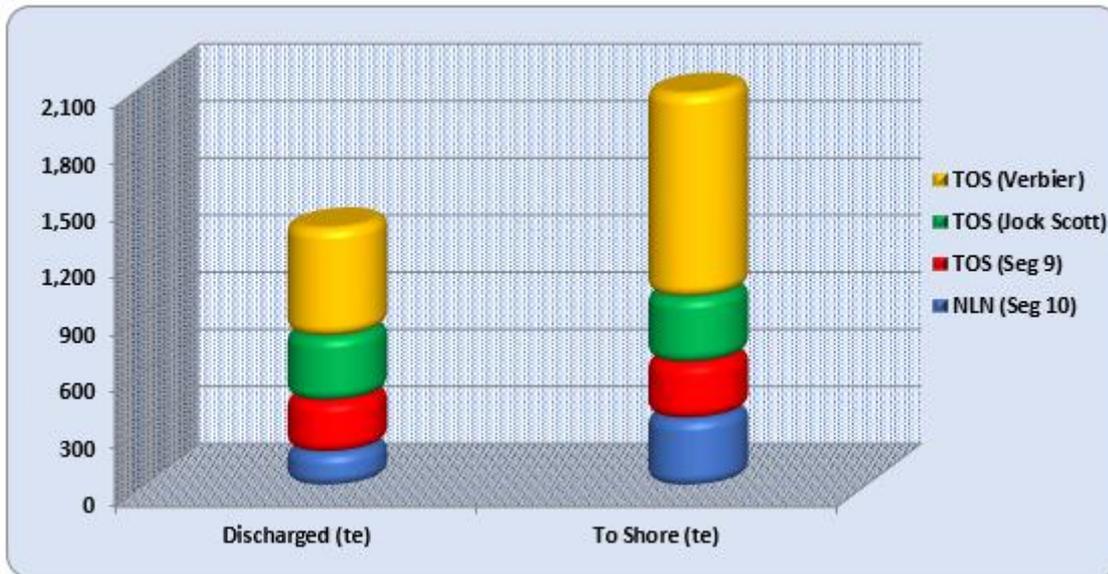


Figure 6: Exploration Drilling Cuttings

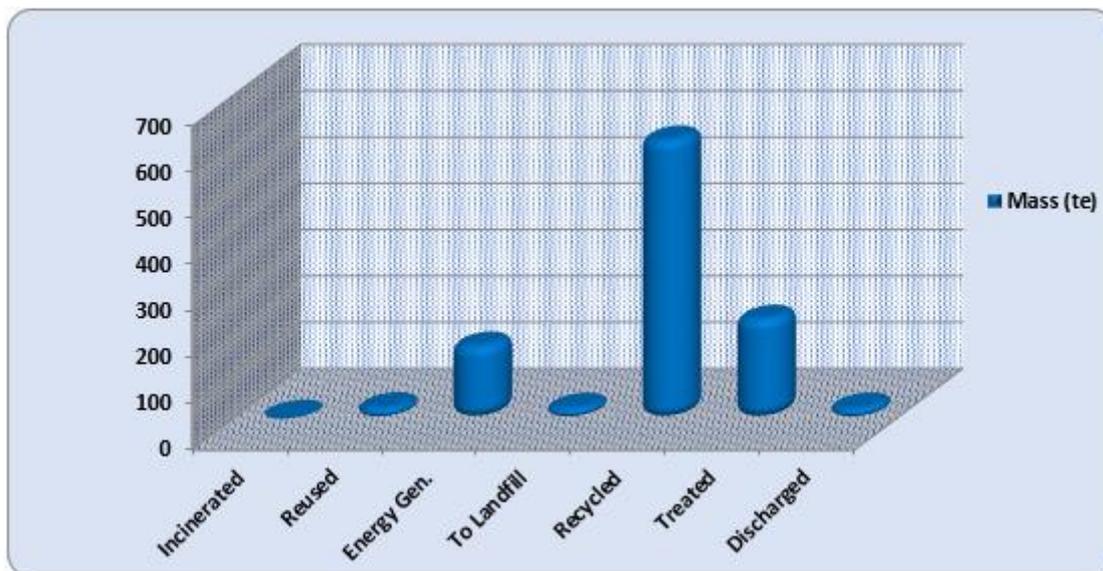


Figure 7: Waste Products Generated Offshore

**Atmospheric Emissions**

The principal atmospheric emissions were from engines on *Mariner A*, *Mariner B* and the *Noble Lloyd Noble* and from exploration drilling for the Transocean Spitzbergen. Fuel consumption and resultant emissions were as shown in Figures 8 and 9. There was no venting or flaring of hydrocarbons.

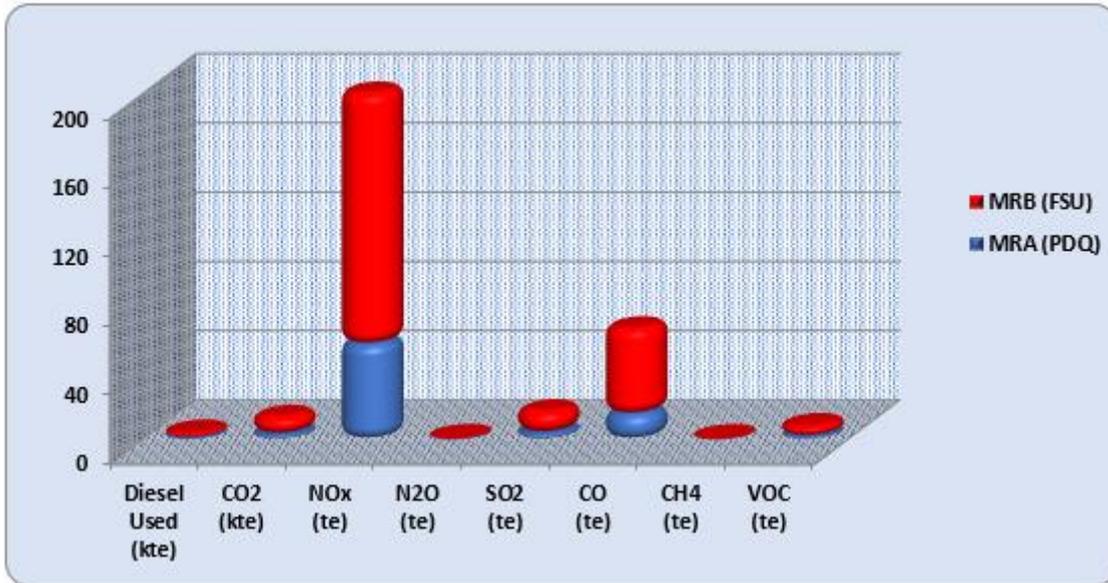


Figure 8: Atmospheric Emissions Offshore - Mariner

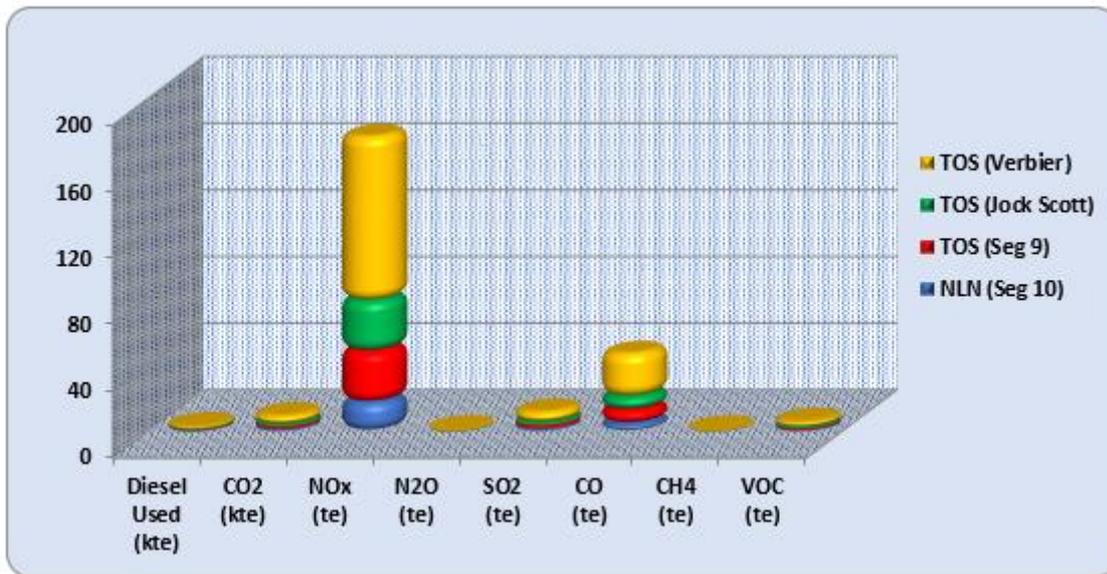


Figure 9: Atmospheric Emissions Offshore - Exploration Drilling

## Abbreviations

|                  |  |
|------------------|--|
| BEIS             | Department of Business, Energy and Industrial Strategy           |
| CH <sub>4</sub>  | Methane  |
| CO               | Carbon Monoxide  |
| CO <sub>2</sub>  | Carbon Dioxide   |
| DP               | Dynmamic 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                                      |
| 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  |

## **Links to Further Information**

### ***The Statoil Book***

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

### ***Statoil's Web-Site***

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