Eni UK Limited - OSPAR Public Statement

2019 Environmental Performance

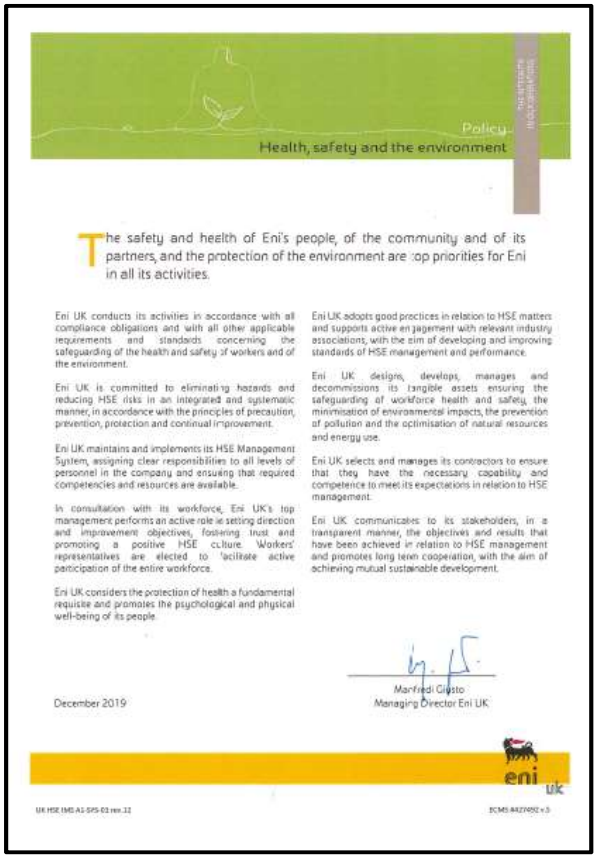
Drilling Operations, Hewett Field and Liverpool Bay Areas

1. Introduction

This is the 2019 Environmental Statement for Eni UK Ltd, for the period 1st January to 31st December 2019, hereafter called the reporting period. This statement reports the environmental performance of offshore operations to our stakeholders, and to the public, in accordance with the 'Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) Guidance and Reporting Requirements', in relation to OSPAR Recommendation 2003/5. This statement covers all 2019 Eni UK offshore operational oil and gas activities, including drilling, decommissioning and production operations in the Hewett Field and Liverpool Bay areas.

2. HSE Management System

Eni UK Ltd maintains a HSE policy (below), the commitments within which are implemented through management systems and operational controls across all Eni UK operations. Appropriate interface arrangements are in place between Eni UK management systems and those of third-party service companies such as Petrofac, the Hewett Installation operator, and Valaris, the drilling contractor. Eni UK is committed to minimising environmental impact via an environmental management system (EMS) which is certified to ISO 14001:2015 by Lloyds Register Quality Assurance (LRQA), certificate below. This certification involves biannual surveillance audits.



Policy
Health, safety and the environment

The safety and health of Eni's people, of the community and of its partners, and the protection of the environment are top priorities for Eni in all its activities.

Eni UK conducts its activities in accordance with all compliance obligations and with all other applicable requirements and standards concerning the safeguarding of the health and safety of workers and of the environment.

Eni UK is committed to eliminating hazards and reducing HSE risks in an integrated and systematic manner, in accordance with the principles of precaution, prevention, protection and continual improvement.

Eni UK maintains and implements its HSE Management System, assigning clear responsibilities to all levels of personnel in the company and ensuring that required competencies and resources are available.

In consultation with its workforce, Eni UK's top management performs an active role in setting direction and improvement objectives, fostering trust and promoting a positive HSE culture. Workers' representatives are elected to facilitate active participation of the entire workforce.

Eni UK considers the protection of health a fundamental requisite and promotes the psychological and physical well-being of its people.

Eni UK adopts good practices in relation to HSE matters and supports active engagement with relevant industry associations, with the aim of developing and improving standards of HSE management and performance.

Eni UK designs, develops, manages and decommissions its tangible assets ensuring the safeguarding of workforce health and safety, the minimisation of environmental impacts, the prevention of pollution and the optimisation of natural resources and energy use.

Eni UK selects and manages its contractors to ensure that they have the necessary capability and competence to meet its expectations in relation to HSE management.

Eni UK communicates to its stakeholders, in a transparent manner, the objectives and results that have been achieved in relation to HSE management and promotes long term cooperation, with the aim of achieving mutual sustainable development.

December 2019

Manfredi Clerici
Managing Director Eni UK

eni uk

Eni UK HSE Policy

Lloyd's Register

Certificate of Approval

This is to certify that the Management System of:

Eni UK Ltd

Ebury Bridge Road, London, SW1W 8PZ, United Kingdom

has been approved by LRQA to the following standards:

ISO 14001:2015

David Derrick - Area Operations Manager UK & Ireland

Issued by: Lloyd's Register Quality Assurance Limited

This certificate forms part of the approval identified by approval number: 0002135

Current issue date: 1 January 2019
Expiry date: 31 December 2021
Certificate identity number: 10169964

Original approval(s):
ISO 14001 – 13 December 2000

Approval number(s): ISO 14001 – 002135-002

The scope of this approval is applicable to:

Oil and gas exploration, production and decommissioning activities managed by ENI UK Limited (London).

UKAS
001

LRQA ISO 14001 Certificate

3. HSE Improvement Objectives

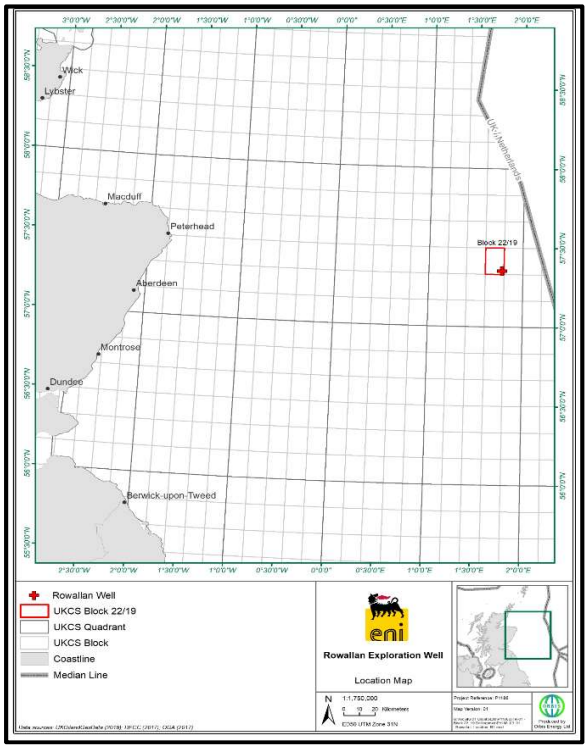
Eni UK maintains environmental improvement objectives, progress against which are monitored by the Health, Safety and Environment Team. These objectives are linked to the significant environmental aspects, 2019 focus areas were:

- Maintenance of ISO 14001 EMS certification.
- Regulatory compliance.
- Completion of all planned audits, inspections and emergency response exercises.
- Transition of the Hewett Assets to Petrofac under the SCR15 Regime.
- Ongoing cessation of production and decommissioning of the Hewett Field.
- Chemical substitution to OSPAR schedule.
- Work with industry groups on greenhouse gas reduction opportunities.

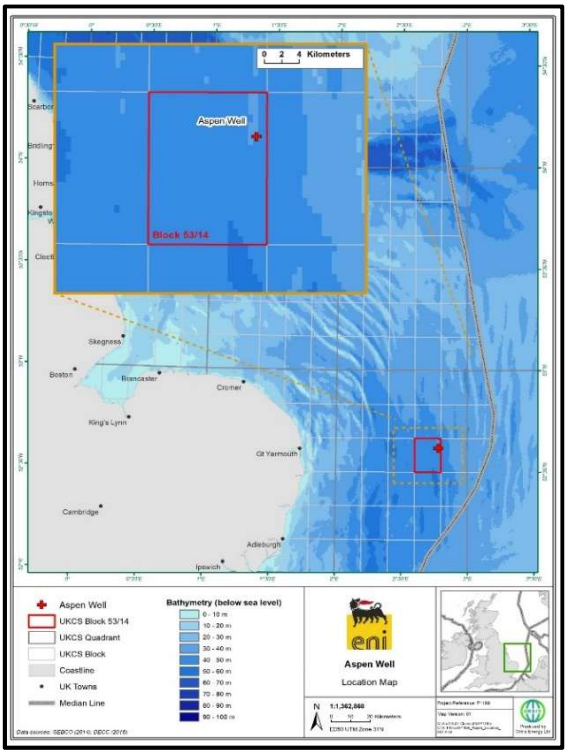
4. Drilling Operations

During 2019 Eni UK drilled two exploration wells:

1. Rowallan Well, located in UKCS Block 22/19 in the Central North Sea, designated as a high pressure/high temperature well with drilling operations undertaken by the Ensco 121 heavy duty jack-up drilling rig.
2. Aspen Well, located in UKCS Block 53/14a in the southern North Sea, with drilling operations undertaken by the Ensco 101 jack-up drilling rig.



Rowallan Exploration Well Location



Aspen Exploration Well Location

Under 'The Offshore Petroleum Production and Pipelines (Assessment of Environmental Effects) Regulations 1999 (as amended)', environmental assessments must be carried out for the drilling of wells. Eni UK therefore commissioned comprehensive studies to identify and evaluate the potential impacts that these drilling operations would have on the physical, biological and socio-economic environment. Where potentially significant impacts were identified, mitigation measures were put in place to remove, reduce or manage the potential impacts.

4.1. Drilling Chemicals

The use and discharge of chemicals is subject to rigorous control under 'The Offshore Chemicals Regulations 2002 (as amended)'. This requires regulatory approval following an assessment of the predicted environmental impacts of any proposed chemical discharges. In addition, only chemicals that have been registered by the Centre for Environment, Fisheries and Aquaculture Science (CEFAS) may be used.

During the 2019 Eni UK drilling campaigns the vast majority of the chemicals used were PLONOR (pose little or no risk to the environment). The quantity of substitution warning chemicals used was approximately 53 tonnes, of which only 0.8 tonnes was discharged to sea. Figure 1 shows the split use and discharge of drilling chemicals for both Rowallan and Aspen drilling operations.

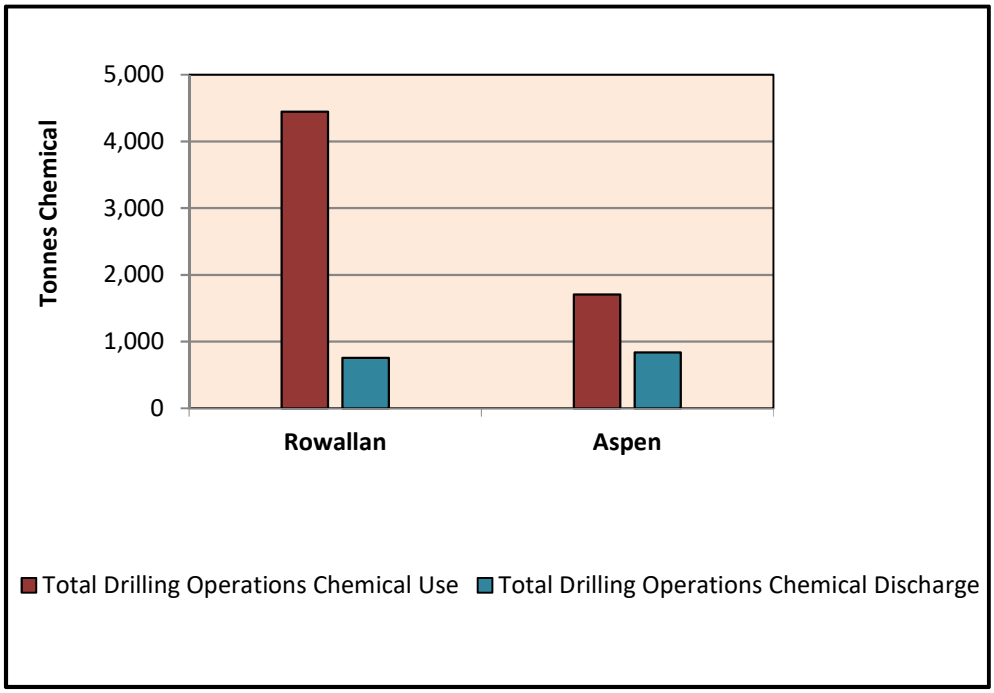


Figure 1 – Drilling Operations Chemicals Use and Discharge

4.2. Discharges to Sea and Emissions

The Rowallan and Aspen drilling operations were successfully completed with no environmental incidents nor spills to sea (known as PON 1 reports). Approximately 2,674 tonnes of diesel were used throughout the drilling operations, combustion of which released 35,571 tonnes of CO_2 to the atmosphere.

The drilling operations were completed using water based muds, which are composed mainly of naturally occurring substances such as barite and bentonite clay. These muds are generally low risk and many of their chemical components are PLONOR. The drill cuttings from the water based mud sections were discharged to the seabed.

The remaining well sections were drilled using oil based muds which typically contain base oil, calcium chloride brine, an emulsifying surfactant, lime and organophillic clay. Discharge of oil based mud to sea is not permitted. The Rowallan drilling operation used a Thermomechanical Cuttings Cleaner (TCC) Unit, to process any oil contaminated drilling waste such as drill cuttings. For the Aspen Well all oil based mud contaminated drill cuttings were returned for treatment onshore.

4.3. Drilling Waste

The following graph shows waste generated by the Rowallan and Aspen drilling operations, split by waste type. Eni UK continues to work with waste service companies to maximise recycling and minimise waste sent to landfill.

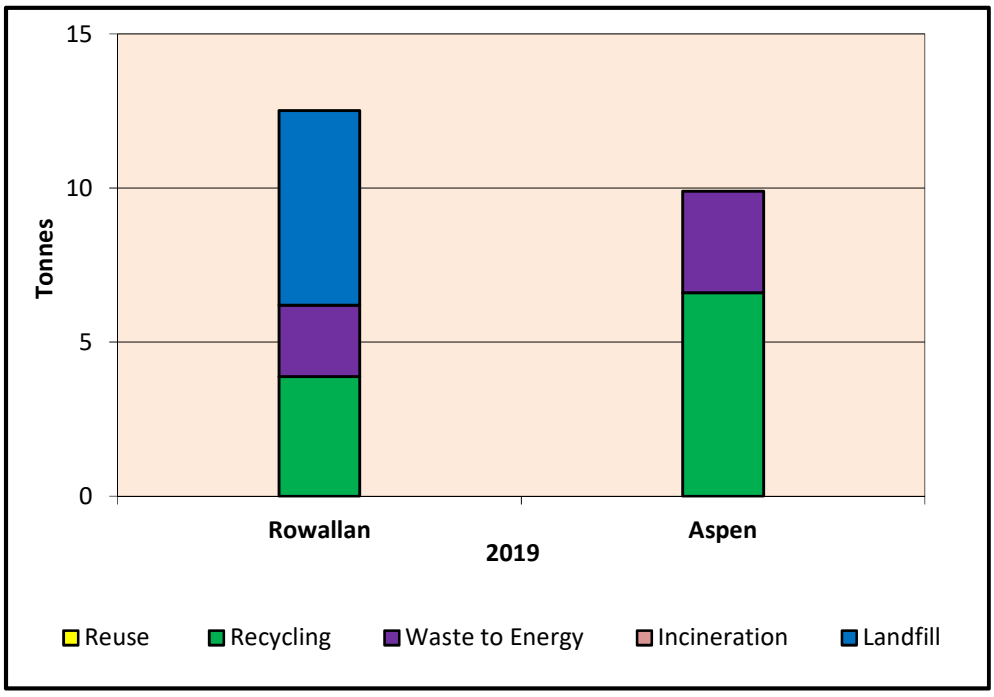


Figure 2 – Drilling Operations Waste Management

5. Hewett Field Area

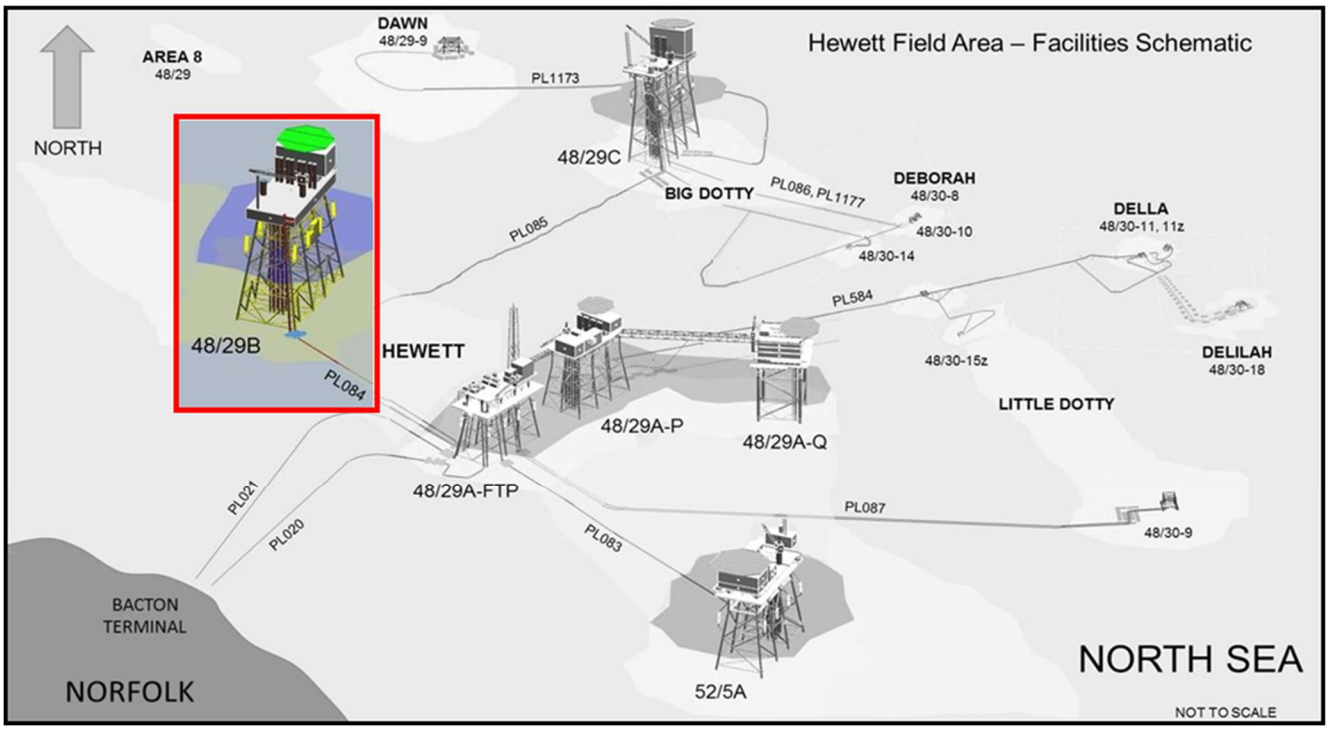
Eni Hewett Ltd is a wholly owned subsidiary of Eni UK Ltd On 1st January 2018, the responsibility for management of the Hewett Field Installations, including related environmental management and regulatory requirements, was transferred to Petrofac Facilities Management Ltd. (Petrofac) through their appointment as the Hewett Field Installation Operator. Eni Hewett Ltd continues to be the Hewett Field Well Operator.

This statement therefore covers the environmental performance of Hewett Field wells only. Petrofac Facilities Management Ltd is responsible for reporting the environmental performance of the Hewett Field installations and their associated production operations.

A documented HSE Management System Interface Plan is in place between Eni UK and Petrofac Facilities Management Ltd, to manage the implementation of Eni requirements.

The Hewett Gas Field is located in the Southern North Sea, approx. 22 km from the Norfolk coast, and 95.2 kilometres west of the UK/Netherlands median line, in Blocks 48/29, 48/30, 52/05, in a water depth between 20-40 meters.

The Hewett Gas Field is coming to the end of its productive life and therefore plans are being developed to suspend and abandon all the wells, as part of the decommissioning process. Cessation of Production for 48/29 Bravo Platform commenced on 1st March 2019.



Hewett Field Facilities Schematic showing 48/29 Bravo Platform in colour

During 2019 decommissioning preparatory works were undertaken on the 48/29B and 48/29A platforms, to clean and flush topsides and pipelines in advance of the arrival of a Valaris rig for the 2020 plug and abandon decommissioning works. These preparatory works were undertaken under Petrofac Facilities Management Ltd environmental permits and are therefore reported via its 2019 Environmental Statement.

Some additional rigless preparatory works were undertaken to temporarily suspend wells in advance of the rig arrival. There were no discharges to the marine environment arising from these rigless works, as all well fluids were re-injected back into the wells downhole.

5.1. Hewett Field Environmental Performance

During the 2019 48/29B decommissioning preparatory work rigless operations, only three chemicals were used, a weighting material, a viscosifier and a gas hydrate inhibitor; totalling 2.8 tonnes of used chemicals with no discharge to the marine environment. The weighting material and the gas hydrate inhibitor are classed as PLONOR (pose little or no risk to the environment) and the viscosifier carries a substitution warning. Chemicals used in well operations are subject to continual review and Eni UK will continue to seek suitable alternatives, where appropriate.

Chemical use and discharge used in Hewett production operations is reported within the scope of the Petrofac Facilities Management Ltd OSPAR Statement for the Hewett field installations.

There were no direct water discharges to sea associated with Hewett well operations during 2019. For the rigless decommissioning operations an Oil Discharge Permit was obtained to cover reinjection downhole only. Management of liquids associated with Hewett production operations (including produced and process water), and any related discharges, are reported within the scope of the Petrofac Facilities Management Ltd OSPAR Statement for the Hewett Field Installations.

During the 48/29B rigless decommissioning operations no spills to sea (PON 1) nor environmental incidents were reported. Furthermore, throughout 2019 there were no regulatory non-compliances in relation to Hewett well operations. Regulatory non-compliances reported in relation to the installations are described as part of the Petrofac Facilities Management Ltd statement.

All wastes generated from the operation and maintenance of Hewett installations are reported within the scope of the Petrofac Facilities Management Ltd statement for the Hewett installations, including general wastes such as consumables, welfare and accommodation, installation utilities and ancillary equipment. There were no wastes generated directly as a result of well operations performed during 2019.

During 2019, direct emissions associated with Hewett Field well operations were limited to vented gas only. These emissions are included in Hewett Field emissions reports into the Environmental Emissions Monitoring System (EEMS) through the Department of Business Energy and Industrial Strategy [BEIS] UK Oil Portal.

Table 1 -Hewett Well Operations - Atmospheric Emissions

Emission	Total (tonnes)
Well Operations - Hydrocarbon Gas Venting	1.1

Information on atmospheric emissions associated with Hewett Field installations production and maintenance operations is included within the scope of the Petrofac Facilities Management Ltd OSPAR Statement for the Hewett Field installations.

6. Liverpool Bay Area

Eni UK Ltd is both the installation and well operator for the Liverpool Bay Field, which produces oil and gas.

6.1. Liverpool Bay Operations – Oil and Gas Production

Process plant on the offshore platforms separates oil, gas and water produced from the oil and gas reservoirs. Once the oil has been separated from the water, it is pumped to the Oil Storage Installation (OSI) via pipeline. Oil is periodically transferred from the OSI to export tankers, for shipment to customers. Oil from Tailwind Mistral's Conwy field also flows to Eni UK's offshore facilities for processing.

Produced gas is treated onshore at the Point of Ayr (POA) Gas Terminal, where it is dried and sweetened. A small portion of the gas produced is used to generate power, some of which is then exported to the national grid. The remaining gas processed is exported via onshore pipeline to Connah's Quay Power Station.

6.2. Offshore Facilities – Douglas, Lennox, Hamilton Fields and Oil Storage Installation

The Douglas field contains low sulphur, 44° American Petroleum Institute (API) black oil. The oil has a low gas to oil ratio. The Douglas Complex is located approximately 23km off the North Wales and English coastlines. It consists of an accommodation unit, a processing platform and a wellhead tower, all bridge linked.

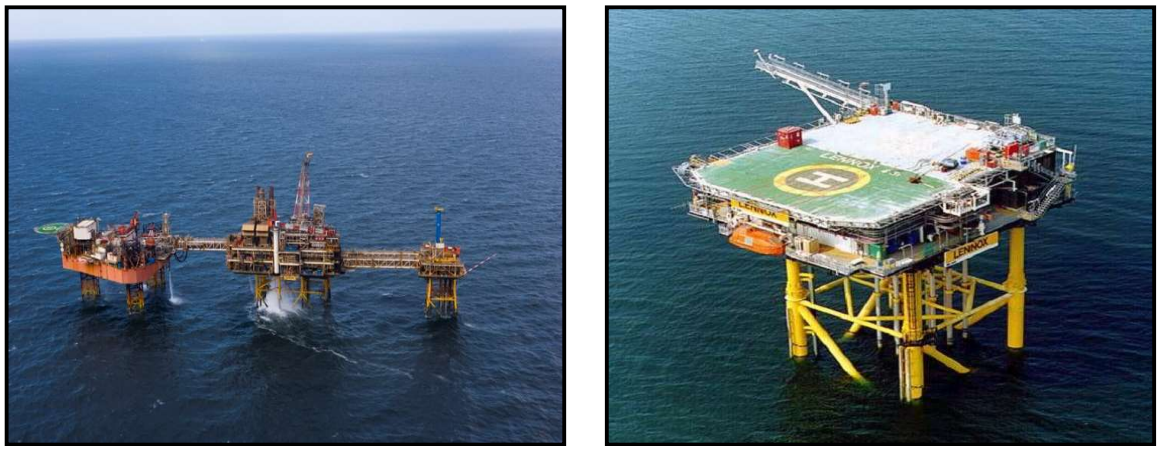
The layout of the Douglas Complex is designed with the objective of separating the potentially hazardous production plant and well facilities from the living quarters and control centre. The three platforms are orientated to provide the smallest target to passing ship movements. Water depth at the location is 29 metres.

Lennox is a satellite platform; the Lennox Field consists of a thin layer of oil underlying a normally pressured gas cap. Lennox produces both gas and condensate, together with formation water. These reservoir fluids are routed to the Douglas Complex for separation. Lennox lies approximately 8 km off the Sefton coast. The Lennox Platform is a two level, 12 well slot structure with an underdeck. Water depth at the location is 7m.

There are two (almost identical) producing Hamilton gas platforms; Hamilton and Hamilton North. The connected Hamilton East subsea gas well is no longer in production. These platforms are two-level, normally unmanned structures with an underdeck. Produced gas, together with condensate and formation water, is transported via subsea pipeline to Douglas for further processing.

The stabilised export crude oil from the Douglas Complex is piped 17km north to the Oil Storage Installation (OSI). The OSI is a purpose-built barge that is permanently moored. Its location was chosen to avoid shipping lanes. The OSI is 207 metres long, 44.5 metres wide and has three deck levels and a helipad. The vessel has 10 oil compartments (plus two slop tanks) surrounded by 4.8 metre wide

seawater ballast tanks. The cargo tanks have a total storage capacity of 146,290m^3 (approximately 860,000 bbls usable volume).



Douglas (left) and Lennox (right)

Hamilton (left) and Oil Storage Installation (right)

6.3. Liverpool Bay Assets – Environmental Performance

Permitted discharges of produced water containing low concentrations of oil and chemicals occur from offshore installations. These have the potential to negatively impact the marine environment.

Figure 3 shows the amount of oil entrained in produced water discharged from Douglas and OSI during the reporting period. Overboard discharge of produced water at Douglas increased in quarter 3 (September) due to the failure of one of the produced water re-injection pumps.

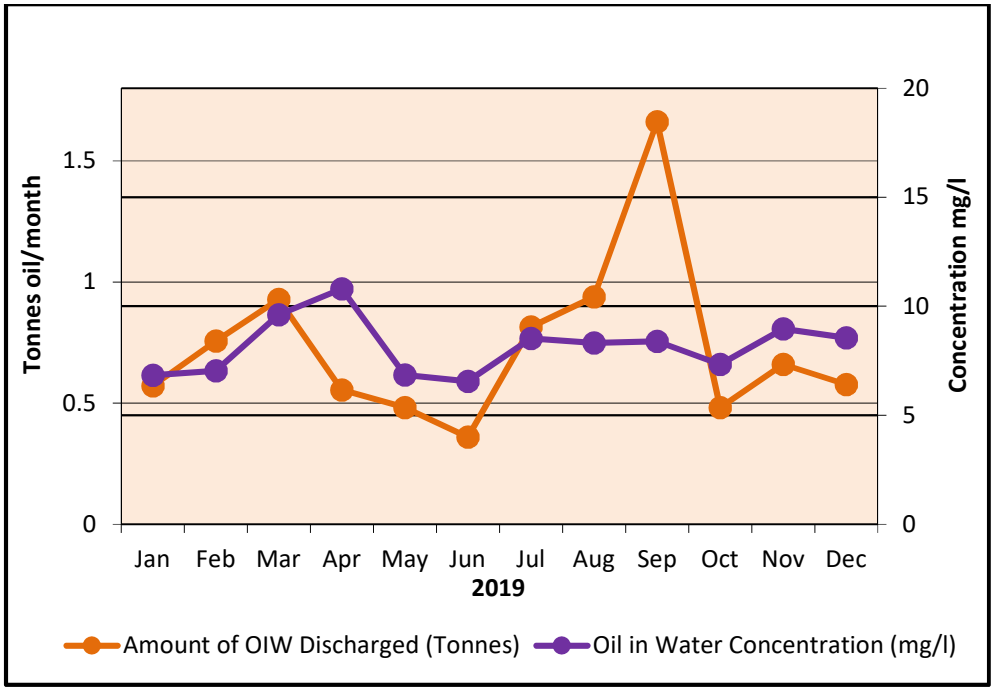


Figure 3 – Oil in Produced Water

Atmospheric emissions arise from power generation and flaring, demand for which is governed by production levels. Figure 4 shows Carbon Dioxide (CO_2) emissions arising from offshore power generation and flaring during the reporting period of 2019.

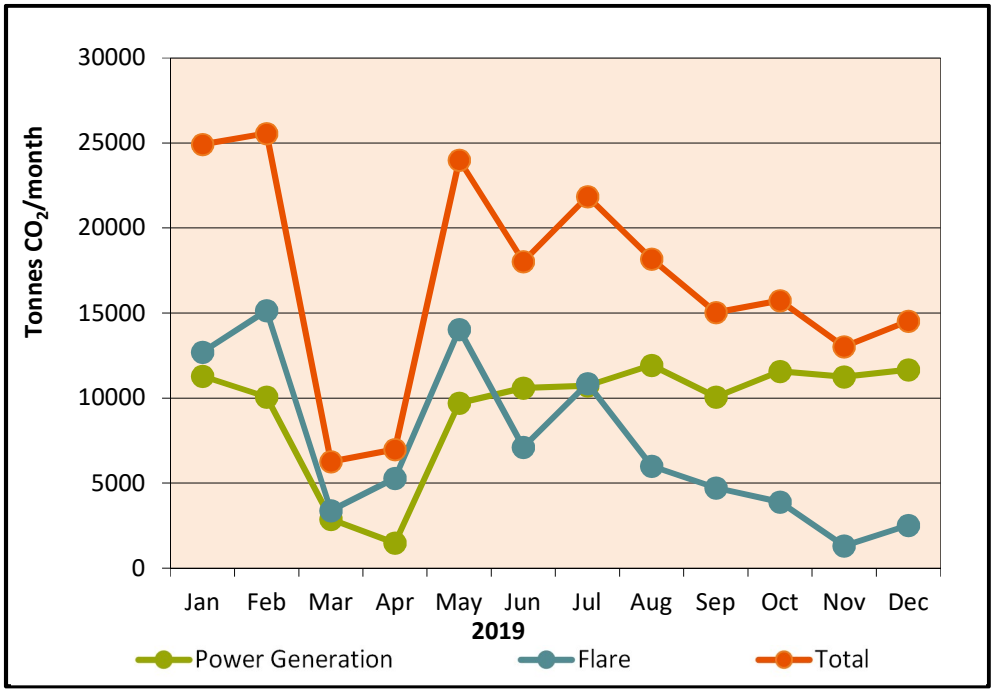


Figure 4 – Offshore CO2 Emissions

Chemicals are used in production and well workover operations, therefore chemical permits for the offshore use/discharge of process chemicals are in place. Offshore production chemical consumption and discharge for Douglas, Satellites and OSI for the reporting period are presented in Figure 5.

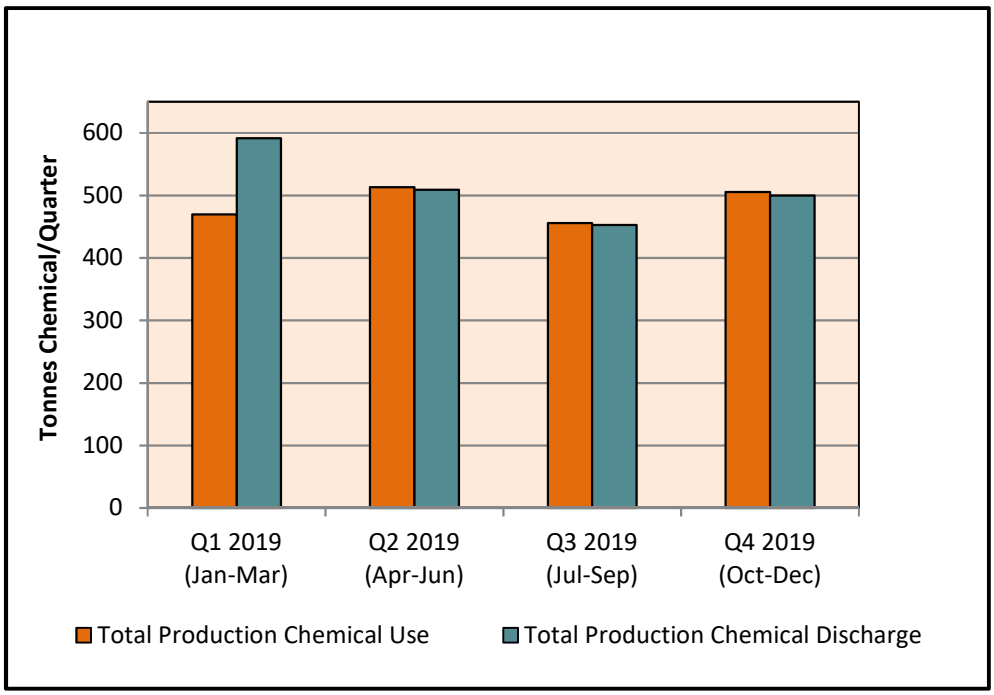


Figure 5 – Offshore Chemicals Use and Discharge

There were a total of seven chemical/oil releases offshore in 2019 (five from Douglas and two from the Irish Sea Pioneer jack-up vessel whilst located at Douglas), the eventual fate of which were discharges to sea (via platform processes). There were three oil releases (totalling 0.83Kg) and four chemical releases (totalling 309.25kg). These losses were reported to OPRED via the PON1 process, all were assessed to be minor with negligible environmental impact, see Figure 6.

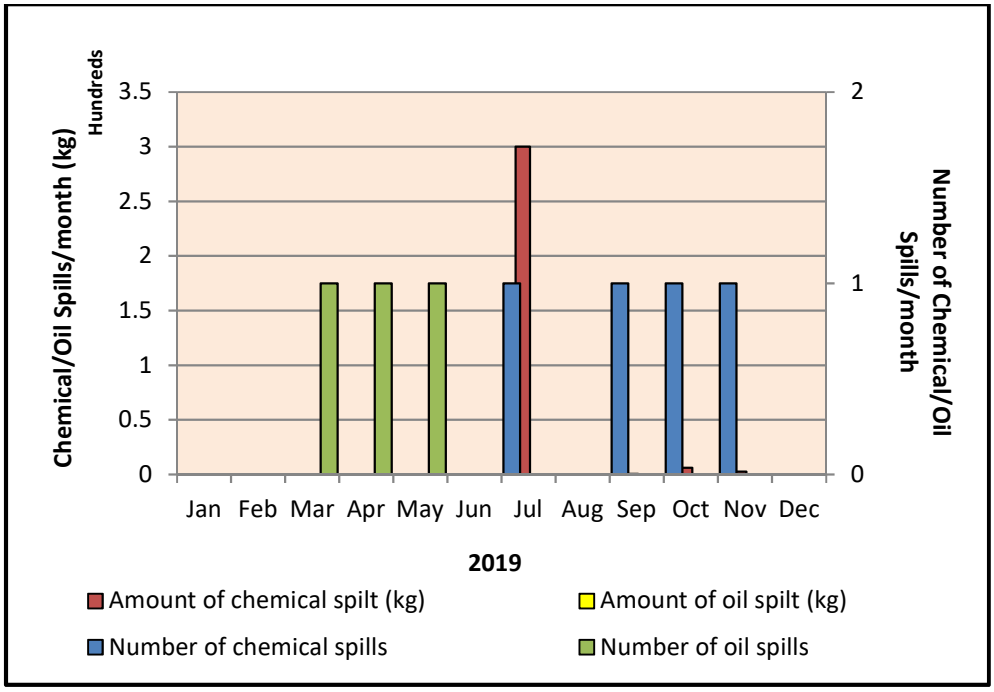


Figure 6 – Spills to Sea (PON 1 Reports)

Waste generated offshore fluctuates depending on the activities ongoing at sites. Figure 7 shows offshore waste generated in 2019 for Liverpool Bay as well as the fate of each waste group.

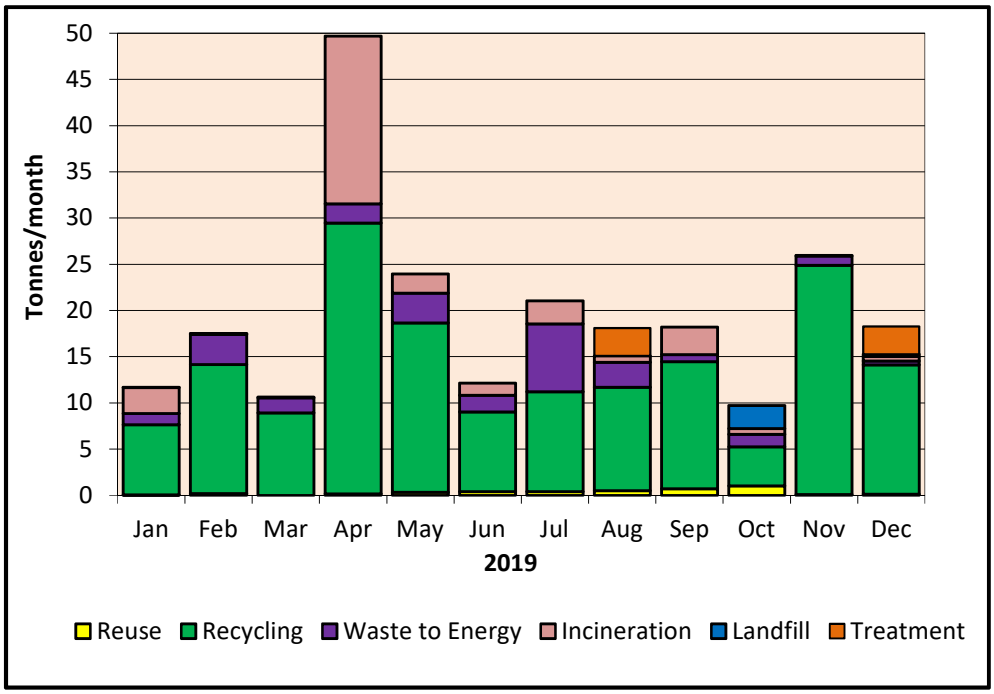


Figure 7 – Offshore Waste Management

If further information is required please contact:
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