



Eni UK Limited - OSPAR Public Statement

2021 Environmental Performance

Hewett Field and Liverpool Bay Areas



Eni UK Limited, 2021 Environmental Statement

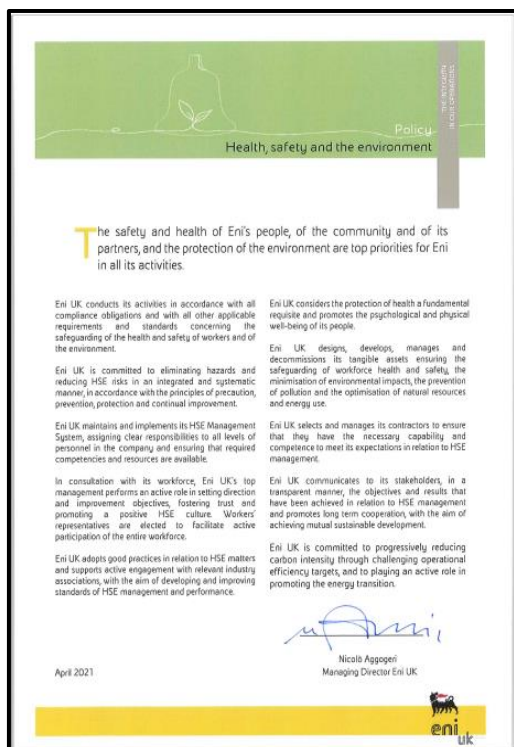
1. Introduction

This is the 2021 Environmental Statement for Eni UK Limited (hereafter referred to as 'Eni'), for the period 1st January to 31st December 2021, 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 2021 Eni UK offshore operational oil and gas activities which are decommissioning operations in the Hewett Field and production operations in the Liverpool Bay areas.

2. HSE Management System

Eni UK maintains a HSE policy (below), the commitments within which are implemented through management systems and operational controls across all Eni UK operations. 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 provided below. This certification involves biannual surveillance audits.

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 HSE Policy



LRQA ISO 14001 Certificate

3. HSE Improvement Objectives

Eni UK maintains environmental improvement objectives, progress against which is monitored by the Health, Safety and Environment Team. These objectives are linked to the significant environmental aspects. 2021 focus areas were:

- Maintenance of ISO 14001 EMS certification.
- Completion of all planned audits, inspections and emergency response exercises.
- Completion of Biodiversity Ecosystem Services audit.
- Ongoing HSE support during cessation of production and decommissioning of the Hewett Field.
- Chemical substitution to OSPAR schedule.
- Work with industry groups on greenhouse gas reduction opportunities.
- Eni Process Safety Fundamentals rolled out.

4. Hewett Field Area

The Hewett Field infrastructure comprises six installations, 32 platform wells, and a further eight subsea wells tied back to the platforms, as well as a number of pipelines.

On 1st January 2018, the responsibility for 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. Petrofac 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, to manage the implementation of Eni requirements.

Eni UK is the Hewett Field Well Operator. In Q3 2021 a change of Well Operatorship was completed from Eni Hewett Limited, (a wholly owned subsidiary of Eni UK) to Eni UK.

This statement therefore covers the environmental performance of Hewett Field Wells only.

The Hewett Field is located in the Southern North Sea, approx. 22km from the Norfolk coast, and 85km west of the UK/Netherlands median line, in Blocks 48/29, 48/30, 52/05, in a water depth between 20-40 meters. Hewett Field lies within and overlaps a network of offshore Marine Protected Areas (MPAs) and Eni UK is proactively addressing the challenges of decommissioning infrastructure within these protected sites.

4.1. Well Plug and Abandonment (P&A) and Pipeline Cutting Operations

The Hewett Field is coming to the end of its productive life. Cessation of Production for 48/29-B (2019) 48/29-C and 52/5A (2020) allowed for the well plug-and-abandonment (P&A) work to start in 2020. In 2021, Eni UK has continued to progress with its P&A activities and enabling activities, including cutting or disconnecting pipelines, to allow rig access. Eni UK has a contract with Valaris for its jack-up rig, Valaris 72 to carry out the well P&A work in 2021. A contract between Eni UK and Boskalis is in place for carrying out pipeline work supporting P&A with the Boskalis Diving and Support Vessel (DSV) and

other support vessel fleet. To meet NSTA and HSE requirements, Eni UK will ensure all wells have been permanently abandoned by placing verified barriers to isolate rock formations that have flow potential from the surface.

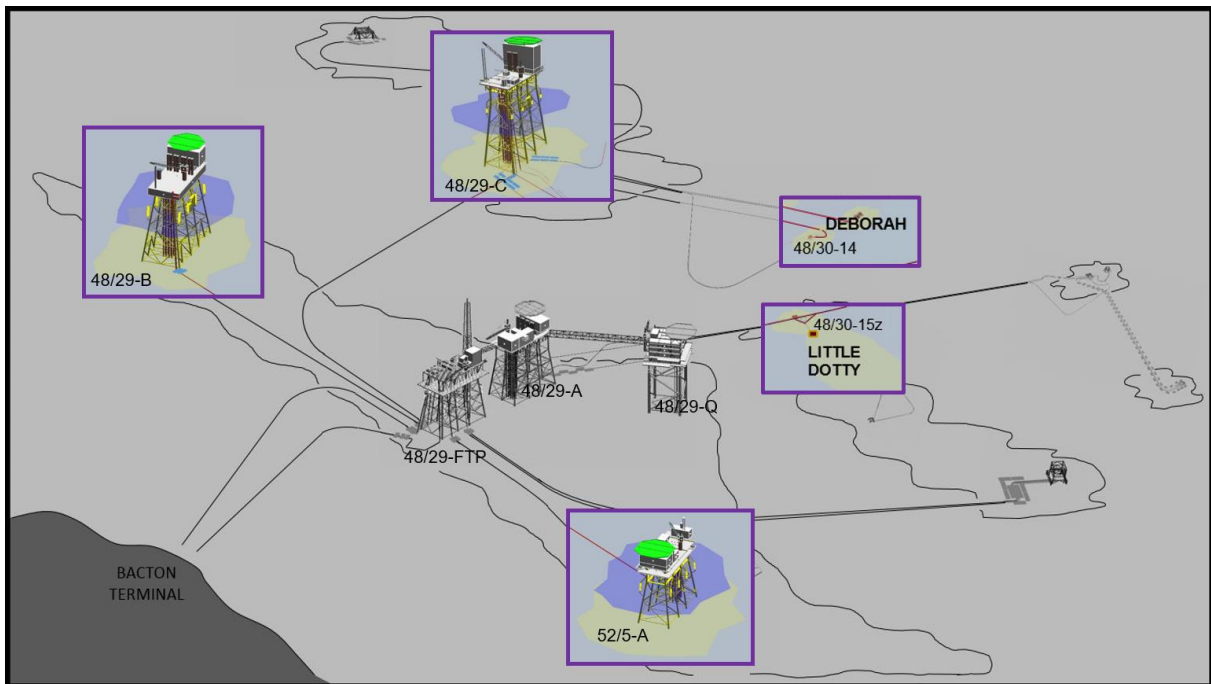


Figure 1: Hewett Field Facilities Schematic showing 2021 P&A activities in colour.



Figure 2: Valaris 72 Jackup alongside 52/5-A Platform

4.2. Decommissioning Programmes

Eni UK is working towards obtaining approvals for its decommissioning programmes and environmental appraisals for Platform Installations, Subsea Installations and Pipelines. In 2021 Eni UK obtained approval of its Hewett Field Platform Installations Decommissioning Programme and Environmental Appraisal.

The majority of the materials and components that make up the Hewett Field infrastructure and topsides will be recycled. The small proportion of materials remaining after reuse and recycling will be disposed of appropriately in accordance with Eni UK policies and the relevant regulatory requirements, including waste management, environmental, health and safety expectations. There are no drill cuttings in the scope of these decommissioning programmes.

4.3. Hewett Field Decommissioning Environmental Performance

During 2021, pipeline cutting and disconnections and well P&A work was performed at the following locations:

- 48/29-B platform (ongoing from 2020)
- 48/29-C platform
- 48/30-15z Little Dotty subsea well
- 48/30-14 Deborah subsea well
- 52/5-A platform (continues into 2022, data associated with this campaign will be reported in 2023 for 2022)
- PL83 pipeline cutting (52/5-A platform for rig entry)
- PL1177 & PL135.2 pipeline flushing and disconnection (48/30-14 Deborah subsea well for rig entry)
- PL1325 & PL1324 pipeline flushing and disconnection (48/30-15z Little Dotty subsea well for rig entry)

For more details, see Figure 1: Hewett Field Facilities Schematic showing 2021 P&A activities in colour.

4.3.1. 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 2021 Hewett Field P&A campaign, 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 31 tonnes, of which only 0.2 tonne was discharged to sea. *Figure 3* shows the use and discharge of Hewett well-related decommissioning operations. Eni UK makes best endeavours to limit fluid discharge by reinjection of fluids back to the reservoir as much as possible. Furthermore, chemicals used in well operations are subject to continual review and Eni UK will continue to pursue suitable alternatives, where appropriate.

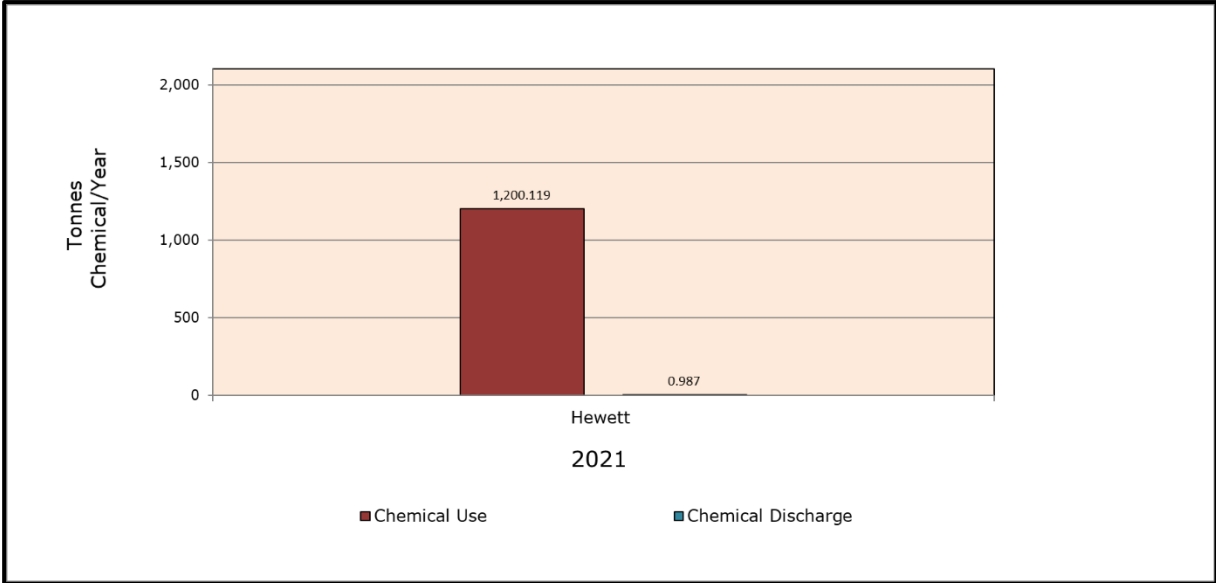


Figure 3: Chemical Use and Discharge

4.3.2. Oil in Water

Management of fluids 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.

Eni UK strives to re-inject most of its decommissioning-related fluids. In 2021 there was one direct residual hydrocarbons discharge to sea associated with Hewett pipeline PL83 water gap / cutting. A total of 0.0044 tonnes of oil in water was discharged into the sea at the oil-in-water concentration of 2.89 mg/l.

4.3.3. Reportable Incidents

During 2021 there were no hydrocarbon or chemical releases from the decommissioning activities and therefore, no reportable incidents to OPRED via the Petroleum Operations Notice PON1 system.

4.3.4. Waste

The waste generated as part of the Hewett Field P&A campaign is shown in Figure 4, split by waste type. Eni UK continues to work with waste service companies to maximise recycling and minimise waste sent to landfill.

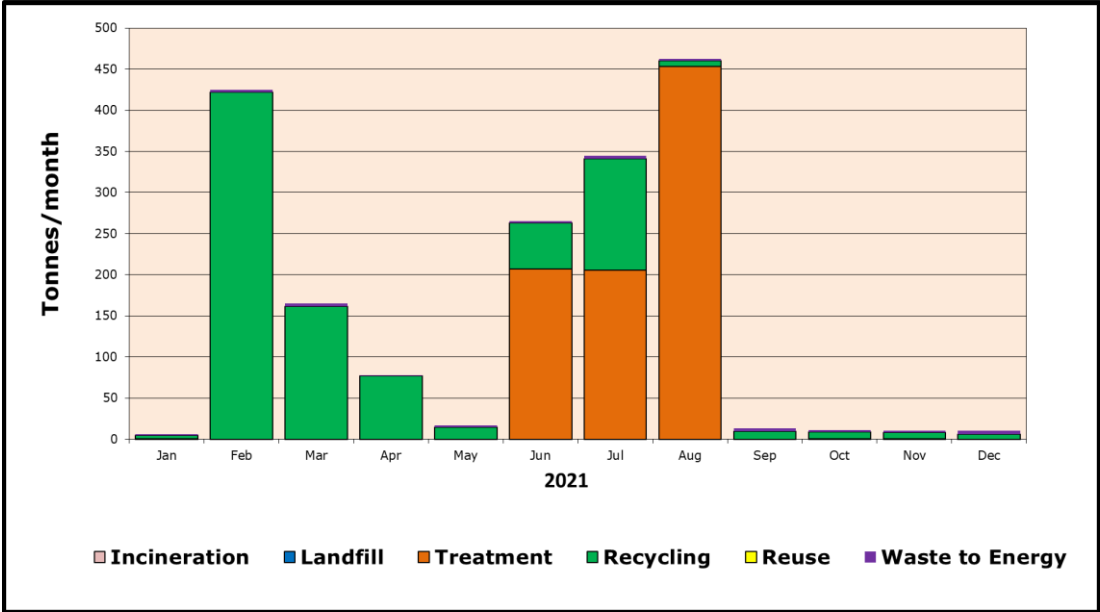


Figure 4: Well Abandonment Operations Waste Management

4.3.5. Atmospheric Emissions

During 2021, direct emissions associated with Hewett Field P&A well operations were limited to: vented gas and fuel used by Jackup rig and DSV vessel (see Table 4.3.5-1).

Table 4.3.5-1: Hewett Well Operations - Atmospheric Emissions

Source of emissions	Total (tonnes)	CO2e
Well P&A Operations - Hydrocarbon Gas Venting	133	3,491
Valaris 72 - Diesel Usage	1,592	5,207
DSV vessel - Diesel Usage	381	1,246
Total	n/a	9,944

5. Liverpool Bay Area

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

5.1. 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 the Conwy field also flows to Eni UK's offshore facilities for processing. The Conwy field was operated by Tailwind Mistral until 21st June 2021 before being acquired by Eni UK.

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.

5.2. Offshore Facilities – Douglas, Lennox, Hamilton, Conwy 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) gas production 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.

In addition, from 1st July 2021 Eni UK Limited became the Production Licence Operator (and Installation, Well and Pipeline Operator) of the Conwy Development. The Conwy development comprises a single Not Permanently Attended Installation (NPAI) located in Block 110/12a in the East

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Irish Sea, which is tied back to the Douglas Complex (located in Block 110/13) via a 12 kilometre, 8 inch diameter subsea pipeline. The Conwy Development is located 33 kilometres north of the nearest landfall on the north coast of Wales and approximately 100 kilometres east of the UK/Ireland transboundary line. The Conwy infrastructure was installed in 2012, with the earliest commencement date for production was to be in Q1 2016.

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 146,290m³ (approximately 860,000 bbls usable volume).



Douglas (left) and Lennox (right)



Hamilton (left) and Oil Storage Installation (right)



Hamilton North (left) and Conwy (right)

5.3. 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 5 shows the amount of oil entrained in produced water discharged from Douglas and OSI during the reporting period.

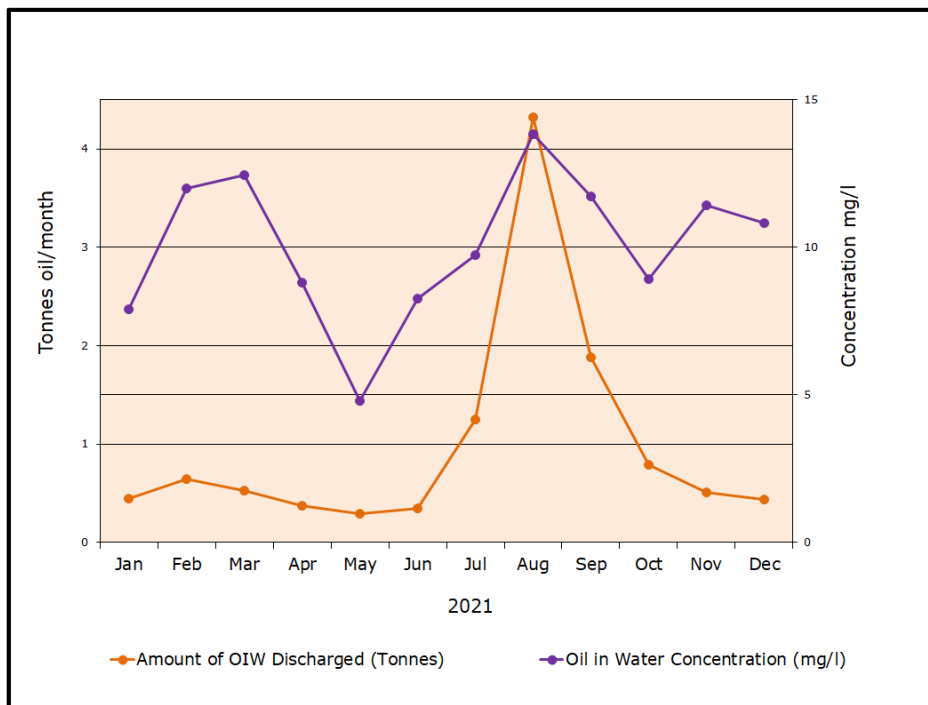


Figure 5: Oil in Produced Water

Atmospheric emissions arise from power generation and flaring, demand for which is governed by production levels. Figure 6 shows Carbon Dioxide (CO₂) emissions arising from offshore power generation and flaring during the reporting period of 2021. The increase in flare CO₂ emissions, which peaks in November, was due to offgas system process upsets.

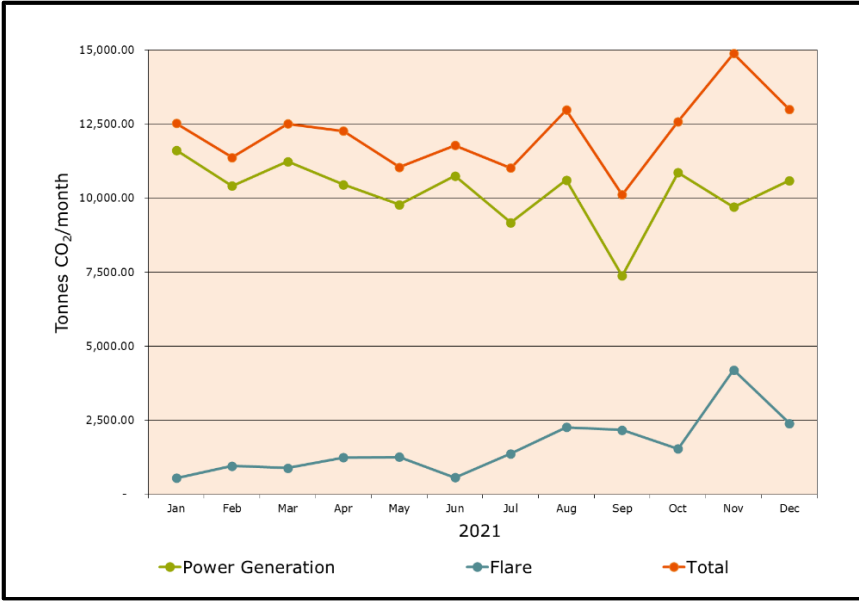


Figure 6: Offshore CO2 Emissions

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 7.

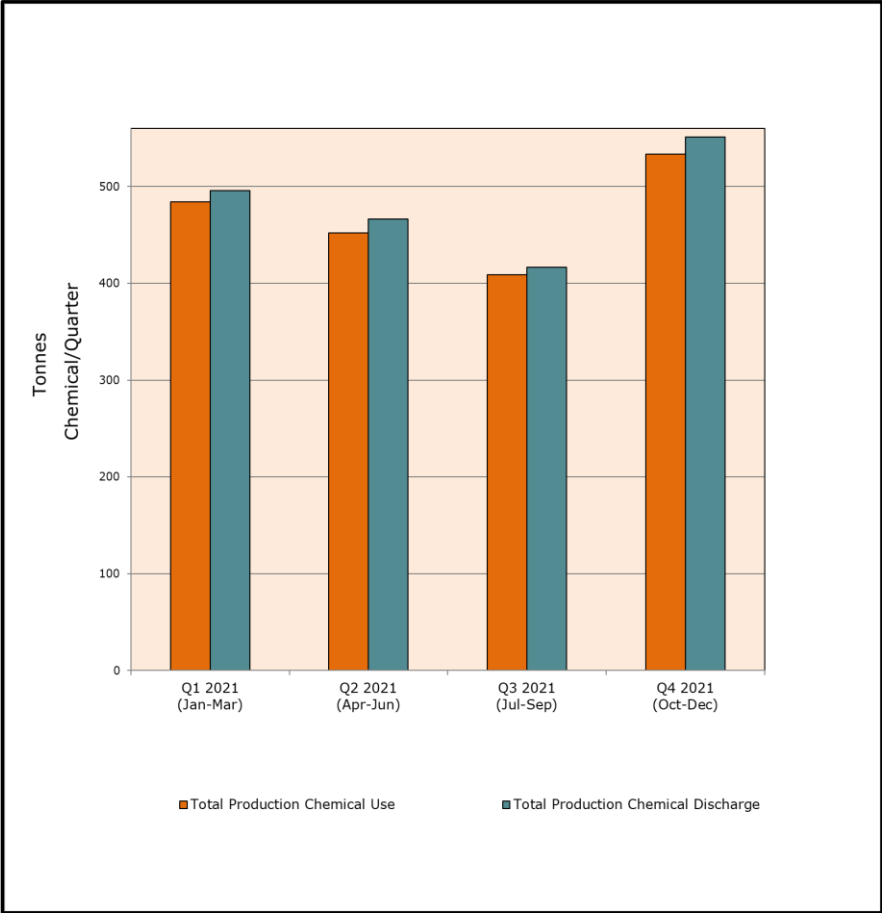


Figure 7: Offshore Chemicals Use and Discharge

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During the 2021 sodium chloride brine was used in Douglas well intervention operations, as the pressure testing medium, and discharged to the marine environment. However, sodium chloride brine is a PLONOR (poses little or no risk to the environment) chemical, hence an impact from the discharge is insignificant. *Figure 8* shows the use and discharge of well intervention chemicals for 2021 Douglas well operations.

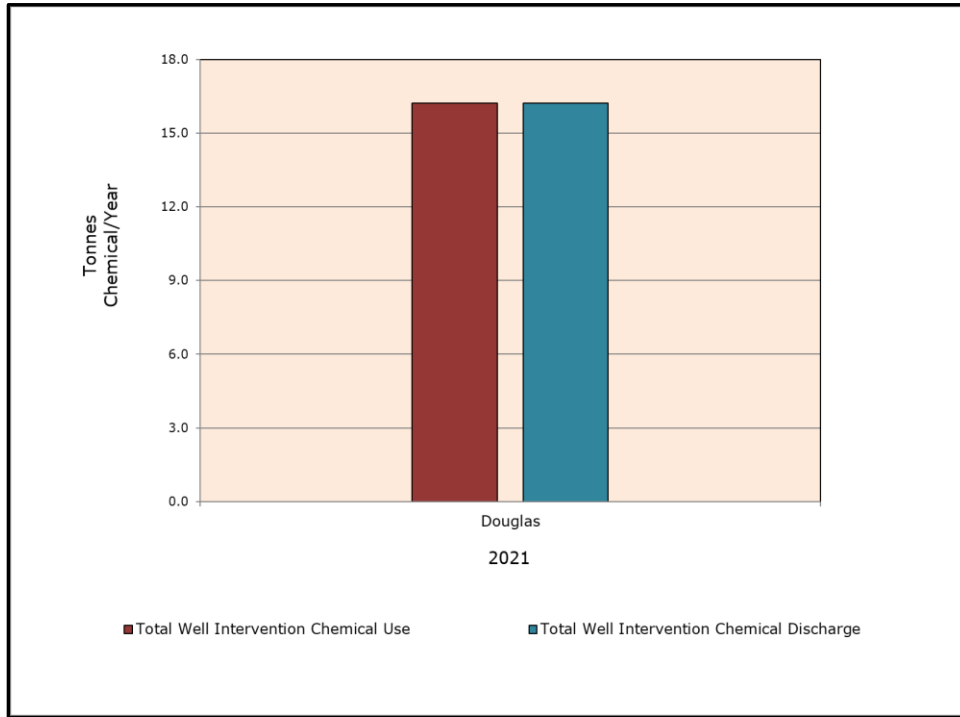


Figure 8: Douglas Well Operations Chemicals Use and Discharge

There were a total of two minor chemical releases offshore in 2021 (both hydraulic fluid from the Lennox platform). There were no oil releases. These chemical losses were reported to OPRED via the PON1 system, and were assessed to be minor with negligible environmental impact, see *Figure 9*

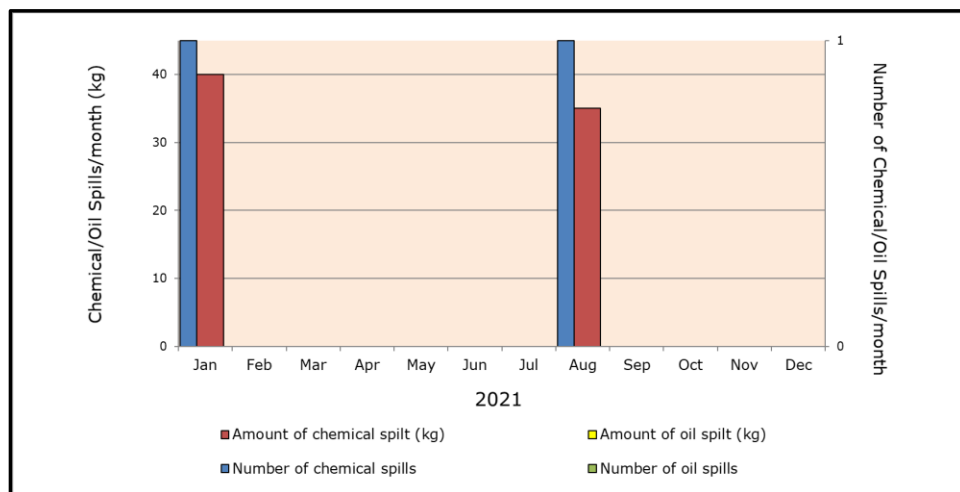


Figure 9: Spills to Sea (PON 1 Reports)

Waste generated offshore fluctuates depending on the activities ongoing at sites. *Figure 10* shows offshore waste generated in 2021 for Liverpool Bay as well as the fate of each waste group.

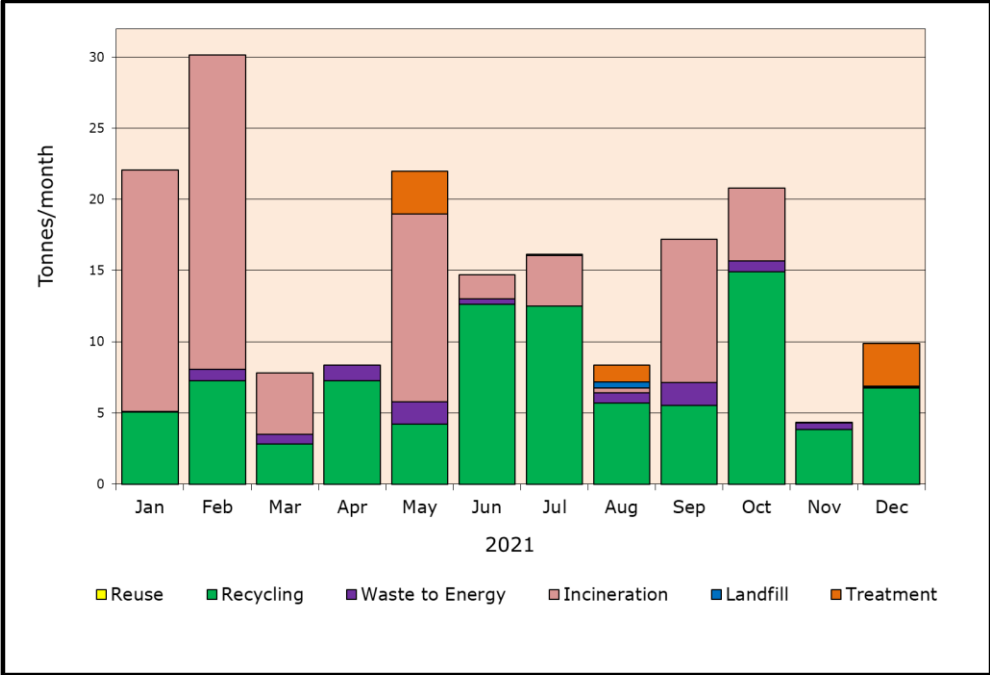


Figure 10: Liverpool Bay Offshore Waste Management

6. Eni UK Carbon Capture and Storage (CCS)

Liverpool Bay

Eni UK operates a number of gas fields in Liverpool Bay, which are approaching the end of their productive lives. These fields have an estimated carbon dioxide (CO₂) storage capacity of over 170 million tonnes, and a 2016 study by the Energy Technologies Institute cited one of these fields, the Hamilton Gas Field, as the lowest cost UK CCS option, on the basis of the overall project life. As such, Eni applied for a licence for the appraisal and storage of CO₂ in the Liverpool Bay area. This licence (CS004) was awarded by the Oil and Gas Authority (OGA) on 8th October 2020.

Eni’s CCS plans foresee the reutilisation of three of the Liverpool Bay depleted gas fields as CO₂ reservoirs for injection and storage (the Hamilton, Hamilton North and Lennox Gas Fields). This proposed CCS development would be an integral part of the wider HyNet North West energy project, designed to put the North West England and North Wales region at the forefront of the UK’s journey to a Net Zero future. It will use a combination of hydrogen energy, in place of fossil fuel gas, and CCS to meet the challenge of reducing emissions of greenhouse gases from industry, homes and transport by 2050, starting in the mid-2020s.

The UK government has committed to deploy Carbon Capture, Usage and Storage (CCUS) in a minimum of two industrial clusters by the mid-2020s, and four by 2030 at the latest. CCUS will be crucial for

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industrial decarbonisation, low carbon power, engineered greenhouse gas removal technologies and delivering the UK's target of 5 gigawatt hydrogen production capacity by 2030. In October 2021, the Minister of State for Business, Energy and Clean Growth confirmed that the HyNet Consortium Cluster will be one of the track 1 clusters for the mid-2020s and will be taken forward into track 1 negotiations. This acceptance will allow Eni and the supporting entities of Hynet to proceed as one of the first UK industrial clusters to apply CCS, to materially reduce carbon emissions in the UK.

Hewett

The reuse of the Hewett Field platforms and infrastructure, including pipelines, has been considered for a future carbon capture and storage (CCS). Cement used for wells decommissioning on the main reservoir is CO₂ resistant, facilitating the reservoir's use as part of a potential CCS project in the future.



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