

one dyas

2022

Annual Environmental Report



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1 Welcome from the COO

“This year has heightened the UK government concerns over energy supplies and the price of gas and power for the coming years. During 2022 ONE-Dyas has played a part in the UK drive towards sustainable, secure and affordable supply of energy.”

Environmental, Social, and Governance (ESG) topics are high on the ONE-Dyas agenda and a key area of attention in managing our assets. During 2022, we have continued our efforts to further reduce Scope 1 and 2 emissions across our portfolio through operational improvements and energy efficiency measures. In addition, ONE-Dyas has started developing its approach to addressing Scope 3 emissions from both its supply chain, as well as the emissions associated with the use of its products.

As we strive to make a positive impact on biodiversity, our ONE-Dyas electronic seabird management portal went live in 2022, and enabled us to keep a close eye on the nesting Kittiwakes on the Sean Romeo platform. We estimated six chicks may have been reared from nine nests on the platform adding to the population of this threatened and declining species. Several of the crew undertook training, and a camera is planned to continue the monitoring in 2023 with more information included further in this report.

The Sean Decommissioning Plan (DP) was approved by Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) in July. Linked to this the Sean location was included for licensing in Area 2 as part of the first UK carbon storage licensing round.

This was identified due to the geology, existing infrastructure, links to Bacton and the proposed energy hub and co-location with offshore wind. Licence award announcement is expected in April 2023.

ONE-Dyas believes Carbon Capture and Storage (CCS) has the potential to address Scope 3 emissions and contribute materially towards the objectives of the energy transition strategy of the UK. While the outlook for CCS in the North Sea remains positive, the CCS market is in its early stages and further work and collaboration are needed to mature these opportunities.

The ONE-Dyas OPITO aligned OPCOM programme was fully rolled out with competencies including industry requirements for Environmental legislation, monitoring and reporting. Successful completion has been awarded to a number of operator technicians during 2022.

The end of the year saw the planning and permit application for drilling of the appraisal well in block 42/15a Crosgan prospect in early 2023. The results will be vital in any decisions to develop the field in line with the North Sea Transition Deal. If successful this would be achieved by electrified offshore facilities and CO2 removal and injection. The reservoir fluids, would be used domestically, thus contributing to the security of supply in the UK during the transition to Net Zero.



Peter Nieuwenhuijze

Peter Nieuwenhuijze

Chief Operating Officer -
ONE-Dyas BV

2 Introduction and Scope

This annual statement is issued in line with the objectives of OSPAR Recommendation 2003/5 to Promote the Use and Implementation of Environmental Management Systems by the Offshore Industry, as implemented by the UK Department of Business, Energy and Industrial Strategy (BEIS). In accordance with BEIS guidance on Environmental Management Systems (EMS), operators on the UK continental shelf (UKCS) must maintain a certified EMS, including the requirement to produce an annual public statement covering all offshore operations undertaken in 2022.

This report provides:

- A description of the UK assets and activities
- An overview of the ONE-Dyas Environmental Management system
- An overview of the main 2022 activities included in the report
- Details on the key environmental aspects related to ONE-Dyas operations
- A summary of the 2022 performance in relation to legislative requirements and environmental objectives and targets

ONE-Dyas has operated and non-operated assets in the UK, Dutch and Danish sectors in the North Sea. In the UK it has non-operated shares in Buzzard and Gead assets (with Nexen), Cladhan (with Taqa), Breagh (with INEOS), Mariner (with Equinor) and also Elgin-Franklin (with Total Energies). In 2022 ONE-Dyas sold its shares in its operations in Norway and Gabon.

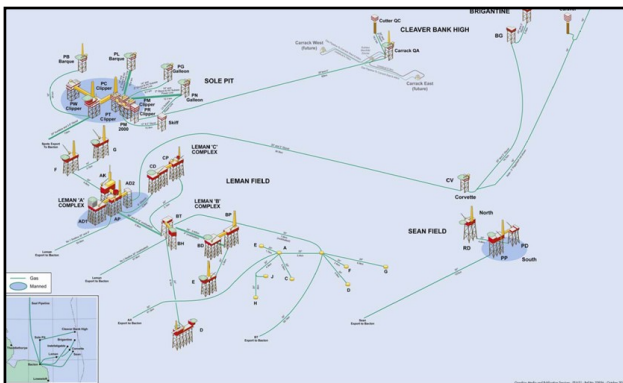


Figure 1:
Location of Sean Assets

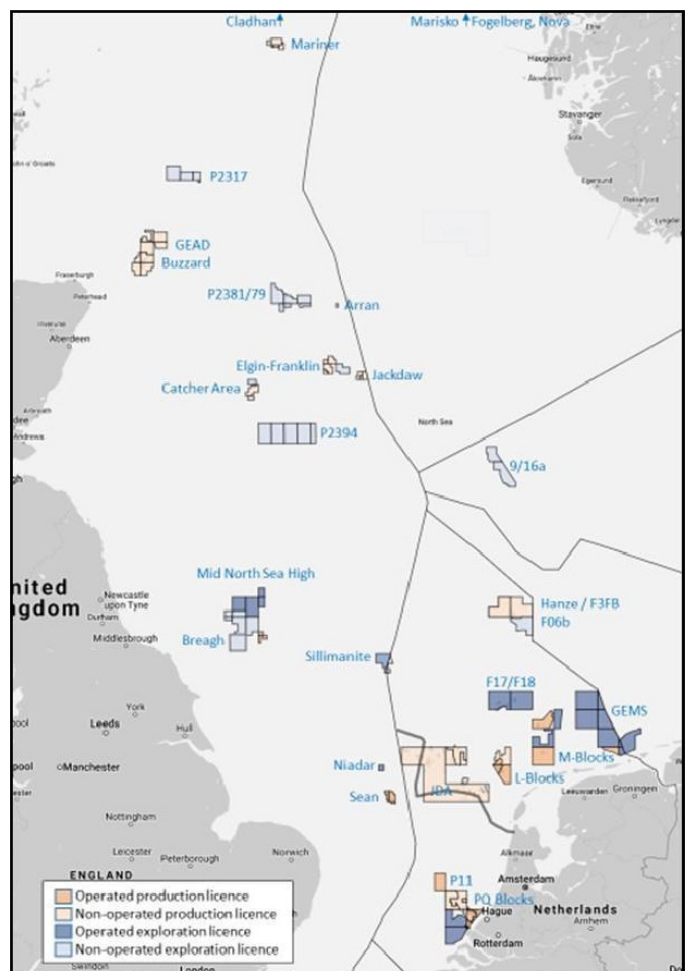


Figure 2:
Over view of ONE-Dyas
assets in the Dutch and
UK North Sea

3 ONE-Dyas UK 2022 Production

The **Sean Papa (PP & PD)** installation is located in the southern part of the UK sector of the North Sea, in block 49/25a at approximately 94 km from the nearest point on the Norfolk coast. It is a Normally Manned Installation (NMI) comprising two fixed bridge linked platforms; a wellhead platform (PD) and a production and accommodation platform (PP). Gas from Sean Papa is exported to the Bacton terminal in Norfolk via a dedicated 30" pipeline.



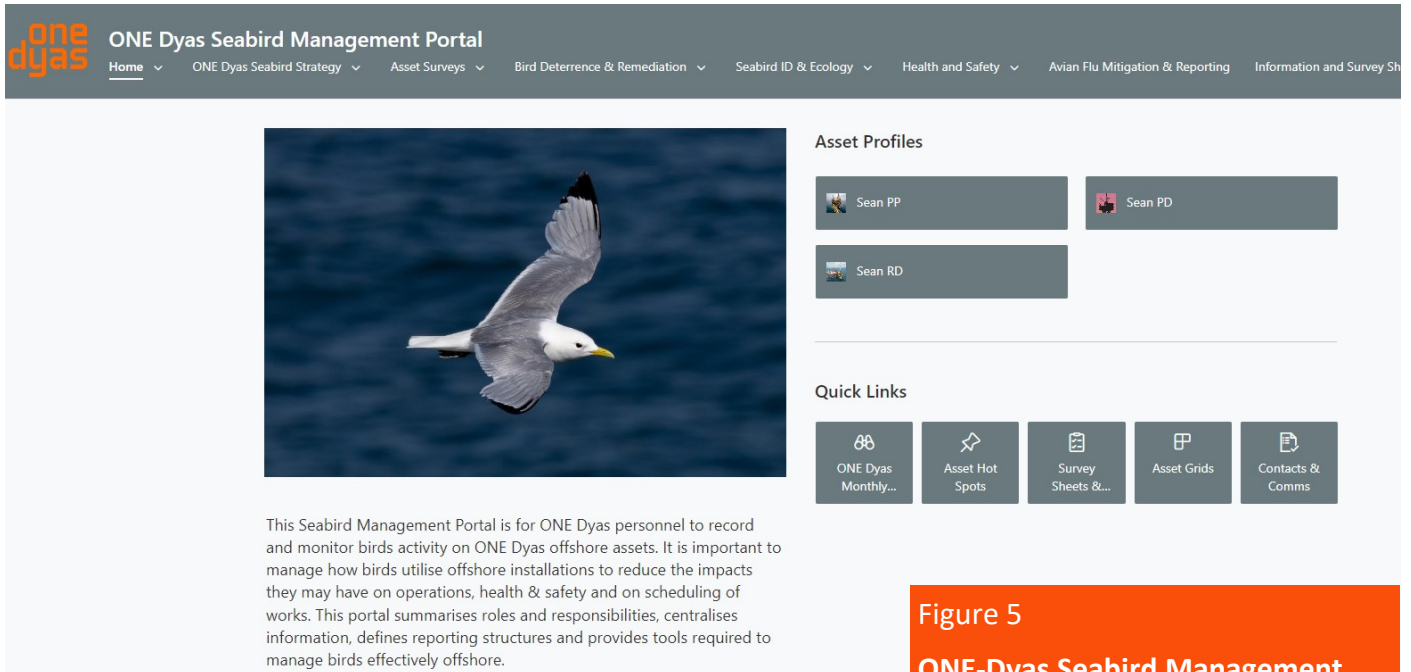
Figure 3:
Sean Papa (PP & PD)

The **Sean Romeo (RD)** is approximately located at 4.5 km of the Sean PP & PD in block 49/25a and is connected with the Sean PP & PD through a 20" duplex pipeline. The installation stands in approximately 30 metres of water and is situated 94 km from the Norfolk coast. The Sean Romeo has been converted to a Not Normally Manned installation (NNMI). The gas from Sean Romeo wells was transported to Sean Papa for processing before export to Bacton.



Figure 4:
Sean Romeo (RD)

There were no drilling activities for ONE-Dyas in the UK continental Shelf during 2022.



This Seabird Management Portal is for ONE Dyas personnel to record and monitor birds activity on ONE Dyas offshore assets. It is important to manage how birds utilise offshore installations to reduce the impacts they may have on operations, health & safety and on scheduling of works. This portal summarises roles and responsibilities, centralises information, defines reporting structures and provides tools required to manage birds effectively offshore.

Figure 5

ONE-Dyas Seabird Management Portal

ONE-Dyas Seabird Management

During 2022 ONE-Dyas worked with Xodus to put in place a seabird management plan under the Conservation of Offshore Marine Habitats and Species Regulations. Under these regulations it is an offence to deliberately injure, kill or disturb any wild bird or take, damage or destroy a nest or eggs. Difficulties can arise during general maintenance and also during decommissioning and preparatory works such as well plug and abandonment activities. Particularly when these are scheduled during the bird breeding season.

During the vessel survey completed in May 2022 by our Ornithologist, it was found that ONE-Dyas Romeo NNMI platform had Kittiwakes nesting on the north side. Over the breeding season trained offshore crew members monitored the nests and birds until they departed in October. The monitoring data collected is all reported in our ONE-Dyas Seabird management portal. We estimated six chicks may have been reared from nine nests on the platform adding to the population of this threatened and declining species.

We will continue to monitor our Seabird activity over the coming years aided by a camera. Understanding the Kittiwakes nesting behaviour (when they are already protected) is important to plan our future activities in a way that mitigates any negative impact on the species.

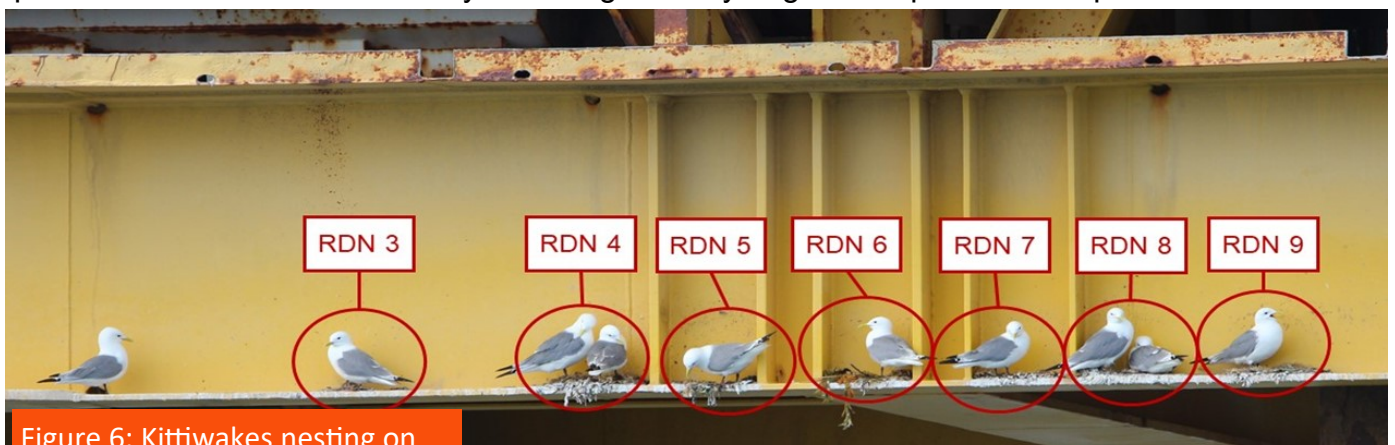


Figure 6: Kittiwakes nesting on the Romeo Not Normally Manned Installation (NNMI)

5 ONE-Dyas Environmental Management

The ONE-Dyas Environmental Management System (EMS) comprises of strategic corporate documents cascading down to UK and Sean specific documents and procedures. The UK management system was first successfully certified to the ISO14001:2015 standard in December 2017. Surveillance audits have been completed annually since then with the last one in June 2022 also covering ISO45001 Occupational Health and Safety.

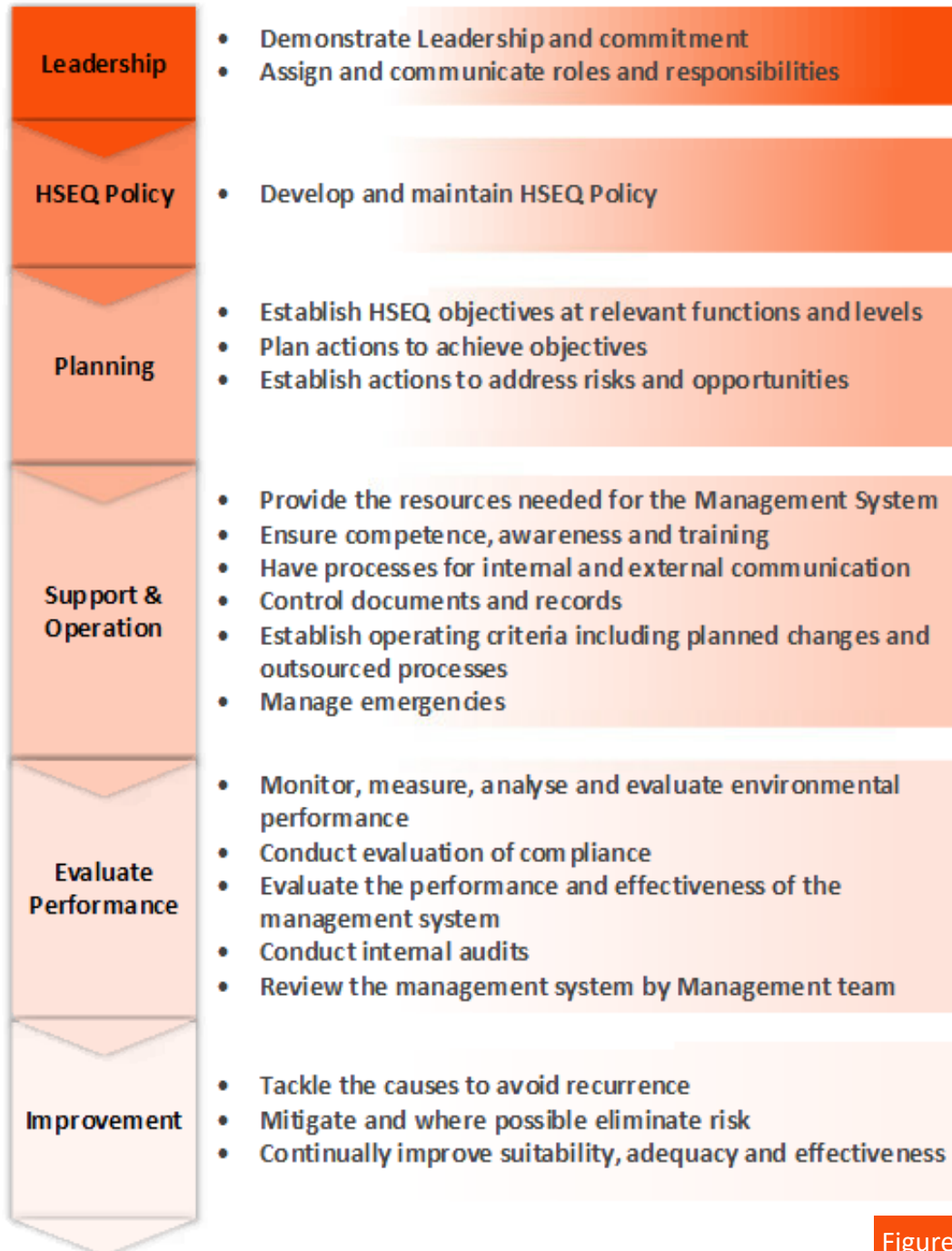


Figure 6:

Structure of ONE-Dyas Environmental Management System

The ONE-Dyas EMS provides a framework to protect the environment and respond to changing environmental conditions in balance with socio-economic needs. It specifies the systematic approach that enables ONE Dyas to operate, explore and develop oil and gas production assets in compliance with all relevant legal and stakeholder requirements.

6 Health, Safety, Environmental and Quality Policy

The Corporate ONE-Dyas HSEQ policy covers all ONE-Dyas activities in the UK, the Netherlands and in Norway and reflects the commitment of the owners and the management team to develop and operate oil and gas production in a sustainable way. To protect the health and safety of all persons involved and to prevent pollution and to minimise impact on the environment. ONE-Dyas believes that a responsible and pro-active management is a key factor in ensuring business success.



Commitment

ONE-Dyas B.V. and its subsidiaries are committed to conduct operations in a safe and sustainable way, to minimise the impact on the environment and to protect the health, safety and wellbeing of employees, contractors and the public.

All employees, consultants and/or contractors working for ONE-Dyas are responsible for achieving our HSEQ goals, through compliance with our HSEQ standards, requirements and ambitions.

Personnel is authorised and expected to take action and stop unsafe work and to report incidents, near-misses and sub-standard conditions.

Pro-active HSEQ and risk management is an integrated part of all our activities and is considered a key factor in our licence to operate.

Implementation

To implement our commitments we will:

- Maintain a systematic HSEQ Management System, developed to ensure compliance with applicable laws and regulations;
- Develop an annual HSEQ program, with tangible goals and measurable targets, to assure continuous improvement of our HSEQ performance;
- Conduct twice a year a compliance and effectiveness review of our HSEQ Management System;
- Perform risk assessments for all operated and non-operated assets and ensure effective controls and mitigations are in place, to minimise the risk of harming people, the environment, our assets and company reputation;
- Perform internal and external risk-based audit and verification activities;
- Investigate incidents in order to identify direct and indirect causes. Results of investigations will be shared openly;
- Actively co-operate with the industry and authorities, to further enhance HSEQ standards and performance.

Chris de Ruyter van Steveninck
CEO

Figure 7:

ONE Dyas Health, Safety, Environmental and Quality Policy

7 Environmental Aspects

As part of the process of establishing, implementing and maintaining the EMS, ONE-Dyas has identified the significant environmental aspects of its onshore and offshore production and drilling activities and the environmental performance associated with these has been reported.

7.1 Spills to sea

Non permitted releases of oil or chemicals to the sea must be reported using a Petroleum Operations Notice 1 (PON1) which is submitted to Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) on the IRS electronic Portal. This notice provides details of the spill and actions taken to prevent a reoccurrence. ONE-Dyas reports and investigates any potential spills to sea and tracks and manages the actions on the Synergi system. Exercises to prepare in the event of a spill are completed annually.

7.2 Oil in Water

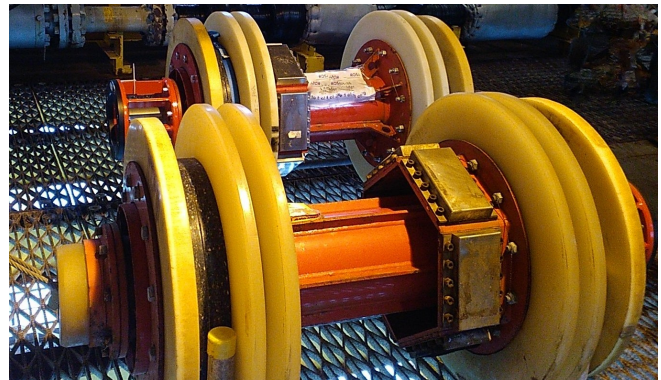
Produced water from wells associated with gas production is regulated by OPRED. ONE-Dyas has a permit to re-inject produced water into the A-2002 well on the Sean PD installation. Volumes of water and concentrations of oil are metered, monitored and reported on the Environmental and Emissions Monitoring System (EEMS) system. Drainage water discharged from the skimmer tank is also tested for oil content and reported.

7.3 Offshore Chemicals

ONE-Dyas holds a chemical permit for chemicals associated with oil and gas production activities on the Papa and Romeo. This is regulated under the Offshore Chemicals (Amendment) Regulations 2011. The annual use and discharge of these chemicals for production operations and drilling activities is reported to OPRED via EEMS.

7.4 Waste

ONE-Dyas manages waste in line with the waste management plan and waste hierarchy. Waste is segregated on the installations to help minimize the quantity of waste shipped and disposed of to landfill, and to identify reuse and cost saving opportunities.



7.5 Atmospheric Emissions

Sean Papa atmospheric emissions are highly regulated and reported under several pieces of associated legislation. This includes venting, Carbon Dioxide (under United Kingdom Emissions Trading Scheme legislation) and other combustion gases including Nitrous Oxides, Sulphur Dioxide, Carbon Monoxide, Methane and Volatile Organic Compounds. In addition, refrigeration gases are regulated, monitored and reported annually.

8 Environmental Objectives and Targets

A description of the extent to which the environmental objectives and targets of ONE-Dyas 2022 have been achieved

2022 Environmental Objective	Achievement
Improve knowledge and refine individual sources of methane emissions on the platform	✓ Sources of methane have been identified in line with OGMP 2.0
Investigate and implement improvements to reduce venting from Reboiler strip gas flow	✓ Reboiler strip gas flow has been identified as not required
Document Methane and venting management plan	✓ Plan completed and awaiting final Process Flow Diagrams
Investigate the feasibility of Carbon Dioxide reduction and energy savings options for turbine emissions	- This is ongoing in line with Decommissioning energy planning
Implement monitoring and electronic Seabird Bird management plan	✓ Implemented, more information on page 7



9 Spills to Sea

One new spill to sea occurred during 2022 from the Sean Papa platform for which a PON 1 was issued to OPRED. This was reduced from three new spills in 2021. The 2017 incident is ongoing and the quantity of fluid lost is updated to the regulator on a monthly basis and the quantity lost was reduced by 82% from 2020. Actions for both incidents have been instigated and tracked on the Synergi system.

Date	Type	Quantity	Description
02-10-2022	Hydraulic Fluid	45 kg	From the Sean Papa. The main export valve closing hydraulic system, had a pin-hole in the tubing. A small quantity was lost to sea through an opening in the deck.
Ongoing from 17/02/2017	Oceanic subsea hydraulic fluid	53 kg during 2022	From the Sean Papa. This leak is ongoing from 2017 from a subsea hydraulic connection to the Bacton export pipeline SSIV. This has been monitored and the PON1 updated on a monthly basis. Lowering the pressure has reduced the leak from 675 kg in 2020 to 299 kg in 2021 and to 53kg in 2022.



10 Oil in Water

All produced water originating from the Sean Papa and Romeo wells is physically treated and re-injected. There are no re-injection limits applied to the oil in water content. No produced water was discharged during 2022, volumes of water and oil re-injected during 2022 (as reported monthly on EEMS) are shown in Figure 8. Produced water volumes increased in November due to production from well 2010 which is a high water producer. The meter used for recording volumes was changed to a more accurate Coriolis meter.

The skimmer installed to replace the lost caisson from the PD platform, has the facility to sample the drainage water discharged. These results as reported in Figure 9 are all markedly below the 40 mg/L discharge limit, some missing samples were the result of little or no flow.

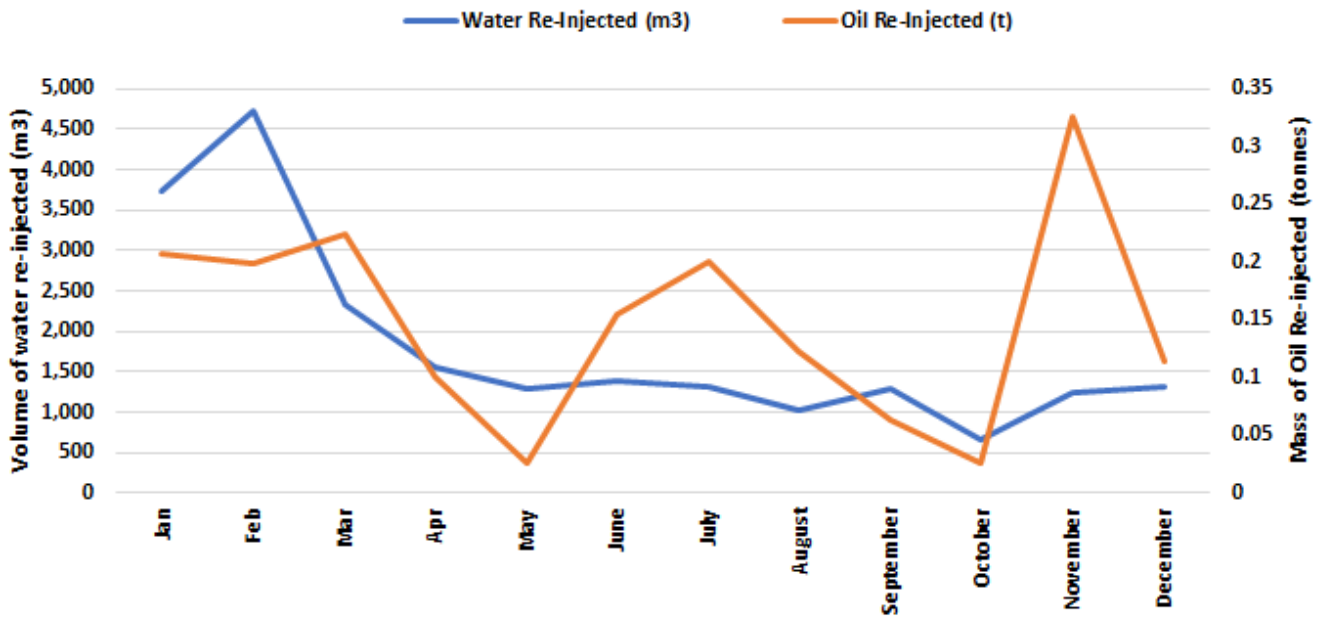


Figure 8:

Volume of produced water and mass of oil re-injected

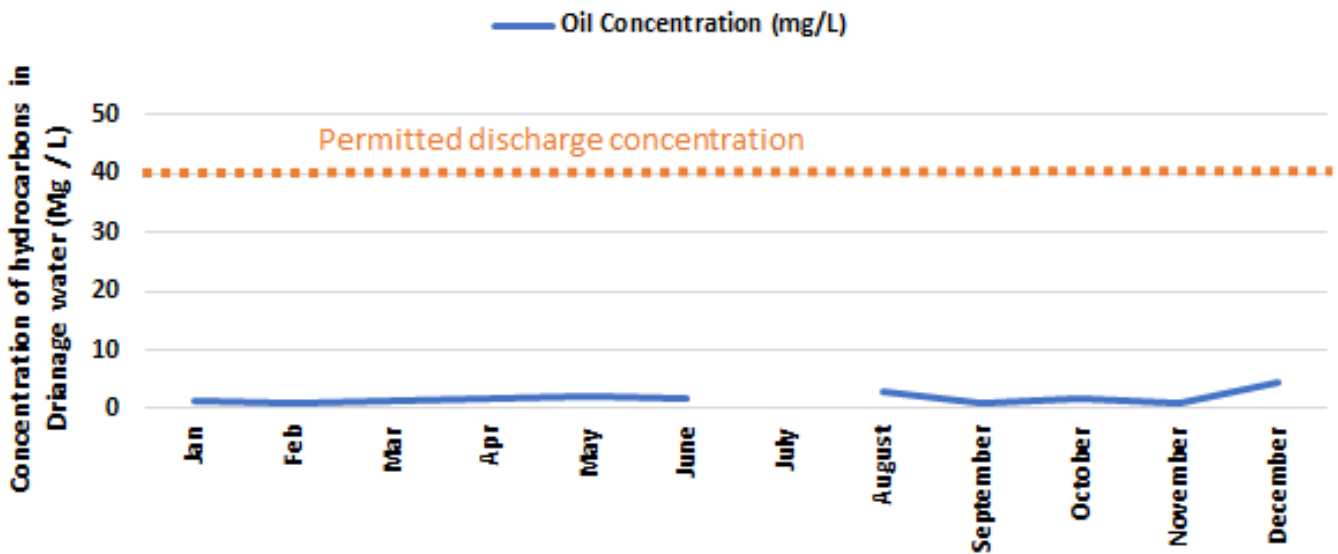


Figure 9:

Oil in water concentration in drainage water

11 Production Chemicals

Total use and discharge of chemicals (as reported in EEMS for 2022) is reported below (Figure 10) according to the label and ranking categories. Overall chemical use decreased from 2021 (from 57,000 kg to just 6,000 kg) due to minimal use of annulus fluid with Brine. Most chemical use was for demulsifier which is not discharged. The total chemical discharge decreased substantially (by 98%) in 2022. This was the result of reducing the loss of annulus brine. The use of Oceanic (category D) added to the Sub Sea Control Valve was reduced again by 82% in 2022.

The main discharged chemicals were from detergents used for cleaning.

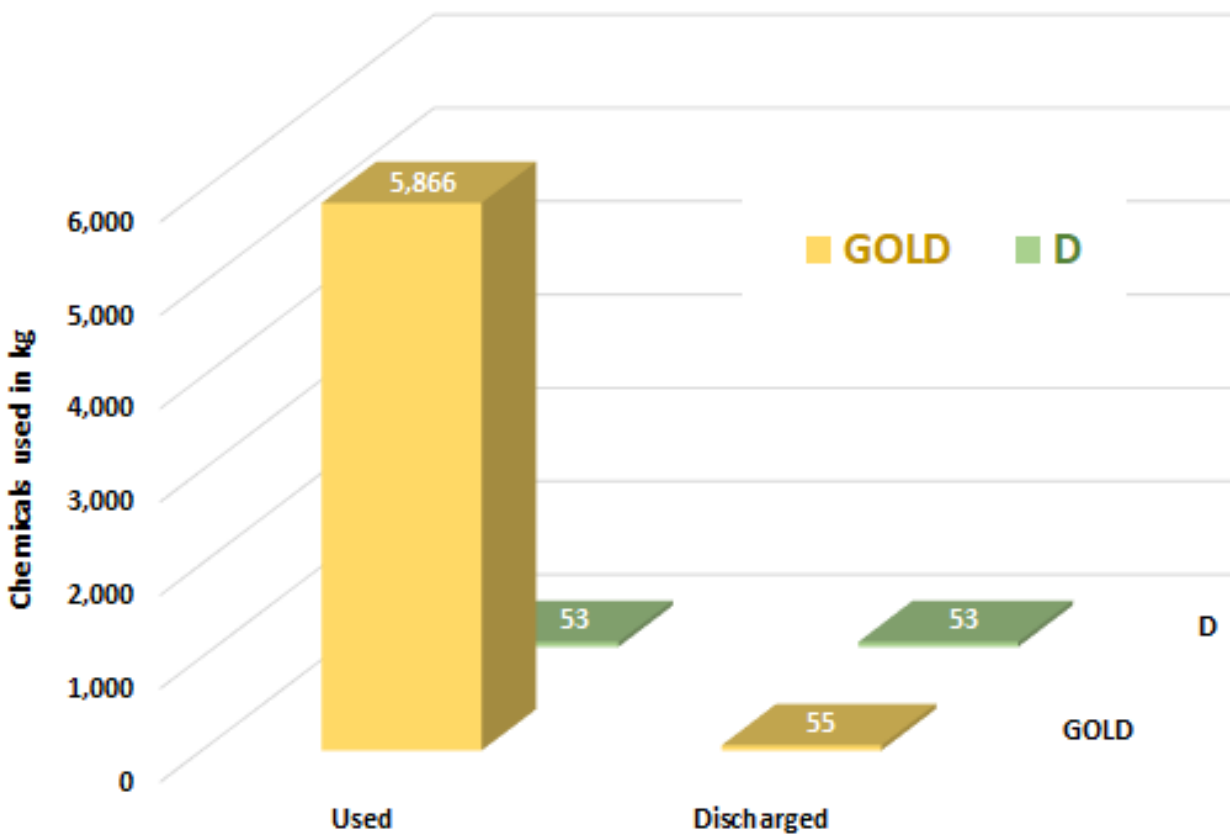
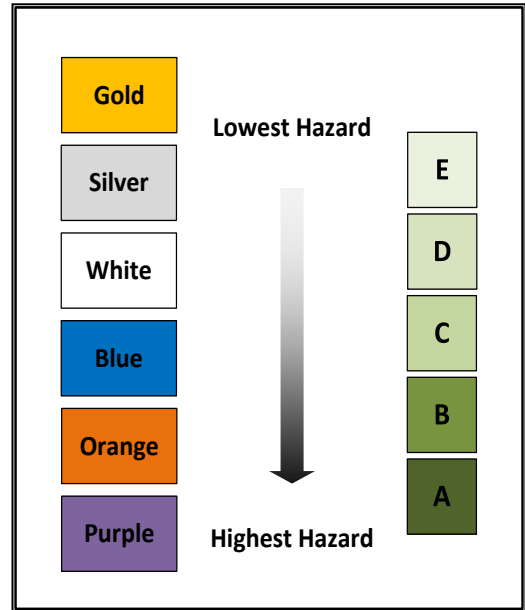


Figure 10:
Production Chemicals used and discharged from the Sean Platform in 2022

12 Production Waste

The Sean Papa and Romeo platforms shipped a total 92 tonnes of waste in 2022, which is a decrease from 2021 (153 tonnes). This was mostly shipped to Den Helder in the Netherlands for treatment. Tonnes of waste have been charted according to type and disposal route. The types of waste remained similar to last year. The decrease in waste was due to a decrease in waste from cleaning less vessels in 2022. General waste remained similar to last year. Segregated recyclables decreased and so did general waste in 2022. Proportions of waste types (Figure 11) are relatively similar to 2021 with the exception of recycling which has decreased, but there was some reuse of materials in 2022. No waste was disposed to landfill again in 2022 (Figure 12)

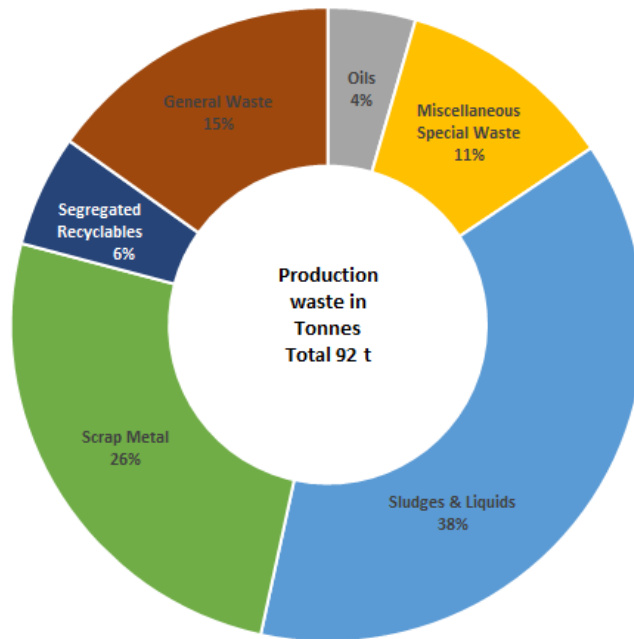


Figure 11:
2022 Sean production waste in tonnes categorised by waste type

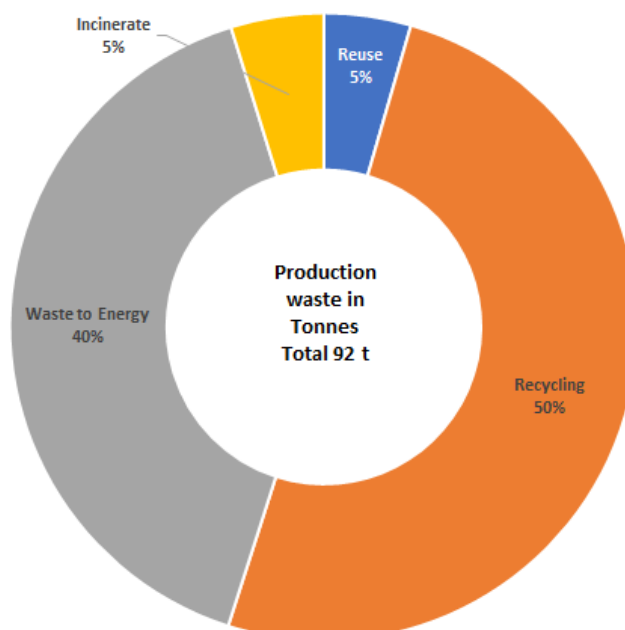
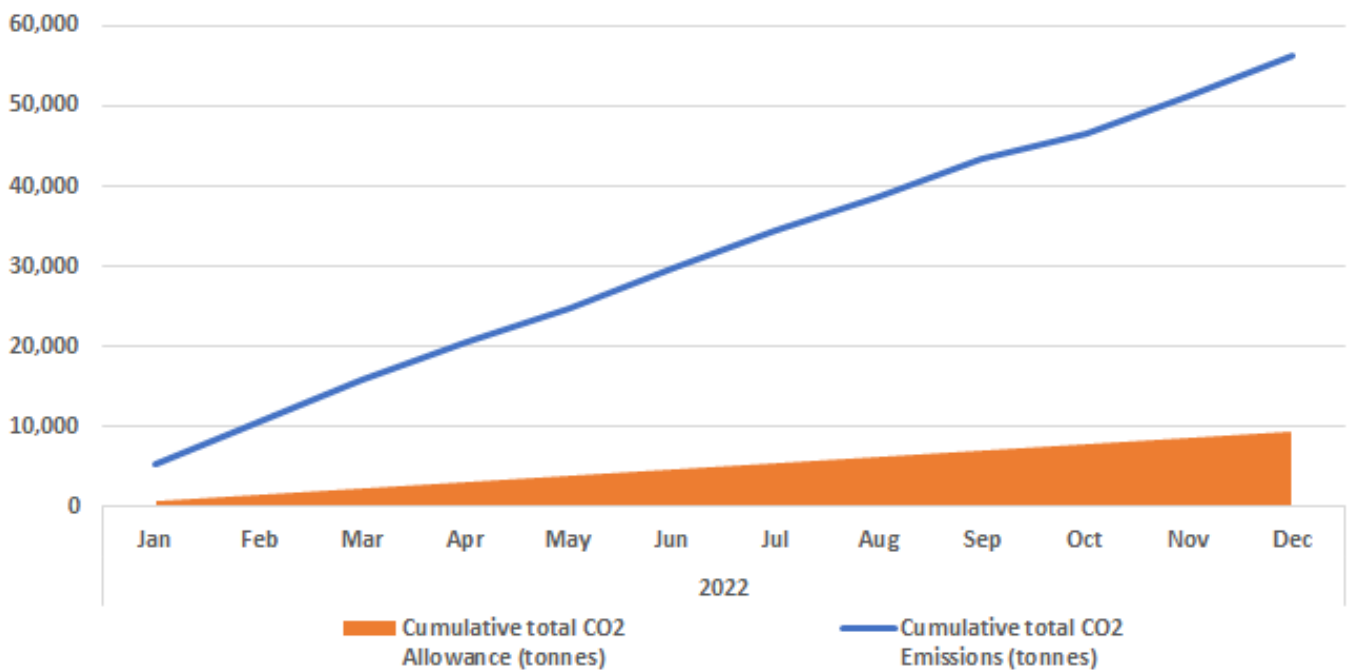


Figure 12:
2022 Sean production waste in tonnes categorised by disposal route

13 Carbon Dioxide

Carbon Dioxide emissions are strictly monitored and reported for UK-ETS purposes. On the Sean Papa, 56.3 thousand tonnes of Carbon Dioxide was emitted from fuel gas and diesel use in 2022. This was a decrease of 12% from 2021 (63.7 thousand tonnes) due primarily to a decrease in fuel consumption in the Solar compressor due to decreasing production flows in 2022 and also in changes to the operation.

The monthly accumulated Carbon Dioxide emissions from all combustion equipment on the platform are presented in Figure 12 below. Carbon allowances were decreased again in 2022 due to a reduction in Activity levels.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cumulative total CO2 Emissions (tonnes)	5,294	10,638	15,742	20,556	24,826	29,898	34,545	38,600	43,521	46,468	51,241	56,293
Cumulative total CO2 Allowance (tonnes)	779	1,558	2,337	3,115	3,894	4,673	5,452	6,231	7,010	7,788	8,567	9,346

Figure 13

2022 Sean Carbon Dioxide emissions and allowances in tonnes

14 Air Emissions

Emissions reported on EEMS under permit issued under the Offshore Combustion Installations (Pollution Prevention and Control) Regulations 2013 are displayed in Figure 14 below. These are broken down into emissions from diesel combustion and fuel gas combustion. The largest proportion of emissions are for Nitrous Oxides (NO_x) emitted from the combustion of fuel gas and diesel. Emissions increased in 2022 from fuel gas and decreased from diesel due to increased production up time in 2022.

Emissions vented under the Energy Act 1976 are included, which show the highest contribution from Methane (CH₄) emissions. 2022 Sean Papa venting emissions data shows a decrease in methane emissions from 379 tonnes in 2021 to 301 tonnes in 2022. This decrease is primarily due to a reduction of 31% in Low Pressure and High Pressure platform venting for safe operations. This was achieved through improved monitoring and a number of small operational changes and initiatives that were identified and implemented. Fugitive emissions from EEMS have been included in the graph for completeness.

There were no emissions of refrigeration gases in 2022 from the UK. This was reduced from 97.5 kg in 2021.

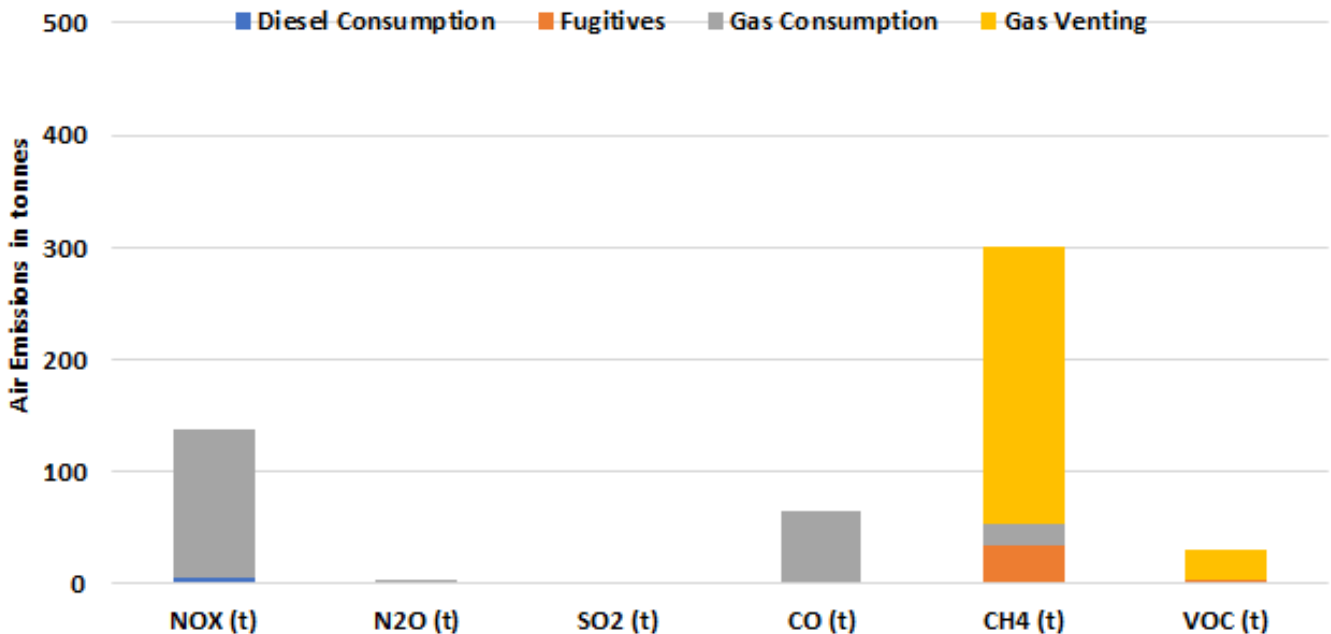


Figure 14

2022 Emissions from Sean combustion and venting

ONE-Dyas has developed the environmental objectives below for 2023

- Measurement and confirmation of venting through drone measurement
- Reduce measurement and monitoring uncertainty for methane sources
- Further reduction in methane emissions and alignment with OGMP 2.0 standards
- Complete review of energy savings opportunities
- Actively participate in Southern North Sea Net Zero initiatives such as the Gas Transition Sector Council (GTSC) Net Zero Workstream and involvement in the Bacton Energy Hub discussions
- Complete environmental permit training for new operators >95% trained by end of 2023
- Continued implementation of the seabird management programme



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