



Annual Environmental Statement 2023

Petrodec UK Ltd.

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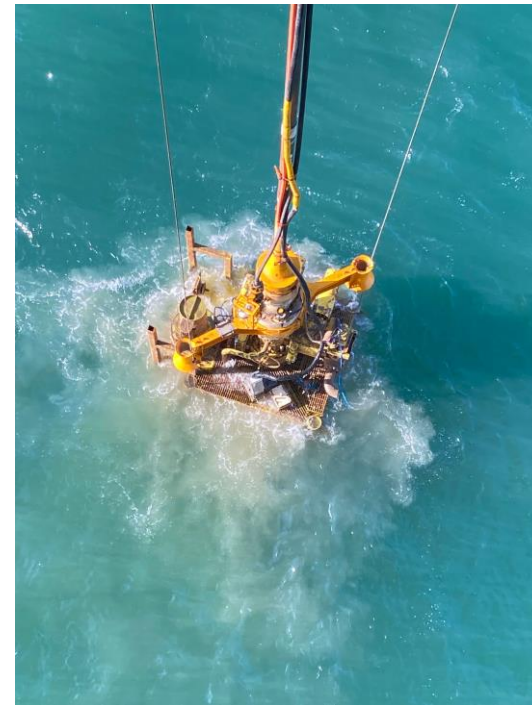


Figure 1: Removing subsea well structure from Gawain in 2023

Introduction

For Petrodec UK Ltd., 2023 was an exciting year. We performed our first subsea well decommissioning at Gawain, utilising our HAEVA jackup rig. In this challenging project, we successfully plugged and abandoned three wells and removed the well head protective structure (WHPS). On the Amethyst A2D, after the hydrocarbon safe campaign of 2022, the ERDA completed the topside decommissioning project by removing the platform and transporting it to shore for waste recovery. Over 99% of the decommissioned structures from Amethyst A2D and Gawain was recycled, meeting our environmental objective of >99% recycle rate. Furthermore, both projects were carried out with the utmost care for the environment throughout the entire project life cycle, with the support of our Environmental Management System.

Although Petrodec was founded in 2019, it was not until 2022 that the North Sea Transition Authority (NSTA) appointed Petrodec as operator. As 2023 was our second year as an Operator, we are able to provide environmental performance data for two consecutive years, and the status of achieving our environmental objectives.

This report presents the management of environmental aspects during our operations only when we were the operator. At other times, our rigs are engaged as sub-contractors in well intervention projects. These activities are not accounted for in this report.

This Annual Environmental Statement is prepared in accordance with OSPAR Recommendation 2003/5 to Promote the Use and Implementation of Environmental Management Systems (EMS).

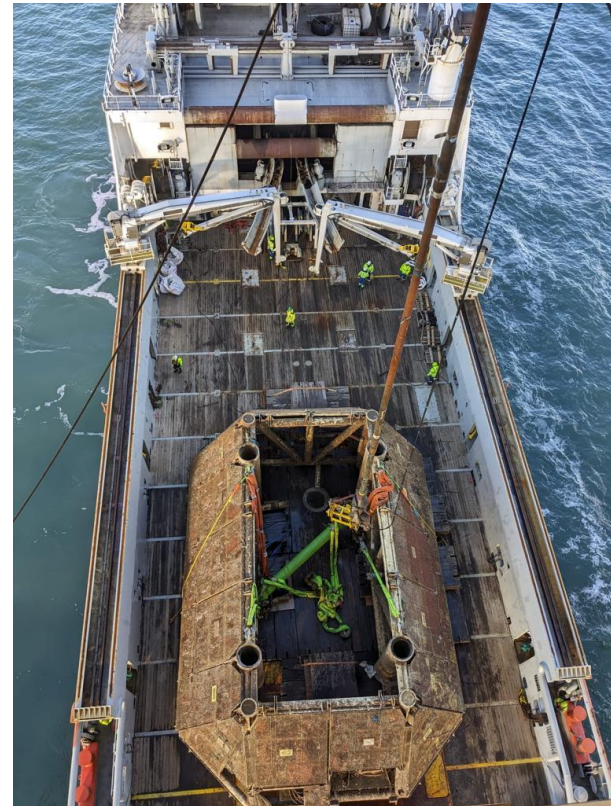


Figure 2: The decommissioned Gawain WHPS. After removal from the seabed, it was loaded into a supply vessel for transportation to the onshore waste handling facility.

About Petrodec

Petrodec UK Ltd began in 2019 as a Decommissioning Contractor, to provide clients with specialist services, with in-house expertise for Plug and Abandonment (P&A) of wells, making topsides Hydrocarbon Safe (HCS), and removing offshore structures, such as topsides, and their transport to onshore facilities for waste recovery. The decommissioning services are supported by two jack-up rigs, the ERDA and HAEVA. Alongside decommissioning, the ERDA and HAEVA can be utilised to perform well intervention projects.

Since its appointment as an Operator in March 2022, Petrodec offers decommissioning services with the added value of being able to take over the well and installation operatorship in advance starting and during a

decommissioning project. As Operator, the company has the capacity to manage regulatory compliance of the safety cases and environmental permitting, alongside the decommissioning engineering and execution.

Petrodec is registered in London and has its operational headquarters in Hoofddorp, the Netherlands.



Figure 3: Timeline of Petrodec UK Ltd

Jack-up Rigs

ERDA



Key Capabilities

- ❖ Jack-up rig
- ❖ Well Intervention
- ❖ Plug and Abandonment
- ❖ Hydrocarbon Safe
- ❖ Topside Skidding

HAEVA



Key Capabilities

- ❖ Jack-up rig
- ❖ Diving support
- ❖ Well Intervention
- ❖ Plug and Abandonment
- ❖ Hydrocarbon Safe

Petrodec currently has two jack-up rigs in operation—the ERDA and the HAEVA.

As part of the company's philosophy of reuse, both units were standard drilling rigs that have been repurposed for decommissioning activities.

Both rigs are capable of Plug and Abandonment and hydrocarbon safe operations. On the ERDA, the drilling package and derrick has been removed, and replaced with a skidding system. The skidding system allows for a topside to be skidded onto the rig's main deck. The topside can then be transported on the rig to an onshore waste disposal site for environmentally safe waste recovery. The HAEVA's derrick has been retained for P&A purposes.

Decommissioning Projects and Operatorships

Since becoming operator in 2022, Petrodec has taken over the Operatorship at four locations from Perenco UK Ltd. - Amethyst A1D and Amethyst A2D, Gawain and Leman 27J. All are located in the Southern North Sea. In principle, Petrodec takes over the installation and/or wells operatorship for the duration of the decommissioning project, and then hands this back to the field owner when completed.

The decommissioning of the Amethyst A2D and Gawain was completed in 2023.

At Amethyst A2D, Petrodec conducted the P&A and made the topside hydrocarbon safe in 2022. In 2023, the topside was removed and transported on the EDRA under an International Waste Shipment consent to the Netherlands. There it was dismantled and the waste material recovered by a specialist contractor. The project was carried out with support of the ERDA Jackup rig. Petrodec remains the operator for the jacket, which is now in Jacket Dismantlement Interval status.

The decommissioning of the Gawain field was a significant milestone for Petrodec, as it was our first subsea wells decommissioning project to design and execute. The project, performed from the HAEVA Jackup rig, consisted of the P&A of three wells and the removal of the Well Head Protective Structure (WHPS). The recovered materials were dismantled at waste recovered at waste management sites in the United Kingdom.

At the end of 2023, Petrodec is the Operator of two further installations, the Amethyst A1D and Leman 27J.

The Amethyst A1D's operatorship was transferred to Petrodec in 2022. It had already been P&A'ed and made hydrocarbon safe in 2021, by its owner, Perenco UK Ltd. No further activity was undertaken in 2023. The topside was removed by Petrodec in 2024, but this is outside of the scope of this report.

The Leman 27J installation came into Petrodec's Operatorship in 2023, and decommissioning activity will commence later in 2024.



Figure 4: Decommissioning projects locations and Operatorships up to end of 2023

Table 1: Decommissioning projects and Operatorship Status up to the end of 2023

Installation	Status
Amethyst A1D	P&A and HCS – 2021 Operatorship – 2022
Amethyst A2D	P&A and HCS – 2022 Topside removed – 2023
Gawain	Subsea P&A & WHPS removal – 2023
Leman 27J	Operatorship only - 2023

Environmental Management System



Petrodec has an Integrated Management System (IMS), that incorporates Quality, Health, Safety and Environmental (QHSE) elements along with core business function such as Operations, Engineering, Supply Chain and Human Resources. It provides a uniform approach to every element of operations; Jack-up rigs, Normally Unmanned Installation (NUI) asset management, Well Plug & Abandonment (P&A) and decommissioning.

With regards to QHSE management, the purpose of the IMS is to ensure that, as far as reasonably practicable, Petrodec's activities are undertaken in accordance with Petrodec commitment to the company's QHSE policies and compliance with all relevant statutory provisions applicable to offshore operations.

The IMS framework comprises of ten key elements which together provide a roadmap to safe, environmentally conscious and reliable operations.


1. Commitment and Accountability
2. Policies, Standards and Objectives
3. Organisations, Resources and Capability (HR)
4. Stakeholders, Supply Chain and Customers
5. Risk Assessment and Control (ER and IMT)
6. Asset integrity, Maintenance, Engineering, P&A and Wells
7. Operations Plan and Procedures
8. Execution of activities (Guidance)
9. Monitoring, Reporting and Learning (Forms)
10. Assurance, Review and Improvement



Figure 5: Overview of Petrodec IMS Elements

Environmental Management System





ENVIRONMENTAL POLICY

Petrodec is operating and managing offshore support and accommodation units, providing decommissioning services and operating wells and installations through their decommissioning phase. It is the objective of Petrodec to conduct activities with respect for the environment in which we are working. Environmental care is a key element in the company's day to day activities. Therefore Environmental management is integrated in the Integrated Management System and is consistent with requirements of the ISO 14001.

OUR GOALS:
Managers are responsible and are committed to minimise the environmental impact of all Petrodec's operations and are required to set and maintain high standards and to lead by personal example. All workers, both employees and contractors, are required to comply with Petrodec's Environmental rules and procedures. All workers must intervene to STOP any non-compliant situation.

TO ENSURE LIMITED IMPACT OF ITS ACTIVITIES PETRODEC'S ENVIRONMENTAL POLICY IS TO:

- Promote Environmental Management system, as part of our Integrated Management System, and **raise the environmental awareness of our teams.**
- Maintain and develop a **common culture of environmental risk prevention** and continuous improvement.
- **Ensure commitment of all contractors and third parties** to environmental rules and procedures.
- **Comply with relevant environmental regulations** in every area where operating.
- Carry out appropriate **Environmental Impact Assessment** prior to major projects.
- **Operate in safe and prudent manner** to prevent spills, leaks or accidental discharge of polluting materials.
- Ensure our preparedness **to effectively respond to any environmental incident** through plans, regular drills and training.
- Report and investigate all environmental related incidents and **take appropriate measures** in order to prevent their recurrence.
- Obtain and maintain **an independent verified environmental management system** in line with ISO 14001.

The General Manager retains ultimate responsibility for the operation of the Integrated Management System. To assist in carrying out those duties the QHSE Manager has been appointed to source and provide specialist advice on environmental issues and to monitor the effectiveness of the Integrated Management System. Performance is monitored by management at regular intervals and by means of audits, inspections and meetings.

We learn from experience, both within the company and in the industry as a whole, setting new objectives and follow a process of continuous improvement.

Petrodec is committed to develop a high degree of environmental motivation among all personnel. Each individual undertaking Petrodec activities should recognise that they themselves are important in contributing to the effectiveness of the environmental management system.



R. Verhulst
General Manager
October 28th, 2022

PED-IMS-02-POL-002 Environmental Policy Rev. 05

Certification

In DNV in 2022, the Petrodec Integrated Management System (IMS) was certified compliant to the ISO9001, ISO14001 and ISO45001 standards. This was a significant achievement and additionally, Petrodec became the first offshore decommissioning company with ISO certification.

Environmental Policy

The Environmental Policy sets the foundation of the environmental stewardship philosophy within the business. It demonstrates the commitment from senior management for environmental protective thinking within project planning and execution.



Figure 6: Petrodec Environmental Policy

Introduction

Both the ERDA and HAEVA work throughout the year, but they are only engaged on work as an 'Operator' for a limited time during the year. At other times they are sub-contractors on well intervention projects. In 2022, only the ERDA was worked on a project as an 'Operator'; for a 112 days (approximately 15% of the combined days worked for both rigs that year). In 2023, operatorship days rose to 189 days, with both rigs acting as Operator on projects (approximately 25% of the days in 2023).

This report only provides a summary of the environmental performance of Petrodec while it is an 'Operator'. This is in line with the principle of Scope 1 emissions and helps to ensure that there is no 'double counting' of emissions or discharges. Petrodec's annual environmental performances for all activities, as operator and during non-operator projects, are presented elsewhere.

2023 was the second year that Petrodec acted as operator for decommissioning projects. It is therefore possible to present data from 2022 and 2023 beside each other, to allow for comparisons. However, it is important not to draw a strong inference of performance change between the two years. The operations each year varied in duration and activity type, and these variations in circumstances can influence the level of emissions or discharges. In the coming years, as further data is gathered, it may be practical to normalize the data and generate more meaningful comparisons.

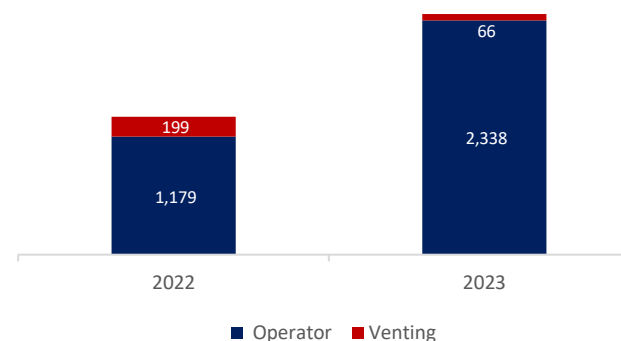
Atmospheric Emissions

Atmospheric emissions presented in this report are for Scope 1 Greenhouse Gas (GHG) emissions from the rig's engines and venting of wells and topsides during decommissioning project.

In 2023, a total of 2,404 MT CO₂eq was emitted during decommissioning operations. This was dominated by engine emissions, of 2,338 MT CO₂eq, while there was 66 MT CO₂eq from venting wells.

This represented an increase from 2022, when there was a total of 1,378 MT CO₂eq emitted. The primary reason for the increase in emission was the increased number of days operating.

There was a decrease in the venting volumes from 199 MT CO₂eq in 2022 to 66 MT CO₂eq in 2023. The reason for the decrease is attributed to half the number of wells being decommissioned in 2023 than in the previous year.



Graph 1: GHG Emissions (MT CO₂eq)

Waste Management

Operational Waste

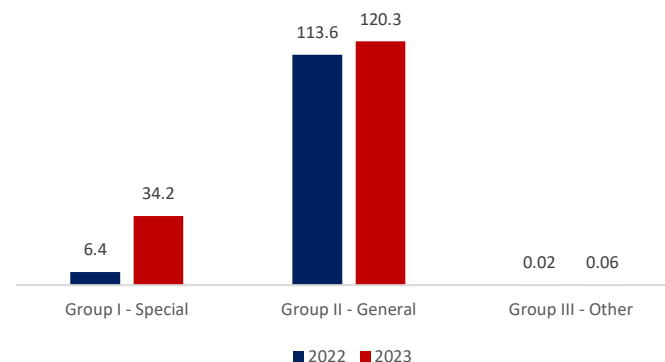
The waste generated from operating the rigs is considered operational waste and recorded separately from the disposal of the offshore structures.

Operational waste from 2023 weighed a total of 155 MT, consisting of 34.2 MT of Group 1 Special Waste, 120.3 MT of Group 2 General Waste and 0.06 MT of Group 3 Other Waste. The largest waste source was 112 MT scrap metal (part of the Group II – general waste), which was recycled.

There was an overall increase in operational waste in 2023 when compared to 2022, from 120 MT to 155 MT, resulting from an increase in the number of operating days.

Decommissioned Offshore Structure Waste

The Amethyst A2D topside and Gawain WHPS were transported to shore for waste recovery. The A2D was brought to Vlissingen, in the Netherlands and the Gawain to Fife, Scotland. Steel is the main component of these structure and is recyclable. In both cases, >99.5% of waste material was recovered. Refer to Table 3.



Graph 2: Operational Waste by Group (MT)

Table 3. Waste categorisation of decommissioned offshore structures 2023 (MT)

Waste Group	Reuse	Recycling	Incineration	Landfill
Group I - Special	0	29	0	0
Group II - General	1	1,509	3	0.4
Group III - Other	0	0	0	0
Total	1	1,538	3	0.4

Discharges

Deck Water Discharge to Sea

The discharge of deck water of the ERDA and HAVEA is permitted for each project, with an oil content discharge at a maximum of 40ppm. On both rigs, deck water is passed through an oily water separator that removes residual oils from the water prior to discharge. In 2023, the total deck water discharged was 510 m³ for the Amethyst A2D and Gawain projects. This represents an increase in total volume from 2022 (at 413 m³). In a similar matter to other parameters, the increase in discharge relates to the increase in operating days.

Flush waters and Produced Water

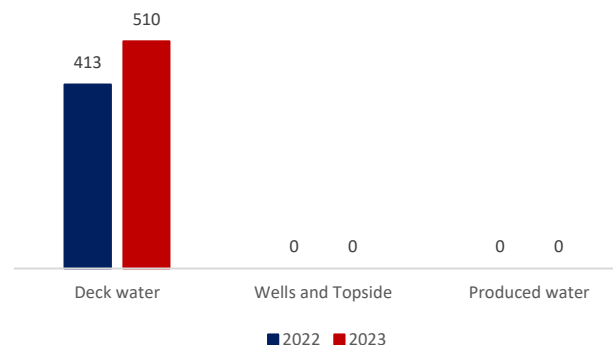
The P&A requires the flushing of the well. During the operations, all flush water was either discharged to a donor well or backloaded to the shore for treatment. To make a topside hydrocarbon safe the various systems and pipes are flushed with seawater and the flush water is typically discharged to a donor well. No flush waters are discharged to sea in 2023, as was the case in 2022.

When the operatorship of the installations and wells are transferred to Petrodec, the wells have already ceased production. Therefore, no produced water was generated. Consequently, no produced water was discharged in either 2022 or 2023 during Petrodec operations.

PON Notifications

PON1 – Releases to sea

There were no Petroleum Operations Notices No 1 of releases of chemicals or oils from a Petrodec decommissioning operations during 2023. This was also the case in 2022.



Graph 3: Discharges to sea (M3) by source – 2022 - 2023

Environmental Performance



Operational Chemical Usage

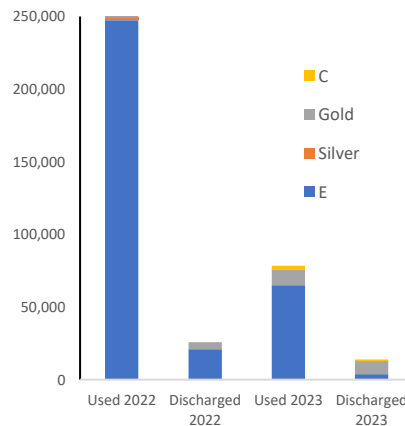
All operational chemicals used during the decommissioning project require a chemical permit and must be approved by Centre for Environment, Fisheries and Aquaculture Science (CEFAS). The Offshore Chemical Notification Scheme (OCNS) provides chemical categories and ranking to indicate which chemicals are more or less hazardous to the environment.

It is Petrodec's policy to use environmentally friendly chemicals when available. During 2023, the majority of chemicals used (>96.2%) were considered environmentally friendly, either classified as Gold (Low risk) or Posing Little or No risk PLONOR/ 'E' rated.

There was one chemical classified as 'C' (medium risk). This was a legacy chemical already in the subsea well structures being decommissioned and needed usage to safely actuate the subsea Christmas Tree.

A total of 78,483 kg of chemicals were used in Petrodec in 2023. Of this, 13,805 kg were discharged to sea, which is approximately 18% of the total used.

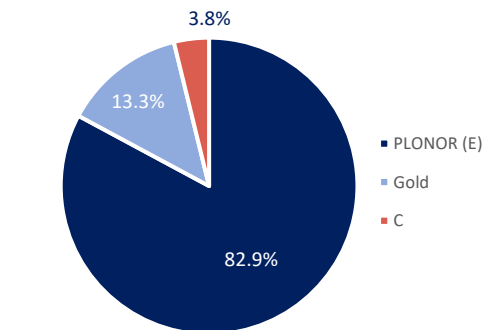
There was a decrease in chemical usage and discharge in 2023 in comparison with 2022. In 2022, 255,798 kg of chemicals were used, and 25,689 kg discharged. The main reason for the decrease was that less chemical were required in the plug and abandonment of Gawain in 2023, compared to the P&A of the Amethyst A2D in 2022. Gawain had three wells to plug, and the A2D had six.



Graph 6. Chemical Usage by OCNS Ranking in 2023 (KG)

Table 4. Chemical Use and Discharge Quantities by OCNS in 2023

Category	Ranking	Hazard/Risk	Used (kg)	Discharged (kg)
CHARM Chemical Categorisation	Purple	High Risk	0	0
	Orange		0	0
	Blue		0	0
	White	0	0	
	Silver	Low Risk	0	0
Gold	10,460		9,034	
Non-CHARM Model Chemical Categorisation	A	High Hazard	0	0
	B		0	0
	C		3,000	1,035
	D	0	0	
	E	PLONOR	65,023	3,736
Totals			78,483	13,805



Graph 6. Chemical Usage by OCNS Ranking in 2023

Environmental Objectives



Petrodec has set three Environmental Objectives and four Environmental Targets for 2024, which have been incorporated into the business operations. These are the same as were in place during 2023.

Petrodec is in the position to choose the waste disposal company, which supports the objective of 99% waste recover. This objective was achieved in 2023, with over 99.5% of waste generated from decommissioned assets being recycled or reused. This objective will continue to valid, as we aim for the same recycle rate for all decommissioned assets.

Contributing to the NSTA’s Net Zero Stewardship Expectation 11, is an important objective of Petrodec. In 2023, we continued to monitor our emissions, although limited progress was made to put in place actions to reduce emissions. With the allocation of additional resources in 2024, it is intended to refocus on this objective throughout the year.

A zero releases to sea policy was already in place for work as a decommissioning contractor, which has been achieved in 2023. The policy now extends to projects when an Operator.

Table 5. Petrodec Environmental Objectives 2024

Objectives	Targets	Status
Objective 1: Maximise the recycle and recovery of materials from decommissioned assets	Target 1: >99% recycling and recovery of decommissioned assets (i.e. <1% to landfilled)	Achieved in 2023 for the recovery of the Amethyst A2D topside and Gawain WHPS. Ongoing for future decommissioning projects
Objective 2: Create a Net Zero Policy to support the NSTA Net Zero Stewardship Expectation 11	Target 2: Develop a Petrodec Net Zero Policy in 2023	Not achieved in 2023. Applicable for 2024
	Target 3: Establish an implementation plan for Net Zero Policy	Not achieved in 2023. Applicable for 2024
Objective 3: Zero releases to sea	Target 4: No PON1 notifications as Operator or from JUBs	Achieved in 2023 Applicable for 2024



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