PERENCO

Annual Public Statement of Environmental Performance 2022

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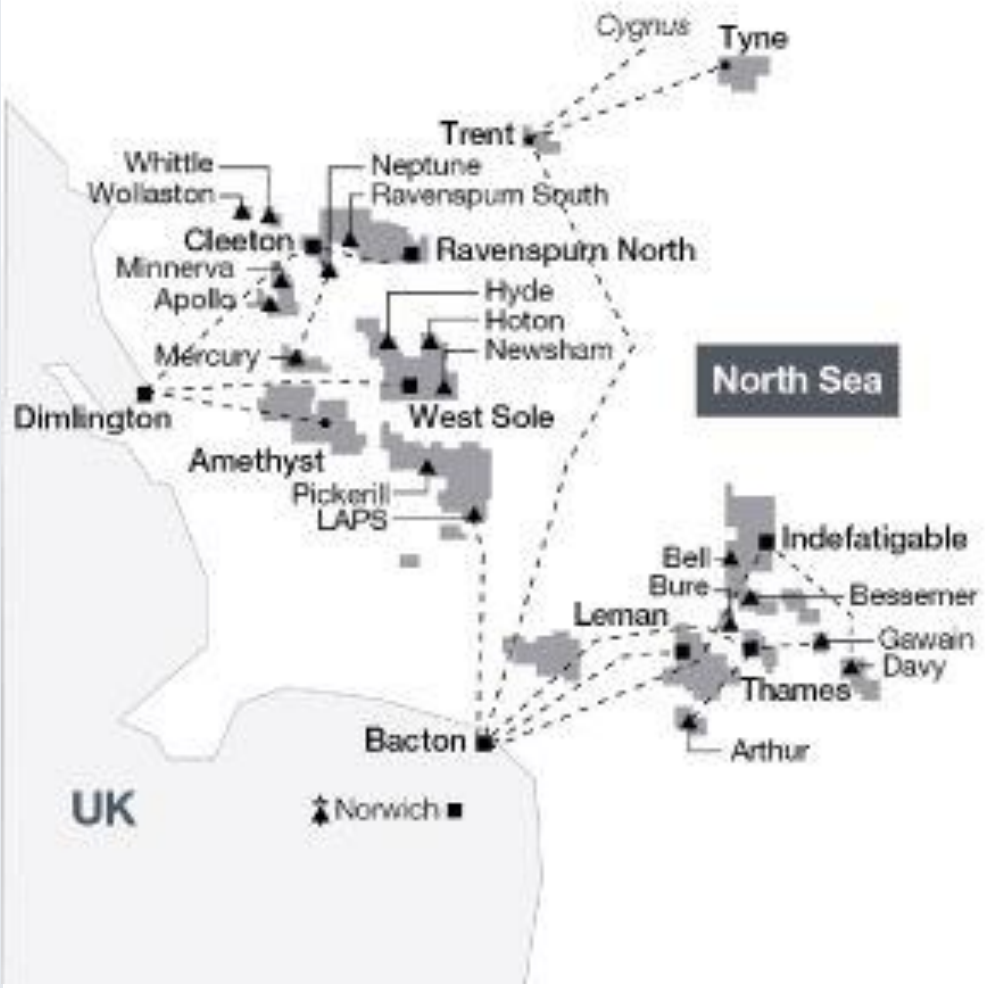
PERENCO UK SOUTHERN NORTH SEA

Perenco UK Limited Southern North Sea 'PUK SNS' has operated in the Southern North Sea since 2003 and processes up to 15% of the UK's national gas production.

PUK SNS owns and operates the largest infrastructure within the United Kingdom Continental Shelf (UKCS), acquiring assets in 2003 and 2012 from BP and from ExxonMobil in 2007. Today PUK SNS comprises of 39 offshore platforms, 14 subsea wells, and a network of more than 2,400 km of pipelines connected to its 2 onshore gas terminals at Bacton on the Norfolk coast and Dimlington near Humberside, Yorkshire.

This report forms PUK SNS's 2022 Public Statement, as required under OSPAR Recommendation 2003/5 and outlines the offshore environmental performance for UKCS operations during 2022. Bacton and Dimlington onshore gas terminal operations are excluded from this report as they fall outside of the requirement.



PRODUCTION HUB PROFILES

CLEETON

Location	Located within UKCS blocks 42/29, 47/3, 47/4, 47/5, 47/9, 42/28 & 42/30.
Discovery Date	1976
Infrastructure	The Cleeton Hub is comprised of the manned Cleeton installation, satellite installations Ravenspurn South Alpha, Bravo and Charlie, Neptune, Minerva and subsea developments Whittle, Wollaston, Apollo, Mercury, Eris & Ceres.
Export	Processed gas and condensate produced through Cleeton and associated infrastructure is exported via 36-inch PL447 to the Dimlington Gas Terminal.

INDEFATIGABLE (INDE)

Location	Located within UKCS Blocks 49/18, 49/23 & 49/30.
Discovery Date	1966
Infrastructure	The Inde Hub is comprised of the manned Inde 23A installation, satellite installations Inde 18A, 18B, 23C, 23D, 18A, 18B, Davy, Bessemer and subsea developments North West Bell, Davy North and East. The Bessemer installation is no longer in production, however, receives and exports gas from the North West Bell subsea well. The Davy platform and subsea infrastructure have been shut in since 2020.
Export	Gas and condensate produced through the Inde Hub is received on Inde 23A and exported to the Bacton Gas Terminal via Leman 27B via PL22.

LANCELOT AREA PIPELINE SYSTEM (LAPS)

Location	Located within UKCS Blocks 48/17 & 48/12.
Discovery Date	1986
Infrastructure	The LAPS Hub is comprised of 4 satellite installations Lancelot, Excalibur, Waveney, Malory and the Durango subsea well. Durango is tied back to the Waveney installation and has been shut in since 2019.
Export	Comingled gas and condensate are exported from the Lancelot installation to the Bacton Gas Terminal via PL876.

LEMAN

Location	Located within UKCS Block 49/27 & 53/02.
Discovery Date	1966
Infrastructure	The Leman Hub is comprised of the manned 27B installation and satellite installations 27A, 27C, 27D, 27E, 27F, 27G, 27H, 27J and the Leman South East and West subsea development. The Leman South West subsea well has been shut in since 2020.
Export	Gas and condensate produced through the Leman Hub is comingled with Inde production and exported to the Bacton Gas Terminal via PL23.

RAVENSPURN NORTH

Location	Located within UKCS blocks 43/26, 43/27 & 42/30.
Discovery Date	1983
Infrastructure	The Ravenspurn North Hub is comprised of the Ravenspurn North manned installation, ST2 and ST3 satellite installations and the Johnston Subsea Development.
Export	Processed gas and condensate from the Ravenspurn North and Johnston fields is exported via PL669 to the Cleeton Development, where it is co-mingled prior to export to Dimlington Gas Terminal.

TRENT

Location	Located within UKCS Block 43/24
Discovery Date	1991
Infrastructure	Trent
Export	Trent has not operated since 2021. Whilst it was in operation, gas and condensate were exported to the Bacton Gas Terminal via the PUK SNS operated East Anglian Gas and Liquids Evacuation System (EAGLES) export pipeline (PL253).

WEST SOLE

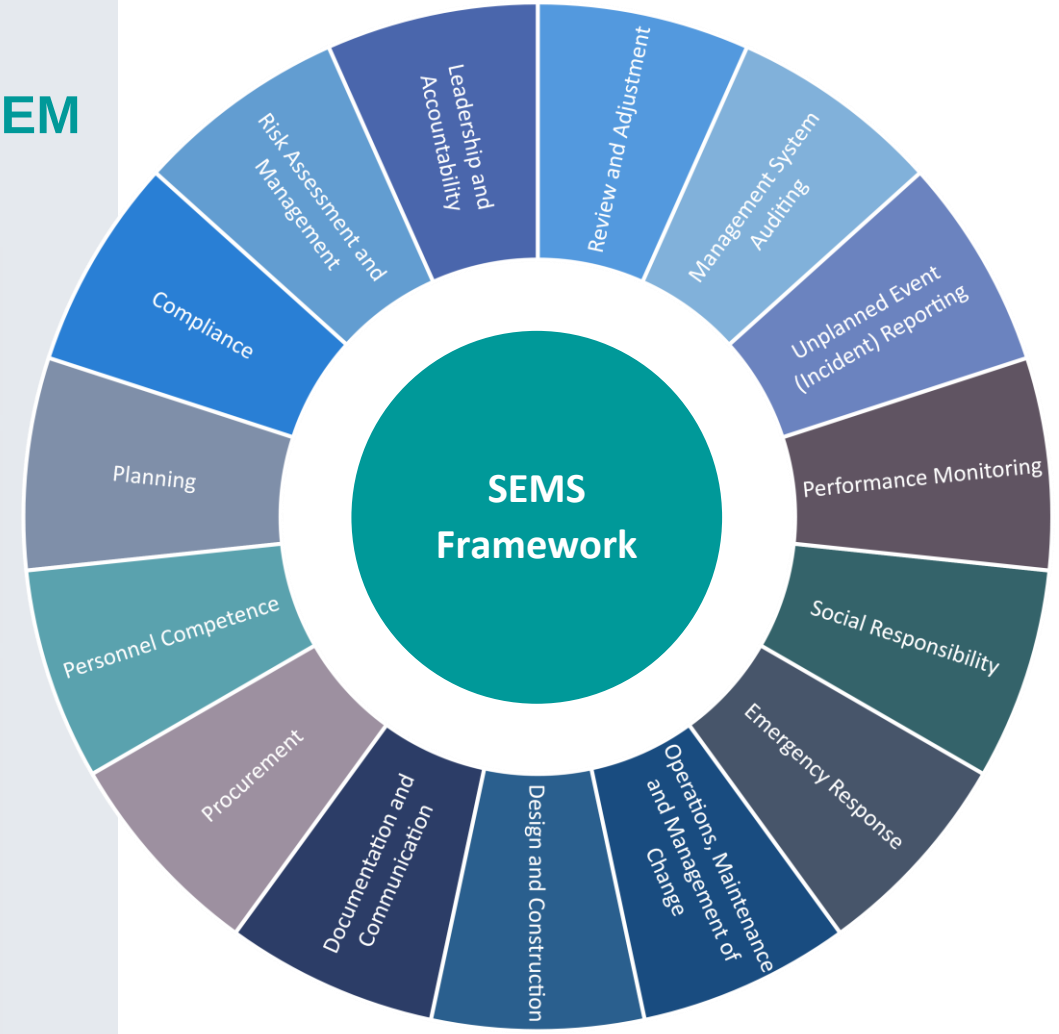
Location	Located within UKCS blocks 48/6, 47/5 & 48/7.
Discovery Date	1965
Infrastructure	The West Sole Hub is comprised of the NUI West Sole Alpha installation, satellite installations West Sole Bravo and Charlie, Hyde and Hoton and subsea tie back Newsham and Seven Seas. West Sole Alpha transitioned to NUI status during 2022
Export	Processed gas and condensate produced through the West Sole Hub is exported onshore via PL145 and PL28 to Dimlington Gas Terminal.

ENVIRONMENTAL MANAGEMENT SYSTEM

PUK SNS implements an integrated Safety and Environmental Management System (SEMS) certified to ISO 14001:2015. Operating within SEMS ensures that activities are undertaken in accordance with PUK SNS policies and comply with all relevant statutory provisions.

SEMS comprises 15 key components which together provide a framework to safe, environmentally responsible and reliable operations. Each of the components set out standards which must be complied with, a set of actions to be implemented, along with supporting information to provide guidance on implementation.

Following a tri-annual recertification audit in September 2021 the PUK SNS SEMS remains accredited to the ISO 14001:2015 standard.



PERENCO UK SNS

ENVIRONMENTAL POLICY

PUK SNS IS COMMITTED TO APPLYING EFFECTIVE ENVIRONMENTAL MANAGEMENT CONTROLS across all onshore and offshore oil and gas activities to monitor, minimise and mitigate our environmental impacts, prevent pollution, and protect marine and terrestrial environments, local communities, and stakeholders.

PUK SNS WILL IMPROVE ENVIRONMENTAL PERFORMANCE THROUGH:

Leadership and commitment from top management to promote environmental protection.
Continual improvement of our ISO14001 accredited environmental management system.
Compliance with all applicable environmental legislation.
Communication of our Environmental Policy and Objectives.
Commitment of our staff, contractors and third parties to environmental procedures.
Innovation to improve performance, extend field life and evaluate opportunities to participate in the future Energy Transition.
Investigation and reporting of incidents thoroughly to prevent re-occurrence.
Achieve annual environmental performance targets.

Jonathan D. White
PUK-SNS General Manager
July 2021

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OPERATIONS AND ENVIRONMENTAL IMPROVEMENTS

In 2022 PUK SNS saw a continued high level of offshore activity, including subsea improvements, well interventions, and decommissioning.

SUBSEA ACTIVITY

Subsea activity was undertaken in 2022 on the Whittle, Apollo, Mercury, Lancelot, and Wollaston infrastructure. These works continued from the subsea repairs made during 2021 as part of a wider campaign to either reinstate production by testing for and repairing leaks, or to provide system redundancy and increase confidence in the subsea system through reducing the likelihood of component failure.

WELL INTERVENTIONS

Well interventions were completed across PUK SNS platform wells including 27A, West Sole Bravo (WSB), Ravenspurn North (RN), Neptune, and Cleeton. This has increased production rates leading to improved overall efficiency of the asset and has subsequently reduced the requirement for further future intervention, limiting impacts from these activities on the environment.

DECOMMISSIONING

The Inde 18A installation was verified Hydrocarbon Safe (HCS) in 2022, supported by the Petrodec HAEVA Mobile Offshore Decommissioning Unit (MODU), and has been left in Lighthouse Mode ready for the topside's and jacket removal, currently planned in Q4 2025.

The Amethyst A2D was made Hydrocarbon Safe in 2022 and was transferred to Petrodec (PEDC) to act as the duty holder for removal of the topsides in 2023.

The Amethyst A2D Pipelines PL649 and PL650 remained within PUK ownership. These Pipelines were cleaned and flushed. This activity took place from onshore at the Dimlington Terminal and supported offshore by the Petrodec HAEVA Jack-Up Barge (JUB).

SOUTHERN HUB AREA RATIONALISATION PROJECT (SHARP)

SHARP continues to be a key project for PUK SNS and will result in a significant reduction of CO2 emissions, through the replacement of existing oversized and aging process equipment, leading to improved efficiency.

During 2022 the project focus has been on the transition of the previously manned Inde 23A and Leman 27A to NUI status and the commissioning of the new 27B compressors.

Inde 23A and Leman 27A NUI transition is planned for completion during Q2 2023. Both platforms underwent topside simplification and modification during 2022 in preparation for the transition, including the 27A subsea riser relocation campaign which involved the disconnection of pipeline PL3027 from the existing riser on Leman 27AC and installation of a new subsea tie-in spool between the pipeline and new pre-installed riser on Leman 49/27AP.

ENVIRONMENTAL PERFORMANCE

PUK SNS monitors the atmospheric emissions, discharge of produced water and chemicals, disposal of waste and hydrocarbon and chemical spills to measure the Environmental Performance across PUK SNS assets through 2022.

ATMOSPHERIC EMISSIONS

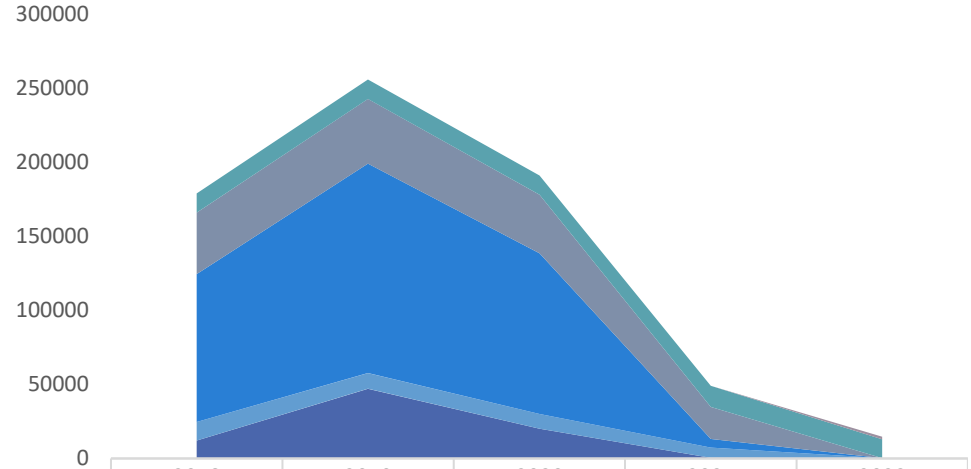
Carbon Dioxide Equivalent (CO_2e) Emissions (Emissions Trading Scheme)

Cleeton, Leman 27B and Trent were subject to control under the UK Emissions Trading Scheme (UK ETS) (Amendment) Regulations (2020) during 2022 (formally the EU Emissions Trading Scheme). Each of these installations' combustion equipment exceeded a rated thermal input of 20 MWth triggering entry into the scheme.

During 2022 31,428 tonnes CO_2e was emitted through overall PUK SNS combustion activities. 46% of this total figure (14,597 tonnes CO_2e) were verifiable under UK ETS, being attributed to Cleeton, Leman 27B and Trent.

Figure 1 shows an overall reduction in CO_2e emissions from UK ETS verified installations between 2018 - 2022. This significant decrease can primarily be attributed to the Trent platform remaining shut in throughout 2022, and the continued temporary free flow status of the Inde and Leman Hubs, as part of SHARP.

Leman 27A and Inde 23A combustion equipment has been removed and ETS permits surrendered in 2021, in anticipation of the start-up of Leman 27B compression.



	2018	2019	2020	2021	2022
Leman 27B					1680
Cleeton	13029	13090	13087	14240	12688
Inde 23A	41373	43658	39536	21674	
Leman 27A	99829	141355	108294	5898	
Ravenspurn North	12565	10597	9950	6895	
Trent	11989	46995	20087	348	229

Figure 1. 2018-2022 ETS Emissions by Installation

Intensity Ratio

Since 2019, PUK SNS has been required to publish detailed CO_2e emissions data in the Director's Report submitted to Companies House, as defined by the Streamlined Energy and Carbon Reporting (SECR) guidelines. As part of this report PUK SNS have established an intensity ratio of SECR defined emissions converted to CO_2e / exported gas (expressed as barrels of oil equivalent (BOE)), in line with the industry norm. The PUK SNS 2018 Base Year intensity ratio was 14.43 kg CO_2e / BOE, which has significantly decreased to 11.62 kg CO_2e / BOE in 2022. Increased gas exports can be attributed, in part, to several successful drilling and well intervention projects, resulting in increased efficiencies and reduction of the intensity ratio. The intensity ratio will continue to be used as a measure of performance against CO_2e emissions.

Note: Both Onshore and Offshore PUK SNS operations fall within the SECR scope and the intensity ratio reflects the performance of the whole of PUK SNS.

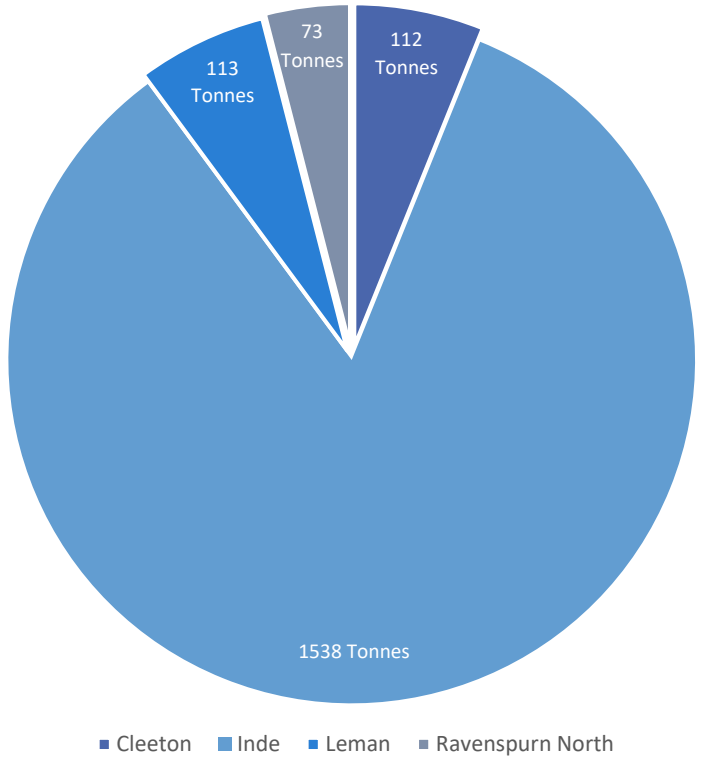


Figure 2. Tonnes of Gas Cold Vented by Hub in 2022

Venting

Emissions through cold venting in 2022 were 38233 tonnes CO_2e. This is over 14 tonnes CO_2e less than 2021.

During February 2022, there was a pipeline failure on Whittle which led to the release of 6.73 tonnes of CO2e, contributing to the 2022 figure.

As shown in Figure 2, the Inde Hub accounts for over 80% of the PUK SNS cold vented gas. This is largely due to the requirement for the continuous purge of Inde 23A, which will no longer be necessary after the completion of SHARP in 2023.

WASTE

Operational Waste

PUK SNS successfully diverted 99.6% of its operational waste from landfill in 2022. As shown in Figure 3, of the 976 tonnes of waste processed, over 669 tonnes of operational waste had been recycled. Each installation has successfully recycled over 50% of their waste (Figure 4). This was achieved by working closely with our principal waste management contractor, and proactively managing the wastes generated as a result of operational activities by application of the waste hierarchy.

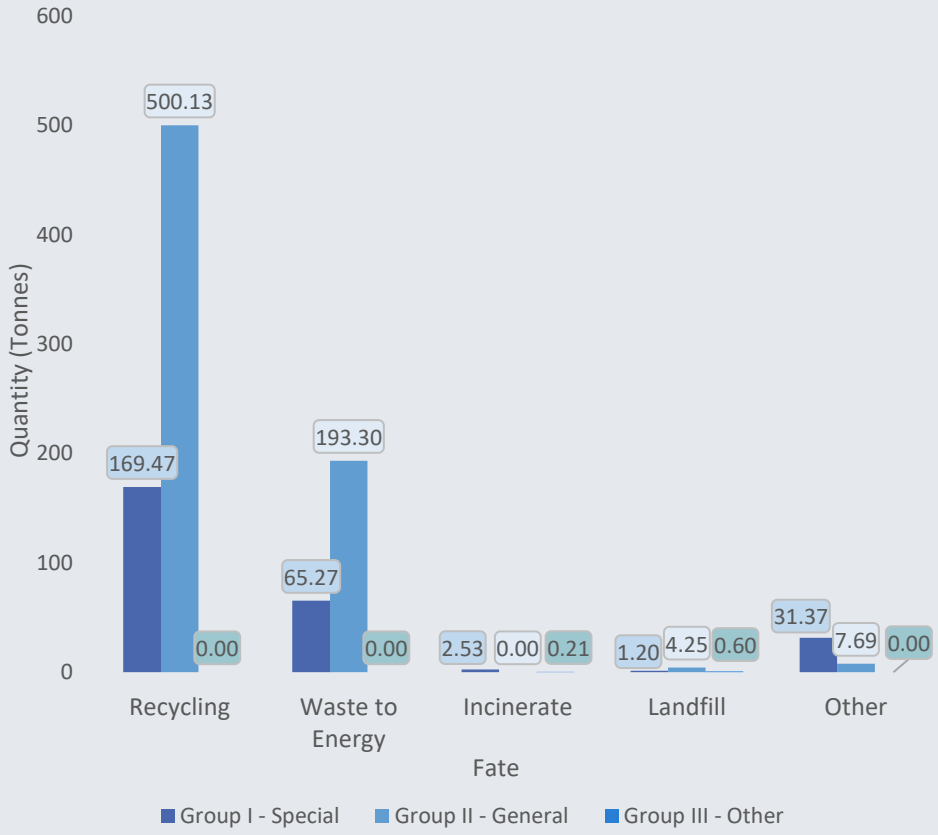


Figure 3. Fate of operational Wastes by Waste Classification

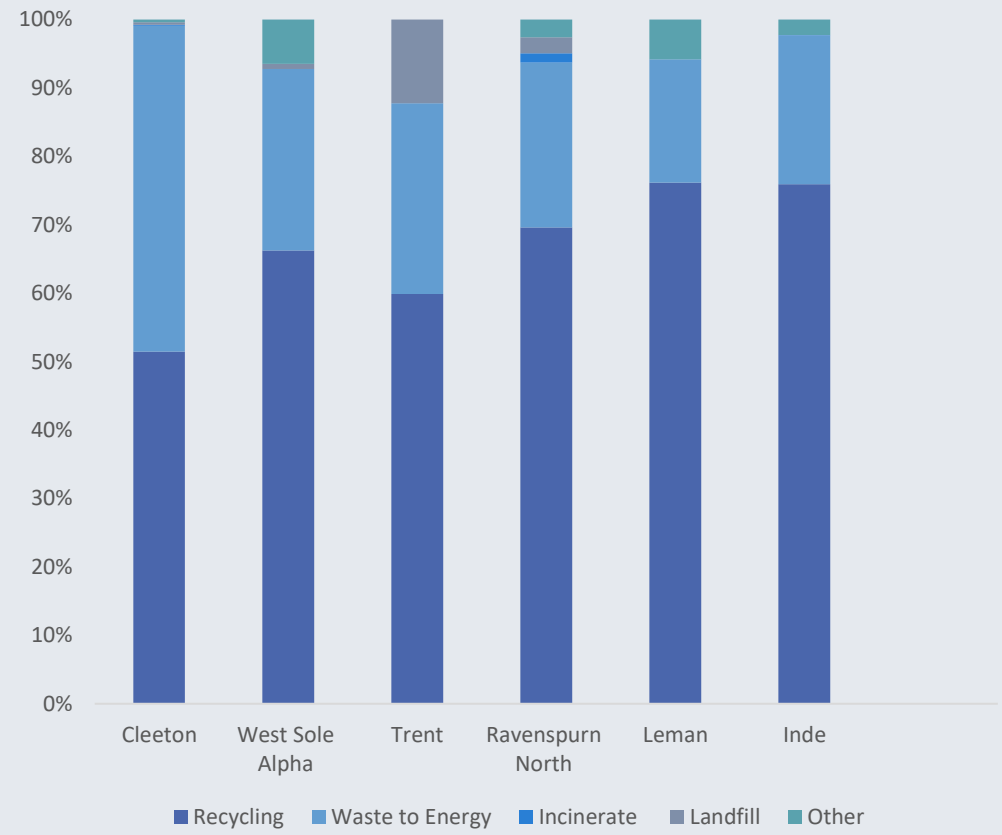


Figure 4. Fate of Wastes generated by Operational Platform

Decommissioning Waste

During 2022 the Inde 18A and Amethyst A2D installations reached hydrocarbon Safe status in 2022, and the Amethyst A2D Pipelines PL649/PL650 were cleaned and flushed. All decommissioning projects were completed by the Petrodec ERDA JUB and HAEVA MODU.

PUK SNS successfully diverted all general decommissioning wastes from landfill in 2022, with over 50% being recycled (Figure 6). The amount of hazardous waste has decreased since 2021 from 12% to 7% (Figure 5).

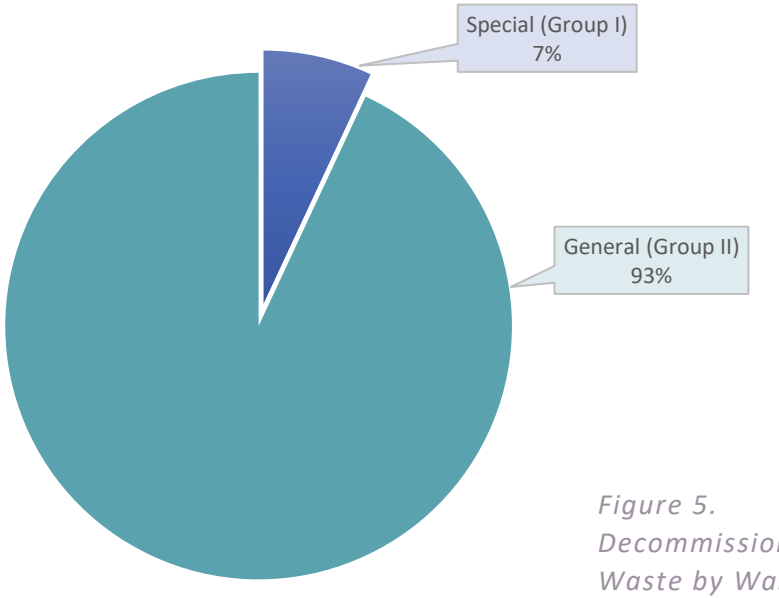


Figure 5. Decommissioning Waste by Waste Classification

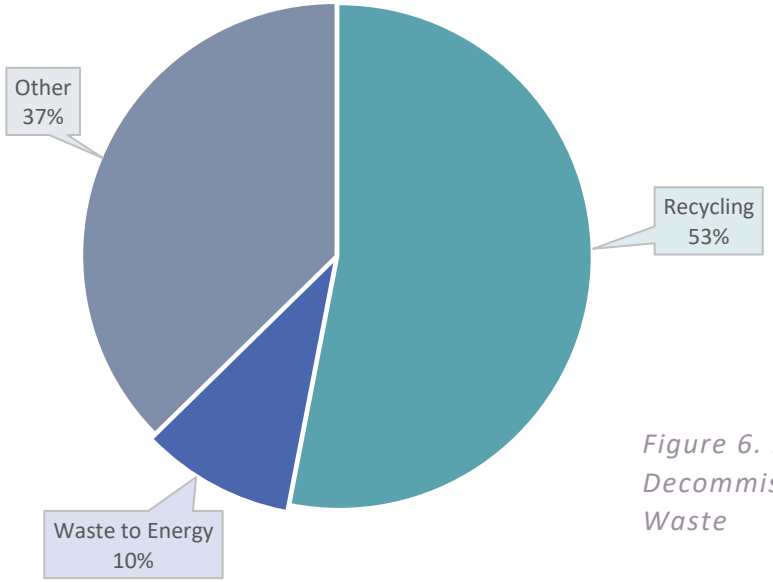


Figure 6. Fate of Decommissioning Waste

CHEMICAL USE AND DISCHARGE

			TOTAL USAGE (kg)	TOTAL DISCHARGE (kg)
NON-CHARM MODEL CHEMICAL CATEGORISATION	A	HIGH HAZARD	0	0
	B		0	0
	C		0	0
	D		59,895	59,379
	E	POSES LITTLE OR NO RISK	2,379,366	690,080
CHARM MODEL CHEMICAL CATEGORISATION	PURPLE	HIGH RISK	0	0
	ORANGE		0	0
	BLUE		2,232	1,174
	WHITE		0	0
	SILVER		45,400	15
	GOLD	LOW RISK	110,966	20,695

Table 1. 2022 Chemical Use and Discharge Quantities According to Offshore Chemical Notification Scheme (OCNS) Categories for all activities

The use and discharge of offshore chemicals is subject to control under the Offshore Chemicals Regulations 2002 (as amended). Only chemicals that have been registered by the Centre for Environment, Fisheries and Aquaculture Science (CEFAS) may be used.

The Offshore Chemical Notification Scheme (OCNS) applies to offshore chemicals, under which they will undergo a hazard assessment and assigned a colour banding or category (dependant on applicable assessment) based on their environmental hazard potential.

As exhibited in Table 1, PUK strive to reduce environmental risk through chemical use, only 0.08% of chemicals used in 2022 were not classified within the low risk OCNS categories.

Operational Chemicals

PUK SNS used a total of around 860 tonnes of chemicals in 2022, of which around 62 tonnes were discharged to sea in line with permit conditions. The usage of chemicals over the last 5 years has seen an overall downward trend. This is due to a combination of factors:

- A reduction of continuous dosing of chemicals and a movement towards batch dosing methodology for chemicals used for hydrate control and corrosion inhibition.
- Decommissioning of platforms leading to subsequent reductions in chemical use.

As shown in Figures 7 and 8, 99% of the chemicals used and discharged during 2022 classed as Gold, Silver, E or D, the two classifications of least environmental risk.

Figure 7. Chemicals Used by OCNS Categories

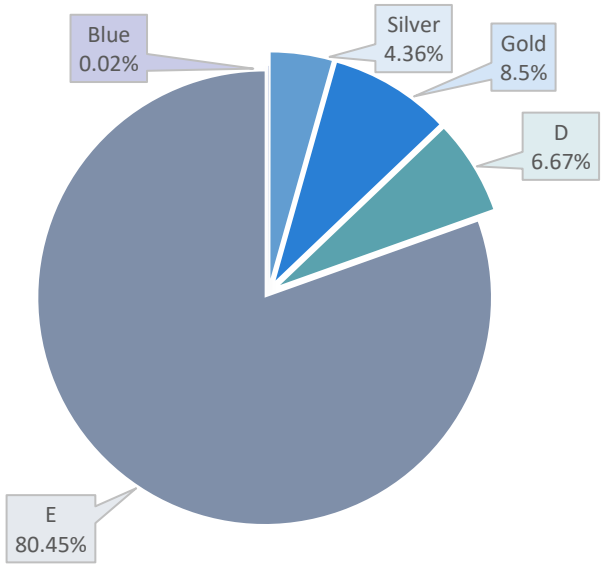
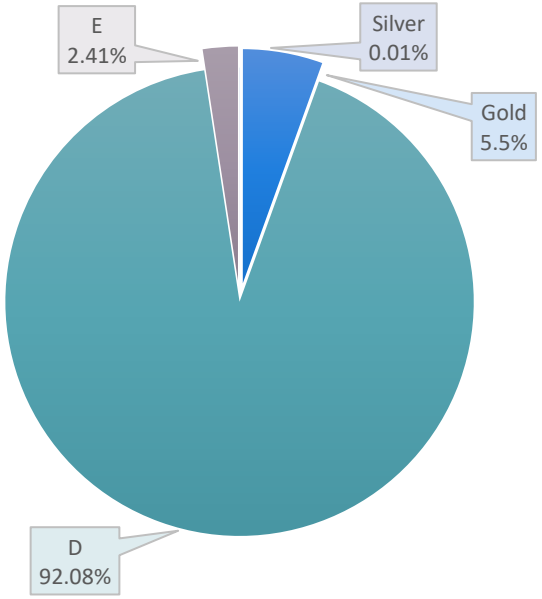


Figure 8. Chemicals Discharged by OCNS Categories



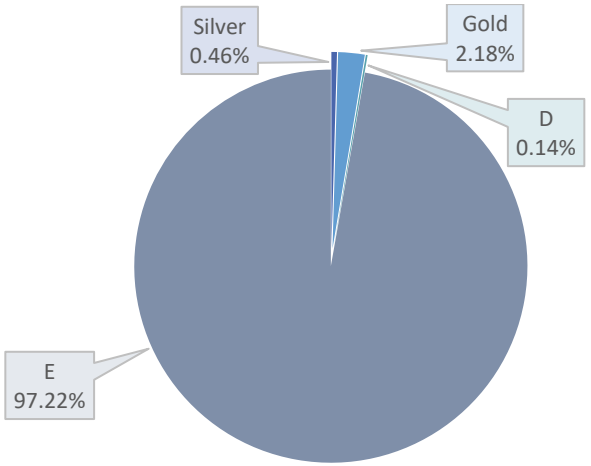


Figure 9. Chemicals used by OCNS Categories

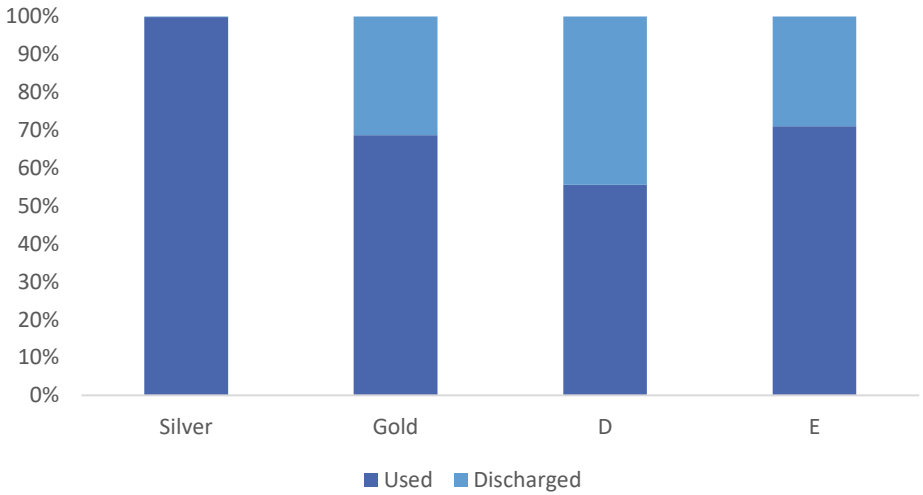


Figure 10. Percentage of Chemicals Used vs Discharged by OCNS Categories

Decommissioning and Project Chemicals

A total of around 1737 tonnes of chemicals were used for decommissioning and project activities during 2022. Of this amount, around 709 tonnes were discharged to sea (41%) in line with permit conditions, with the remaining 59% remaining downhole.

During 2022 well intervention campaigns were completed on the Leman 27C, West Sole Bravo, Ravenspurn North and Neptune wells.

Decommissioning work was undertaken on Inde 18A and the installation achieved Hydrocarbon Safe status. The Amethyst A2D Pipelines PL649/PL650 were cleaned and flushed by PUK SNS, alongside the decommissioning of the Petrodec operated, Amethyst A2D installation.

All the chemicals used during 2022 well intervention and decommissioning were designated as either OCNS Gold (2.18%) or Silver (0.46%) band or Group D (0.14% and E (97.22%) (Figure 9).

OIL IN PRODUCED WATER

The discharge of oil is subject to control under the Oil Pollution Prevention and Control (OPPC) Regulations 2005 (as amended). PUK SNS had 11 active Oil Discharge Permits during 2022 for Leman 27A, Leman 27B, Inde 23A, Lancelot, Malory, Excalibur, Waveney, Hyde, Cleeton, Ravenspurn North and Trent, however Oil in Produced Water was discharged overboard from 5 operational assets; Hyde, Ravenspurn North, Indefatigable, Lancelot and Malory.

Produced water from the remaining 6 installations was either discharged downhole or exported onshore for processing.

Figure 11 shows that the oil discharged in 2022 has increased since 2021. This is due to the restart of Lancelot and the associated flush gas production.

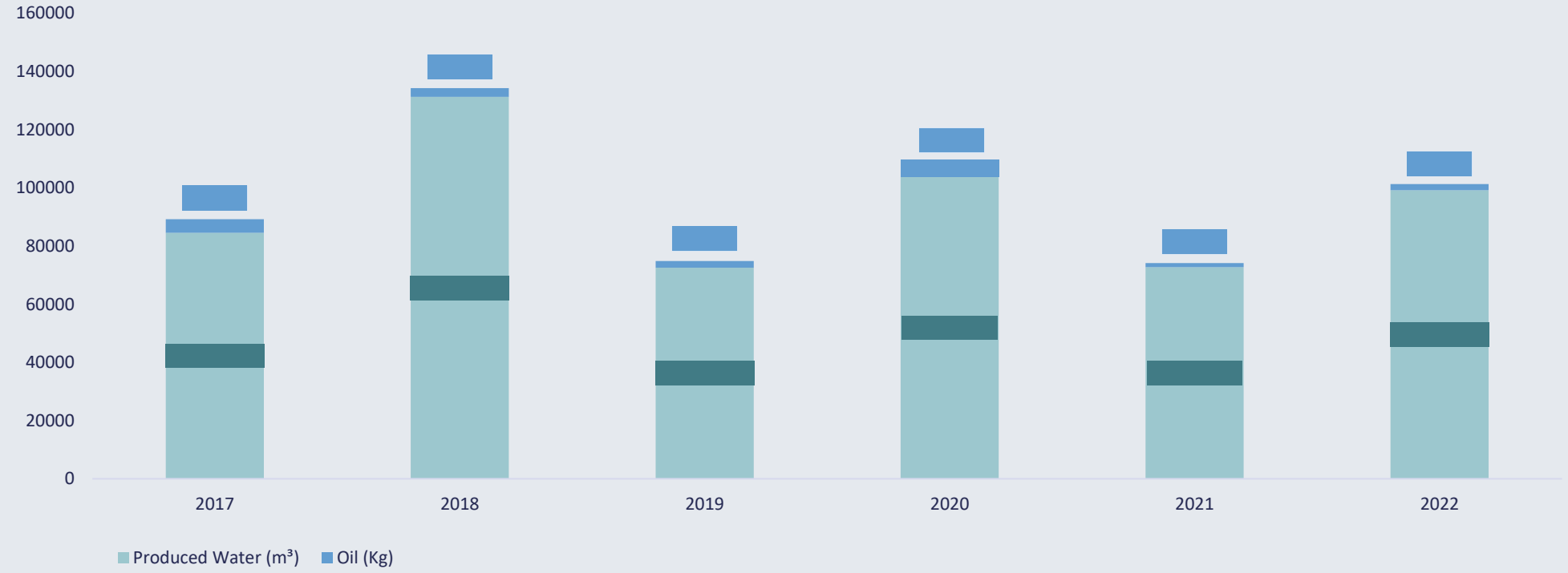
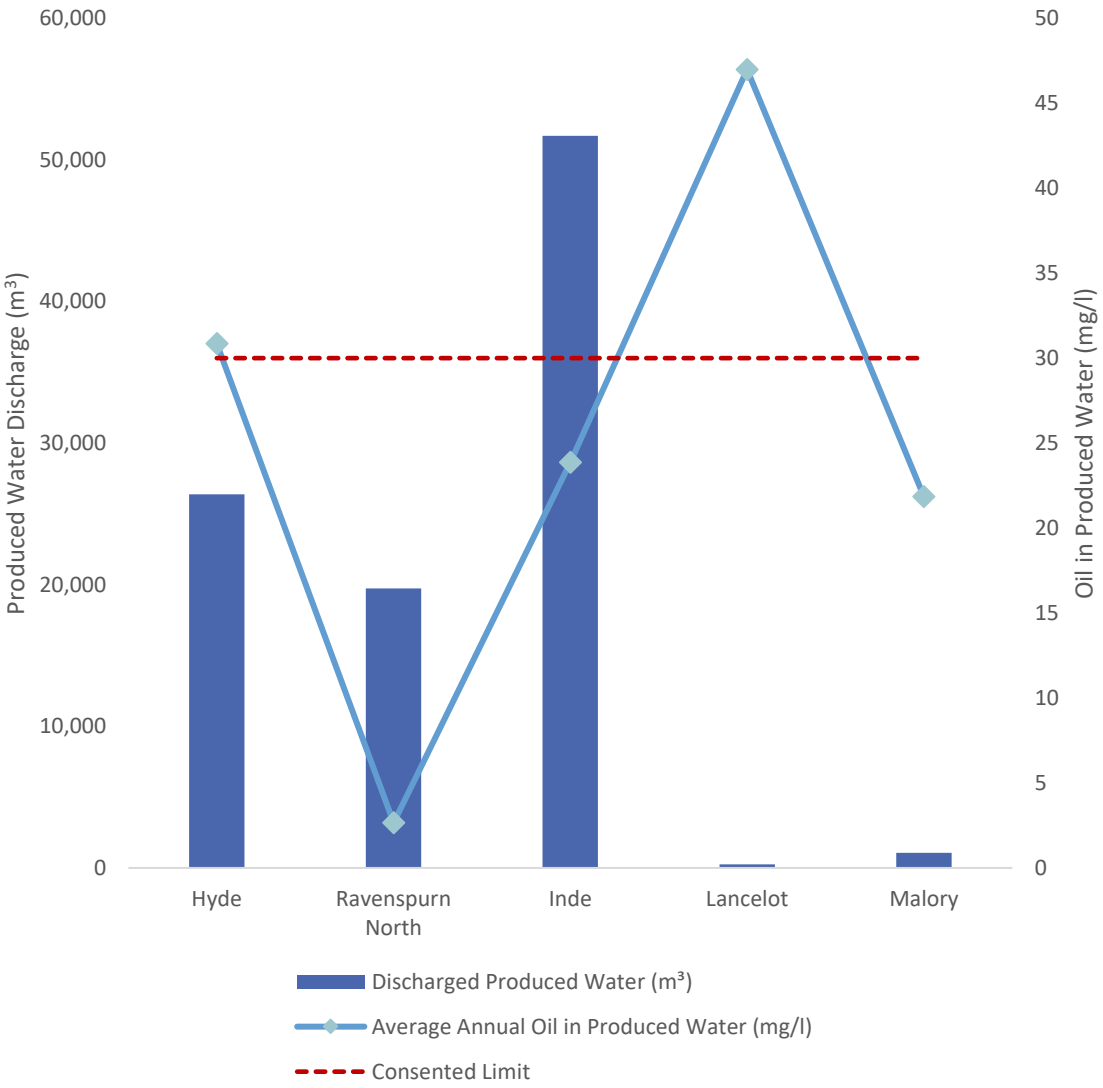


Figure 11. Annual Produced Water and Oil Discharged 2017 - 2022

The volume of Produced Water discharged from each asset during 2022 is presented in Figure 12 with the monthly flow-weighted average concentration of Oil in Produced Water against the consented limit.



Hyde - Improvements

Hyde has historically discharged produced water which was higher than the 30 mg/l permitted limit.

In December 2022, the OPPC sample point was changed to comply with The Oil Pollution Prevention and Control (OPPC) Regulations 2005 (as amended) and ensure an accurate sample was received for analysis.

Lancelot - Exceedances

Lancelot had been offline since 2019 and was brought back online in March 2022. The average annual Oil in Produced Water figure for 2022 is likely to be attributed to the flush gas production post restart. Since its restart, the monthly Oil in Produced Water figure has decreased.

ACCIDENTAL RELEASES

PUK SNS investigate all accidental hydrocarbon and chemical releases to ascertain the cause and prevent reoccurrence, and report these via a PON1 notification, in accordance with The Oil Pollution Prevention and Control (OPPC) Regulations 2005 (as amended).

26 accidental releases from PUK SNS assets were reported during 2022 and these have been categorised in Figures 13 and 14. Compared with 2021, there has been a significant decrease in the overall volume of releases during 2022. Hydrocarbon and chemical releases have both been significantly reduced since 2021 values, decreasing by 12 and 20 tonnes respectively in 2022.

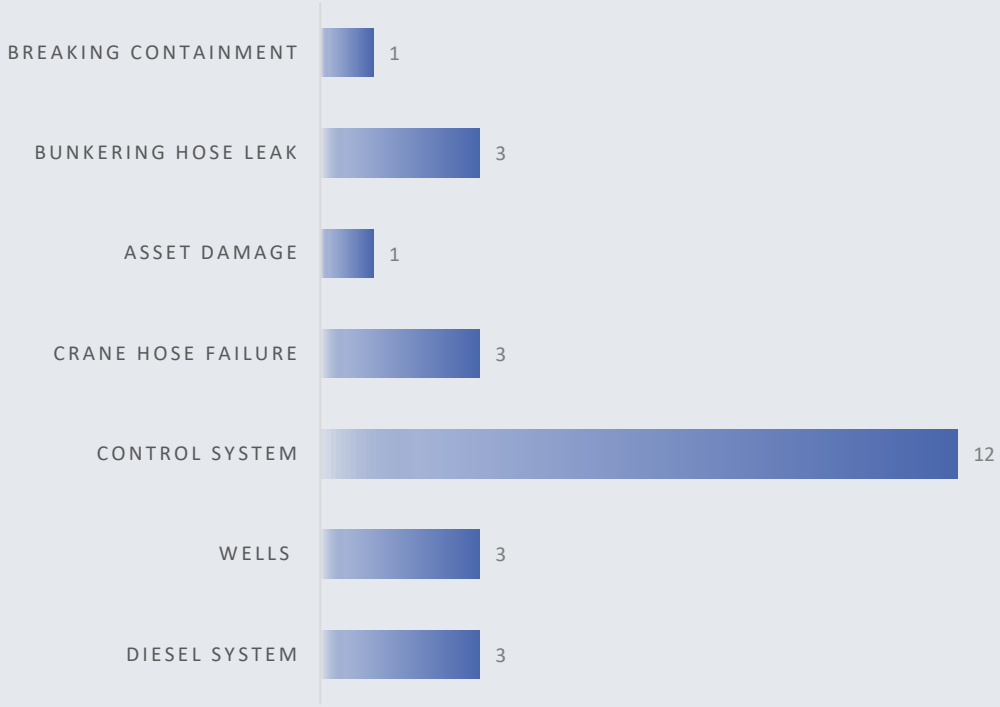


Figure 13. Accidental Releases during 2022 by Category

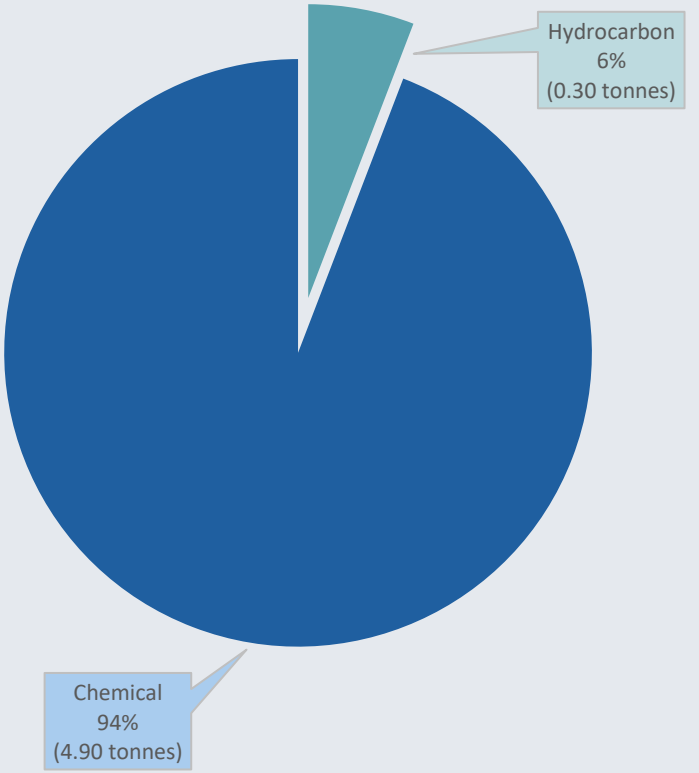


Figure 14. Accidental Releases Hydrocarbon vs Chemicals

PERFORMANCE AGAINST ENVIRONMENTAL OBJECTIVES

PUK SNS Senior Management annually reviews existing and agrees new environmental objectives in line with SEMS to help drive continual improvement.

2022				
Business Objective	**Overall Objective**	**Measure**	**Progress**	**Status**
Extending the field life whilst maximising economic recovery in line with the UK Net Zero Strategy	Development of Perenco UK Emissions Reduction Strategy.	Completion of 2022 Hub Emissions Reduction Action Plan.	Hub Emissions Reduction Action Plans are complete and issued to our SEMS	Completed
	Delivery of commitments made in 2022 Hub Emissions Reduction Action Plan.	Completion of Emissions reduction activities detailed in the Action Plan.	Progress against all elements of the emissions reduction plans	Ongoing

2023 Objectives			
Business Objective	**Overall Objective**	**Aspect**	**Measure**
Extending the field life whilst Maximising Economic Recovery in line with the UK Net Zero Strategy; whilst minimising our impact on the environment	Dimlington Terminal operational review to improve operational and energy efficiency.	Air Emissions Energy Usage	Review completed and report to be issued in Q3 2023
	Assess the viability of carbon capture direct from terminal compression to mitigate CO2 emissions.	Air Emissions	Study commissioned, with initial report received. Proceeding to commission FEED study