Repsol Resources UK Limited

2023 Environmental Statement

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At Repsol Resources UK, our aim is to provide energy and products to society to meet its needs in an efficient manner, ensuring the appropriate protection of the environment and sustainable use of resources without compromising the well-being of future generations. We recognise the importance of continual improvement with regards to our overall environmental performance. Additionally, we acknowledge that emissions reduction and energy transition is a societal shift to a lower-carbon future and that we must play our part. As such, we are focused on emissions management and reducing the carbon intensity of our operations and are aligned to the North Sea Transition Deal (NSTD) Net Zero Emissions Targets.

This environmental statement serves as a demonstration of our environmental performance across key environmental metrics and highlights the company's ambitions to improve our environmental performance across all of our operations.

In 2023, we further reduced our greenhouse gas emissions, which remains in line with the North Sea Transition Deal (NSTD) Net Zero Emissions Targets.

Overall, oil in water performance remained within regulatory limits and we are implementing further improvements to water handling facilities to deliver better results. Chemical use and discharges remained consistent with previous years and the company is actively looking for alternative solutions to reduce our chemical impact on the environment.

The number of accidental oil and chemical spills in 2023 reduced by ~50% when compared with the previous year. Furthermore, where accidental releases occur, thorough investigations are conducted with any issues rectified to reduce the impact on the marine environment.

Additionally, we continued to work with our dedicated waste management vendor and subcontractors through 2023, which has led to better compliance with requirements and increased amounts of recycled resources. Furthermore, thorough onshore sorting, the volume of waste to landfill was reduced.

We continue to set ourselves demanding year on year environmental improvement targets and we regularly assess our performance to analyse progress and meet our goals.

Lorena Dominguez Espido

Chief Technical Officer

UK OPERATIONS

Fields and Installations

Our principal UK operating areas, (shown below) encompass a total of 49 fields, 11 operated assets and two onshore terminals detailed in Tables 1 and 2.

Oil & Gas Production

Oil reservoirs contain a mixture of oil, water and natural gas. A primary purpose of an offshore production platform is to separate out the extracted 'well fluids' into these three separate components using separation vessels. Once the oil has been separated from the gas and water, it is pumped to shore via subsea pipelines; or, in the case of oil from the Ross and Blake fields, shipped to shore. The gas is dried and then compressed. Some of the gas, where possible, is used to generate power to run the process equipment on site and the remainder of the gas is exported via pipeline to the UK mainland (see Table 1), used for gas lift, or flared.

The proportion of oil, gas and water produced from reservoirs changes over time. Oil and gas production will decrease and the volume of water will increase. The separated water, known as produced water, is managed, cleaned and processed to reduce oil droplets prior to discharge to sea.

Drilling

As the fields mature and more information about the reservoirs becomes available, more wells may be drilled or existing wells revisited. This can be done either from the platform, or with mobile drilling rigs. Geological information and production tests determine how many wells are needed to produce the oil and gas efficiently.

HYDROCARBON EXPORT ROUTES Table 1

Installation	Oil	Gas
Arbroath	Via Montrose	Via Montrose
Auk	Via Fulmar	N/A
Beatrice[1]	Nigg Oil Terminal[2]	N/A
Bleo Holm	Shuttle Tanker	Frigg Pipeline
Buchan[#]	Forties Pipeline	N/A
Claymore	Flotta Pipeline	N/A
Clyde	Norpipe Pipeline	SEGAL System
Fulmar[3]	Norpipe Pipeline	SEGAL System
Montrose	Forties Pipeline	CATS Pipeline
Piper B	Flotta Pipeline	Frigg Pipeline
Saltire[1]	Via Piper B	Via Piper B
Tartan[1]	Flotta Pipeline	Frigg Pipeline

FIELDS & INSTALLATIONS Table 2

FIELD	BLOCK	INSTALLATION
Arbroath	22/17n, 22/17s, 22/18 & 22/18n	Arbroath
Arkwright	22/23a	Arbroath
Auk	30/16n,t	Auk
Auk North [2]	30/16n,t	Fulmar
Beatrice [2]	11/30a	Beatrice Complex [1, 2]
Beauly	16/21	Balmoral*#
Blake	13/24a,b	Bleo Holm
Brechin	22/23a	Montrose
Buchan [2]	21/01	Buchan#
Burghley	16/22	Balmoral*#
Carnoustie	22/17s	Arbroath
Cayley	22/17s	Montrose
Chanter [2]	15/17	Piper B
Claymore 14/19	14/19	Claymore
Claymore 14/20b	14/20b	Claymore
Clyde	30/17b	Clyde
Duart [2]	14/20b	Tartan [1,2]
Enoch	16/13a	Brae*
Flyndre	30/13 & 30/14	Clyde
Fulmar [2]	30/11b & 30/16s	Fulmar [3]
Galley [2]	15/23	Tartan [1,2]
Godwin	22/17n & 22/17s	Arbroath
Halley [2]	30/11b & 30/12b	Fulmar [3]
Hannay [2]	20/05c	Buchan#
Highlander [2]	14/20	Tartan [1,2]
Iona [2]	15/17	Piper B
Leven	30/17b	Clyde
Medwin	30/17b	Clyde
Montrose	22/17n & 22/17s	Montrose
Nethan	30/17b	Clyde
Orion	30/18	Clyde
Petronella [2]	14/20	Tartan [1,2]
Piper	15/17	Piper B
Ross	13/27 & 13/29	Bleo Holm
Saltire [2]	15/17	Saltire[1, 2]
Scapa	14/18	Claymore
Shaw	22/22a	Montrose
Tartan [2]	15/16	Tartan [1,2]
Tartan North Terrace [2]	15/16b	Tartan [1,2]
Tweedsmuir	21/01c	Piper B
Wood	22/18	Montrose
Andrew*	16/27a	Andrew*
Balmoral*	16/21a,b & c	Balmoral*
Blane	30/03	Ula*
Glamis*	16/21a	Balmoral*#
MacCulloch*	15/24b	North Sea Producer*#
Stirling*	16/21b,c	Balmoral*#
Wareham*	SY/88b, SY98a & SZ/8a	Onshore
Wytch Farm*	SY/88b, SY98a & SZ/8a	Onshore

* Not operated by the company therefore data is not included in this report.
[#] Installation no longer at location
[1] Installation Not Normally Attended (NNA)
[2] Field / Installation no longer in production
[3] Installation acts as production hub for Clyde and Auk, but with no native production

ENVIRONMENTAL MANAGEMENT

The company has an integrated Safety and Environmental Management System (SEMS). The environmental elements of the system have been independently verified as meeting the requirements of the Oslo-Paris Convention (OSPAR) Recommendation 2003/5 to promote the use and implementation of Environmental Management Systems by the offshore industry.

Minimise impact and continuous improvement

Our environmental commitment, as outlined in our corporate HSE policy, is to minimise our impacts and always comply with the law or the company's standards, whichever are higher. All environmental aspects including climate change, air quality, water quality and waste are issues that receive constant attention to minimise our environmental impacts. The environmental impacts from oil and gas exploration and production activities have been minimised as far as practicable through the design of the installations and subsequent modifications made to plant and process.

We follow a two-phase environmental management strategy

The first phase consists of the identification and characterisation of our environmental impacts to determine their significance and how to manage them. This considers local environmental sensitivities, company and legislative performance standards and stakeholder concerns.

The second phase involves the development and implementation of environmental management strategies that are integrated with business and operational systems, and are integral to all company performance improvement objectives: such as safety, installation integrity and security of supply.

Targets and Objectives

Our Executive Committee sets annual environmental targets against which performance is tracked. Each is set with a view to achieving the overarching objective of continuous improvement. To ensure all of our installations work towards achieving the targets, a performance contract is agreed with the site leadership team and company personnel.


REPSOL

HEALTH, SAFETY & ENVIRONMENT POLICY

The Company Policy is to conduct our business in a manner that ensures we:

- cause no harm to people;
- minimise our impact on the environment;
- comply with regulatory requirements;
- choose safety over operational results;
- maintain a state of emergency preparedness.

The objectives of this Policy are to ensure we:

SAFE OPERATIONS IN ALL COMPANY ACTIVITIES IS A CORE VALUE

If operational results ever conflict with this Policy, we all have a responsibility to choose compliance with this Policy over operational results and Repsol Resources UK Limited will support that choice.

Our Corporate HSE Policy

Permits and Consents

Our conduct in the North Sea is governed by a range of legislation and we are required to hold a number of permits and consents that authorise our operations. These permits and consents come with detailed operating conditions to which we must adhere.

We track and investigate non-compliance (permit breaches) to measure and continually improve the effectiveness of our systems, processes and procedures.

ENVIRONMENTAL MANAGEMENT BY DESIGN AND MAINTENANCE

Our installations are designed and maintained to minimise their environmental impact.

Primary impact mitigation measures have been integrated into the design of the facilities and include:

- Closed system processes to safely contain reservoir fluids in vessels and flow lines under all process conditions.
- Pressure, temperature, flow control and shutdown systems to maintain safe operating conditions at all times.
- Bunding of areas with a potential for spills.

Secondary defence measures are those that relate to the operation of the facilities and include:

- Corrosion prevention and monitoring programmes and preventative maintenance programmes ensure that vessels, flow lines, valves, fittings and equipment remain in a safe operating condition.
- Consideration of all potential accident/emergency scenarios to ensure procedures and resources are in place for preventation, control and mitigration.
- Procedures to minimise operational leaks and spills and ensure availability of clean-up equipment to deal with spillages.
- Training of personnel to operate and maintain the above safeguards in good working order.

ATMOSPHERIC EMISSIONS

The company recognises the importance of emissions management and reducing the carbon intensity of its operations. It is the company's expectation that all our operations are conducted in a manner that strives for good emissions management seeking emissions reduction in line with or better than the North Sea Transition Deal (NSTD) Net Zero Emissions Targets.

2023 Emissions Performance

The extraction and processing of oil and gas is energy intensive. During normal operations, installations burn natural gas and diesel for power. In addition, any natural gas extracted from the reservoir, which cannot be used or exported, must be flared for safety reasons. The level to which different GHG's contribute to Climate Change depends on the gas. For example, 1 tonne of methane (CH4) has a much higher global warming potential than CO_2. To fully reflect the impact of our operations, GHGs are combined and expressed as tonnes of CO_2 equivalent (CO_2e) with relevant emission factors applied.

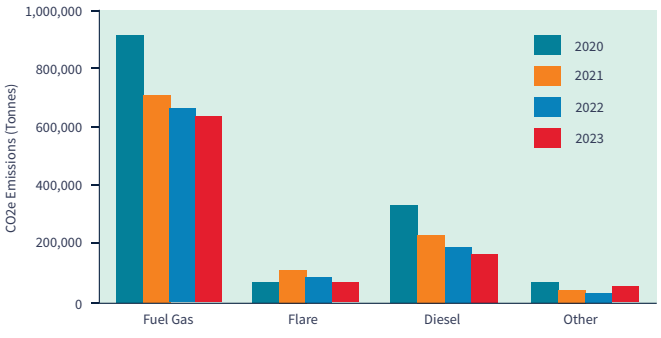

Figure 1

CO_2 equivalent emissions by source stream (2020 - 2023)

Figure 1 shows the Scope 1 emission contribution of CO_2e from each emission source stream over the last 4 years for GHG's; CO_2, CH4, and N2O.

Fuel Gas:

A consistent reduction in fuel gas emissions has been achieved through the implementation of Emission Reduction Action Plan (ERAP) opportunities, i.e. installation of turbine Performance Enhancement Kits etc and as a result of unplanned shutdowns over the course of the year, reducing fuel gas consumption.

Diesel:

The company continues to optimise the use of fuel gas with diesel as back up i.e., good uptime performance of the platforms will result in low usage. Similar to fuel gas, diesel consumption has benefitted from implementation of ERAP line items and good overall site uptime performance.

Flare:

As with previous years, emissions from flare performance continues to improve. The reduction trend has been achieved through both unplanned shutdowns and the company's continued focus on minimising flaring via; assessment of purge/pilot rates, & compressor tuning activity.

Venting & Fugitives:

"Other" includes emissions from venting and fugitive emissions. Low venting and fugitive emissions achieved for the year through maintaining steady operations, implementing high energy ignition systems and reducing cold flaring / venting in favour of hot flaring (whilst hot flaring continues to have a CO_2 emission, the amount of CH_4 emitted is much less than cold flaring / venting.

2023 UK ETS Performance

The UK Emissions Trading Scheme (UK ETS) came into force in 2021, after the withdrawal of the UK from the European Union. The premise of the UK ETS is fully aligned with that of the European Union Emissions Trading Scheme (EU ETS) which was complied with prior to 2021. The UK ETS is the primary financial means used to incentivise the reduction of CO_2 emissions from larger industrial installations. The basic principle is that at the end of each year qualifying installations must surrender an "emissions allowance" for each tonne of CO_2 emitted. Some emission allowances are issued free of charge to the installation at the beginning of the year, with the remainder required to be purchased.

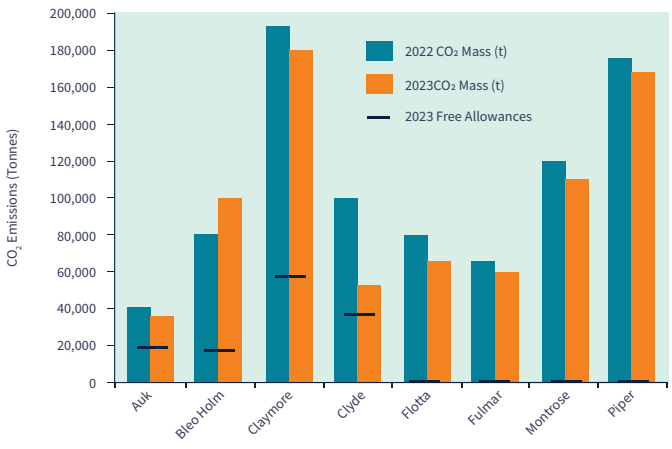

Figure 2

2022 / 2023 UK ETS CO_2 emissions and free allowance per installation

Figure 2 shows the total installation emissions against the total free allowance provision. Noting that not all installations are eligible for free allowances. UK ETS qualifying emissions relate to CO_2 resulting from combustion only and does not take into account the CO_2 equivalency for methane and other uncombusted GHG's.

Figure 2 also highlights that the majority of installations have reduced the quantity of UK ETS qualifying CO_2 emissions emitted in 2023 compared to 2022. Bleo Holm had an extended shut down in early 2022, whereas uptime in 2023 was much higher and as such, the CO_2 emissions increased in 2023.

ATMOSPHERIC EMISSIONS

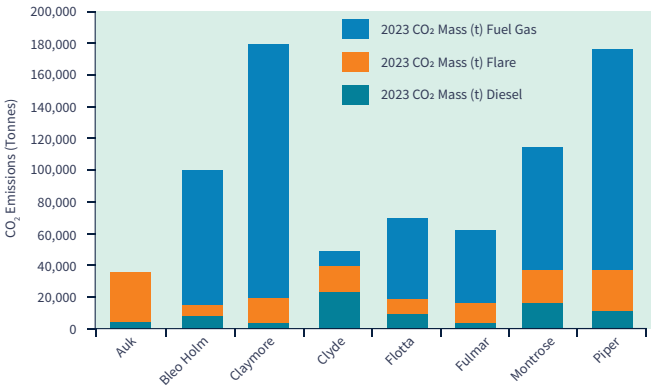

Figure 3

2023 UK ETS CO_2 emissions (tonnes) by source stream split per installation

Figure 3 highlights the individual contribution of the source streams that contribute to the total CO_2 emissions. The company is continually striving to optimise hydrocarbon fuel use and flaring activities in order to proactively reduce CO_2 emissions, in line with the Repsol Environmental Policy and drive to ensure a more sustainable business.

Other Pollutants

The main combustion pollutant from Repsol UK's operations is CO_2, however, emissions of nitrogen oxides (NOX), sulphur dioxide (SO_2), carbon monoxide (CO), methane (CH4) and volatile organic compounds (VOC) are also produced as part of production activities. Non-CO_2 atmospheric emissions from installations are also regulated and these emissions are permitted through the Pollution Prevention Control (PPC) permits which are asset specific.

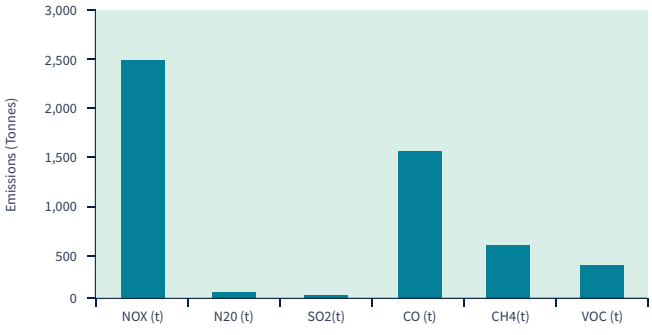

Figure 4

Total non CO_2 atmospheric emissions (tonnes) from all operated assets with PPC permits in 2023

Figure 4 shows the total other non-CO_2 atmospheric emissions that are regulated under the Pollution Prevention and Control (PPC) Regulations. Bleo Holm, Claymore, Clyde, Fulmar, Montrose and Piper all hold PPC permits. Arbroath, Auk, Beatrice, Saltire and Tartan do not have a PPC permit as they are below the required threshold. In 2023, all installations emissions were within the permitted allowance. NOX is the biggest non-CO_2 contributor to atmospheric emissions with around 2,446 tonnes emitted in 2023. Despite this, NOX only accounts for 0.33% of the company's overall emissions.

OIL IN PRODUCED WATER (OIW)

The fluid extracted from our oil wells contains a mixture of oil, entrained gas, and water. The primary function of our offshore installations is to separate the oil, gas, and water before sending the oil onshore and either reusing the produced gas as fuel, using it to aid lift in wells or exporting to other platforms or onshore. Where no other option exists, produced gas is combusted in the flare. The water produced during the process is treated before it is safely discharged to sea.

To protect the marine environment, industry regulators place strict limitations on both the concentration and quantity of oil discharged in produced water, with a drive towards minimising these discharge concentrations. At these low concentrations, the entrained oil quickly disperses and is broken down by weathering and/or is biodegraded by marine microorganisms. The UK government enforces a standard, internationally agreed, emission limit value of 30 mg of oil per litre of produced water discharged (flow weighted average over one month), to which all our offshore installations must adhere to.

The total volume of produced water discharged from our assets during 2023 was 11,827,058 m3. This discharge contained 271 tonnes of dispersed oil at an average concentration of 22.90 mg/l.

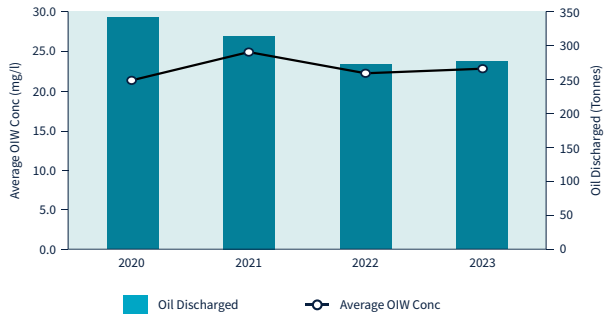

Figure 5
Annual average oil in water concentration (mg/l) and total mass of Oil discharged to sea (tonnes)

Figure 5 shows a 2.5% increase in the total mass of oil discharged to sea in 2023 relative to 2022. Conversely, across our installations we saw a modest 1.2 % decrease in produced water volume on the previous year. This can be linked to wells being offline and Auk, Clyde, Claymore and Piper having periods of production outage in Q3 and Q4.

Figure 5 also presents a 3.7% increase (0.82 mg/l) in the average OIW discharge concentration for 2023 compared to 2022. The Company average OIW discharge continued to remain below the permitted limit of 30 mg/l (av) with a yearly average concentration of 22.90 mg/l. Any OIW discharges in excess of 100 mg/l were notified to the environmental regulator as OPPC non-compliances and are generally attributed to process upsets and/or poor separation facilities linked to deteriorating weather in the case of Bleo Holm FPSO.

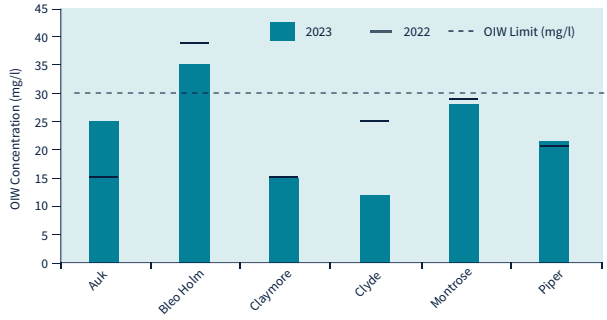

Figure 6
Installation oil in produced water performance

Figure 6 illustrates the annual average OIW concentrations for each operating installation in 2023 with 2022 as a comparison. With the exception of Bleo Holm, all other installations achieved better than the 30 mg/l threshold for discharges to sea in 2023.

The conditions in the North Sea are harsh, and inclement weather/ sea states are not uncommon. During these conditions the Bleo Holm FPSO experiences vessel rolling. The rolling motion has an impact on the effectiveness of the separation system resulting in the inability to efficiently polish the discharge stream. As a result, during such periods, higher than normal concentrations of oil are discharged within the produced water stream. This ultimately has a knock-on effect to the annual average OIW concentration for the installation, which for 2023 was 35.2 mg/l. This is a reduction from the 2022 average of 40.8 mg/l. This 14% reduction in OIW is due to both novel technologies investigation and chemical treatment review. Whilst technology investigations continue, chemical treatment reviews are providing successful outcomes.

The marked reduction in Clyde OIW concentrations for 2023 was due to a prolonged shutdown of operations. Due to minor process upsets, Auk saw a marginal increase in OIW concentration in 2023 compared to 2022, however, it still managed to remain within the annual legal requirements.

The Company proactively monitors OIW compliance across the sites and where relevant Produced Water Improvement plans are generated to support the return of sites into compliance. Such improvement plans are in place for Bleo Holm.

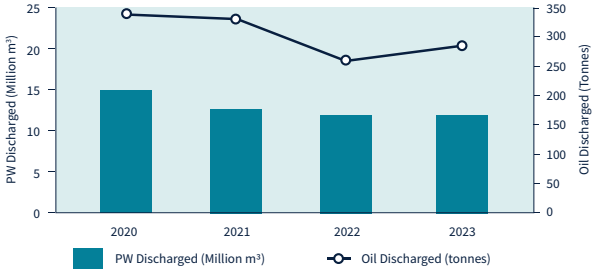

Figure 7
Annual Discharge Mass of Oil and Volume of Produced Water

Figure 7 highlights a slight increase in mass (7 tonnes) of oil discharged to sea throughout 2023 in comparison to 2022. Across all assets there was a 1.2% reduction (141,922 m3) of produced water discharged in 2023 compared to 2022. This reduction when comparing against 2022 can be attributed to shutdowns of the Auk, Clyde, Claymore and Piper in Q3 and Q4 2023.

Due to the nature of produced water, discharges can occasionally give rise to an oily sheen on the sea surface around the installation. Periodically, either due to poor plant performance resulting in sustained higher oil in waters, or calm weather, sheens can extend larger distances from the discharge point. Any notifications of sheens reported on our installations are investigated, and, if necessary, steps taken to rectify the cause. Where these sheens are considered more significant than normal, and extend outside the Installation 500 m zone, we are required to notify the environmental regulator via a PON1 Permitted Discharge Notification (PDN). During 2023 the Company raised no such notifications which were attributed to significant sheens extending beyond the 500m for our installations.

PRODUCTION CHEMICALS

The Company uses a variety of chemicals within the offshore production process. Chemicals are used to maintain and operate subsea infrastructure, improve the flow of fluids from the reservoir, aid separation, prevent corrosion and prevent, or remove, deposited solids within vessels and flow lines. Production chemicals are then either exported with oil to shore, degraded within a closed loop system or discharged to sea in the produced water stream.

The use and discharge of production chemicals offshore is closely regulated through the approval of a chemical permit for each installation or activity: production operations, pipeline operations, well intervention and drilling activities. An approved permit will incorporate regulatory limits for each chemical used and discharged and is issued under the Offshore Chemical Regulations (OCR) 2002, as amended. These regulations implement the OSPAR Decision 2000/2 on Harmonised Mandatory Control System (HMCS) for the Use and Reduction of the Discharge of Offshore Chemicals on the UK Continental Shelf. Fundamental to this, HMCS requires the comprehensive testing, ranking, hazard assessment and management of chemicals and the substitution of chemicals where less hazardous alternatives are available.

Repsol UK ensures all production/operation chemicals used during our offshore activities are used under permit and undergo the associated assessments. Chemical use is managed through internal assurance activities, including permit compliance, and reviewed for opportunities to improve environmental performance. Usage and discharge rates are reported back to the environmental regulator on a quarterly basis, or at the end of the term for non-production permits.

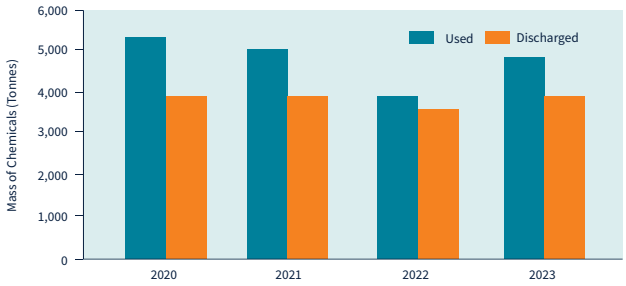

Figure 8

Production chemicals used and discharged 2020 - 2023

Figure 8 illustrates that there has been a slight increase in production chemical use and discharge in 2023 as compared to 2022. The increase can primarily be associated with reduced production outages on the Bleo Holm.

Some of the production chemicals used and discharged have a substitution (SUB) warning. This means they contain components, or a component, that may present a hazard to the marine environment. An important part of the HMCS is the phasing out and replacement of these harmful chemicals for more environmentally acceptable alternatives.

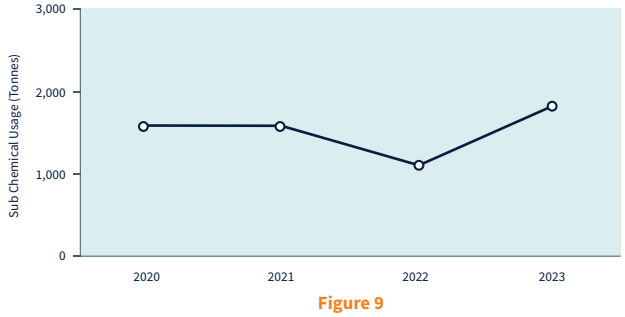

Figure 9

Usage of chemicals with substitution warning 2020 - 2023

Figure 9 shows an increase in the use of chemicals with SUB warnings in 2023 compared to previous years. The increase in the use, and associated discharge, of chemicals with a SUB warning in 2023 can primarily be attributed to chemicals not previously carrying a SUB warning being reclassified, for example the hydraulic fluid widely used across many assets. The hydraulic fluid in use contains a dye component which, facilitates the identification and repair of leaks, and as such, minimises unnecessary discharge to the environment.

To reduce the number of chemicals with a SUB warning used on our installations we work closely with chemical vendors to seek alternatives. Part of this process assesses performance, overall hazard and volumes used and discharge route. These aspects drive the calculated Risk Quotient (RQ) reflecting environmental impact as a whole and allow prioritisation of swap-out.

Internal Assurance Reviews on an installation/permit basis focus on SUB warning chemical use, with both existing and alternative vendors, seeking to identify newly developed chemistries and implement field trial assessments where laboratory-based evaluation indicates comparable performance and reduced environmental impact. It should be noted however that where bespoke chemicals were developed to uniquely address specific production issues this is often challenging, and change timelines can be lengthy. As mentioned above, the periodic reassessment of chemical RQ and SUB classification occasionally results in established chemistries gaining SUB warning categorisation. Repsol UK commits to reduce the number of chemicals with a SUB warning by reviewing options regularly and reporting progress to the industry regulator annually.

DRILLING, WELL INTERVENTION & PIPELINE CHEMICALS

In 2023, the Company continued implementing drilling, well interventions and subsea pipeline operations. These operations rely on the use of chemicals, and all chemicals used in these operations undergo a planned selection and permitting process to optimise the integrity, safety and efficiency of the processes they are used in. Where possible, 'greener' products are introduced with lower risk to the environment, where the operations safety and efficiency is not compromised.

Figure 10 indicates that 2023 saw a reduction in the total chemical use and discharge across drilling, well interventions and subsea pipelines operations, compared to 2022, however with a slight increase compared to the previous years.

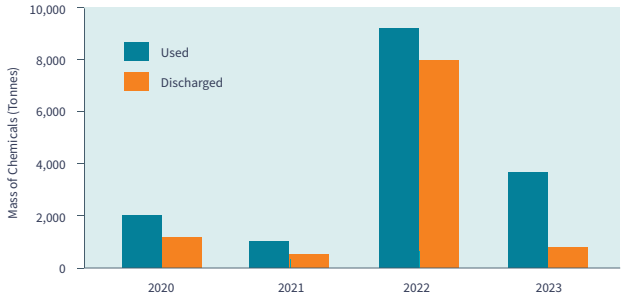

Figure 10

Total chemicals used and discharged in drilling, well interventions and pipeline operations

Routine annual well interventions were carried out across all assets as planned. These activities included all platform wells, two subsea tie-backs (Arkwright and Tweedsmuir) and subsea satellite wells annual maintenance, including TVIT (Tree Valve Integrity Testing) and other repair works associated with the subsea wells.

Routine well intervention activities are undertaken in support of steady production and well safety and integrity. These activities include: scale inhibitor squeeze injection, scale soak operations, annulus top-ups, pressure testing and flushing of lines. Chemicals utilised for the removal of scale and solids build-up account for a significant volume used in the well maintenance. Corrosion inhibiting chemicals are required to protect the well and pipework from internal corrosion. Whenever seawater is injected, it is dosed with biocide to prevent bio-growth in the well envelope.

Subsea wells interventions were carried out from the DSV (Diving Support Vessel) and in addition to TVIT, included the following operations: Scapa and CASWI leak rectification, Scapa AOT (Actuator Override Tool) installation, Flyndre choke valve cleaning and multiphase flowmeter check, Brechin SCM (Subsea Control Module) Replacement; and Wood SCM replacement.

Pipeline application included: Arkwright hydraulic hose installation and hydraulic function swap. Another pipeline application was made for Wood IVS (Isolation Valve Skid) Installation, that was completed as Phase 1. Phase 2 is planned to start in 2Q 2024 for the SVS (Supplementary Valve Skid) to be installed and the pipeline spool changed out. Both Phase 1 and Phase 2 chemical usage will be reported in 2024 when the entire scope is completed.

Well interventions in 2023 included the following abandonment/ decommissioning campaigns: Buchan Plug & Abandonment (P&A) Phase 2, and partial Phase 1 wells abandonment on Fulmar, Tartan and Beatrice platforms. Montrose 2022 P&A campaign was partially completed for two wells and chemical usage reported in 2023.

As shown in **Figure 11**, the main portion of chemical use is accounted for by drilling. Drilling operations use large quantities of chemicals, however these are used on a one-off project basis and only for a limited period of time.

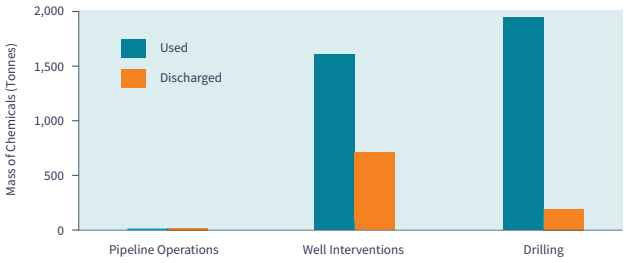

Figure 11

Chemical use and discharge by operations

In 2023, the drilling programme was implemented on Claymore CAS (C90) well, that was drilled with Water Base Mud (WBM) and Low Toxicity Oil Base Mud (LTOBM). Cuttings from WBM sections were discharged offshore and LTOBM cuttings were brought to shore for treatment and disposal via an authorised waste management contractor. The well circulation clean-up fluids with the associated chemicals were discharged offshore in accordance with the approved permits. However, the well was suspended in April 2023 for future completion and the chemical usage associated with CAS well is to be reported in 2024.

Another drilling programme implemented in 2023 was 22/22a-N4 Shaw-SHC well, drilled with Stena Don semi-sub MODU in the Montrose area. SHC was also combined WBM and LTOBM drilling. The well however was suspended in March 2023.

P&A activities also have a one-off project impact, however much less intense than that of the drilling process. Well intervention chemicals are used on a routine basis, however in significantly smaller quantities. Generally, these are routed back to the host production installation, where discharge occurs along with produced water (PW). And finally, pipeline operations, that were mainly associated with subsea wells tie-in repair and maintenance, will discharge most chemicals through flushing, after barrier testing and disconnection activities, and the quantities involved are minor.

All chemicals disposal options are subject to careful selection, assessment and approval. In the initial stage of drilling, when seawater is mixed with viscosifying chemicals to assist the drilling process, such fluids are not discharged, but collected at the topside and transported to shore for further treatment and disposal via an approved waste management route. However, when mostly clean fluids are returned from the well, the pre-selected and approved chemicals are mixed with seawater and circulated within the well, thus forming part of the well clean-up process. Such fluids from well clean-up process are discharged offshore.

The company is continuously focusing on reducing the use of substitution (SUB) warning chemicals. However, such chemicals are still present primarily within the subsea wells interventions, abandonment and drilling operations, due to their specific nature. The company continues to work closely with chemical vendors, suppliers and contractors to test and replace chemicals subject to substitution. However, this is a timely process, and such products could be replaced within a few year period, provided they are available in the market, and where it is operationally feasible and does not compromise the safety and integrity of the wells operations.

ACCIDENTAL RELEASES

The first Golden rule of the Company is to prevent oil, gas and chemical leaks. Assuring plant integrity and raising awareness of spill risks is critical to the prevention of spills across our assets. Alongside this, ensuring individuals are competent to perform their duties and following the Company operating procedures is imperative for adherence to environmental permit requirements. If spills do occur, they are thoroughly investigated, and corrective action is taken.

Figure 12 shows a significant decrease, in both the number of spills and total mass released from reportable spill events, from 2020 to 2023. There was a total of 10 spills in 2023 comprising 7 chemical spills and 3 oil spills.

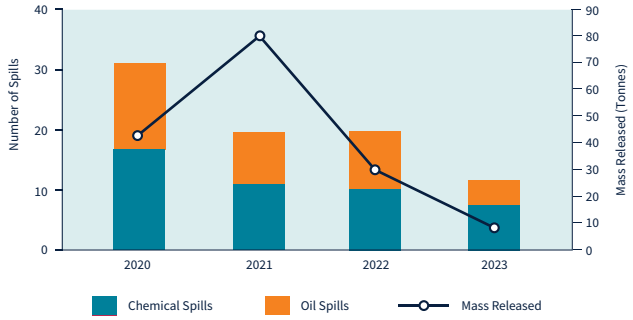

Figure 12

Overall total number of oil and chemical spills, and mass released 2020 - 2023

Uncontrolled releases of hydraulic control fluid from our subsea systems contribute towards a significant number of our reportable incidents. The relatively high volume of hydraulic control fluid lost can be attributed to aging systems and their design (these systems are designed to be operated to failure). Under normal operations, these systems are permitted to discharge 100 % of the control fluids which is accounted for under chemical permits. Despite this, any uncontrolled releases from these systems are always reported to the environmental regulator as a spill event.

Computer modelling of hydraulic fluid loss is conducted as part of our environmental impact assessment(s) and results show that only an instantaneous loss of several hundred tonnes could have a discernible impact on the environment. The uncontrolled release of hydraulic fluids, oil and other chemicals in 2023 occurred over a protracted period of time, with a combined total mass of 9.22 tonnes, and modelling predicts that there is no significant impact on the receiving marine environment.

The Company adheres to regulatory requirements to notify the regulator and communicate corrective action plans, along with timescales for rectification.

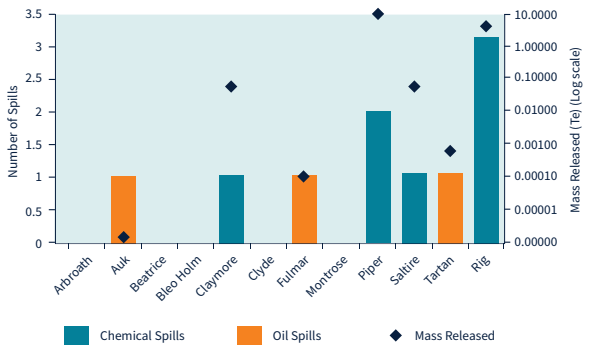

Figure 13

Reported spills events with associated mass released in 2023

Oil or chemical spills are typically less than 0.1t of fluid on each occasion – as can be seen in **Figure 13**. Only two spills in 2023 exceeded this mass, one being on Piper at 7.43 tonnes as detailed below and the other a rig spill of hydraulic fluid at 1.7 tonnes.

An example of one of the spills below 0.1 tonnes was on Auk, where a loss of containment on the Closed Drains Line was recorded in November. Analysis results confirmed the mass of oil released as being 1.4 g (0.0000014 tonnes). Contrastingly, the largest spill in 2023, as show in the table below, occurred on the Piper platform in September when the Day Tank D6545 was emptied to sea following an exothermic chemical reaction and toxic gas evolution. This incident was handled appropriately, and an investigation was carried out by the Offshore Major Accident Regulator.

Table 3 - 2023 Spill Mass > 2 tonne

Location	Brief Details	Hydro-carbon / Chemical	Mass Released (Tonnes)
Piper	Chemical reaction within tank resulted in sulphurous vapour release via tank vent / and or tank overflow. Day tank contents routed to sea to ensure safety	Chemical	7.425

WASTE MANAGEMENT

Waste Management is a key focus area for the Company and the energy industry. Extraction of oil and gas along with increased decommissioning activities leads to inevitable use of materials, energy consumption and waste generation.

In conjunction with our environmental policy, we have set targets for waste management and continue to explore opportunities to reduce the volume of waste generated by our activities. This can include the removal of waste streams or improvements in efficiency; resulting in fewer resources required and less waste generated.

By applying the waste hierarchy, we can prioritise opportunities to reduce, reuse, recycle, recover energy and responsibly dispose of waste. This can harness and maximise the value of waste as a resource, minimise the use of energy, minimise the consumables involved in moving and processing the waste and reduce volumes being sent to landfill. Waste is generated from a variety of sources including our onshore office and sites, offshore facilities and activities such as: maintenance, replacing components / equipment, repairs, drilling and the packaging of consumable products. Waste is also generated in the decommissioning and removal of offshore installations and infrastructure which are no longer involved in producing hydrocarbons. These waste materials may no longer be of use to the company but can be of value to third parties.

All waste materials generated offshore are segregated by type and shipped to shore for treatment, reuse, recycling, or safe disposal by licensed waste companies. In compliance with legislation and best practice, the company has controls in place for the safe handling, storage, treatment and disposal of waste arising from activities. We aim to continually improve in this area by minimising the associated impacts related to waste generation.

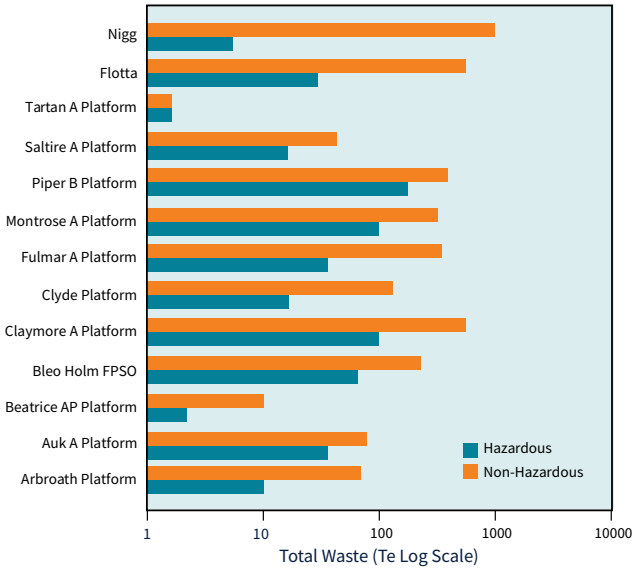

Figure 14

Total waste produced per installation in 2023, showing hazardous and non-hazardous break down

Figure 14 shows that waste is predominantly non-hazardous. Nigg Terminal had the largest amount of waste generated during 2023 due to ongoing decommissioning of the site. Similarly, Flotta Terminal began the decommissioning of a ballast water tank which involved a Tank Decontamination & Demolition work scope. This, consequently, generated a large amount of waste.

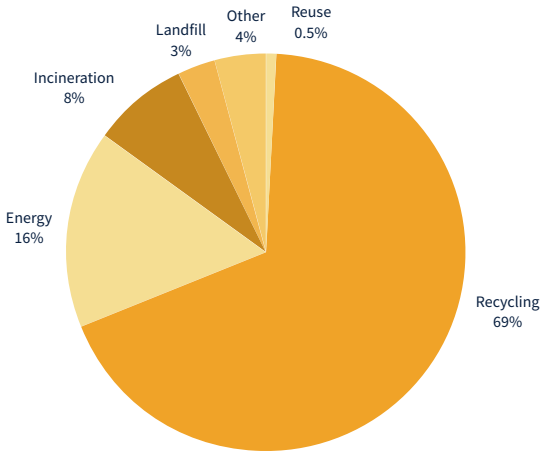

Figure 15

Percentage of waste by disposal routes 2023

Figure 15 represents the percentage of waste sent through disposal routes for the total volume of waste generated in 2023, with 69% of all company waste being recycled, compared with 54% in 2022.

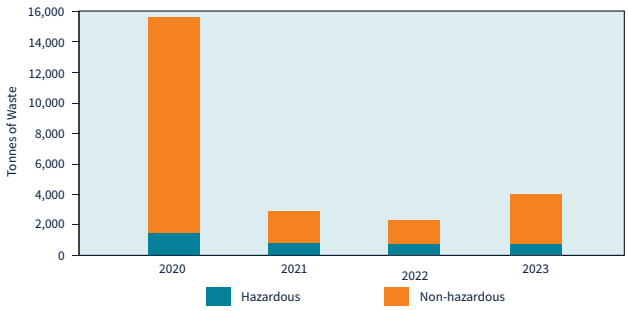

Figure 16

Tonnage of Waste Generated per Year

Figures 16 shows a comparison over a 4-year period (2020 to 2023) of the total waste generated by the Company. Overall waste generated in 2023 increased slightly with the largest increase being due to increased decommissioning workscopes at the Nigg Terminal.

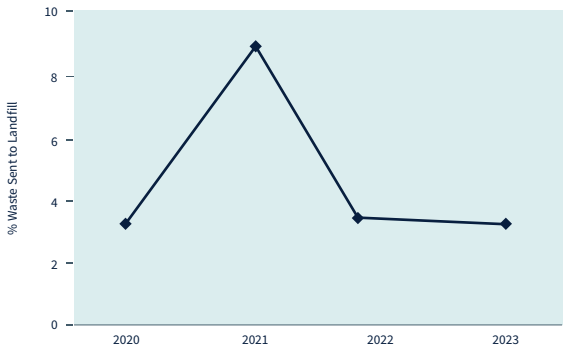

Figure 17

Percentage of operational waste sent to landfill

WASTE MANAGEMENT

In conjunction with our environmental policy, we have set targets for waste management and continue to explore opportunities to reduce the volume of waste generated by our activities. This can include the removal of waste streams or improvements in efficiency; resulting in fewer resources required and less waste generated.

Figure 17 shows a decrease in the percentage of operational waste to landfill in 2023 when compared with previous years. This decrease can be attributed to increased efficiency of waste sorting offshore. Furthermore, the waste disposal supply chain continued to carry out additional sorting onshore. This has resulted in an increase in routing waste from landfill to 'Waste to Energy', where waste is being utilised as a resource for power generation.

Decommissioning Waste:

Beatrice, Saltire and Tartan are no longer in production and all waste from those assets is now classed as decommissioning waste. Alongside these assets, Nigg Terminal has also entered into the decommissioning phase, with a considerable quantity of waste now being classed as decommissioning waste. Total waste from these assets amounted to 1389.64 tonnes, 1271.55 tonnes of which was recycled.

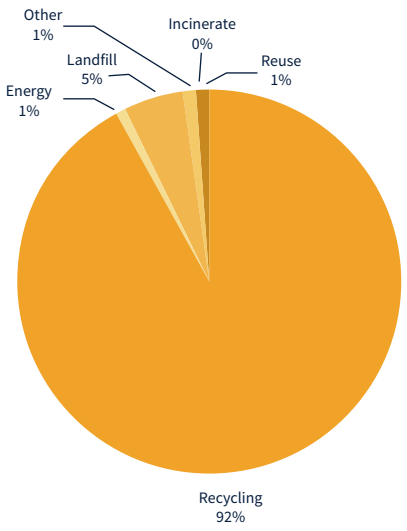

Figure 18

Percentage of waste by disposal routes from decommissioned assets

Figure 18 shows the percentage breakdown for decommissioning waste including wells abandonment in 2023. 92% of waste was recycled, while only 5% of the total was sent to landfill.

Continual Improvement:

We recognise that re-using equipment can be a cost-effective and sustainable alternative to purchasing new equipment, as it reduces the need for new materials and resources.

It can also help to reduce the overall environmental impact of offshore activities by minimising waste and promoting resource efficiency. Due to this increased emphasis on identification and enactment of appropriate reuse opportunities, the role of a Technology Development & Re-Use/ Repurpose Advisor was created in 2022. Part of this role involves looking specifically at opportunities for Reuse in our upcoming and currently decommissioned assets, including the offshore infrastructure and equipment as well as onshore areas including spares and material in storage. The re-use of equipment can also contribute to the circular economy in several ways:

- Firstly, by reusing equipment instead of disposing of it, we can reduce the amount of waste generated and thereby conserve natural resources.
- Secondly, by re-using equipment, we can avoid the energy and materials required to manufacture new equipment, which can help reduce greenhouse gas emissions and other negative environmental impacts associated with production.
- Finally, the re-use of equipment can create economic opportunities by extending the life of equipment and reducing the need for new equipment purchases.

When reviewing the possibility of re-use, there are several considerations which we must remain aware of throughout the process. **Figure 19** provides an overview of the key questions which will be explored in each re-use initiative.

Figure 19

Re-use initiative considerations

APPENDICES

GLOSSARY

av	Average
BLP	Bridge Linked Platform
BOE	Barrels of Oil Equivalent
CH_4	Methane
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
COP	Cessation of Production
DSV	Dive Support Vessel
EU ETS / UK ETS	European Union Emissions Trading Scheme / UK Emissions Trading Scheme
FPSO	Floating Production, Storage, Offload vessel
GHG	Greenhouse Gas
HMCS	Harmonised Mandatory Control System
KPI	Key Performance Indicator
mg/l	Milligram / Litre
NAP	National Allocation Plan
N_2O	Oxides of Nitrogen
NM VOC	Non-Methane Volatile Organic Com pounds
NNA	Not Normally Attended
NOx	Oxides of Nitrogen
OBM	Oil Based Mud
OCR	Offshore Chemicals Regulation 2002
OIW	Oil in Produced Water
OPPC	The Offshore Petroleum Activities (Oil Pollution and Control) Regulations 2005
OPRED	Offshore Petroleum Regulator for Envi ronment and Decommissioning
OSPAR	The Convention for the Protection of the marine Environment of the North East Atlantic
PDN	Permitted Discharge Notification
PW	Produced Water
RQ	Risk Quotient
SEMS	Safety and Environmental Management System
SEPA	Scottish Environment Protection Agency
SOx	Oxides of Sulphur
SUB	Substitution
The Company	Repsol Resources UK limited
The Regulator	Department for Business, Energy & Indus trial Strategy (OPRED)

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