

REPSOL SINOPEC RESOURCES UK LIMITED

2021 ENVIRONMENTAL STATEMENT



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Repsol Sinopec Resources UK Limited strives to provide a reliable, safe and efficient energy supply; to continuously improve to meet current challenges within the oil and gas industry and deliver environmental performance that meets or exceeds regulation.

The new processes we put in place at the start of 2020, and the continued resilience of our workforce, enabled us to successfully navigate the global COVID-19 pandemic. Throughout this period, Repsol Sinopec Resources UK Limited remained committed to protecting the environment, whilst providing a reliable and efficient energy supply.

In 2021 we further reduced our greenhouse gas emissions (expressed as CO₂ equivalent) by 300,000 tonnes, which is in line with Phase 1 of our Emissions Road Map to Net Zero. For 2022, we aim to reduce CO₂e by a further 190,000 tonnes.

Our total mass of oil and produced water discharged to sea reduced in 2021 and our overall oil in water performance remains well below regulatory limits. In parallel, we are implementing further improvements to continuously improve produced water management across our assets. Chemical use and discharge across our production operations remained consistent with the previous year.

During 2021 we commenced platform-based drilling operations at two of our sites; namely Claymore and Piper, with the first new wells being delivered on these assets in 10 years and 20 years respectively.

We reduced the number of accidental oil and chemical spills in 2021, including a halving of oil spill events. Our largest spill for the year was from our Scapa subsea field, which was rectified via a Dive Support Vessel (DSV) campaign in Q2.

Throughout 2021 we continued to work closely with our waste management vendor and their subcontractors to drive improvements and awareness at all our operated installations. Overall waste generated in 2021 significantly decreased from the previous year. Furthermore, year on year, we continued to reduce the volume of waste sent to landfill, achieved through onshore sorting.

Despite seeing year on year improvements through some of our key environmental indicators, we continue to set ourselves demanding targets for improvement, ensuring protecting the environment remains central to our business.



Darren Stoker
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	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	22/18	Arbroath
Arkwright	22/23a	Arbroath
Auk	30/16	Auk
Auk North	30/16n,t	Fulmar
Beatrice	11/30a	Beatrice Complex ¹
Beaully*	16/21	Balmoral**
Blake	13/24b	Bleo Holm
Brechin	22/23	Montrose
Buchan	21/01	Buchan [†]
Burghley*	16/22	Balmoral**
Carnoustie	22/17	Arbroath
Cayley	22/17s	Montrose
Chanter	15/17	Piper B
Claymore 14/19	14/19	Claymore
Claymore 14/20b	14/20b	Claymore
Clyde	30/17b	Clyde
Duart	14/20b	Tartan ¹
Enoch*	16/13a	Brae*
Flyndre ³	30/13 & 30/14	Clyde
Fulmar	30/16	Fulmar
Galley	15/23	Tartan ¹
Godwin	22/17n & 22/17s	Arbroath
Halley	30/12b	Fulmar
Hannay	20/05c	Buchan [†]
Highlander	14/20	Tartan ¹
Iona	15/17	Piper B
Leven	30/17b	Clyde
Medwin	30/17b	Clyde
Montrose	22/17	Montrose
Nethan	30/17b	Clyde
Orion	30/18	Clyde
Petronella	14/20	Tartan ¹
Piper	15/17	Piper B
Ross	13/29	Bleo Holm
Saltire	15/17	Saltire ¹
Scapa	14/19	Claymore
Shaw	22/22a	Montrose
Tartan ¹	15/16	Tartan ¹
Tartan North Terrace	15/16b	Tartan ¹
Tweedsmuir	21/01a	Piper B
Wood	22/18	Montrose
Andrew*	16/27a	Andrew*
Balmoral*	16/21b,c	Balmoral*
Blane*	30/03	Ula*
Glamis*	16/21a	Balmoral**
MacCulloch*	15/24b	North Sea Producer**
Stirling*	16/21b,c	Balmoral**
Wareham*	98/06a,07a	Onshore
Wytch Farm*	98/06a,07a	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 Within Decommissioning Phase

³ Assumed Operatorship 24th November 2021

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.

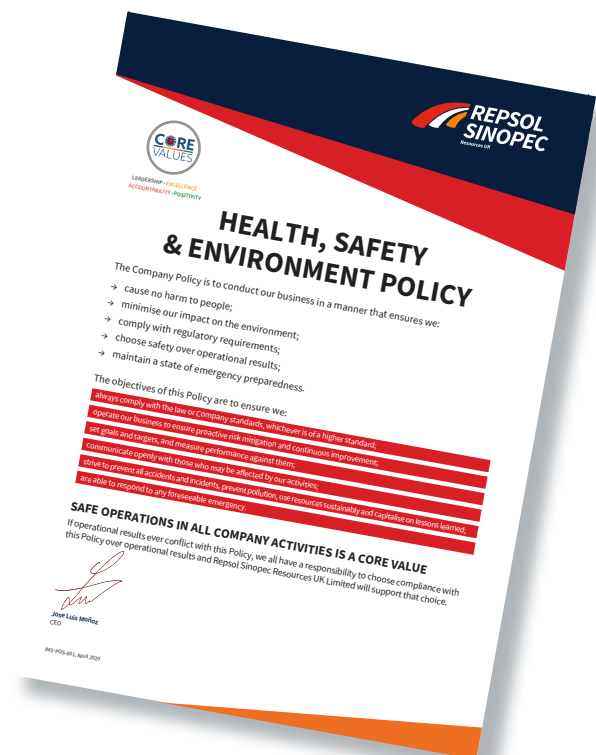
We follow a two phase environmental management strategy

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.



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 prevention, control and mitigation.
- 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.

ENVIRONMENTAL PERFORMANCE

**EMISSIONS TO ATMOSPHERE
OF GREENHOUSE GASSES**



The Company recognises the importance of emissions management and reducing the carbon intensity of its operations. The Company has developed an Emissions Management Plan which provides clear and demonstrable commitment to emissions reduction and pathway to 2050 Net Zero.

The Company has developed its own road map to the 2050 Net Zero emissions goal. Whilst this is aligned to the Offshore Energies UK's Road Map to Net Zero, it details the key steps the Company believes it will need to take in order to achieve Net Zero.

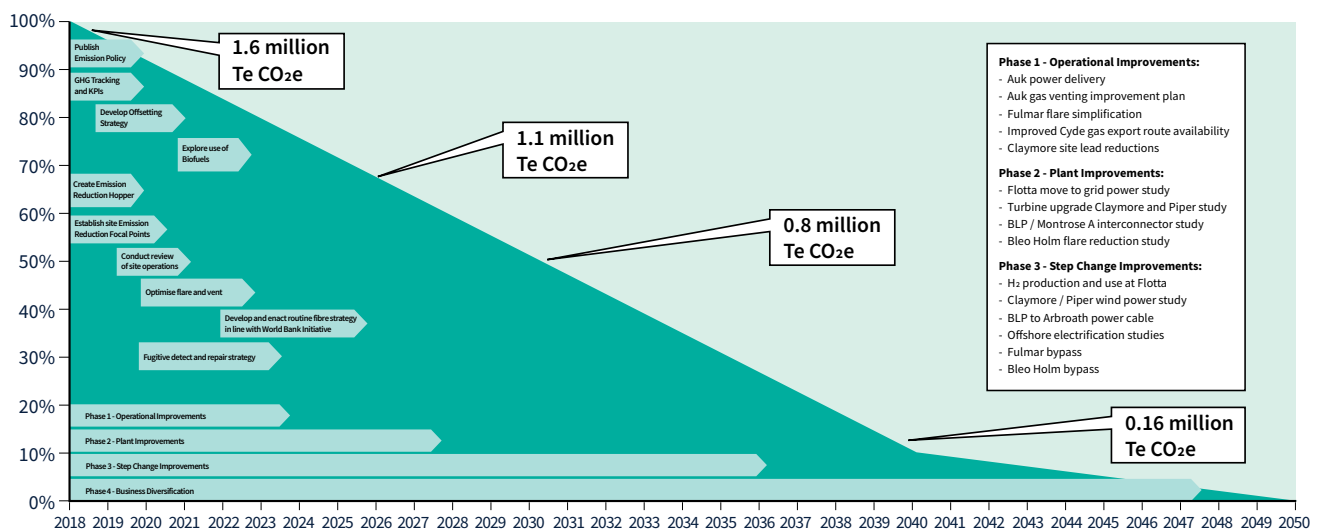


Figure 1
Emission Road Map to Net Zero 2050

One such step has been the development and publication of a Greenhouse Gas (GHG) emissions management policy, which has a purpose to establish and communicate the leadership commitment to Emissions Management and the 2050 Net Zero emissions goal by the board, Executive Committee (ExCom), Executive Management Team (EMT), Senior Management, Employees and key Contractors.

Since 2018 the Company has executed a number of emission reduction initiatives which have helped reduce emissions. A summary of the most notable are as follows:

Initiative	Emissions Saving (Tonnes CO ₂ e)
Clyde flare reduction plan	> 100,000
Piper flare optimisation	> 60,000
Fulmar flare and vent reduction plan	> 35,000
Installation of Fulmar to Auk power interconnector	> 25,000
Montrose single export compressor operations and flare optimisation	> 30,000
Bleo Holm compressor valve tuning, pump optimisation and cold vent management	> 20,000

The Company continues to explore opportunities for emissions' reductions across our portfolio, these opportunities fall into 4 broad improvement categories:

Phase 1 - Operational Improvements: Delivering emissions reductions by changing the way we operate our existing plant and equipment

Phase 2 - Plant Improvements: Delivering emissions reductions by plant upgrades and operational philosophies

Phase 3 - Step Change Improvements: Delivering emissions reductions by larger scale changes such as platform electrification, deployment of renewable power sources, CCS and hydrogen

Phase 4 - Business Diversification: Delivering emissions reductions by diversifying from oil and gas production

2021 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, that cannot be used or exported, has to 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 CO₂. To fully reflect the impact of our operations, GHGs are combined and expressed as tonnes of CO₂ equivalent (CO₂e). In this report all references to CO₂e figures assume one tonne of CH₄ to be equivalent to 25 tonnes of CO₂. We also use Production Carbon Intensity, that is, the tonnes of CO₂e produced per unit

EMISSIONS TO ATMOSPHERE OF GREENHOUSE GASSES

of production (1000 Barrels Oil Equivalent (BOE)) as a measure of production efficiency from a climate change perspective.



Figure 2

CO₂ Equivalent emissions and production intensity annual trend (2018 - 2021)

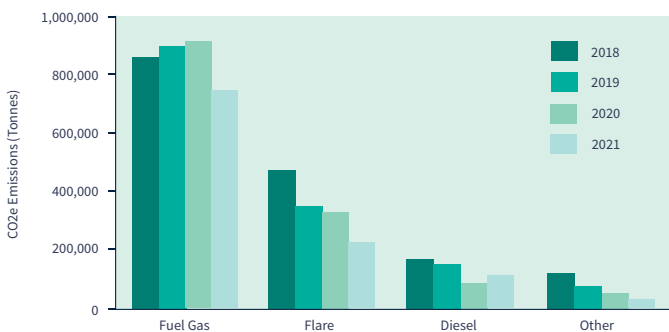


Figure 3

CO₂ Equivalent emissions by source stream (2018 - 2021)

Figure 3 shows the contribution of CO₂e from each source stream over the last 4 years. The company continues to optimise the use of fuel gas and avoid using diesel, however a number of unplanned shutdowns over the course of the year has contributed to the reduction in emissions from fuel gas and the increase in emissions from diesel. As with previous years emissions from flare performance continues to improve, whilst the previously mentioned unplanned shutdowns contributed to this, across the assets there has been a continued focus on minimising flare, through compressor tuning, identifying flare sources and reducing where possible, improved performance of gas sweetening plant. “Other” includes emissions from venting and fugitive emissions also continue to decrease, again this is due to maintaining steady operations, reducing cold flaring / venting in favour of hot flaring (whilst hot flaring continues to have a CO₂ emission, the amount of CH₄ emitted is much less than cold flaring / venting).

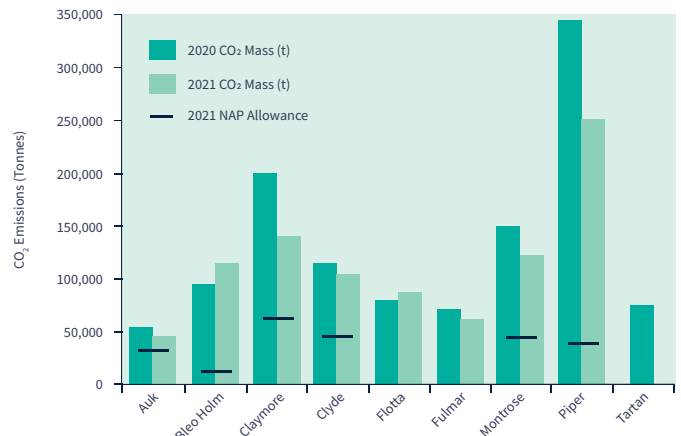


Figure 4

2021 / 2020 UK ETS CO₂ emissions and free allowance per installation

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 CO₂ emissions from larger industrial installations. The basic principal is that at the end of each year qualifying installations must surrender an “emissions allowance” for each tonne of CO₂ 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 4 shows the total installation emissions against the total free allowance provision (National Allocation Plan (NAP)). UK ETS qualifying emissions relate to CO₂ resulting from combustion only and does not take into account the CO₂ equivalency for methane and other uncombusted GHG’s. As can be seen not all sites qualify for a free allowance allocation, our onshore terminal, Flotta, is deemed as an electricity generator as it exports to the grid. Additionally, at the time of applying for free allocation under Phase IV of the ETS Fulmar’s operational mode was changing and it was determined that the installation would qualify for very little if any at all, therefore a decision was made not to apply and hence it does not receive an allocation.

In Q3 2020 the Tartan Installation ceased production with preparatory works progressed to air gap and mothball equipment prior to the installation formally becoming Not Normally Attended (NNA) in December 2021. This resulted in Tartan ultimately falling out of the EU ETS at the end of 2020 as the installed combustion equipment fell below the 20 MWth threshold. As a result, there was no longer a regulatory requirement to monitor and report emissions annually via the UK ETS hence there is no 2021 CO₂ emissions data reported in **Figure 4**.

Figure 4 also highlights that the majority of installations have reduced the quantity of UK ETS qualifying CO₂ emissions emitted in 2021 compared to 2020. Piper had a significant improvement in its CO₂ emissions emitted in 2021 which were down to the rectification of an issue with its amine plant which resulted in an extended period

EMISSIONS TO ATMOSPHERE OF GREENHOUSE GASSES

of elevated flaring in 2020. The reduction in CO₂ emissions from Claymore in 2021 when compared to 2020 is a result of the extended shutdown and the prolonged shut-in of the Scapa field resulting in a significant drop in fuel gas use across the year.

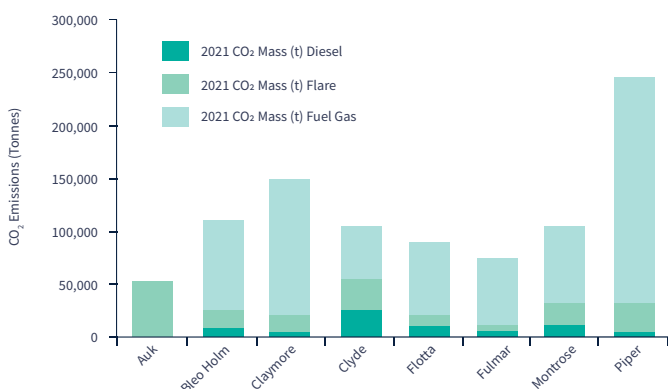


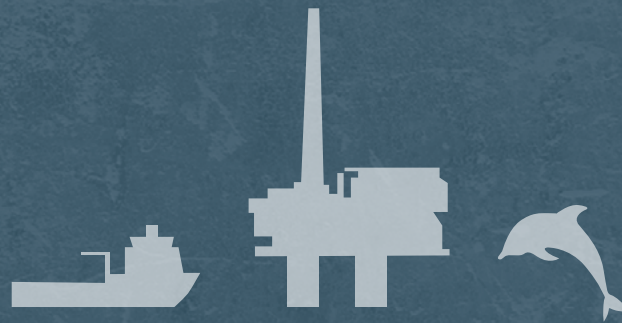
Figure 5

2021 UK ETS CO₂ emissions by source stream split per installation

As the above graphs demonstrate, the majority of assets have reduced the quantity of UK ETS qualifying CO₂ emissions emitted in 2021 when compared to 2020. **Figure 5** highlights the individual source streams per installation that contribute to the total CO₂ emissions. The company is continually striving to optimise hydrocarbon fuel use and flaring activities in order to proactively reduce CO₂ emissions in line with our GHG Emissions Management Policy and drive to ensure a more sustainable business moving forward.

ENVIRONMENTAL PERFORMANCE

**DISCHARGES
TO SEA**



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 combusting it in the flare. The water 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 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 amount of produced water discharged from our assets during 2021 was 12,881,466 m³. This discharge contained 324 T of dispersed oil at an average concentration of 25.13 mg/l.

Figure 6 shows a 4.7 % decrease in the total mass of oil discharged to sea in 2021 relative to 2020. This decrease in mass is directly linked to not only the volume of produced water discharged, but also the concentration of oil within each discharge stream. Across our installations we saw a modest 17 % decrease in produced water volume on the previous year. This can be linked back to shut-in production from some fields e.g. Scapa, an extended shutdown on Claymore and the cessation of production (COP) from the Tartan Alpha Installation in August 2020. **Figure 6** also shows a 14 % increase (3.25 mg/l) in the Company average discharge concentration for 2021 compared to 2020. This increase can be attributed to the accumulation, throughout the year, of numerous instances where sample discharges of more than 100 mg/l were recorded. Such discharges 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. In addition, Clyde experienced OIW issues when Flyndre fluids were routed through the Clyde process. The decrease in produced water volume would also have had a slight detrimental effect on the efficiency of the oil in water separation equipment. Although there was an increase in the annual average OIW discharge concentration, at a Company level, the average concentration remains below the permitted limit of 30 mg/l (av).

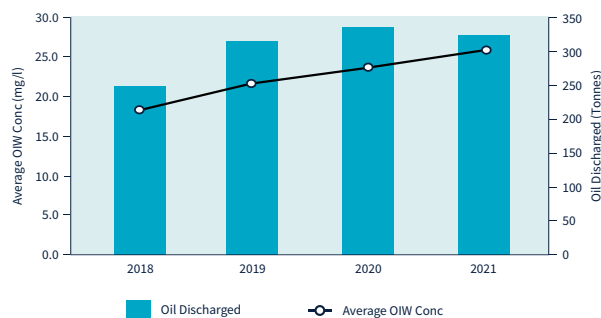


Figure 6
Annual Average Oil in Water Concentration and Total Mass of Oil Discharged to Sea

Figure 7 illustrates the annual average OIW concentrations for each operating installation in 2021 with 2020 as a comparison. With the exception of Bleo Holm and Montrose, all other installations achieved better than the 30 mg/l threshold for discharges to sea in 2021.

The North Sea is a harsh environment and inclement weather/sea states are not uncommon, during such instances the Bleo Holm FPSO experiences vessel rolling. The rolling motion has a consequence 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 2021 was 39.3 mg/l.

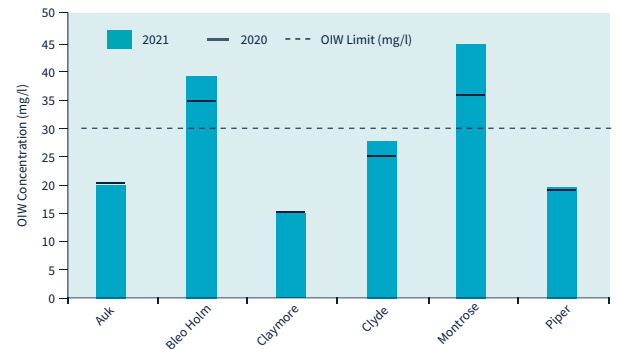


Figure 7
Installation Oil in Produced Water Performance

Montrose and the Montrose BLP experienced OIW issues throughout 2021 that were attributed to the 1st stage separator and level control issues. The overall OIW figure for Montrose for 2021 was 43.3 mg/l.

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 both Bleo Holm and Montrose.

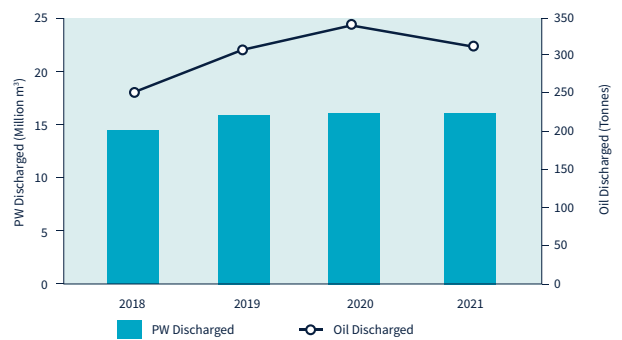


Figure 8
Annual Discharge Mass of Oil and Volume of Produced Water

As outlined with **Figure 6**, the mass of oil discharged to sea is directly correlated to the volume of water and the concentration of oil within the discharge stream. Higher than normal concentrations of oil in the discharge stream result in increased oil mass discharged to sea.

Figure 8 highlights a decrease in mass of oil discharged to sea throughout 2021 in comparison to 2020 of 16 tonnes. Correlated to this is a 17 % reduction (2,650,109 m³) of produced water discharged in 2021 compared to 2020. This perceived drop when comparing against 2020 can be attributed to a prolonged shutdown of the Claymore Installation and the COP of the Tartan Alpha Installation in Q3 of 2020.

Due to the nature of produced water, discharges can occasionally give rise to an oil 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 some distance 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 2021 the Company raised four such notifications which were attributed to significant sheens extending beyond the 500 m zone of the Montrose and Clyde Installations.

PRODUCTION CHEMICALS

The Company utilises 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 remove deposited solids within vessels. Production chemicals are then either exported with oil to shore, degraded within a closed loop system or discharged to sea from the produced water stream.

The use and discharge of production chemicals offshore is heavily regulated through the approval of a chemical permit for each installation, as well as the use of pipeline or well intervention chemical permits, which incorporate regulatory limits for each chemical used and discharged. Chemical use and discharge offshore is regulated through the Offshore Chemicals Regulations (OCR) 2002 (as amended). These regulations implement the OSPAR Decision 2000/2 on a Harmonised Mandatory Control System (HMCS) for the Use and Reduction of the Discharge of Offshore Chemicals on the UK Continental Shelf. The HMCS details requirements for the comprehensive testing, ranking, hazard assessment and risk management of chemicals and, in addition, the substitution of certain chemicals by less hazardous alternatives. The Company ensures all production chemicals used during our offshore operations are covered, including the use and discharge, by a relevant chemical permit. Additionally, through internal assurance activities we ensure operations are conducted in accordance with the conditions of the permit. The quantity of chemicals used and discharged is then reported quarterly to the environmental regulator.

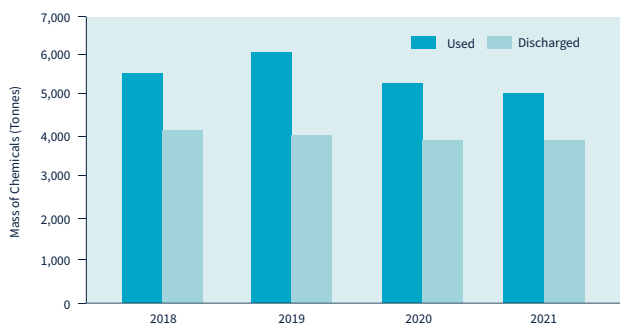


Figure 9
Tonnage of Production Chemicals Used and Discharged per year

Figure 9 illustrates that there has been a slight decrease in production chemical use in 2021 and the mass discharge of production chemicals is comparable with that of 2020. This minor decrease could primarily be linked to the Cessation of Production (COP) of the Tartan Alpha Installation in Q3 2020 and there may be some correlation with steady operations with less plant trips on the other installations where chemical use will have been optimised accordingly. Activity on all the installations throughout 2021 was similar to that of 2020 where only essential works were carried out as a result of the ongoing Global Pandemic and availability of personnel. The slight increase in production chemicals discharged could be associated with a return to normal production on Bleo Holm after a prolonged shutdown in 2020 and increased usage of chemicals on Piper due to the unavailability of the amine plant. There were also observed decreases in overall installation usages of production chemicals on Claymore as a result of a planned shutdown and the Scapa field being offline for most of 2021 and Clyde experienced operational problems with flowing the Flyndre subsea field.

As per 2020, the Company maintained steady production uptime across the fleet, which leads to a reduction in inefficient chemical use linked to start-ups and shutdowns, during which large quantities of chemicals are often utilised to maintain or help stabilise the process.

Throughout 2021, the Company expanded its Decommissioning portfolio, with the Tartan installation transitioning to COP in Q3 2020 and becoming Not Normally Attended (NNA) by mid-December 2021. As a result of the change in mode of operation and all the preparatory work to engineer down and clean systems onboard prior to formal transition to NNA this led to a reduction in production chemical use across this installation.

Some production chemicals used have a substitution (SUB) warning, meaning they contain a component that may present a hazard to the marine environment. An important part of the HMCS is the phased replacement of these harmful chemicals.

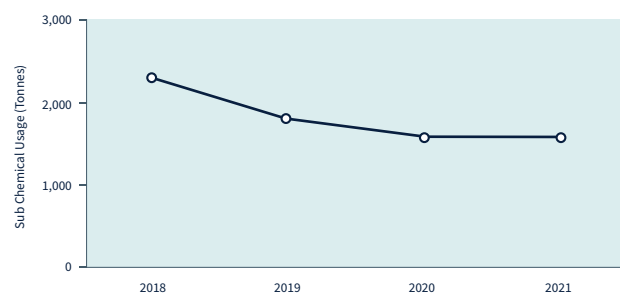


Figure 10
Usage of Chemicals with Substitution Warning 2018 - 2021

Figure 10 shows a slight decrease in substitution chemical usage in 2021 compared to previous years across all the company's activities. This decrease in SUB chemicals can mostly be attributed to a decrease in usage of SUB chemicals on Claymore, due to the Scapa field being offline for most of 2021.

To reduce the number of SUB chemicals used on our installations, we work in conjunction with our chemical vendors to seek alternatives, which do not compromise on production optimisation or carry SUB warnings and trial them on our installations. In 2021, offshore tests to swap out or progress the swap out of a demulsifier carrying a SUB warning were carried out on Claymore leading to a move to a non-SUB demulsifier for operations in 2022. There was also an offshore test on an alternative de-oiler on Piper and although the trial was unsuccessful it did facilitate a move to a SUB chemical that has an improved Risk Quotient (RQ).

The Company actively reviews each installation's chemical permit application on a regular basis and removes unused products, to ensure our permits remain current. Furthermore, on an annual basis, the Company reviews the use of substitution chemicals with chemical vendors to identify priority chemicals for swap out for the coming year. Chemicals identified and agreed for swap out are then added as a KPI to the chemical vendor's annual contract. To ensure a continued focus on this issue throughout the year, these KPIs are monitored at project-specific and quarterly business review meetings. However, swapping out long term bespoke chemicals, which have acquired a substitution warning, comes with its own challenges and whilst best endeavours are made, they are not always successful, because of their uniqueness. To combat this, some products are swapped out even if the new chemical also carries a SUB warning, as the new chemical has a lower RQ and therefore an environmental gain from the substitution.

DRILLING, WELL INTERVENTION AND PIPELINE CHEMICALS

Chemicals are required to support and facilitate the safe handling of Wells during Drilling, Well Interventions and Pipeline Operations. Chemicals are specifically selected to optimise operations, integrity and performance. ‘Greener’ chemistries are introduced and brought into use where efficiency and safety are not compromised.

As can be seen from **Figure 11**, chemical consumption in 2021 was less than 2020. This reduction directly correlates to the impacts of the sharp drop in oil price from 2020 which continued throughout 2021 and the ongoing effect of the Global pandemic. As a result, only priority worksopes and routine integrity requirements to maintain existing well stock were carried out. Consequently, there was less use of chemicals throughout 2021 than what would be expected from a normal operating year. As per previous years the discharge of chemicals is consistently lower than the use. This is in part due to the type of operations being conducted. For example, in Phase 1 of well decommissioning to suspend wells through the setting of plugs treated seawater is used to push well fluids further down the wellbore and into the formation through a practice known as bull heading, thereby highlighting significant chemical use, but no discharge to the marine environment. Furthermore, donor wells are also utilised to dispose of fluids, which contain chemicals, as part of planned operations due to lack of processing facilities as a result of the operational mode of installations in the decommissioning phase. This approach also significantly reduces chemical discharge direct to sea. Such practices were utilised during the 10 well suspension campaign conducted on Tartan throughout 2021.

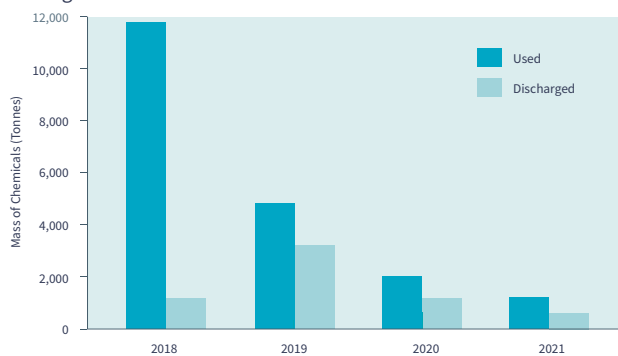


Figure 11

Total Chemicals Used and Discharged During Drilling, Well Interventions and Pipeline Operations

2021 saw a return to platform drilling on both the Claymore and Piper installations, **Figure 12**. This activity saw the first new wells successfully being delivered on Claymore in 10 years and conversely 20 years on Piper. A further production adding scope completed in 2021 was pipeline operations associated with the Scapa Production Protection project which included the installation of a new umbilical from Claymore to the Scapa template along with repurposing existing subsea pipelines to support gas lift and safeguard production from 3 existing production wells and reinstate production from a further well.

Decommissioning was also a key focus for the Company with pipeline flushing activities conducted across the subsea fields associated with the Tartan installation in support of the proactive move to change the operating mode of Tartan to Not Normally Attended (NNA). Furthermore, subsea infrastructure disconnection and removal activities were also conducted at the Buchan and Hannay fields. Whilst this particular workscope had no physical use of chemicals there was however discharge to the environment of chemicals that had been retained within the pipework and spoolpieces as it was recovered to the DSV for disposal onshore.

2021 ENVIRONMENTAL STATEMENT

Throughout 2021 the Company continued to undertake routine well Intervention activities in support of maintaining production and best practice for well management which included scale squeezes, scale soaks, flushing of lines, annulus top ups and pressure testing. Chemicals utilised for the removal of scale and solids build-up in wells continues to account for a significant volume used in well management. This activity is essential to ensure no restrictions within flowlines to allow the clear passage of fluids, which can influence pressure build up and reduce the volume of hydrocarbons flowing. Chemicals are also required to protect the well and pipework itself from microorganisms and corrosion (rusting/ pitting). Whenever seawater is injected into the well this is dosed with biocide to ensure there is no bio-risk introduced to the well environment.

As installations increase with age and reservoirs produce higher water cut volumes, there is an increased risk of corrosion. In response there is an increased requirement for well interventions and assurance to protect the well, infrastructure and environment. Additionally, as wells age, well pressures must be managed along with the integrity of the well infrastructure. Pressure tests (which require chemical use) are important to provide the required data to understand and maintain the integrity.

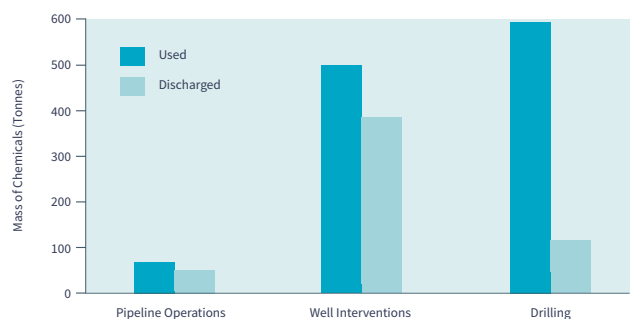


Figure 12

2021 Chemical Use and Discharge by Operation

Figure 12, demonstrates the marked contrast in quantities of chemicals used and discharged when operations associated with Pipeline, Well intervention and Drilling activities are compared separately. Drilling operations use large quantities of chemicals but only a small proportion are generally discharged to sea. This is, in part, due to the fact that Oil Base Muds (OBMs) are shipped onshore for treatment to recover the base oil which is then recycled. Pipeline operations in contrast, will discharge most chemicals through flushing, barrier testing and disconnection activities but the quantities involved are significantly low compared to well intervention operations. Furthermore, well intervention chemicals are generally routed back to the production installation, where discharge occurs at the host installation along with the produced water.

As with production operations, reducing the number of chemicals used that contain a substitution warning during well management, drilling and pipeline operations is an area of focus where practical. However, due to the very specialist nature of chemicals used during complex well activities, alternative chemistries which provide the same or improved performance are often limited. The Company continues to work closely with chemical vendors and drilling contractors to test and replace substitution chemical products where it is operationally feasible to do so.

ENVIRONMENTAL PERFORMANCE

**ACCIDENTAL
RELEASES**



Preventing oil, gas and chemical leaks is the Company's first Golden Rule. Assuring plant integrity is critical to the prevention of spills across our assets, in combination with raising awareness of spill risks, ensuring individuals are competent to perform their duties, and adhering to the Company operating procedures and our environmental permit requirements. If spills do occur, they are thoroughly investigated and corrective actions instigated.

In 2021, there was a 35 % decrease in the overall number of spill events when compared with 2020. The number of Chemical spill events reported remained relatively consistent with 2020, however the number of Oil spill events reported was approximately half as shown in **Figure 13**. This decrease in spill events could have a correlation to a reduction in offshore activities to essential works only throughout 2021 as a result of the ongoing Global Pandemic. **Figure 13** also highlights a 90 % upsurge in the total mass released from such reportable spill events when compared with 2020.

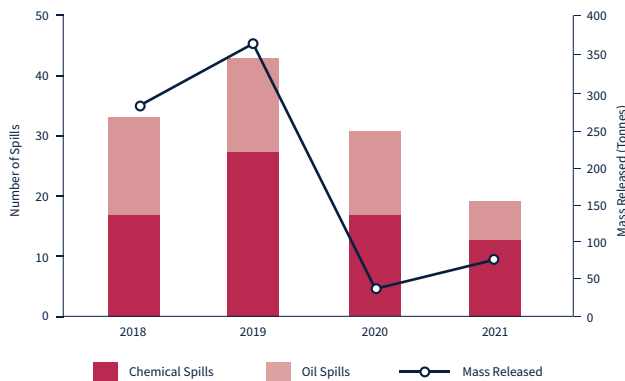


Figure 13

Overall total number of oil and chemical spills, and mass released 2018 - 2021

The overall increase in spill mass was directly related to one particular spill event at the Scapa field where several subsea leaks were identified resulting in a total loss of 64 tonnes of subsea hydraulic control fluid. The identified leaks on this subsea infrastructure were repaired during a Dive Support Vessel (DSV) campaign conducted within early Q2 2021.

Uncontrolled releases of hydraulic control fluid from our subsea systems can contribute a significant number of our reportable incidents and were responsible for 94 % of the total tonnage released from spill events in 2021. This 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). Although any uncontrolled releases from these systems are reportable to the environmental regulator as a spill event, under normal operations, these systems discharge 100 % of their control fluids. Environmental impact assessments, which include computer modelling of the loss, have illustrated that several hundred tonnes would have to be released instantaneously to have a discernible impact on the environment (as hydraulic control fluids comprise mainly of water). The uncontrolled release of these chemicals from the Company's assets in 2021 occurred over a protracted period of time; therefore, they are predicted to have no significant impact on the receiving marine environment, as illustrated by modelling for environmental risk assessments. Furthermore, during any period of an ongoing release, the Company is fully engaged with the regulator and corrective action plans are communicated, along with timescales for rectification.

As can be seen in **Figure 14**, the majority of spill events each have losses of less than 0.1 tonnes of fluid whether that be oil or chemical. Additionally, Claymore released the largest mass from spill events throughout 2021. These losses were mainly attributed to failures subsea of hydraulic control line supplies or valves which resulted in

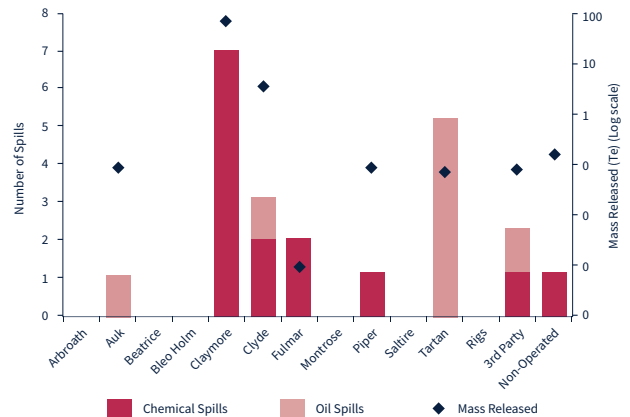


Figure 14

Reported spills events with associated mass released in 2021

a total mass of 71.35 tonnes of hydraulic control fluid being released. **Table 3**, highlights two of the key spill events of more than one tonne at the Scapa field which is tied back to the Claymore installation. Whilst Claymore had the most numerous spill occurrences with the largest losses the majority were subsea hydraulic control fluid releases which is considered as a relatively benign fluid and is permitted for a 100% discharge via permitted discharge routes. Tartan, meanwhile, had 5 spill events all of which were oil based releases. The total oil mass released from those 5 spill events equated to 0.033 tonnes.

Table 3 - 2021 Spill Mass > 1 tonne

Location	Brief Details	Hydro-carbon / Chemical	Mass Released (Tonnes)
Scapa Field	Subsea release of hydraulic control fluid from 3 locations; <ul style="list-style-type: none"> Scapa Well E09 tree hose which had burst Leak identified on the hydraulic panel at Scapa Well E08Y tree Leak identified on Southern hydraulic control pod 	Chemical	36.128
Clyde	Loss of cooling medium via a leak from the pump seal into the drain beneath. Chemicals discharged were water soluble therefore processed through the system via the produced water process and ultimately discharged to sea. Pump seal was repaired.	Chemical	4.115
Scapa Field	Subsea release of hydraulic control fluid from the main hydraulic supply to Scapa Well E09 Production Wing Valve. Leak was rectified during a vessel campaign in Q4 2021.	Chemical	7.035

As well as operating offshore installations, the Company operates two onshore terminals, which also experience environmental incidents on occasion. Such incidents are reported to and regulated by the Onshore Environmental Regulator, Scottish Environment Protection Agency (SEPA). During 2021 there were no such reportable incidents at either of the Company's onshore terminals.

ENVIRONMENTAL PERFORMANCE

**WASTE
MANAGEMENT**



Waste Management is a key focus area for the Company and the energy industry as a whole. Through the Company’s activities of; extracting oil and gas, and decommissioning the Company will utilise materials, consume energy and generate waste.

In conjunction with our environmental policy, we have set targets for waste management and continue to explore opportunities in reducing the volume of waste generated by our activities. This can include the removal of waste streams or efficiency improvements; resulting in few resources required and or 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, offshore accommodation facilities, maintenance, replacement and repairs, drilling activities 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, and 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 15 represents the percentage of waste sent through disposal routes for the total volume of waste generated offshore in 2021, with 47 % of all company waste being recycled, compared with 87 % in 2020, the spike in recycling in 2020 can be largely attributed to the completion of the Buchan Alpha Installation deconstruction with over 11,350 tonnes of material sent for recycling.

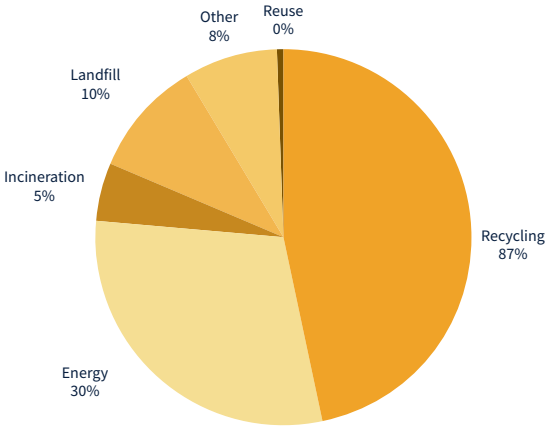


Figure 15
2021 Percentage of Waste by Disposal Routes

As can be seen in Figure 16 there was an overall reduction in waste produced in 2021 from previous years. This can be attributed to a few factors including a decrease in decommissioning waste due to the completion of the Buchan Alpha’s deconstruction at Dales Voe in 2020. Furthermore, the reduction in overall operational activity and planned worksopes continued in 2021 due to the Global pandemic and restricted POB off and onshore. Whilst managing these risks the company continued to operate with reduced offshore personnel and a focus on safe production and priority operational worksopes.

Figures 16 shows a comparison over a 4-year period (2018 to 2021) of the total waste generated by the Company’s offshore activities.

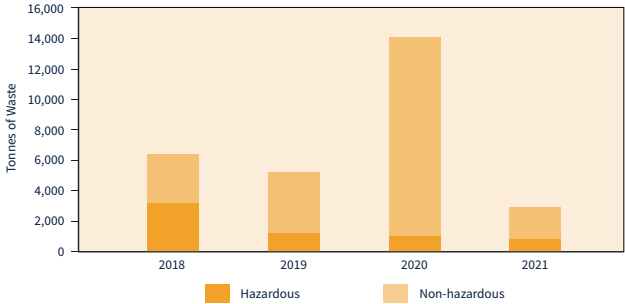


Figure 16
Tonnage of Waste Generated Per Year

Operational waste generated in 2021 fell slightly. This decrease was certainly influenced by the global pandemic and economic factors. Managing COVID-19 risks alongside the strategy for improved shut down efficiencies, with fewer and shorter annual shutdowns of installations throughout the year, prevented any spike in associated waste volumes. Additionally, there was a reduction in 2021 of Platform and rig based plug and abandonment activity thereby reducing any likely contribution to operational waste volumes.

In 2021 the company had a decrease in the volume of hazardous waste being treated onshore as shown in Figure 16, again this could be attributed to the completion of the Buchan Alpha deconstruction in 2020 as well as the continuation of reduced worksopes and POB due to the Global Pandemic. Activities that would have contributed to the Hazardous waste totals in 2021 include the preparation of Tartan Alpha Installation for Not Normally Attended (NNA) Mode, this involved worksopes such as the flushing and cleaning of a number of vessels with the contents being sent onshore for disposal. Additionally, another significant worksope in 2021 was the Claymore shutdown, this included several vessel clean outs as well as the cleaning of the Scapa Hydrocyclones with the material being sent onshore for disposal.

The percentage of operational waste to landfill, Figure 17, decreased in 2021 from 2020. This decrease can be attributed to the waste being sorted effectively offshore and in addition the waste disposal supply chain carrying out additional sorting onshore and increasing the routing of waste from landfill to ‘Waste to Energy’ where waste is being utilised as a resource for power generation.

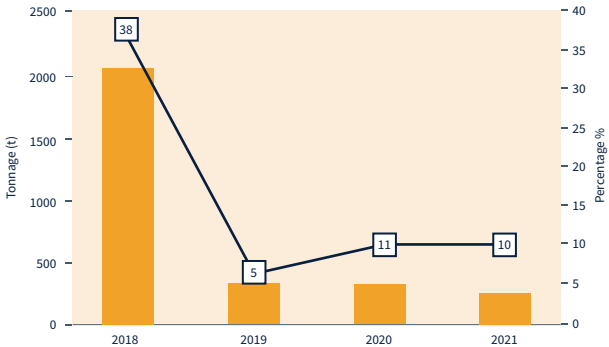


Figure 17
Percentage of Operational Waste minus Buchan Decommissioning Sent to Landfill

Landfill minus Buchan Decommissioning (t) | % of year to Landfill

WASTE MANAGEMENT

Continual Improvement:

In 2021 although the Global pandemic resulted in a reduction in operational activities and personnel numbers offshore, there remained a focus on waste management and ensuring that the waste hierarchy was applied, for example, the recycling of concrete mattresses from the Buchan and Hannay Subsea Removal project which were used as part of the Aberdeen Harbour Expansion Project.

The NNA Assets (Beatrice, Saltire and Tartan) are only manned on campaign basis so produce low levels of decommissioning waste as they prepare for final removal and disposal. The decommissioning of these assets and their associated subsea infrastructure will be managed on a project by project basis which will include waste management plans and a push to look at more innovative ways of reducing waste and increasing reuse.

The Company is committed to promote the 'Circular Economy' and will continue to explore opportunities for waste and extend the life span of materials and products in other ways and forms. This contributes to the circular economy and promotes waste as a resource with a future, examples of this include meeting with reuse organisations to investigate reuse opportunities for subsea infrastructure.

APPENDICES

GLOSSARY

av	Average
BLP	Bridge Linked Platform
BOE	Barrels of Oil Equivalent
CH₄	Methane
CO	Carbon monoxide
CO₂	Carbon dioxide
CO₂e	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
N₂O	Oxides of Nitrogen
NM VOC	Non-Methane Volatile Organic Compounds
NNA	Not Normally Attended
NO_x	Nitrogen Oxide
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 Environment 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
SO_x	Oxides of Sulphur
SUB	Substitution
The Company	Repsol Sinopec Resources UK limited
The Regulator	Department for Business, Energy & Industrial Strategy (OPRED)

2021 DATA TABLES

2021 Data Table 1	Atmospheric Emissions (Tonnes)						
	SITE	CO ₂	Nox	N ₂ O	SO ₂	CO	CH ₄
Arbroath Platform	3,022	40	0	3	13	18	18
Auk A Platform	50,142	38	1	1	117	79	514
Beatrice	25	0	0	0	0	0	0
Blane	-	-	-	-	-	-	-
Buchan A Platform	-	-	-	-	-	-	-
Claymore A Platform	152,664	560	12	3	359	182	82
Clyde Platform	121,155	275	7	19	222	432	442
Flotta Terminal *	98,516	269	7	9	153	65	225
Fulmar A Platform	78,433	98	6	5	165	92	50
Montrose A Platform	125,435	644	9	10	273	141	96
Nigg Terminal	110	2	0	0	1	0	0
Piper B Platform	243,149	524	18	3	567	517	132
Ross FPSO Bleo Holm	122,442	538	9	7	288	130	55
Saltire A Platform	635	12	0	1	3	0	0
Tartan A Platform	11,920	222	1	7	59	37	45
Pipeline Operations	-	-	-	-	-	-	-
Mobile Drilling / Well Interventions	-	-	-	-	-	-	-
Non Operated Subsea Tiebacks	-	-	-	-	-	-	-
Total	1,007,649	3,223	71	67	2,218	1,692	1,659

2021 Data Table 2	Produced Water			Chemicals (Tonnes)		Waste Generated (Tonnes)		Spills		
	SITE	Average Oil In Water (mg/l)	Total Water Volume (m ³)	Oil Discharged Weight (Te)	Used	Discharged	Hazardous	Non-Hazardous	# Oil Spills	# Chemical Spills
Arbroath Platform	-	-	-	178	5	24	84	-	-	-
Auk A Platform	20	1,134,824	23	74	60	15	49	1	-	0.03
Beatrice	-	-	-	-	-	6	1	-	-	-
Blane	-	-	-	0	2	-	-	-	-	-
Buchan A Platform	-	-	-	-	-	-	-	-	-	-
Claymore A Platform	16	2,506,258	41	1,166	926	271	230	-	7	71.40
Clyde Platform	28	598,264	17	708	300	48	141	1	2	4.48
Flotta Terminal *	1	5,798,079	7	-	-	1	289	-	-	-
Fulmar A Platform	-	-	-	22	17	24	116	-	2	0.00
Montrose A Platform	46	1,151,630	53	454	515	101	208	-	-	-
Nigg Terminal	-	-	-	-	-	27	54	-	-	-
Piper B Platform	21	5,520,338	113	1,101	758	163	247	-	1	0.06
Ross FPSO Bleo Holm	39	1,970,152	77	1,493	1,356	85	137	-	-	-
Saltire A Platform	-	-	-	0	0	10	21	-	-	-
Tartan A Platform	-	-	-	3	3	72	79	5	-	0.03
Pipeline Operations	-	-	-	56	41	-	-	-	-	-
Mobile Drilling / Well Interventions	-	-	-	1,106	484	-	-	-	-	-
Non Operated Subsea Tiebacks	-	-	-	-	-	-	-	-	1	0.20
Total	25	12,881,466	324	6,362	4,466	847	1,656	7	13	76.20

* Flotta is not included in company produced water figures

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