

# 2022



## **ANNUAL ENVIRONMENTAL STATEMENT** for Shell U.K. Limited's Upstream Operations





**A MESSAGE FROM SIMON RODDY**  
Senior Vice President Shell UK Upstream



The safety and environmental performance of Shell's upstream business in the UK is a responsibility I take very seriously, ensuring that we effectively manage and mitigate the environmental impacts associated with our operations in the UK.

The annual environmental statement highlights our performance across a number of key environmental metrics, including greenhouse gas emissions, oil in produced water discharges, unplanned hydrocarbon releases and chemical and waste management.

The industry's commitment to reducing Greenhouse Gas emissions from operations is captured in the North Sea Transition Deal, which targets a basin-wide 50% reduction in emissions by 2030 versus a baseline of 2018. Against this target we have reduced our emissions by approximately 20% since 2018, which is also contributing to Shell's absolute emissions reduction targets.

The UK is one of the most highly regulated oil and gas basins in the world and this statement is an essential component in ensuring the industry transparently reports its performance. This transparency is crucial given the continued public scrutiny on the role of oil and gas in the UK's energy system.

I welcome this scrutiny and believe through continued strong performance today and achieving the ambitious commitments enshrined in the North Sea Transition Deal the UK's oil and gas industry can continue to deliver the energy and products the UK relies on today and into the future.

Thanks for taking the time to read this report.

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*This statement has been produced in order to meet the requirements of OSPAR Recommendation 2003/5, as advised by the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED).*

## INTRODUCTION

This is the 2022 Annual Environmental Statement for the upstream operations of Shell UK. The Statement summarises the environmental performance of our upstream offshore and onshore Facilities operated by Shell UK in 2022.

The data used in the Statement has been previously reported to the relevant UK environmental regulators. The offshore Facilities reporting is done via the Environmental Emissions Monitoring System to the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED). For onshore Facilities in Scotland reporting is via the Scottish Pollutant Release Inventory to the Scottish Environment Protection Agency (SEPA), and, in England, via the Pollution Inventory to the Environment Agency (EA).

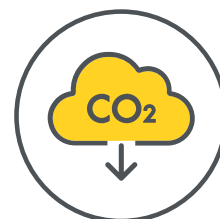
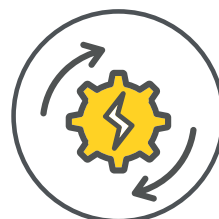
Shell UK has been producing oil and gas from the North Sea for over 50 years, providing the UK with reliable and secure energy. We currently provide approximately 10% of the UK's total oil and gas supply as well as a range of fuels, chemicals and services, and have a substantial presence on the UK Continental Shelf (UKCS). Offshore, we have interests in over 50 fields, 25 platforms and one Floating Production and Storage Offshore (FPSO) vessel which is operated by a third party on our behalf. Onshore, we operate two gas plants (located at Bacton and St Fergus), and one liquids process plant at Mossmorran in Fife. These, in combination with the associated pipeline systems, are responsible for delivering more than 20% of the UK's gas supply.

## TERMINOLOGY USED IN THIS STATEMENT

"Installations" refers to Shell UK operated oil and gas offshore production platforms; Floating Production and Storage Offshore (FPSO) vessels; Shell UK operated gas and liquid processing plants onshore; and, third party mobile drilling rigs in the UK whilst on contract to Shell UK in UK waters.

"Facilities" refers to Shell UK operated installations in addition to wells, subsea infrastructure and onshore pipeline systems.

A number of other services are also required to facilitate and support the Shell UK business including Facility operations, engineering, logistics (vessels and helicopters), project and development planning, health, safety, security, environment and social performance, production and well fluids chemistry, finance, legal, contracts & procurement and real estate management.



# HEALTH, SECURITY, SAFETY, THE ENVIRONMENT & SOCIAL PERFORMANCE POLICY

The Shell HSSE & SP Policy applies across Shell and is designed to help protect people and the environment.

Our commitment and policy reflects the integrated way we work across Shell in the areas of health, security, safety, the environment and social performance. All Shell companies, contractors and joint ventures under our operational control must manage HSSE and SP in line with the commitment and policy.

## COMMITMENT

In Shell we are all committed to:

- Pursue the goal of no harm to people;
- Respect nature by protecting the environment, reducing waste, making a positive contribution to biodiversity, and reducing Greenhouse Gases;
- Use material and energy efficiently to provide our products and services;
- Respect our neighbours and contribute to the societies in which we operate;
- Develop energy resources, products and services consistent with these aims;
- Operate assets safely, efficiently and responsibly;
- Publicly report on our performance;
- Play a leading role in promoting best practice in our industries;
- Manage HSSE & SP matters as any other critical business activity; and
- Create a working environment which is psychologically safe and enables learning in support of this commitment. In this way we aim to achieve a performance we can be proud of, to earn the confidence of customers, shareholders and society at large, to be a good neighbour and to contribute to sustainable development.

## POLICY

Every Shell Company:

- Has a systematic approach designed to ensure compliance with the law and achieve continuous performance improvement;
- Sets targets for improvement and measures, appraises and reports performance;
- Requires Contractors to manage HSSE & SP in line with this policy;
- Requires joint ventures under its operational control to apply this policy, and uses its influence to promote it in its other ventures;
- Engages effectively with neighbours and impacted communities; and includes HSSE & SP performance in the appraisal of staff and rewards accordingly.

We originally published the commitment and policy in March 1997 and the Executive Committee updated it in 2009 and 2023.

## WHAT WE DO

Installations operated by Shell UK in 2022 -

### OFFSHORE

**BRENT:** the Brent Field in the Northern North Sea consisted of four installations, Alpha, Bravo, Charlie and Delta. Brent Alpha, Bravo and Delta have ceased production and topside dismantlement has been completed. Brent Charlie ceased production on 31 March 2021 and decommissioning continued throughout 2022. The Penguins subsea tieback was produced via the Brent platforms. Whilst the Brent decommissioning continues, Penguins has ceased production and a project to install a new FPSO to redevelop the Penguins field is ongoing.

**CLIPPER:** six fixed bridge linked platforms in the Sole Pit field located in the Southern North Sea. The Clipper installation produces and processes natural gas from its own wells and imports and processes gas from Barque PB & PL, Galleon PN & PG, Skiff, Clipper South, Carrack, and Cutter fields.

**GANNET:** a fixed drilling and production platform in the Central North Sea which processes and produces oil and gas from the Gannet A, B, C, D, F and G fields via subsea wellhead tiebacks.

**LEMAN:** five bridge linked platforms located in the Southern North Sea. The Leman Alpha installation produces and processes natural gas from its own wells. It imports and processes gas from the remainder of the Leman field platforms, Bravo, BT, Charlie, Delta, Echo, Foxtrot, Golf, and imports natural gas and liquids from Corvette, Brigantine BG & BR, Caravel and Shamrock.

**NELSON:** a fixed drilling and production platform in the Central North Sea which processes and produces oil and gas from a cluster of subsea satellite wells from the Nelson field and the Howe fields via subsea tiebacks.

**PIERCE:** an FPSO (the Haewene Brim) in the UK Central North Sea, which has recently undergone a significant upgrade to allow gas to be produced after years of the field producing only oil. The gas will be sent through newly installed subsea pipelines and the oil will be transported by tanker, as before. The FPSO completed restart of operations in April 2023 following the major redevelopment. Shell UK is a license holder for the Pierce Field and operates the wells and pipelines. The responsibility for the management of the Haewene Brim and the installation operator is the Pierce Production Company Limited. (Pierce Production Company Limited is a wholly owned subsidiary of Bluewater Services UK Ltd – referred to as Bluewater in this document).

**SHEARWATER:** a high pressure, high temperature (HPHT) gas/condensate reservoir produced via an integrated process, utilities and living quarters platform which is bridge linked to a wellhead platform in the Central North Sea. Since August 2021, Shearwater exports its gas via the Fulmar Gas Line to St Fergus. Liquids are routed via Ineos Unity to Cruden Bay.

**MOBILES:** a number of rigs and vessels were contracted to Shell UK in 2022 to drill exploration and development wells, conduct well interventions and carry out well plug and lubricate operations. These included the Valaris 122, the Light Well Intervention Vessel Well Enhancer, Maersk Resilient, Ocean Endeavour, and the Seafox 4.



## ONSHORE

**BACTON GAS PLANT:** a gas reception and processing plant located near Great Yarmouth in the East of England. The plant processes gas received from the Sole Pit, Leman, BBL (Balgzand Bacton line) and Sean pipelines. Processed gas is transferred to the national grid via the adjacent Transco transmission Facilities.

**ST FERGUS GAS PLANT:** a gas reception and processing plant near Peterhead, north-east Scotland, that receives gas from multiple North Sea fields via the Fulmar Gas pipeline, and from Norway via the Far North Liquids and Associated Gas System (FLAGS) pipeline. The gas is processed to supply the national grid. Extracted Natural Gas Liquids (NGL) are piped southwards to Shell UK's fractionation plant in Fife, Scotland (Fife NGL).

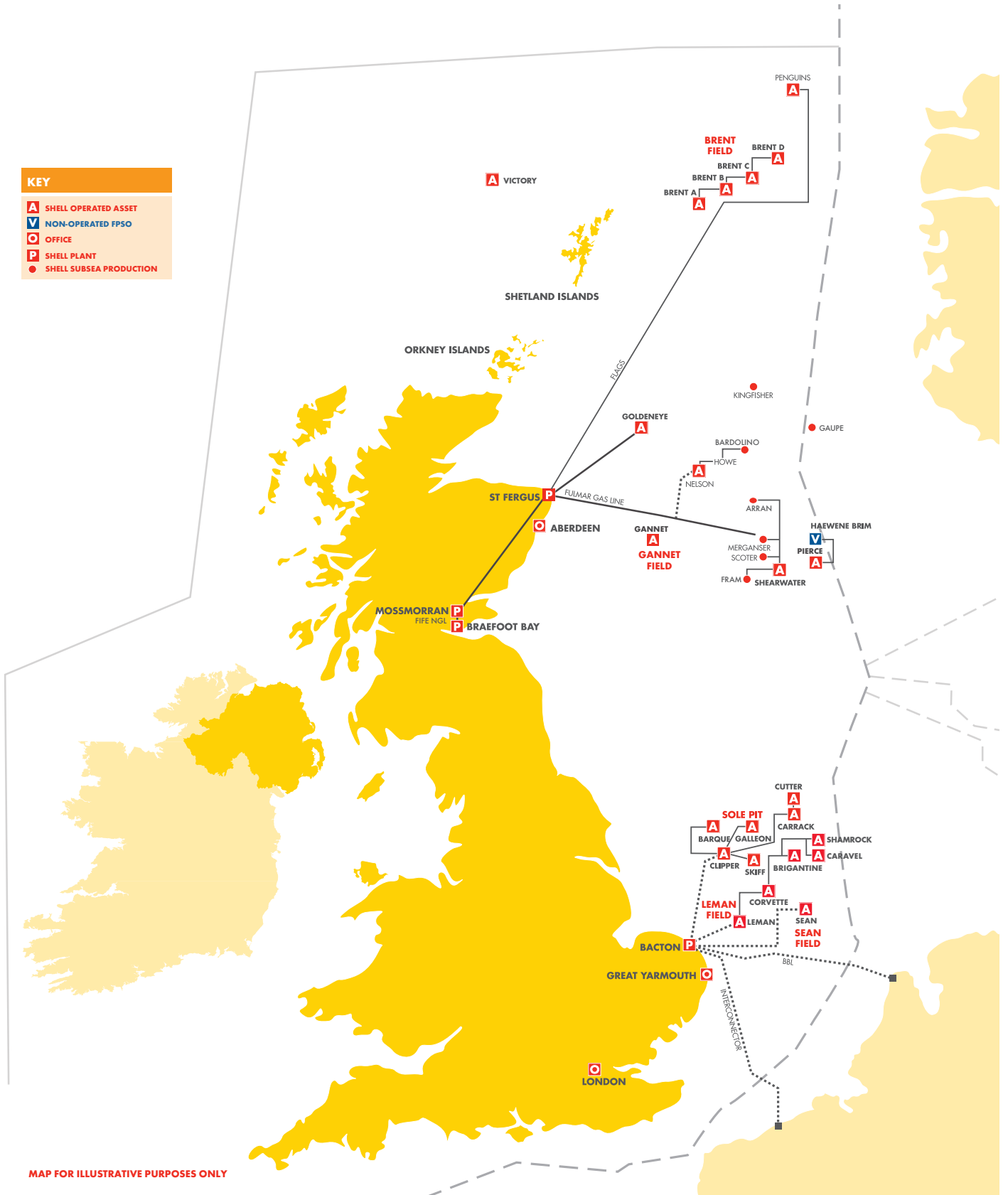
**FIFE NATURAL GAS LIQUIDS PLANT (FNGL):** two sites located in Mossmorran Fife, Scotland - the Fife NGL fractionation plant and the Braefoot Bay Marine Terminal. The NGLs are received at the fractionation plant via a 220 km underground pipeline from the St Fergus Gas Plant and separated into ethane, propane, butane and gasoline. The ethane is piped to the neighbouring Fife Ethylene Plant (FEP), operated by another company. The remaining products are transported via pipeline to the Braefoot Bay Marine Terminal, 7 km to the south of the plant on the Firth of Forth, for loading onto ships and export to international customers. Products are also exported from the plant by road tanker.

For more information on Shell UK, visit our website at:

[www.shell.co.uk/about-us/what-we-do](http://www.shell.co.uk/about-us/what-we-do)



# SHELL UPSTREAM OPERATED AND NON-OPERATED ACTIVITIES IN THE UK



MAP FOR ILLUSTRATIVE PURPOSES ONLY



## POWERING PROGRESS

### RESPECTING NATURE

Protecting the environment has been an integral part of the way Shell do business for many years as set out in the Shell General Business Principles and Shell's HSSE & SP Policy.

Respecting Nature is one of four pillars of Shell's Powering Progress strategy, which was launched in 2021. Shell's commitments focus on four priority areas: biodiversity (land and marine environments), water, circular economy and waste, and air quality. They set out the ambitions for 2030 and later, as well as shorter-term goals.

The processes and procedures we follow, and resources deployed, are designed to comply with the UK environmental regulations, the Shell HSSE & SP commitment and policy (see page 5) and Shell Group's global standards. Our environmental management system, which is integrated into the Upstream UK HSSE Management System, is certified to ISO 14001:2015, the current international environmental management standard (see Appendix 2). The management system covers all of our upstream activities and locations involved in exploration and production. It provides a structured approach to:

- The identification of environmental risk and management of potential impacts throughout the life cycle of our activities;
- Preparing for future challenges and opportunities;
- Regulatory compliance;
- Using materials and energy efficiently;
- Monitoring performance and setting targets for improvement;
- Effective engagement with our stakeholders;
- Playing a leading role in promoting good practice in our industry.

### ACHIEVING NET ZERO EMISSIONS

Shell has long recognised that greenhouse gas (GHG) emissions from the use of hydrocarbon-based energy are contributing to the warming of the climate system. We support the more ambitious goal of the United Nations Paris Agreement, which is to limit the rise in global average temperature this century to 1.5 degrees Celsius above pre-industrial levels. In line with this, Shell has a target to reduce absolute emissions from our operations by 50% by 2030, compared with 2016 on a net basis. Shell's Sustainability Report (2022) announced that the Shell Group has achieved a 30% reduction at the end of 2022.

In the UK, Shell is also committed to the North Sea Transition Deal (NSTD) which targets a basin-wide 50% reduction in emissions by 2030 versus a baseline of 2018. Against the NSTD targets Shell UK has reduced absolute emissions by approximately 20%<sup>1</sup> by the end of 2022.

These targets cover all Scope 1 and 2 emissions under Shell's operational control and complement our existing carbon-intensity targets. Shell UK is aiming to meet these targets via collaboration across supply chains, and, where appropriate, with the UK Government and the North Sea Transition Authority (NSTA).

As a signatory to the World Bank's Zero Routine Flaring by 2030 initiative, Shell continues to pursue the 2015 commitment to eliminate associated gas flaring at our Facilities. Shell has recently committed to bringing forward this target to 2025. As members of the Oil and Gas Climate Initiative (OGCI) Shell has also adopted the OGCI Aiming for Zero Methane Emissions by 2030 initiative. In November 2020, Shell announced its global commitment to attaining Gold Standard according to the Oil and Gas Methane Partnership (OGMP 2.0).

<sup>1</sup>As we continue to focus on opportunities within our portfolio to reduce our emissions there remains scope to improve the accuracy of our emissions data, which means the possibility remains that published emissions data may change in future.

Shell UK has a dedicated carbon abatement team to support emissions reduction projects. These projects focus on five key themes - rotating equipment, power management, vent and flare systems, energy saving maintenance and fuel gas saving opportunities. Feasible abatement opportunities are identified, screened, and prioritised to fill the abatement project funnel. Prioritised projects are put through a scalable maturation process to be fully defined and prepared for execution. Together with other major decarbonisation projects these will form the building blocks to support Shell UK to achieve its NSTD 2025, 2027 and 2030 targets.

Shell UK also has an energy transition team which supports the upstream business to seek new opportunities and investments related to energy transition. During 2022, this team progressed our decarbonisation initiatives relating to carbon capture utilisation and storage (CCUS), hydrogen production and electrification amongst other opportunities. Further work across the business is being done to identify what is needed to close the gap to the net zero emissions commitment in 2050 and support Shell's powering progress strategy.

The key environmental focus areas and achievements in 2022 can be segmented as follows:

#### Maturing pioneering major de-carbonisation projects

- Progressing milestone delivery of major Energy Transition projects such as Acorn Carbon Capture and Storage and Central North Sea Electrification,
- Assessing the technical feasibility for decarbonising both our onshore gas plants and offshore facilities,
- Supporting, as technical developer, the management of environmental risks and impacts related to the Acorn Carbon Capture and Storage project.

#### Continuing to reduce emissions from our existing facilities through ongoing abatement projects

- Improving reliability on all offshore facilities to reduce trips, and therefore the frequency of flaring events,
- Improving the flare reliability on Nelson and Shearwater, reducing cold venting events,
- Optimising the processes on Shearwater to reduce fuel gas usage for compression,
- Using enhanced surveillance tools on Arran and Fram to reduce the need for pipeline depressurisation on trips thereby minimising flaring,
- Modifying the flare pilot systems at the Fife NGL plant to reduce fuel gas usage at Mossmorran; and
- Completing brownfield abatement projects across the UK Installations achieving a combined saving of 23kt CO<sub>2</sub>e.

#### Improving our reporting

- Progressing the Oil and Gas Methane Partnership (OGMP) 2.0. level 4 for all in-scope Facilities and developing the plan to move towards Level 5,
- Updating our Greenhouse Gas Reduction Action Plan to incorporate Methane Action Plan elements which help support the North Sea Transition Authority (NSTA) Net Zero Stewardship Expectation 11.

We are also working with a number of key UK suppliers to onboard them onto the Shell Supplier Energy Transition Hub (SETH). SETH is a digital collaborative platform designed to help us to work with our suppliers to reduce their emissions.

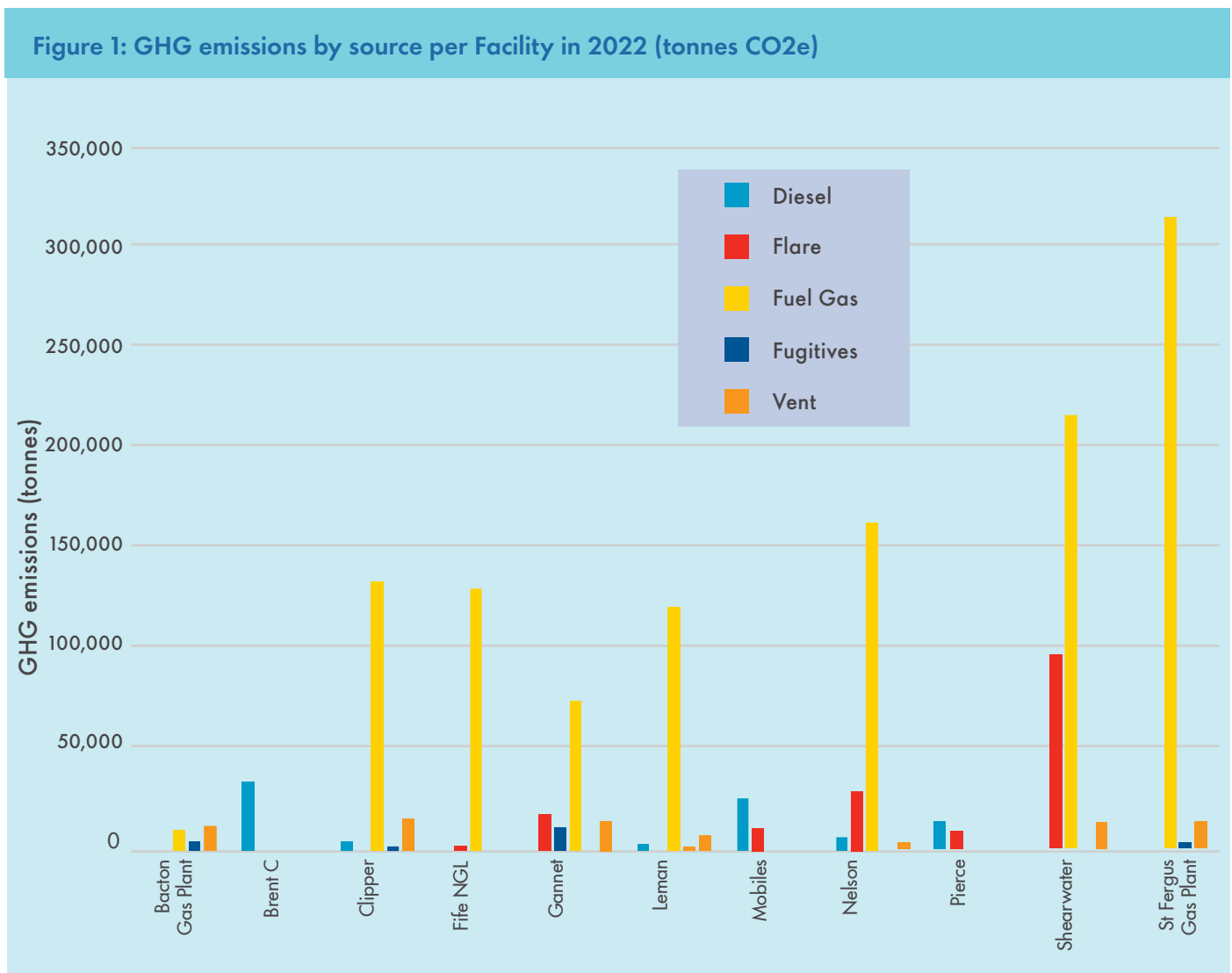
# ENVIRONMENTAL PERFORMANCE

## GREENHOUSE GAS EMISSIONS

We monitor our greenhouse gas (GHG) emissions and convert the data into carbon dioxide equivalents (CO<sub>2</sub>e). We use the data to manage the emissions from our own operations and illustrate our performance and progress against targets. Our CO<sub>2</sub> emissions from combustion are reported under the UK Emissions Trading Scheme following independent verification on an annual basis. All emissions from all sources are reported to OPRED for offshore Facilities, SEPA for onshore plants in Scotland and the Environment Agency for onshore plants in England.

The total scope 1 direct GHG emissions from Shell UK Facilities in 2022 was 1.5 million tonnes of CO<sub>2</sub>e, a slight reduction when compared to 2021. Key contributions to the reduction in emissions were reduced flaring due to optimisations through abatement projects and reduced well activity; the Brent Charlie decommissioning; the shutdown of the Pierce FPSO for project work; and overall stable operations throughout the year. Scope 2 emissions (indirect emissions from the generation of electricity supplied to our Facilities) from Shell UK Facilities have been eliminated since 2019 when we started to purchase our electricity from certified renewable resources.

The breakdown of 2022 direct GHG emissions per Facility in Shell UK's upstream business are shown in Figure 1.



The principal contributor to the direct GHG emissions from our operations are the combustion emissions generated from the burning of fuel gas. In 2022, fuel gas combustion contributed 77% of the total GHG emissions. All other contributors for 2022 are illustrated below in Figure 2.

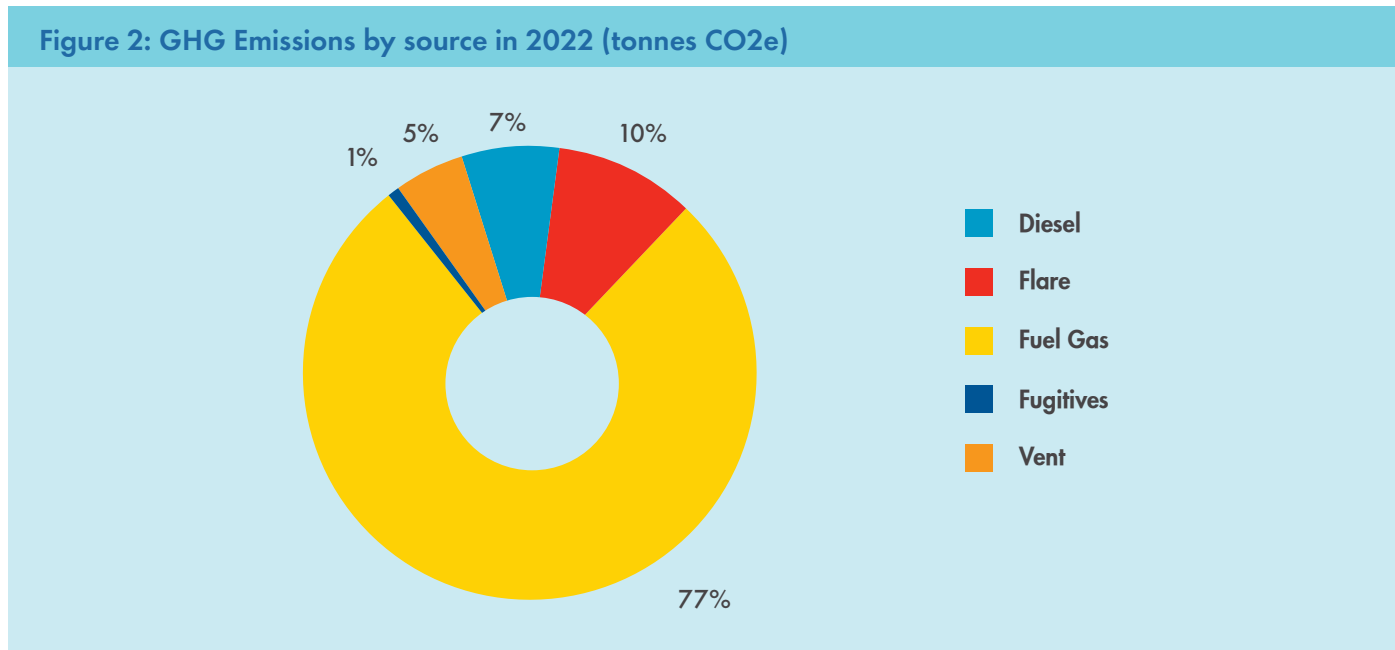


Figure 1 and Figure 2 are based on 100% of emissions at Shell UK operated Facilities, mobile rigs on contract to Shell UK and the Pierce facility operated by Pierce Production Company Ltd. Note that the GHG emissions for Pierce may be duplicated within the Bluewater’s annual environmental statement.



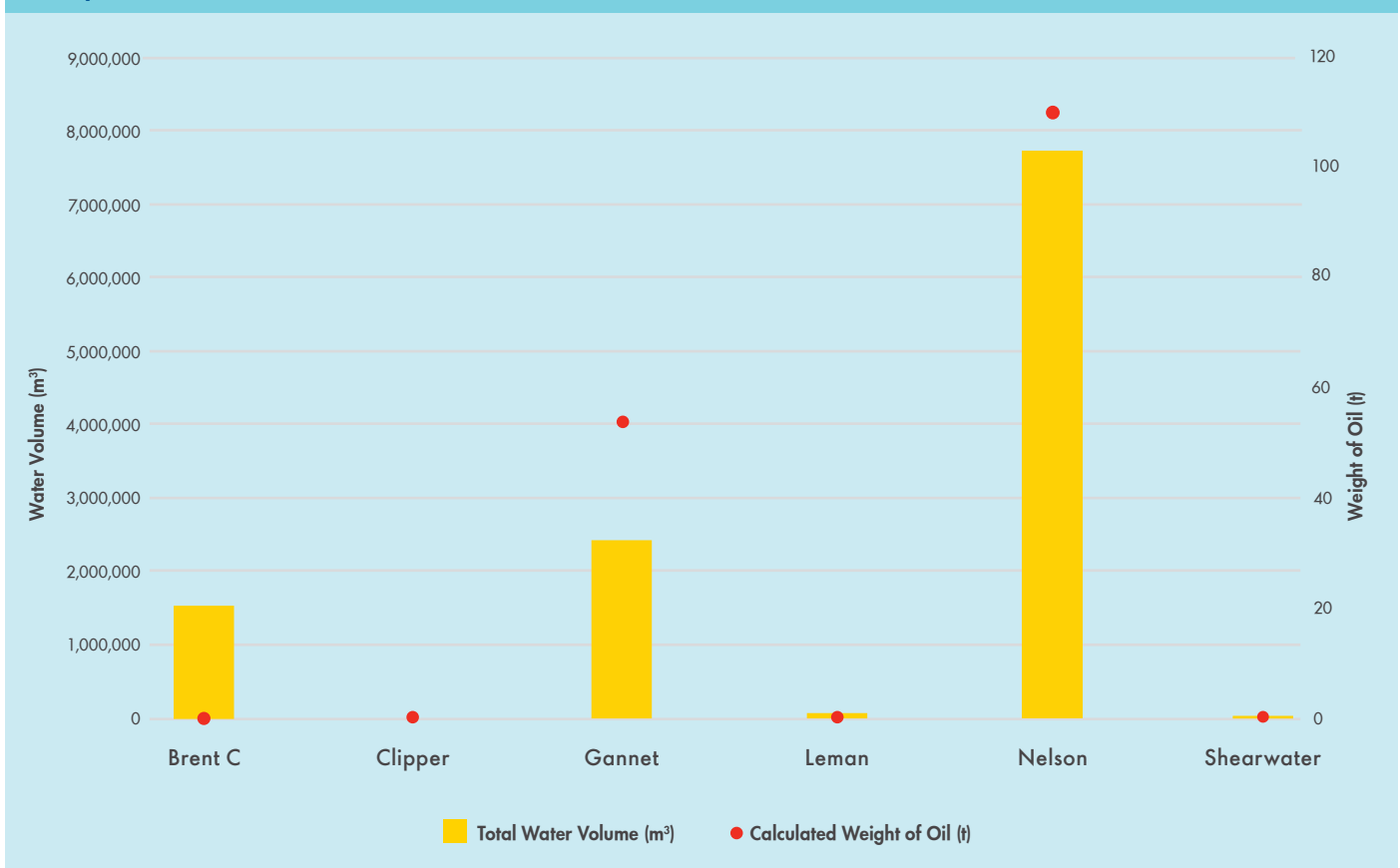
## OIL IN PRODUCED WATER

Water produced with oil and gas offshore is separated from hydrocarbons during processing. The produced water is treated before discharge to the sea in accordance with the Offshore Petroleum Activities (Oil Pollution Prevention and Control) Regulations 2005 (as amended).

The water treatment systems onboard Shell UK's offshore Installations are designed to handle the volumes and types of fluids expected in the field, although there are occasions where equipment can malfunction or treatment may be affected by changes in produced fluid content, for example, during the start-up of a well. On these occasions, oil in water levels may exceed limits for a short duration and can result in a non-compliance with permitted limits.

Residual oil in produced water concentration is monitored prior to discharge and any exceedance of the regulatory monthly average limit of 30 milligrams of oil per litre or ppm (parts per million) is reported to the regulator. The amount of produced water and residual oil discharged with the produced water in 2022, from offshore Installations that are operated by Shell UK, is shown below in Figure 3.

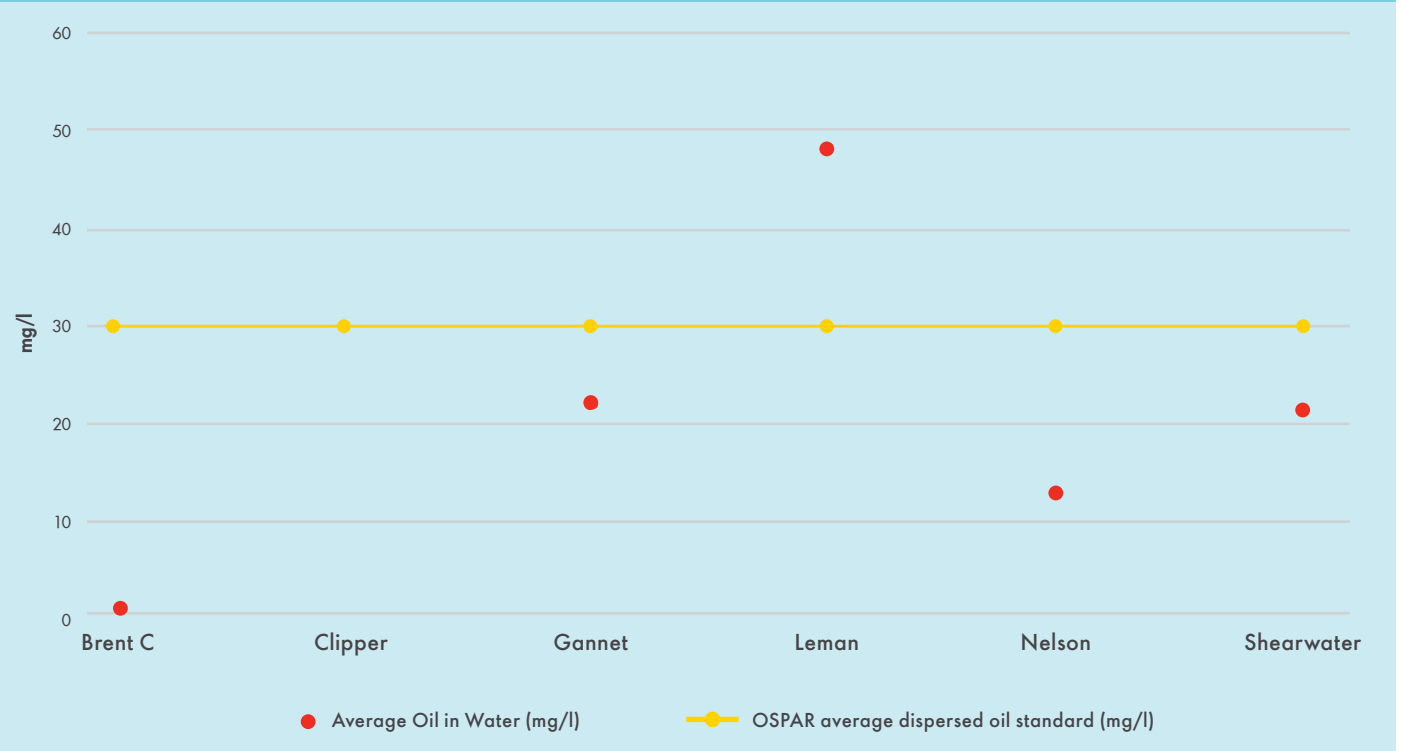
**Figure 3: Total volume of produced water and mass of oil discharged to sea from each Shell UK operated offshore Installation in 2022**



The total amount of residual oil discharged was 167 tonnes, a decrease from 231 tonnes in 2021. This was due to a range of factors such as planned shutdowns and changing the process on one of our Installations. The Clipper Installation has produced water re-injection which means that it does not discharge any produced water overboard.

Annual average concentrations of residual oil in the produced water discharges from each Installation in 2022 are presented in Figure 4.

**Figure 4: Annual average dispersed oil concentrations in produced water from Shell UK operated offshore Installations in 2022**



Total residual oil discharged to sea with treated produced water during production operations at UK offshore Installations in 2022 were within the annual approved limits set for each individual Facility permit, except Leman where the permit levels were exceeded on three occasions. These non-compliances were predominantly due to the well treatments and start up activities on the non-manned Installations.

Details of the Pierce FPSO oil in produced water performance are included in Bluewater’s Annual Environmental Statement as the Bluewater company, Pierce Production Company Limited, operates the Pierce FPSO on Shell UK’s behalf.

## UNPLANNED RELEASES

Shell UK has a range of controls and procedures in place aimed at preventing the unplanned release of hydrocarbons or chemicals to the sea. Maintenance programmes are conducted to improve Facility reliability and to ensure the integrity of equipment used in the production, processing or transfer of liquid materials to keep unplanned releases to a minimum. Barriers are installed around hydrocarbon processing, chemical skids and storage areas which act as secondary containment for any unplanned releases to help prevent any losses to the environment. Unplanned releases to sea can, however, still take place during the course of conducting operations and there can be varying reasons for these events, including operational upsets, minor equipment failures, human error, or because of unusual degradation of ageing infrastructure.

Any unplanned releases are closely monitored, recorded and investigated internally regardless of volume. Releases that enter the sea are reported to the regulator at the time of the release using a Petroleum Operations Notice (PONI).

In 2022, a total of 32 unplanned releases of oil and chemicals from our operations were recorded and reported. The total volume of those releases was 26 tonnes. Table 1 shows the breakdown of oil versus chemical releases and their associated volumes.

**Table 1: Unplanned Releases in 2022**

Number of releases	32
Volume of releases (tonnes)	26
Number of oil spills	21
Volume of oil spills (tonnes)	21.5
Number of chemical spills	11
Volume of chemical spills (tonnes)	4.5

Of the total unplanned releases recorded in 2022, two were individually greater than 2 tonnes – and these were:

- A damaged return hose to a diesel pod resulted in a release of diesel to sea. The damaged hose has since been replaced
- A condensate release from a subsea well was identified and a well remediation plan put in place

The above two spills amounted to a total of 21.3 tonnes which was 82% of the total volume of unplanned releases in 2022. At the time of publication, several of the 32 PONIs submitted in 2022 were still under review by the regulator. This may result in a future adjustment to our figures.

Details of any unplanned releases from the Pierce FPSO Installation are included in Bluewater's Annual Environmental Statement as the Bluewater company, Pierce Production Company Limited, operates the Pierce FPSO on Shell UK's behalf.

*Further to the footnote in last year's Annual Environmental Statement, as explained there, we had three unplanned releases which were not included in the annual totals for 2021. Final release amounts have now been calculated for that year, and the total volumes were, a diesel bunkering spill of 0.0002 tonnes; a release of mono-ethylene glycol (MEG) with corrosion inhibitor totalling 300 tonnes; and a release of mono-ethylene glycol (MEG) with corrosion inhibitor totalling 966 tonnes. MEG is a substance which is classified as "PLONOR" (posing little or no risk to environment) as defined under OSPAR. [OSPAR is the convention for the protection and conservation of the marine environment of the NE Atlantic].*

## CHEMICAL MANAGEMENT

### PRODUCTION CHEMICALS

The type and volume of production chemicals used in our operations varies across our Facilities depending on the requirements. Production chemical use and discharge is affected by various factors such as production rates, field age and changing reservoir fluids.

We have strict chemical selection procedures in place that seek to ensure the most efficient chemicals are selected for each process and any potential impact to the environment is minimised. All chemicals selected, their use and discharge are approved by the regulator under the Offshore Chemicals Regulations 2002, with specific use and/or discharge approved through chemical permits. The assessment of options to phase out the remaining substitution-warning chemicals that we still need to use for our operations continues as we work with our suppliers to identify technically viable alternatives.

**Figure 5: Total Production chemicals used and discharged by Facility (tonnes) in 2022**

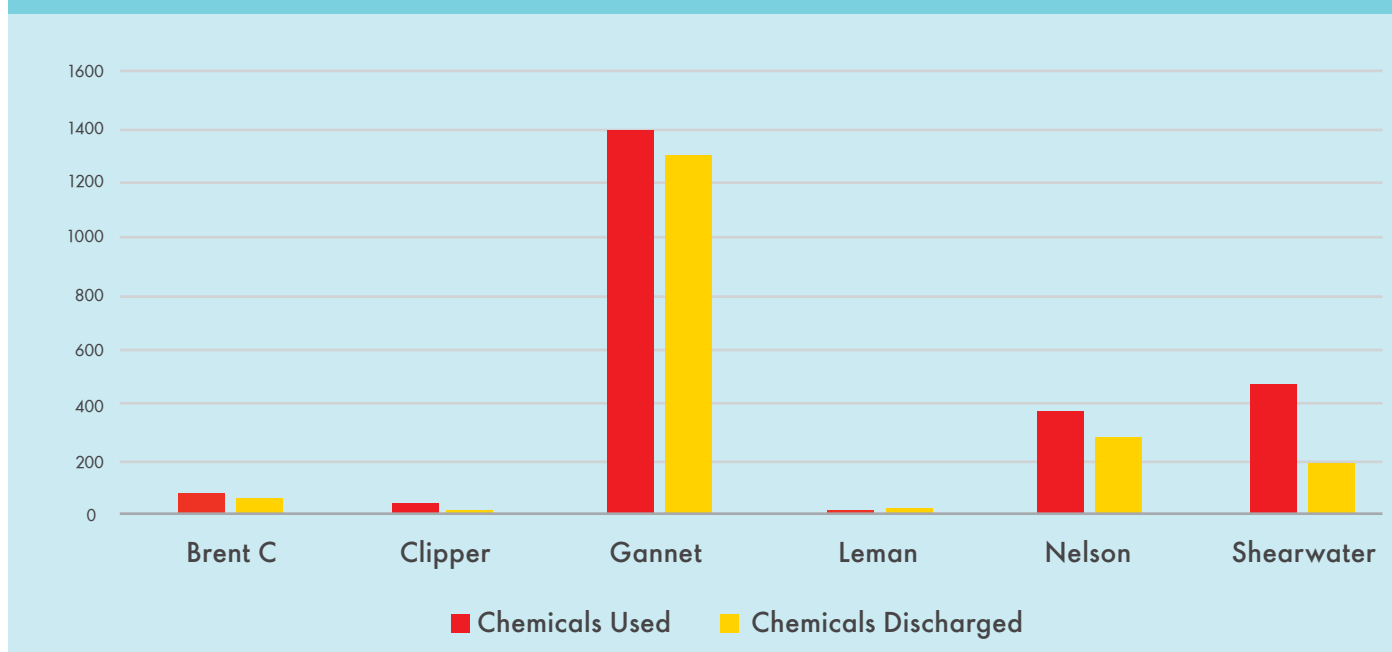


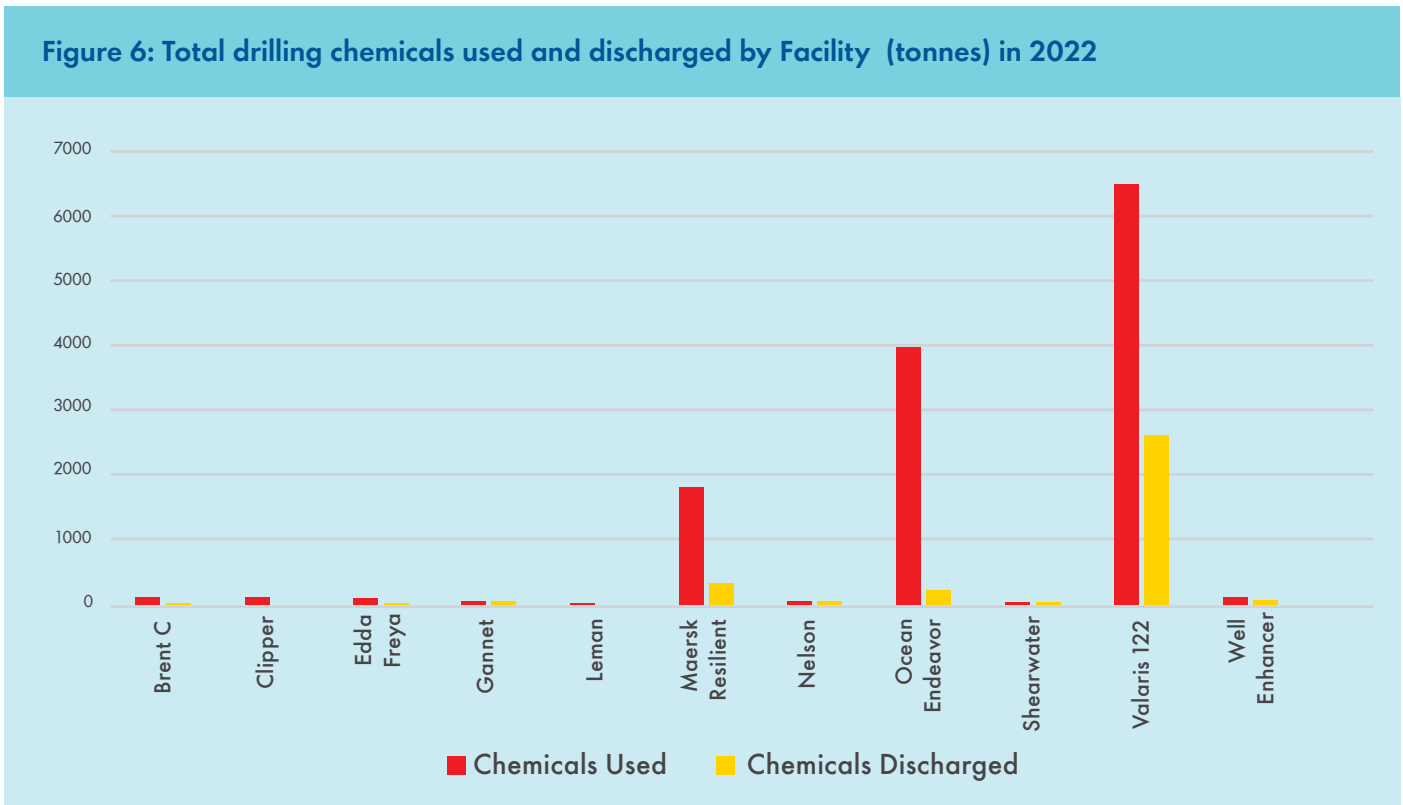
Figure 5 shows the total use and discharge of production chemicals per Facility. In 2022, 2,387 tonnes of offshore production chemicals were used across Shell UK, which is a 37% reduction on 2021 usage. Of the 2,387 tonnes, 77% were discharged. This was an increase on 2021 discharge due to increased methanol (PLONOR) usage and discharge on one subsea gas field. Of the chemicals discharged to sea, 54% were "PLONOR" classified chemicals which pose little or no risk to the environment or do not contain substances which are required by the regulator to be substituted. 16% of those discharged to sea were chemicals with a substitution warning. Shell UK reviews these substitution warning chemicals on a case by case basis to determine if it is feasible to replace them.



## WELLS CHEMICALS

The volume of wells chemicals used and discharged is directly related to the type and number of well activities undertaken and completed in 2022. Further details on well operations can be seen in *Appendix 1*.

Figure 6 shows the total use and discharge of wells chemicals per Facility. In 2022 we used a total of 12,639 tonnes of chemicals in well activities, a 38% reduction when compared to 2021. Of this figure approximately 25% of the chemicals were discharged to sea. Of those discharged to sea, 59% were "PLONOR" classified and 7% were chemicals with a substitution warning. As mentioned, Shell UK is continuing efforts to phase out substitution-warning chemicals. Any chemicals discharged to sea are done so in accordance with the allowances of approved chemical permits from the regulator.



Details of production and wells chemical use and discharge at the Pierce FPSO are included in Bluewater's Annual Environmental Statement as the Bluewater company, Pierce Production Company Limited, operates the Pierce FPSO on Shell UK's behalf.

# WASTE MANAGEMENT

As part of Shells Respecting Nature commitment, Shell is aiming to be zero waste by reducing waste generated and increasing reuse and recycling in our businesses and supply chains.

Shell UK collaborates with contractors who work with operators on both the onshore and offshore sites to ensure waste is controlled across all our UK operations. The Installations segregate their waste streams to ensure compliance with both the Group standards and with the applicable legal requirements. Effective segregation of waste allows for more environmentally acceptable routes of disposal. In accordance with the waste hierarchy, which ranks waste management options according to what is best for the environment, we work to eliminate waste at the source and minimise waste generated.

Figure 7 shows the total amount of hazardous and non-hazardous waste disposed per Installation, as well as the waste that was reused or recycled. The overall waste mass for 2022 was 59kt. Of this total, hazardous waste, which mainly includes wet bulk waste generated on mobile rigs, contributed 13%; non-hazardous waste, which includes liquid waste generated by Bacton Gas Plant, contributed 16%; and reused/recycled waste, which includes waste produced from decommissioning activities, made up the majority at 80%.

**Figure 7: Total Waste Disposed in 2022**

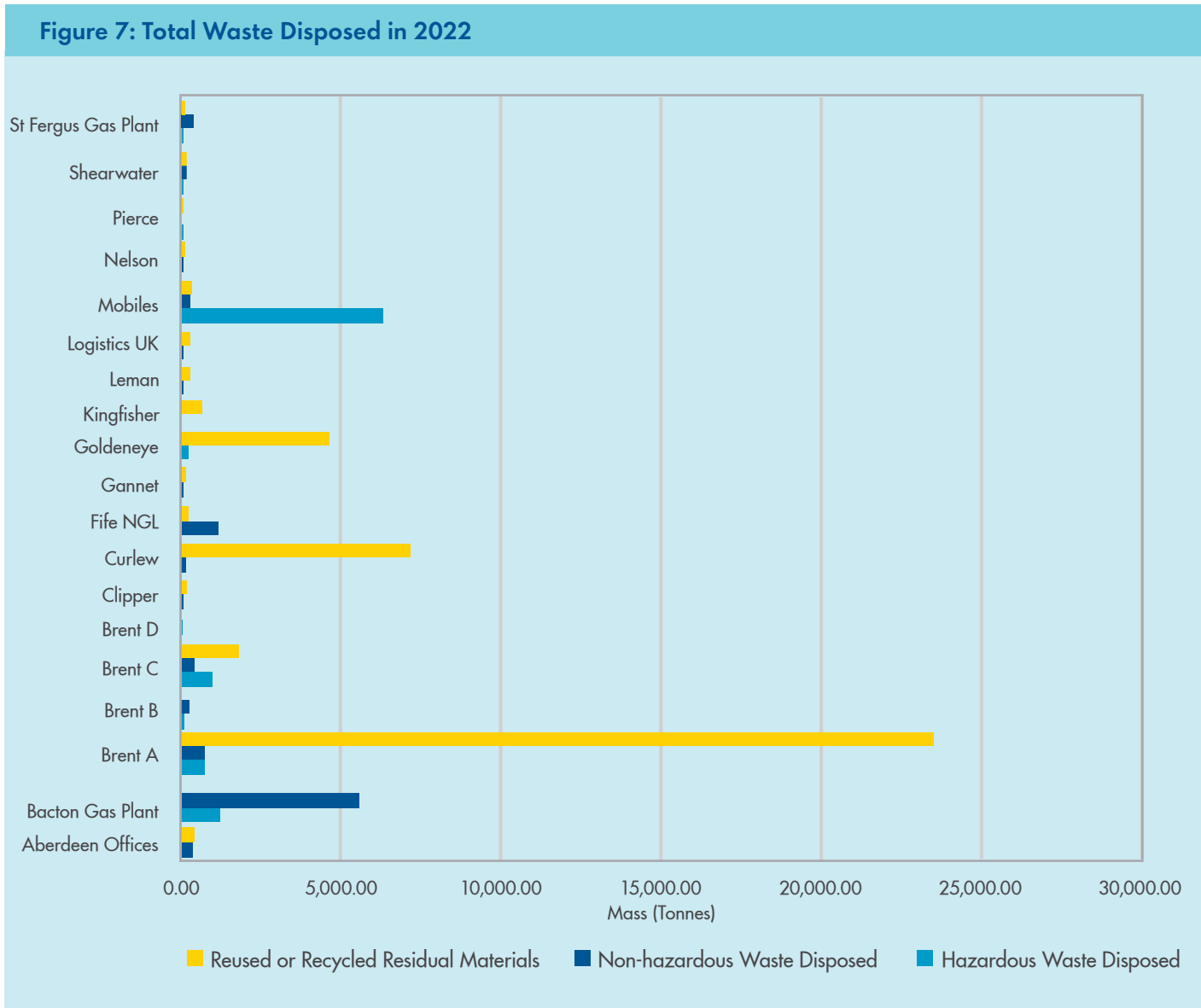
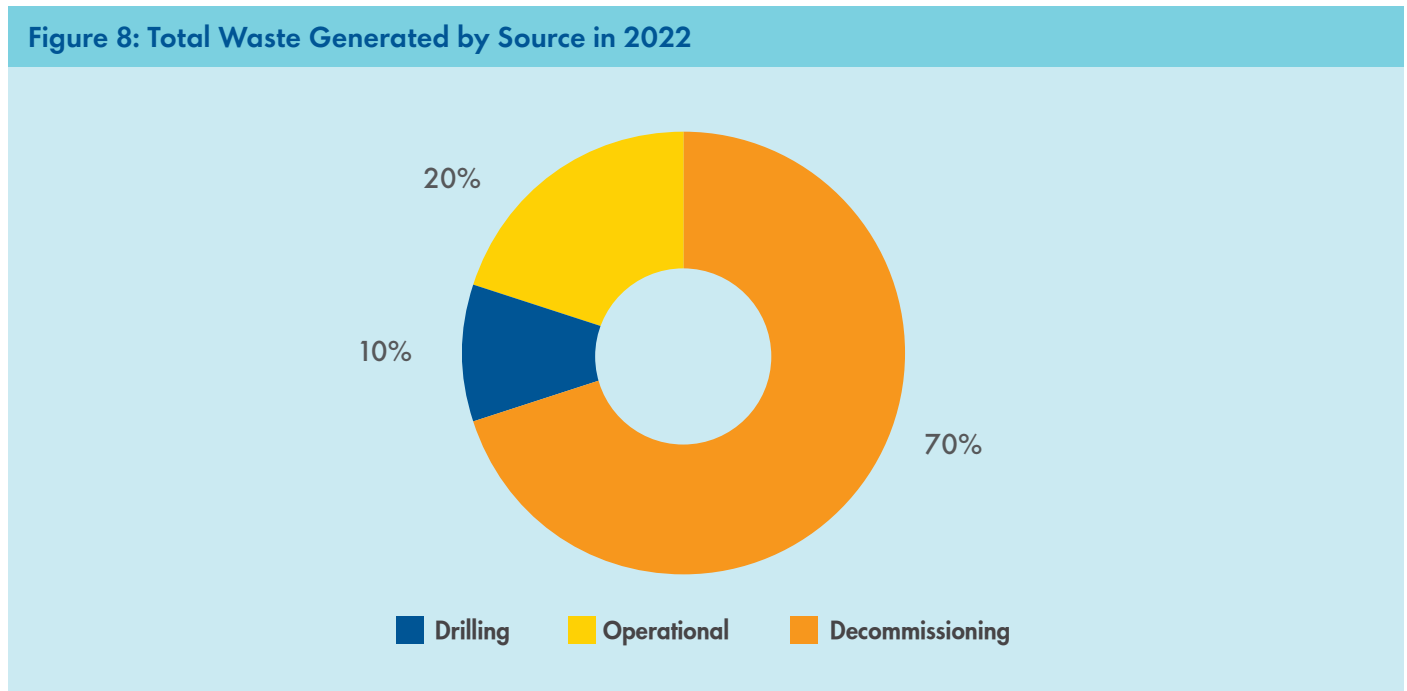


Figure 8 shows the split between operational, drilling, and decommissioning waste from 2022.



We have various decommissioning activities under way in the UK which accounts for 70% of the 2022 waste generated. When decommissioning we actively seek ways to reuse, repurpose and to maximise the recycling of materials. By working with our disposal yards and using the waste hierarchy we find reuse opportunities for items such as those found in the accommodation (e.g. mattresses, electronics, gym kit) before looking to recycling options. Typically, around 97% of material returned to shore is either re-used or recycled.

Details of waste management at the Pierce FPSO in 2022 are included in Bluewater's Annual Environmental Statement as the Bluewater company, Pierce Production Company Limited, operates the Pierce FPSO on Shell UK's behalf.

## SHELL UK DECOMMISSIONING IN THE NORTH SEA

### BRENT FIELD

The Brent oil and gas field, and its pipeline systems, is located in Block 211/29 of the UK sector of the North Sea, approximately 186 km northeast of the Shetland Islands. It has been a cornerstone of the UK's hugely successful oil and gas industry for over 40 years. It is one of the largest fields in the North Sea, and consisted of four large platforms - Alpha, Bravo, Charlie and Delta.

The Brent field was a prolific national asset and since 1976 produced around three billion barrels of oil equivalent. At its peak, it was producing more than half a million barrels a day. The regulator granted permission for the cessation of production (CoP) from Brent Delta in 2011, and Alpha and Bravo at the end of 2014.

Decommissioning of the Brent Charlie wells started in late 2017 and the cessation of production from the Brent Charlie platform concluded on the 31 March 2021, marking the end of 45 years of production in the Brent field. The plug and abandonment and subsequent removal of inner strings from the wells was completed in May 2022. Throughout the rest of 2022 the platform was being prepared for single lift with conductor recovery, leg and module clearance, strengthening, cutting and sea fastening work scopes are ongoing.

### CURLEW FIELD

The Curlew Field is located approximately 210 km east of the Aberdeenshire coastline, and 55 km west of the UK/Norway median line, in a water depth of 93 m. The Facility consisted of a central processing FPSO vessel with three subsea field tiebacks and was connected into the Fulmar pipeline for gas export to the St Fergus onshore Facility.

The Curlew field ceased production at the end of March 2019. The Curlew FPSO was towed to Forth Ports' Dundee Facility for cleaning in June 2019 and moved to the dismantlement Facility in Norway in July 2020 for final cleaning and recycling. All process topsides were dismantled and recycled onshore during 2021. In November 2022 the FPSO hull was lifted out of the water using a float-over and load-in methodology and transferred to the quayside where it will remain for dismantling.

Throughout 2022, subsea infrastructure at Curlew was decommissioned within a Shell UK portfolio decommissioning campaign. This included removal of subsea structures, risers, stabilisation features, the FPSO mooring system and remediation of all pipelines and umbilicals decommissioned in situ per the approved Decommissioning Programmes.

### GOLDENEYE FIELD

Following the cessation of production in March 2011 the topside and jacket of the Goldeneye platform in the Central North Sea was removed in September 2021 and transported to shore in Norway for dismantling and recycling. The Goldeneye Post Decommissioning Survey was completed in September 2022 and all environmental permits surrendered. The Goldeneye marine pipeline to St Fergus will remain in place for potential reuse for the transportation of CO<sub>2</sub> as part of the Acorn carbon capture and storage project.

### KINGFISHER (subsea)

The Kingfisher Field is located 280 km northeast of Aberdeen, approximately 5 km from the median line with Norway. The Field consists of six subsea wells which were tied back to the TAQA Bratani Limited owned-and-operated Brae Bravo Platform. Production ceased from Kingfisher in July 2018. Part 1 of the Decommissioning Programmes covering the Kingfisher infrastructure outside of the Brae Bravo 500m zone was approved in June 2021. Part 2 of the Decommissioning Programmes will be submitted at a later date to cover the infrastructure within the Brae Bravo 500 zone.

Removals scope associated with the approved Part 1 Programmes was included in a Shell UK decommissioning portfolio campaign in 2022. This included removal of the Kingfisher Production Manifold and surface-laid tie-in infrastructure. Plug and make safe scopes for the six Kingfisher wells will be completed in due course.

## SCOTER AND MERGANSER (subsea)

Scoter and Merganser are two normal pressure and temperature gas-condensate subsea tiebacks to the Shearwater Cluster located in Block 22/30a of the Central North Sea. Having produced since 2004 and 2006 respectively, the fields ceased production on 17 December 2020.

An opportunity to re-use the Scoter Riser on the Shearwater A Platform was identified. To support this re-use, the flushing and disconnection of the Scoter and Merganser subsea infrastructure was executed in Q1 2021, whilst flushing of the control umbilicals was executed in Q4 2021.

Decommissioning Programmes covering the full decommissioning scope for both fields were approved in September 2022. As per the approved Decommissioning Programmes, Shell UK will plan the removal of all surface-laid infrastructure for recovery to shore and recycling / disposal. Trenched and buried pipelines and umbilicals will be decommissioned *in situ*.



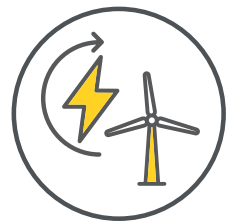
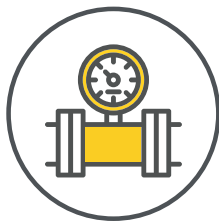
## CONTACT US

This report summarises our environmental performance in relation to our HSSE & SP policy, goals and objectives in Shell UK's upstream operations and activities in 2022.

This report is updated and published annually on our corporate website at [www.shell.co.uk](http://www.shell.co.uk)

For further information, please contact the Shell office in Aberdeen on 01224 882525 and ask for the Corporate Relations department:

Shell U.K. Limited  
The Silver Fin Building  
455 Union Street  
Aberdeen  
AB11 6DB



## APPENDIX 1

### WELL ACTIVITIES IN 2022

#### DRILLED

Installation / Rig	Shell Well Name	Well Start Date	Permit Reference
Ocean Endeavor	Penguins PAN-W	21/03/2022	DRA/646, CP/2031
Ocean Endeavor	Penguins Rockhopper	28/08/2022	DRA/912, CP/2814
Valaris-122	Edinburgh 30/14A-5	05/03/2022	DRA/887, CP/2761
Noble Resilient	Pensacola	21/11/2022	DRA/934, CP/2886

#### ABANDONED

Installation / Rig	Shell Well Name	Well Start Date	Permit Reference
Noble Resilient	Pensacola	21/11/2022	DRA/934, CP/2886

## APPENDIX 2

### ISO 14001 - 2015 CERTIFICATE

# ISO 14001

## Certificate of Registration

### ERM Certification and Verification Services

Exchequer Court  
33 St. Mary Axe  
London EC3A 8AA  
Tel: +44 (0)20 3206 5281  
post@ermcvs.com

*This is to certify that*

**Shell UK Limited**



at

*1 Altens Farm Rd, Aberdeen AB12 3FY, United Kingdom*

Certificate Number: 622  
Initial Certification Date (Bureau Veritas):  
30 November 2007  
Initial ERM CVS Issue: 4 August 2022  
Reissue Date: 23 December 2022  
Expiry Date: 4 January 2026  
Version #: 2



*has been registered to ISO 14001:2015 for*

*Exploration, production and decommissioning including management of operated and non-operated assets, processing and storage across the UK energy sector supported by core business and technical functions.*

This certificate is the property of ERM Certification and Verification Services Ltd and is issued subject to ERM CVS' Standard Terms and Condition of Business. Its validity may be confirmed by contacting ERM CVS as set out above.

**Signed on behalf of ERM CVS by:**

**Ron Crooks**  
**Partner, Head of Certification**

ERM CVS is an independent member of the world-wide Environmental Resources Management Group of Companies



## CAUTIONARY STATEMENT

The companies in which Shell plc directly and indirectly owns investments are separate legal entities. In this statement "Shell", "Shell Group" and "Group" are sometimes used for convenience where references are made to Shell plc and its subsidiaries in general. The words "Shell UK", "we", "us" and "our" are used to refer to Shell U.K. Limited and its subsidiaries in general or to those who work for them. These terms are also used where no useful purpose is served by identifying the particular entity or entities. "Subsidiaries", "Shell subsidiaries" and "Shell companies" as used in this statement refer to entities over which Shell plc either directly or indirectly has control. Entities and unincorporated arrangements over which Shell has joint control are generally referred to as "joint ventures" and "joint operations", respectively. "Joint ventures" and "joint operations" are collectively referred to as "joint arrangements". Entities over which Shell has significant influence but neither control nor joint control are referred to as "associates". The term "Shell interest" is used for convenience to indicate the direct and/or indirect ownership interest held by Shell in an entity or unincorporated joint arrangement, after exclusion of all third-party interest.

## FORWARD-LOOKING STATEMENTS

This statement contains forward-looking statements (within the meaning of the U.S. Private Securities Litigation Reform Act of 1995) concerning the financial condition, results of operations and businesses of Shell. All statements other than statements of historical fact are, or may be deemed to be, forward-looking statements. Forward-looking statements are statements of future expectations that are based on management's current expectations and assumptions and involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in these statements. Forward-looking statements include, among other things, statements concerning the potential exposure of Shell to market risks and statements expressing management's expectations, beliefs, estimates, forecasts, projections and assumptions. These forward-looking statements are identified by their use of terms and phrases such as "aim", "ambition", "anticipate", "believe", "could", "estimate", "expect", "goals", "intend", "may", "milestones", "objectives", "outlook", "plan", "probably", "project", "risks", "schedule", "seek", "should", "target", "will" and similar terms and phrases. There are a number of factors that could affect the future operations of Shell and could cause those results to differ materially from those expressed in the forward-looking statements included in this statement, including (without limitation): (a) price fluctuations in crude oil and natural gas; (b) changes in demand for Shell's products; (c) currency fluctuations; (d) drilling and production results; (e) reserves estimates; (f) loss of market share and industry competition; (g) environmental and physical risks; (h) risks associated with the identification of suitable potential acquisition properties and targets, and successful negotiation and completion of such transactions; (i) the risk of doing business in developing countries and countries subject to international sanctions; (j) legislative, judicial, fiscal and regulatory developments including regulatory measures addressing climate change; (k) economic and financial market conditions in various countries and regions; (l) political risks, including the risks of expropriation and renegotiation of the terms of contracts with governmental entities, delays or advancements in the approval of projects and delays in the reimbursement for shared costs; (m) risks associated with the impact of pandemics, such as the COVID-19 (coronavirus) outbreak; and (n) changes in trading conditions. No assurance is provided that future dividend payments will match or exceed previous dividend payments.

All forward-looking statements contained in this statement are expressly qualified in their entirety by the cautionary statements contained or referred to in this section. Readers should not place undue reliance on forward-looking statements. Additional risk factors that may affect future results are contained in Shell plc's Form 20-F for the year ended December 31, 2022 (available at [www.shell.com/investor](http://www.shell.com/investor) and [www.sec.gov](http://www.sec.gov)).

These risk factors also expressly qualify all forward-looking statements contained in this statement and should be considered by the reader. Each forward-looking statement speaks only as of the date of this statement, 1 June 2023. Neither Shell plc nor any of its subsidiaries undertake any obligation to publicly update or revise any forward-looking statement as a result of new information, future events or other information. In light of these risks, results could differ materially from those stated, implied or inferred from the forward-looking statements contained in this statement.

## SHELL'S NET CARBON INTENSITY

Also, in this statement we may refer to Shell's "Net Carbon Intensity", which includes Shell's carbon emissions from the production of our energy products, our suppliers' carbon emissions in supplying energy for that production and our customers' carbon emissions associated with their use of the energy products we sell. Shell only controls its own emissions. The use of the term Shell's "Net Carbon Intensity" is for convenience only and not intended to suggest these emissions are those of Shell plc or its subsidiaries.

## SHELL'S NET-ZERO EMISSIONS TARGET

Shell's operating plan, outlook and budgets are forecasted for a ten-year period and are updated every year. They reflect the current economic environment and what we can reasonably expect to see over the next ten years. Accordingly, they reflect our Scope 1, Scope 2 and Net Carbon Intensity (NCI) targets over the next ten years. However, Shell's operating plans cannot reflect our 2050 net-zero emissions target and 2035 NCI target, as these targets are currently outside our planning period. In the future, as society moves towards net-zero emissions, we expect Shell's operating plans to reflect this movement. However, if society is not net zero in 2050, as of today, there would be significant risk that Shell may not meet this target.

## FORWARD LOOKING NON-GAAP MEASURES

This statement may contain certain forward-looking non-GAAP measures such as cash capital expenditure and divestments. We are unable to provide a reconciliation of these forward-looking Non-GAAP measures to the most comparable GAAP financial measures because certain information needed to reconcile those Non-GAAP measures to the most comparable GAAP financial measures is dependent on future events some of which are outside the control of Shell, such as oil and gas prices, interest rates and exchange rates. Moreover, estimating such GAAP measures with the required precision necessary to provide a meaningful reconciliation is extremely difficult and could not be accomplished without unreasonable effort. Non-GAAP measures in respect of future periods which cannot be reconciled to the most comparable GAAP financial measure are calculated in a manner which is consistent with the accounting policies applied in Shell plc's consolidated financial statements. The contents of websites referred to in this statement do not form part of this statement

We may have used certain terms, such as resources, in this statement that the United States Securities and Exchange Commission (SEC) strictly prohibits us from including in our filings with the SEC. Investors are urged to consider closely the disclosure in our Form 20-F, File No 1-32575, available on the SEC website [www.sec.gov](http://www.sec.gov).

