



2012 ANNUAL ENVIRONMENTAL STATEMENT FOR SHELL U.K. UPSTREAM OPERATIONS



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This report has been produced in order to meet the requirements of OSPAR Recommendation 2003/5, as advised by the U.K. Department of Energy and Climate Change.

Where the words “we”, “us” and “our” are used in this report they refer specifically to Shell U.K. Limited’s upstream business. “Our facilities” or “our installations” refers to facilities or installations which we are appointed to operate on behalf of joint venture partners which own the facilities or installations jointly.

The companies in which Royal Dutch Shell plc directly and indirectly owns investments are separate entities. In this report the expressions “Shell” and “Shell group” are sometimes used for convenience where references are made to Shell group companies in general.

INTRODUCTION

BY GLEN CAYLEY, VICE-PRESIDENT UPSTREAM UNITED KINGDOM AND IRELAND

I would like to introduce you to our Annual Environmental Statement, which provides an overview of how the upstream operations of Shell U.K. Limited performed during 2012. This document looks back at our environmental performance, the challenges we faced and how we addressed them.

In Shell we are committed to protect the environment, to play a leading role in promoting best practice in our industry, and to use material and energy efficiently to provide our products and services to the market. We measure, appraise and report our performance, as well as engage with our many stakeholders.

We have made improvements in the area of Oil in Produced Water where we have reduced total discharges of oil to sea by 45% through better environmental management and improved compliance with Ospar limits. We will continue to focus on delivering a sustainable solution to achieve produced water compliance.

We continue our efforts to prevent hydrocarbon incidents and operational spills both on and offshore. We have learned from the Gannet oil spill in August 2011 and we have worked hard to improve and sustain our environmental and operational performance. In an 11 day operation in August 2012 we completed the first phase of plans to remove oil contained within the outer carrier pipe of the Gannet F flowline bundle. This is an important stage in the remediation process which will conclude with the removal of the remaining oil from the flowline bundle. Work continues on developing a redevelopment programme for our Gannet installation that is aimed at extending its safe working life into the 2020's.

In a more unusual operation which commenced on 1st August, a 500lb World War II mine was safely removed and detonated from a resting position on the FLAGS (Far North Liquids and Associated Gas System), 62 miles north-east of St Fergus in the North Sea. Technology played its part here with the availability of innovative ROV technology helping to reduce risk and conclude a technically challenging operation where careful planning and attention to detail ensured a safe outcome and no adverse impact on the environment.

We have invested significantly over the past decade to expand our North Sea operation and to extend the lives of our fields. Investment in new production is growing and we continue to invest in non-operated ventures including Claire, Schiehallion and Beryl. We have also had recent success in the 27th Round of oil and gas licenses awarded in October 2012 - winning 10 blocks which we either operate or have others operate on our behalf. We are also working with SSE and the UK Government to explore the possibility of using the Goldeneye reservoir in the North Sea to store CO2 from SSE's Peterhead Power Station.

As a business we will continue to strive for safe working conditions for our workforce and aim to ensure we make best use of our new and existing infrastructure to minimise our environmental impact on the North Sea.

I hope you find this document a useful and informative tool, and one that underscores our commitment to engage stakeholders regarding our environmental performance.



Glen Cayley – Upstream Director, Shell U.K. Limited
May 2013



2012 SAW US FACE A NUMBER OF CHALLENGES - SOME FAMILIAR AND SOME UNEXPECTED BUT WE WERE ALSO REMINDED HOW THE STRENGTH, SKILLS AND KNOWLEDGE OF OUR PEOPLE CAN BE SUCCESSFULLY APPLIED TO FACE TOUGH CHALLENGES WITHIN A MATURE UKCS AND TO DRIVE IMPROVED SAFETY, ENVIRONMENTAL AND OPERATIONAL PERFORMANCE

TERMINOLOGY IN THIS STATEMENT

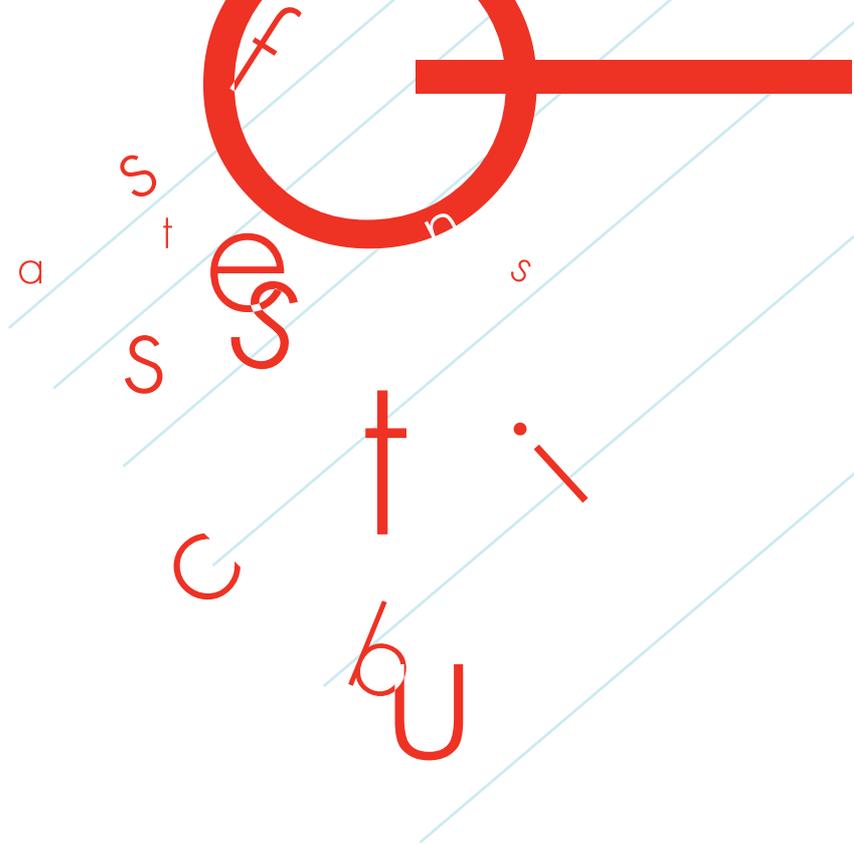
Our Environmental Management System (EMS) covers all the upstream activities and locations involved in exploring for, producing, and processing gas and oil in the UK and UK waters.

Our business is divided into organisational units called Assets and Functions. We use these terms in this report.

Assets are locations or groups of locations supported by onshore teams, and cover all our physical facilities including offshore fields, installations and associated wells, the onshore gas plants, and all associated pipelines. See the map of our UK facilities on page 6.

Functions typically provide a service to the Assets such as operations and planning support, engineering and maintenance, development planning, project planning and execution, logistics for vessels and helicopters, laboratory services, drilling wells, and the management of our offices.

Additionally acronyms and abbreviations in the text are described in [Appendix 4](#)



WHAT WE DO

Shell U.K. Limited ("Shell") is a leading operator in the UK sector of the North Sea, where our upstream business explores for and extracts natural gas and crude oil. In the UK sector of the North Sea Shell produces over 12% of UK oil and gas on behalf of Shell and its joint venture partners.

Shell has interests in more than 50 fields, operating more than 30 offshore installations, 30 subsea installations, two FPSO's (Floating Production Storage and Offtake vessel), three onshore gas plants and a marine terminal for distribution of NGL's (Natural Gas Liquids) globally, see [Figure 1](#).

Shell holds a key strategic position in enabling security of energy supply to the UK through infrastructure operated by us, which is capable of meeting 35% of UK gas demand.

We have strong energy links across Europe with the Shell operated Ormen Lange field in Norway having the potential to meet 20% of the UK's gas needs. Much of the North Sea's hydrocarbons are processed onshore at Shell operated gas plants at St. Fergus, Bacton and Mossmorran.

[CLICK HERE FOR
MORE INFORMATION
ON EXPLORATION
AND PRODUCTION IN
SHELL U.K. LIMITED](#)

ENVIRONMENTAL MANAGEMENT

OUR ENVIRONMENTAL MANAGEMENT SYSTEM (EMS)

Corporate Management System

In Shell U.K. Limited we use a Corporate Management System (CMS) to document the way we conduct our business. Our Environmental Management System (EMS) is integrated into the CMS and is used to develop and implement our environmental policy and manage activities that can interact with the environment. It consists of the following elements:



SHELL COMMITMENT AND POLICY ON HEALTH, SECURITY, SAFETY, THE ENVIRONMENT AND SOCIAL PERFORMANCE

COMMITMENT

In Shell we are all committed to:

- Pursue the goal of no harm to people;
- Protect the environment;
- 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;
- 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
- Promote a culture in which all Shell employees share this commitment.

In this way we aim to have an HSSE & SP 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 to HSSE & SP management designed to ensure compliance with the law and to 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.



Peter Voser
Chief Executive Officer



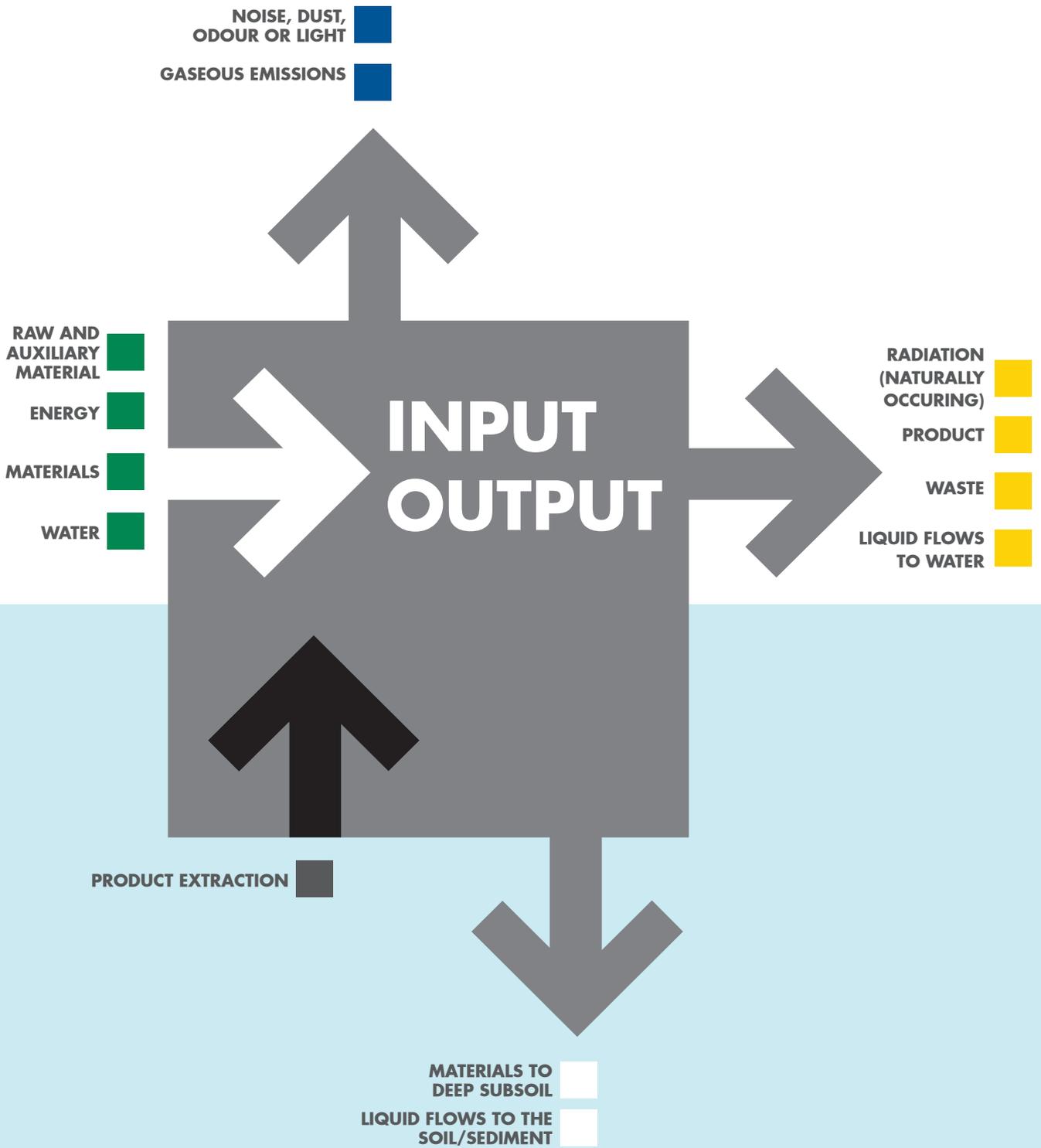
Ed Daniels
UK Country Chairman

Originally published in March 1997 and updated by the Executive Committee January 2013.

General Disclaimer: The companies in which Royal Dutch Shell plc directly and indirectly owns investments are separate entities. In this Policy the expression "Shell" is sometimes used for convenience where references are made to companies within the Shell group or to the group in general. Likewise, the words "we", "us" and "our" are also used to refer to Shell companies in general or those who work for them. These expressions are also used where no useful purpose is served by identifying specific companies.



Figure 3 - Environmental Aspects of Our Operations



ENVIRONMENTAL PERFORMANCE

OUR ENVIRONMENTAL GOALS AND OBJECTIVES

Shell U.K. Limited has implemented an Environmental Management System (EMS) for upstream operations, which is certified to the ISO 14001 standard and strives for continual improvement focused on the following policy objectives:

- Protect the environment
- Use material and energy efficiently to provide our products and services
- Set targets for improvement and measure, appraise and report performance
- Play a leading role in promoting best practice in our industries
- Engage effectively with stakeholders

These objectives are translated into relevant programmes and internal targets and limits designed to drive continual improvement in our UK operations.

The main focus areas in 2012 were related to;

- Safely recovering oil and gas production on our installations. The aim of this work is to increase oil and gas production and also have the consequence of improving the efficiency of our installations based on energy use per tonne of oil equivalent,
- Asset integrity management improvements based on the findings from Shell's investigation into the Gannet F spill of 2011 and Step Change in Safety focus on hydrocarbon leak reduction.
- Sustaining compliance with oil in produced water standards,
- Complete the restructure and simplification of our environmental management system,
- Environmental containment surveys for well operations
- Update the Oil Pollution Emergency Plans (OPEPS) in line with revised DECC guidance
- Environmental compliance

IN 2012 WE SAW A SUSTAINED IMPROVEMENT WITH OUR COMPLIANCE AGAINST OIL IN PRODUCED WATER STANDARDS

Our achievements in 2012 included:

- The increased company focus on oil in produced water compliance resulted in a sustained improvement in the produced water discharge quality from all our installations with respect to meeting the OSPAR standard (30 mg/l) and the total annual discharge of oil to sea was the lowest recorded
- Waste Hierarchy Improvement Initiative
- Promote use of offshore slops processing
- Incorporating revised requirements from DECC into our OPEPS that include;
 - Relief Well Plans in place for all current wells.
 - Availability of capping stack
- Environmental containment surveys conducted as per plan on rigs working for us in UKCS.
- Environmental awareness training conducted with teams on UK Legal compliance requirements; Chemical Management, Radiation awareness
- Removing oil from the Gannet F pipeline bundle
- Installation of oil recovery system beneath the gas tight floor on Brent Charlie to significantly reduce the chance of oil being released to sea during upset conditions
- We have reviewed our inventory of all suspended wells for which we have operator responsibility and ensured that they will be subject to examination and risk assessment. These wells have been sequenced for abandonment over the next 5 years.
- Increased visibility of well integrity issues to ensure that operations management divert efforts to regain the required two independent barriers between the reservoir and the environment.

The 2012 performance of Shell's upstream operated assets located within the UK Continental Shelf (UKCS) is summarized in the sections below. In this report the term 'installation' is used to refer to offshore oil and gas production platforms and onshore gas processing plants which are operated by Shell and our contractors, as well as third party fields that produce to the platforms, plus mobile drilling rigs in the UK whilst on contract to Shell and logistics (covering air and sea operations). Additional environmental data for the years 2008-2012 are provided in [Appendix 1](#). The majority of the data used has been reported to the regulators via the UK Environmental Emissions Monitoring System (EEMS), for offshore, and the Pollution Inventory (England) and Scottish Pollutant Release Inventory (Scotland), for onshore.

MANAGING EMISSIONS AND DISCHARGES

Greenhouse Gas (GHG) Management

Our installations operate under permits issued under the; Pollution Prevention and Control (PPC) legislation, Environmental Permitting Regulations (England) and Phase II (this will change to Phase III in 2013) of the mandatory EU Emissions Trading Scheme for CO₂ (EU-ETS). The EU-ETS is a market based 'Cap and Trade' mechanism aimed at reducing CO₂ emissions to achieve European Union climate policy and require operators to account

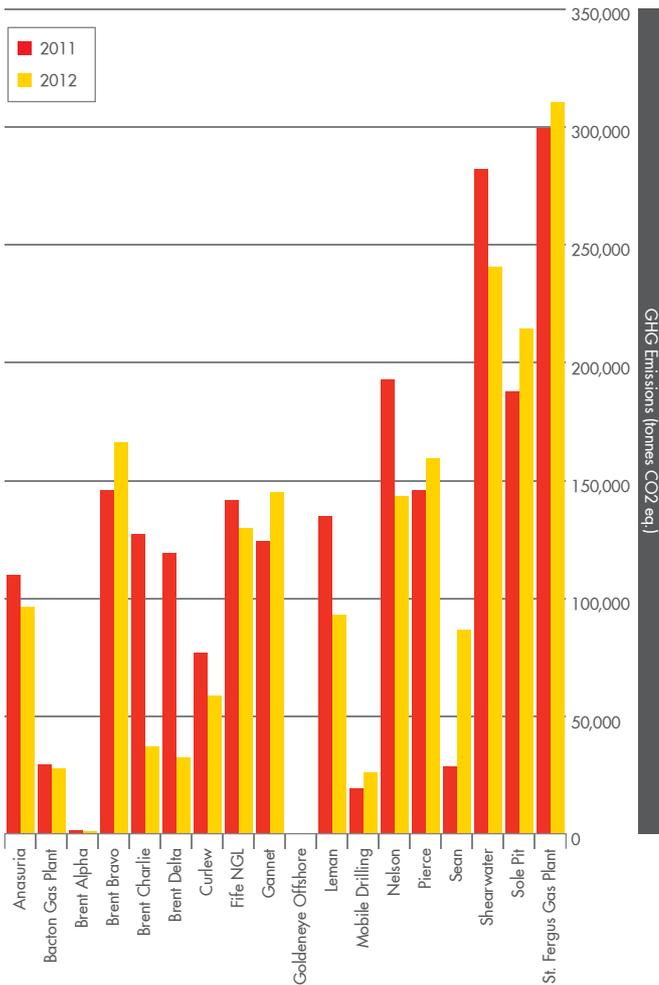


Figure 4: Comparison of total GHG emissions per installation between 2012 and 2011.

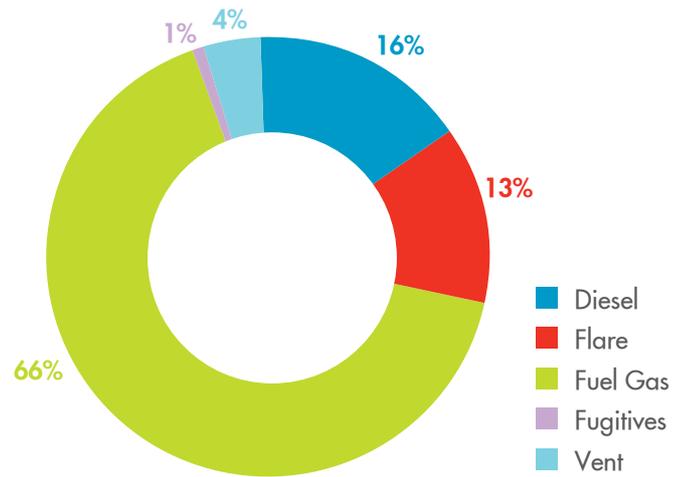


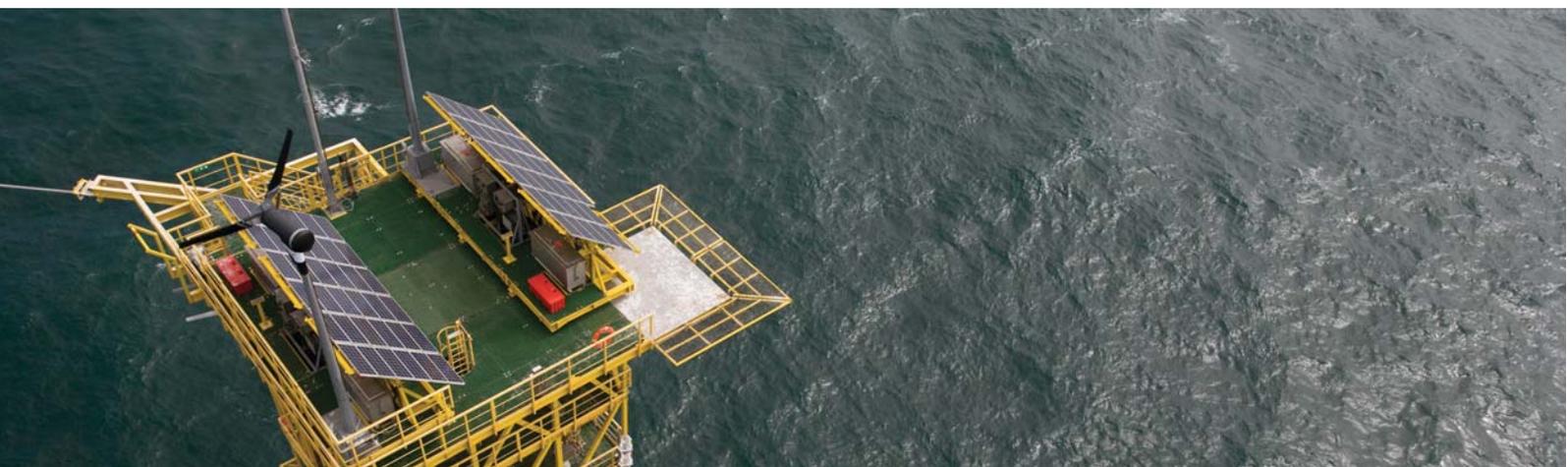
Figure 5: GHG emissions from each release process (tonnes CO₂e) – 2012

for CO₂ emissions and purchase allowances to cover releases.

In 2012, direct GHG emissions from installations were approximately 2.09 million tonnes CO₂ equivalents (CO₂e). This is a decrease of approximately 9 % when compared to 2011 (2.30 million tonnes CO₂e). This reduction can be attributed to the lower oil and gas production resulting from extended shut-ins of a number of fields, most notably within the Brent and Central Assets as well as the Leman field. The reduced production volumes leads to a consequential reduction in the energy required for gas compression, oil export and water management, generated from burning fuel gas. The specific change in GHG emissions between 2012 and 2011 at each installation can be seen in Figure 4. Two notable changes are;

- An increase for Sean which can now resume full production after a peak shaving agreement came to an end, and
- Brent Delta that ceased production and went into decommissioning at the beginning of 2012

As shown in Figure 5 approximately 82 % of our total GHG emissions came from burning of gas and diesel for power generation (including mechanical drive of compressors and electricity generation) on our locations, with flared and vented gases accounting for the majority of the remaining 17%. The percentage of CO₂ equivalents from burning of gas for power generation is significantly lower than recorded in 2011, this is



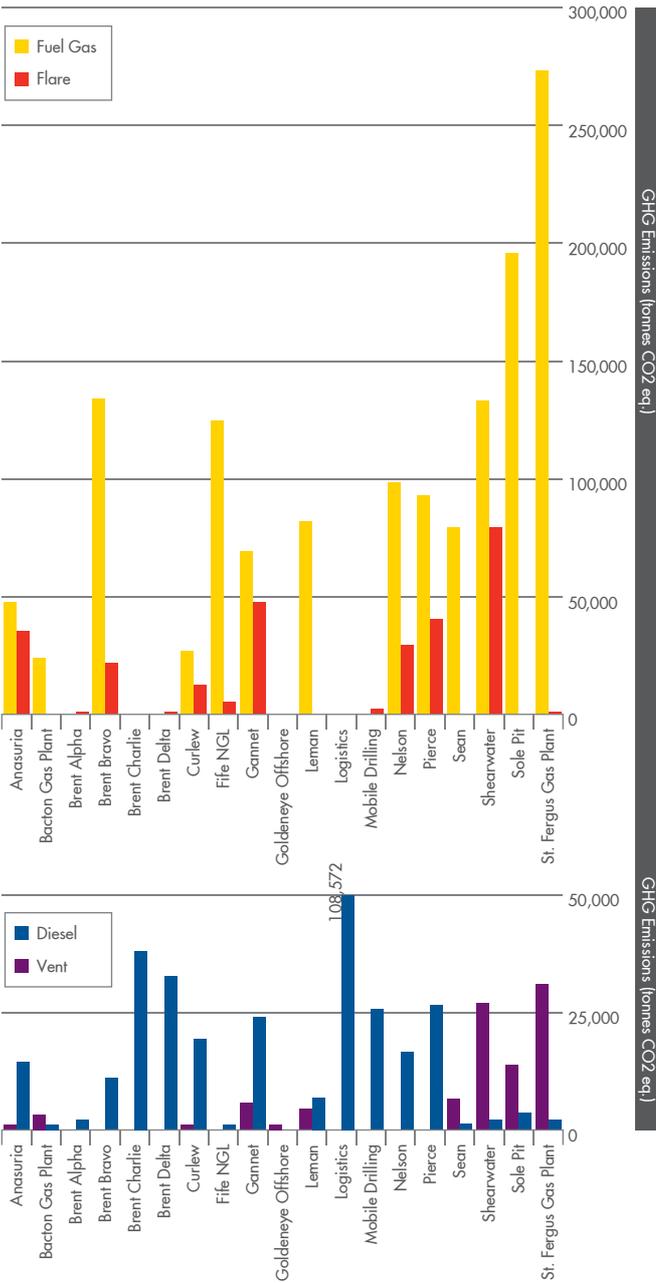


Figure 6: 2012 breakdown of GHG emissions by release process and installation (tonnes CO2e)

due to a larger number of installations being shut down for extended periods and therefore they were running on backup diesel generators with a consequential increase in diesel use.

Flaring from our installations is managed under consents obtained from the government, and in 2012 we maintained flaring with the limits contained in these consents on all installations. On the FPSO Anasuria and the fixed installation Gannet the regulator granted increases in our consented flare gas volumes, as a result of unexpected operational issues.

In total we flared hydrocarbon gas that resulted in the release of approximately 277,000 tonnes of CO2 (CO2e) across our UK installations (Figure 6). This represents a 15 % reduction from 2011, due mainly to a lower overall production.

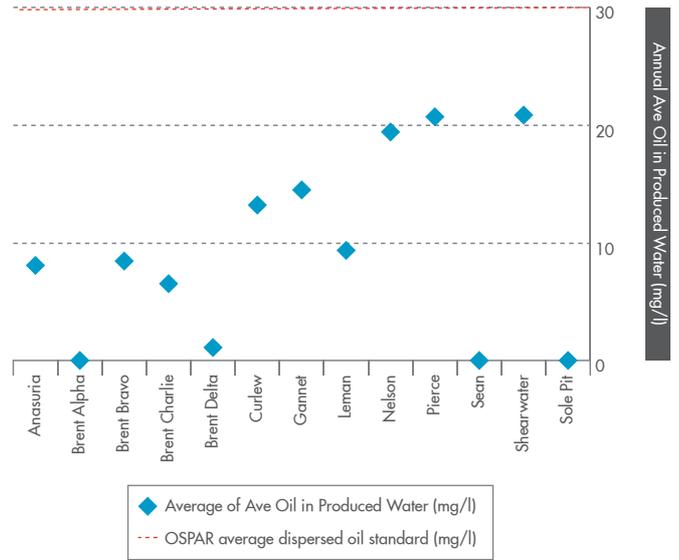


Figure 7: Annual average dispersed oil concentrations in produced water from each Shell operated offshore installation. It is recognised that the annual and monthly averages are not directly comparable, but they provide an indication of overall 2012 performance.

Our Central Northern North Sea (CNNS) assets are designed to have a flare for safety and technical reasons; about half of our flaring is as a result of plant upsets, trips, equipment outage and shut-down/start-up. The remainder is linked to the flare pilot/purge that is required to maintain a small flame to ignite gases should there be a safety need.

As fields near end of life flaring generally increases as a percentage of total production. This is due to lower gas flows and pressures in certain parts of the operations that cannot be handled by the gas compressors. It is generally not viable to modify the existing equipment, or install new equipment, at this late stage of operations. This is the situation for the Brent field as it is starting to enter its decommissioning phase (Brent Delta decommissioning commenced on the 1st January 2012). Also on the Shearwater installation some continuous flaring is required to dispose of acid gas containing minor amounts of H2S scrubbed from the gas before it is exported to shore.

Some of our installations are designed to vent gas for safety and certain operational reasons and we have venting consents from





the government to cover this. Our St Fergus gas plant saw an increase in the amount of gas vented in 2012 (Figure 6) as compared to 2011, this increase was as a result of; additional safety venting required to depressurise the plant during the shutdown and from a passing valve in the vent system that was identified and repaired.

Oil In Produced Water

In the UK oil in produced water discharges are regulated in line with the OSPAR Commission recommendations through the Offshore Petroleum Activities (Oil Pollution Prevention and Control) Regulations 2005 as amended (OPPC). OSPAR have set a target for total quantities of oil in produced water discharges to sea to be 15% below those recorded for the year 2000. We have maintained our total oil discharges below this level since the target was introduced in 2006, and the level has reduced consistently over the past 5 years, see Appendix 1.

Throughout 2012 there was a high level of focus within Shell aimed at ensuring our offshore installations complied with the 30 mg/l monthly average for dispersed oil in produced water discharges. Overall the results reported to DECC throughout 2012 show that our produced water discharges were in compliance with the exception of 4 isolated incidents which stemmed from upsets in operations and were associated with periods of very low water discharge. Figure 7 shows present annual average oil in produced water concentrations for our offshore installations.

Figure 8 shows the amount of oil, in tonnes, discharged to sea in produced water in 2012 from installations in the UKCS which we operate.

In 2012 total discharges of oil to sea from our installations reduced by 44%, from 238 tonnes in 2011 to 132 tonnes in 2012. This reduction, as indicated above, is in part due to a sustained focus on compliance with the OSPAR dispersed oil discharge limit of 30 mg/l. To maintain compliance with the discharge limits we have shut in oil production from wet wells, installed additional temporary treatment capacity, found alternative disposal routes for the water and also maintained >95% produced water reinjection availability on 2 of our installations in the southern North Sea. The most noticeable improvements were seen on Shearwater, Gannet and Leman, and in addition there was a high availability of produced water reinjection on Sean and Sole Pit Clipper. Efforts are ongoing on both Gannet and Shearwater to install upgrades to the water treatment systems, as well as remove the need to dose

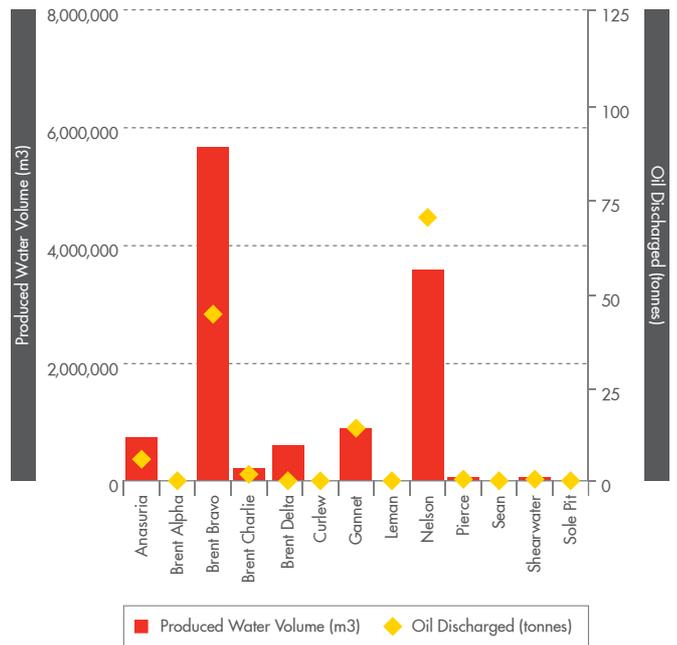


Figure 8: Total volume of produced water and mass of oil discharged to sea from each Shell operated offshore installations

high levels of corrosion inhibitor to protect subsea pipelines in order to help deliver a sustainable solution.

Extended shut downs in the Brent field and on Nelson also contributed to the reduction in the total mass of oil discharged, as the volume of production water is directly related to the volumes of hydrocarbons produced from these fields.

The mass of oil and presence of other components are also important factors and we are aware that the contracting parties to OSPAR are considering future changes to the way produced water is regulated. These issues will be taken into consideration in developing our future environmental improvement plans.

Operational Spills

We continually strive to prevent the occurrence of oil spills (we use the term releases in this section as this is the term that DECC use for accidental spills of oil and chemicals) from our operations. However, in the event that a release does occur we have contingency plans in place to minimise environmental impacts. Shell has fostered a heightened awareness on reducing hydrocarbon leaks within it's operations. This stems from an

	2008	2009	2010	2011	2012
Number of Oil & Chemical Spills <small>(Includes spills <100kg)</small>	83	57	56	58	44
Mass of Oil & Chemical Spills (tonnes)	93	745	26	260	13

Table 1: Number and Mass of Spills to Sea (2008-2012)

increased focus on managing asset integrity, following the dissemination of the findings of the causal investigation carried out for the Gannet F release in Q3 2011, and additionally the Step Change in Safety initiative on hydrocarbon leak reduction.

We record and report all oil and chemical releases from our operations to the relevant authorities. In 2012 we reported 44 releases to the sea from our UK upstream activities (there were 2 additional permitted discharge PONTs), of which 38 were classified oil and 6 as chemicals.

The total number of notified releases (hydrocarbon and chemicals) was lower than 2011. The total mass released was 13 tonnes (hydrocarbon 3 tonnes and chemicals 10 tonnes) this is lower than the 260 tonnes released in 2011 (see Table 1). More than 80% of all releases are smaller than 100 kg. We have provided more detail on all releases greater than 2 tonnes, see Appendix 2.

Additionally Shell supports the Step Change in Safety hydrocarbon leak reduction initiative where the offshore oil and gas industry aim for a 50% reduction in hydrocarbon leaks by 2012, based on a baseline set in 2009.

Chemical Management

i) Production Chemicals

Our use and discharge of chemicals in production and drilling operations is controlled by the Offshore Chemicals Regulations 2002 as amended (OCR), and Shell’s environmental requirements. The type and volume of production chemical used and discharge varies across our installations. Oil installations generally use more chemicals to process crude oil than gas installations use to process gas. This is mainly due to the relatively high quantities of produced water associated with oil production. Table 2 shows the historical use of offshore chemicals across our UK Production operations, along with the percentages of those used that were discharged to the sea.

	2008	2009	2010	2011	2012
Production Chemical Use (Tonnes)	9,457	4,831	4,500	3,433	2,246
% Discharged	61	67	59	56	52

Table 2: Production Chemicals Use and Discharge (2008-2012)

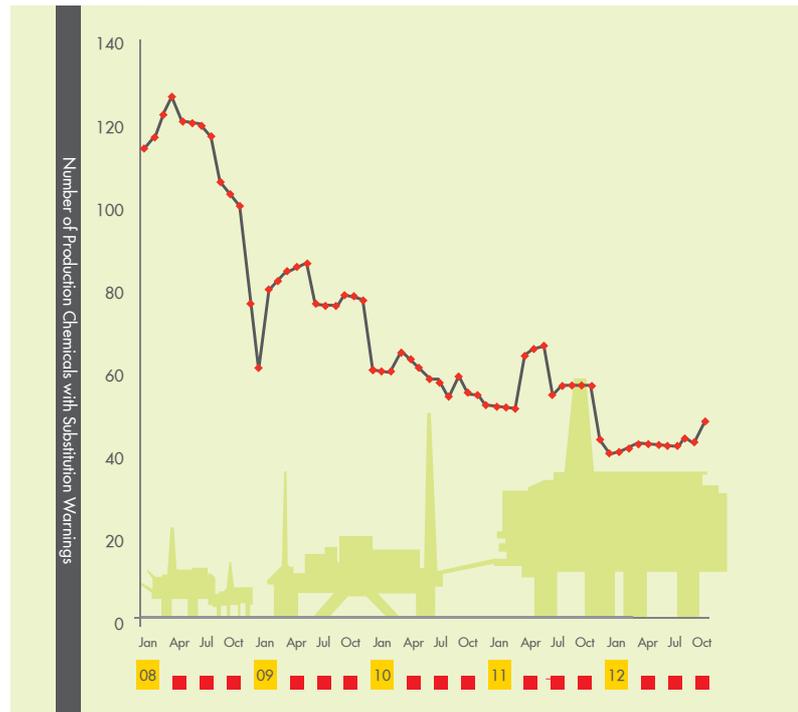


Figure 9: Trend in Numbers of Production Chemicals used by Shell with 'Substitution Warnings' (2008-2012)

The overall trend in production chemical use has declined over the last 5 years (see Table 2), as has the percentage of those discharged to the sea. This trend is the sum of a number of counteracting pressures;

- Our efforts to use more efficient chemicals that reduce treatment concentrations;
- Having access to more recent partitioning studies that more accurately determine the percentage of chemical being discharged in their respective phases;
- The effects of divesting platforms, and
- Greater consumption due to increasing water production as fields age

Additionally in 2012 there has been a further reduction in use due to the effects of a number of our installations being shutdown for extended periods and the decommissioning of one of our installations, all of which has resulted in lower volumes of produced fluids that required treatment and therefore a reduced volume of production chemicals required to treat them.

The regulator (DECC) has highlighted certain hazardous chemicals for phase out from use by means of Substitution Warnings (Sub Warnings). Reducing the use of these chemicals can be challenging, especially for those that have been engineered for specific fields or applications. Approximately 16 % of the production chemicals used have Sub Warnings, however their use has declined over the last 5 years in line with our phase out plan (Figure 9). The reductions (and increases) have been achieved through a combination of factors:

1. Replacement of chemicals by less hazardous versions
2. Removal of unused products from permits

- 3. Divestment/decommissioning of the installations where particular product was used, and
- 4. Reclassification as chemicals gain or lose the Sub Warning as new data become available, and as hazard thresholds that dictate the warning change;

ii) Wells Chemicals

In 2012 we used a total of 8,102 tonnes of chemicals in wells activities, see Table 3. Of this figure approximately 17% of chemicals were discharged to the marine environment. The volume of chemicals used and discharged is directly related to the type and number of wells activities undertaken, and in 2012 activity was relatively low compared to previous years.

	2008	2009	2010	2011	2012
Well Chemical Use (Tonnes)	20,424	20,424	9,778	9,046	8,102
% Discharged	15	25	17	15	17

Table 3: Wells Chemicals Use and Discharge (2008-2012)

A large part of the Wells activity and associated chemicals usage is related to; abandonment of wells on Shearwater, well abandonment work associated with the Brent decommissioning programme and drilling of wells on in the Fram field, further details on wells drilled can be seen in Appendix 3.

In 2012, around 2% of the total weight of chemicals used was made up of chemicals which carry Sub Warnings, a full breakdown is given in Table 4. Around 0.5% of the total weight of chemicals discharged in 2012 were made up of chemicals which carry Sub Warnings. The main contributor to the use of chemicals with sub warnings in 2012 was associated with the well abandonment works.

	A	B	C	D	E	Gold	Silver	White
Percentage of Total Chemicals Used	0.03	0.3	4.3	0.2	85.2	9.6	0.4	0.0
Percentage of Total Chemicals Discharged	0.0	0.0	0.2	0.5	68.9	30.5	0.0	0.0

Table 4: Percentage of Well Chemicals Used and Discharged by HQ/OCNS Category (2012)

USE OF ENERGY, RESOURCES AND WASTE MINIMISATION

Energy Use and Resource Management

Increasing the stability of production from all our assets is the single most important lever to increase energy efficiency. In 2012 we commenced several initiatives to sustainably improve the integrity and reliability of our installations. These initiatives integrate with our overall GHG Strategy that focuses on reliability operations and improving energy efficiency within projects.

When developing new reserves, our focus is on making best use of existing infrastructure (Shell and third party) so we use resources more efficiently and disturbance to the environment is minimised. In new developments the effective minimisation of GHG emissions is a key element of our project delivery process requirements.

Most of our energy use is from power generation on our offshore installations where we burn fuel gas or diesel to run pumps, compressors, engines, heaters and general platform services. The energy intensity of our operations is generally increasing due to the maturity of our fields, which produce and process more associated water and require only marginally less energy to export reducing hydrocarbon volumes. Additionally in 2012 continued shut-ins in some of our fields affected the overall energy intensity of our UK operations, as the associated installations still needed to keep parts of their operations running.

Waste Management

Waste is closely controlled across all our UK operations with our installations actively segregating their waste streams to ensure legal compliance and allow for more environmentally acceptable routes of disposal.

In 2012 Shell reviewed the scope of its waste management contracts with the aim of identifying additional opportunities to reduced waste disposed on shore and move waste away from landfill. The implementation of the findings is ongoing, and are expected to be embedded in 2013.

Improvements were made in the waste hierarchy in 2012 with the following initiatives: -

- St Fergus Gas Plant general waste now going to Waste to Energy rather than Landfill
- Segregation and composting of Aberdeen Office paper hand towels rather than Waste to Energy
- Office furniture and carpet tiles from office refurbishment projects to local charities (reuse) rather than recycling or landfill

Other areas of notable performance improvement was a circa 99% recycling of the recovered Anasuria Umbilical and the initial trials of a reduced entry/reduced waste vessel under deck tank cleaning system that filters and reuses wash water.

Table 5 shows the total volume of waste generated from our UK upstream operations in 2012 increased by approximately 12,000 tonnes compared with 2011. The rise seen in 2012 was mainly due to the ongoing onshore treatment and disposal of the Curlew FPSO produced water. To help ensure OPPC permit conditions are adhered to Curlew FPSO produced water was tankered onshore for storage, treatment and disposal. 2 loads of

WHEN DEVELOPING NEW RESERVES, OUR FOCUS IS ON MAKING BEST USE OF EXISTING INFRASTRUCTURE



	2008	2009	2010	2011	2012
Hazardous Waste (tonnes)	32,606	24,818	27,625	28,085	30,020
Non-Hazardous Waste (tonnes)	9,275	12,684	15,550	19,047	28,769
Total Waste (tonnes)	41,881	37,502	43,174	45,143	58,789

Table 5: Mass (tonnes) of wastes (hazardous and non hazardous) generated by our UK upstream operations between 2008 and 2012

approximately 15,000 tonnes each have been landed in 2012.

Bacton Gas Terminal continues to create waste water in significant volumes, this is classified as waste and requires offsite treatment. A new waste water treatment plant is being constructed to treat this water and is expected to be online in 2014, therefore the volume of waste of waste Bacton reports should significantly reduce.

Hazardous waste, which includes drilling mud and cuttings from our drilling activities, contaminated water and sludge from onshore and offshore operations, waste oil, paint and chemicals, increased by approximately 2,000 tonnes compared to 2011. The main contributor is process water removed from Bacton Gas Plant which is mainly categorised as hazardous waste and is treated and disposed off site, as mentioned above.

Non-hazardous waste, which includes scrap metals, wood, paper, plastics, cans and general waste, also increased in 2012 by nearly 10,000 tonnes. A considerable element of this was a one off waste stream consisting of soil and rubble removal from the construction of the new outfall pits at Bacton.

In summary, waste tonnage increased in 2012 with Waste Water treatment and disposal, the highest volume due to Bacton and Curlew. Figures 10 and 11 present further details on waste disposal routes and changes in waste mass at each location between 2011 and 2012.

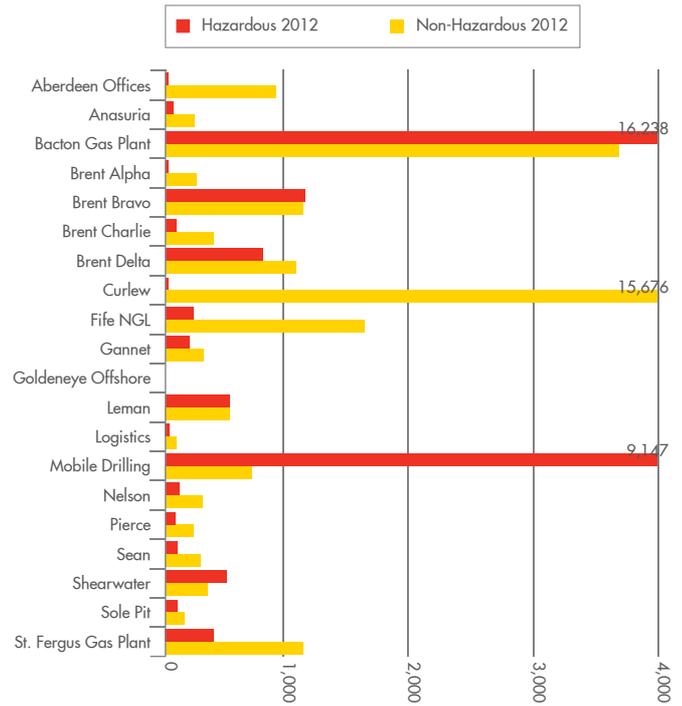


Figure 10: Mass (tonnes) of wastes generated by location in 2012

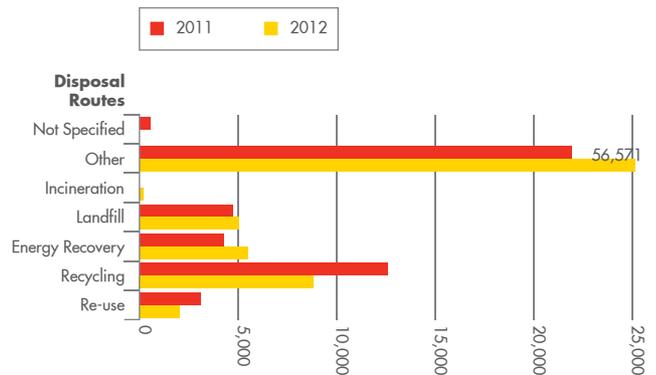


Figure 11: Difference of mass of waste disposed of/recovered to various routes between 2012 and 2011

BIODIVERSITY AND SENSITIVE AREAS

UK regulations and Shell’s HSSE & SP control framework set standards for managing risks to biodiversity and ecosystems arising from our activities. Biodiversity and presence of critical habitats is a key consideration in our environmental impact assessments for new projects and significant modifications to existing facilities.

Assessment of impacts is particularly important for activities in or close to proposed or established protected areas and other sensitive habitats. Some of our infrastructure is located in or near the offshore Sites of Community Importance (SCIs): “North Norfolk Sandbanks and Saturn Reef” and “Haisborough, Hammond and Winterton”. In 2012 we carried out detailed habitat investigations in these areas to inform locations of planned new infrastructure. This work helps us, and the

government, understand and evaluate the impact that proposed activities could have on habitats and species protected by law, such as biogenic reefs formed by *Sabellaria spinulosa* and sandbanks (Figure 12). With this information we can support the management of such areas and inform consultations with relevant local and national agencies.

MONITORING SEABED IMPACTS

We believe it is important for us to have scientific evidence to evaluate the environmental impacts, around our installations and especially those in proposed or established conservation areas. We have a programme of environmental seabed surveys agreed with DECC & Joint Nature Conservation Committee (JNCC) to monitor the impacts of our activities, as there is the potential for contaminants to accumulate in seabed sediments. We monitor the sediment chemistry and health of seabed-dwelling (benthic) organisms around our installations to understand the effect we may be having on the environment near the installations. We use this evidence to support assessments of actual and potential environmental impacts when applying for licences and permits.

In 2012 we completed two environmental monitoring surveys at Clipper and Leman C fields in the Southern North Sea with the aim of evaluating temporal changes in the benthic environment and biological communities. In addition, a large post decommissioning environmental survey was undertaken at the Indefatigable field after the complete removal of six platforms and the completion of other infrastructure decommissioning activities. The aim of this survey was to assess the status of the area, evaluate whether any changes, if observed, could be attributed to decommissioning activities, and predict future recovery trends, if appropriate. The results of these surveys are pending.

In general, results of monitoring seabed surveys for the past six years indicate a reduction in contaminant levels around the installations and an improvement in biological diversity indicators. This shows that the seabed begins to recover after wells have been drilled. The raw data from the surveys is reported into the UK Benthos database, maintained by Oil and Gas UK.



Fig 12: North Norfolk Sandbanks and Saturn Reef SCI. Carrack Clipper pipeline and Leman A habitat assessment.



Fig 13: Topside Removal Preparation on Brent Delta.

PLATFORM DECOMMISSIONING

Brent Decommissioning

The decommissioning of the Brent field and facilities is one of the most significant projects in the North Sea and is likely to span over a decade. Shell began decommissioning studies in 2006, well before cessation of production, and communication and engagement with a wide range of stakeholders has continued since 2007. Our stakeholders include local and national environmental groups, fishermen’s associations, key government agencies, national and local government, unions, industry bodies and academics. Through the consultation process, we aim to identify optimal solutions for decommissioning Brent facilities, driven by what is safe, technically achievable, environmentally sound, societally balanced and financially responsible.

A wide range of communication methods have been used to engage stakeholders including twelve stakeholder dialogue sessions. We are keen to hear stakeholders’ views on our studies to inform the decision making process for each of the decommissioning options.

The dedicated Brent Decommissioning website will be further developed and enhanced as the Project progresses (www.shell.co.uk/brentdecomm) towards the submission of the Decommissioning Programme to DECC and the regulatory process that follows. This website already has a contact facility whereby any stakeholder can contact the stakeholder engagement team directly with issues and comments, or requesting information.

Brent Delta ceased production on December 31st 2011. Work continues with the Plug and Abandonment of the wells and general operational/engineering preparations for anticipated topsides removal in 2015. The Cell Survey Project is progressing with preparations to investigate the nature and contents in the Brent Delta Gravity Based Structure, including the sediment, contained within the cells to assist the assessment of five provisional cell content management options. This survey is now planned for 2013. A specialist stakeholder task group has been convened to assist in the assessment of the 5 cell content management options.

An Independent Review Group (IRG) of ten eminent academics review the science and conclusions of the many technical studies that have been commissioned. Their final report will be submitted along with the Decommissioning Programme.

The Environmental Impact Assessment (EIA) process, that supports the overall Brent field decommissioning programme, is well underway and the EIA scoping report is now available to stakeholders to read. This scoping report represents the first stage in the preparation of the detailed Environmental Impact Assessment for the project. It defines the scope of the project, describes the environments in which activities may take place, outlines the options which the project is considering and identifies the potential environmental impacts that should be evaluated in more detail in the EIA.

LATERAL LEARNING AND COOPERATION

We participate in various stakeholder, government and industry forums. These include contributions to government consultation processes, both individually and as part of the industry associations such as Oil and Gas UK (OGUK). We have the chair of the OPEP group within OGUK Oil Spill Management Forum, membership of the OGUK Well Fluids Working Group and contribute to the Upstream Environment Group of the Energy Institute (EI), as well as membership and representation on local advisory bodies such as the St Fergus Coastal Environment Committee.

In addition we jointly fund, with government and industry, research and technology programmes. Research supported by Shell in 2012 included; OGUK, OGP and EI projects, the SERPENT (Scientific and Environmental ROV Partnership using Existing Industrial Technology) programme through provision of access to remotely operated vehicles and working with the North Sea Bird Club on data gathering on migratory birds. Shell supported the Energy Institute project to develop guidance for the Identification and Management of Environmental Critical Elements.

CONTACT INFORMATION

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

This report is updated and published annually on our external website at www.shell.co.uk

For further information, please call the Shell office in Aberdeen on **01224 882000** and ask for the Communications department.

Shell U.K. Limited
1, Altens Farm Road
Aberdeen AB12 3FY



APPENDIX 1

SUMMARY OF ENVIRONMENTAL DATA (2008-2012)

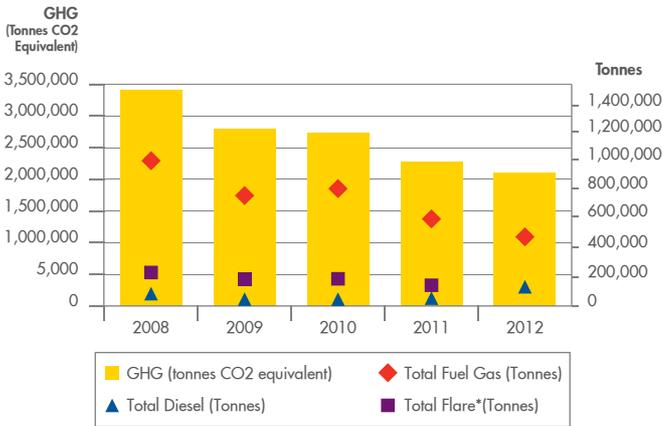
	2008	2009	2010	2011	2012
GHG (tonnes CO ₂ equivalent)	3,417,602	2,786,884	2,748,043	2,306,496	2,092,394
Total Fuel Gas (tonnes)	937,147	739,173	789,908	580,049	486,240
Total Diesel (tonnes)	71,732	30,381	64,466	42,621	100,864
Total Flare* (tonnes)	216,482	186,382	177,074	141,750	107,599
Oil to Sea (tonnes) (discharged in produced water)	865	506	445	238	132
Hazardous Waste (tonnes)	32,606	24,818	27,625	28,085	30,020
Non-Hazardous Waste (tonnes)	9,275	12,684	15,550	19,047	28,769
Production Chemical Use (tonnes)	9,457	4,831	4,500	3,433	2,246
% Discharge	61	67	59	56	52
Wells Chemical Use (tonnes)	20,424	28,293	9,778	9,046	8,102
% Discharge	15	25	17	15	17

The figures shown above relate to all offshore installations operated by Shell U.K. Limited, and 3rd Party fields that produce to them, plus onshore plants and mobile rigs in the U.K. – all as reported by Shell to the U.K. Environmental Emissions Monitoring System EEMS.

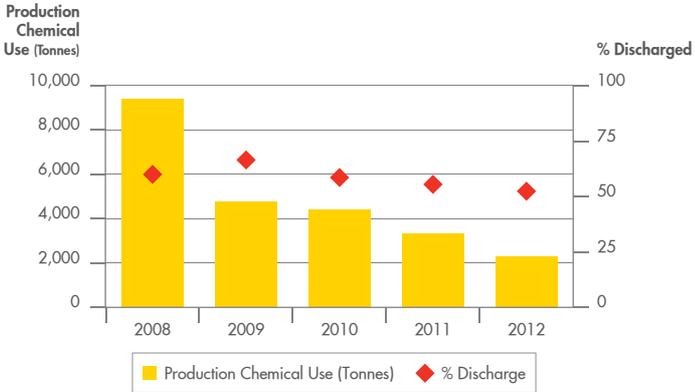
APPENDIX 1

SUMMARY OF ENVIRONMENTAL DATA (2008-2012)

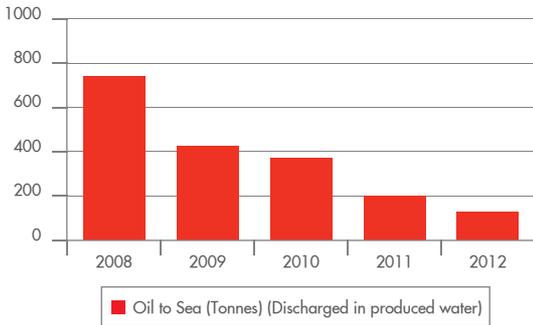
2012 Emissions: Total GHG (CO2 Eq. Tonnes), Total Fuel Gas (Tonnes), Total Diesel (Tonnes), Total Flare (Tonnes)



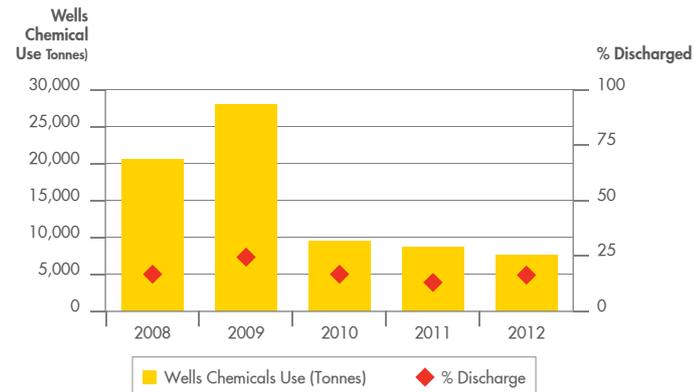
Annual Production Chemicals Used (tonnes) and Percentage Discharged (2008-2012)



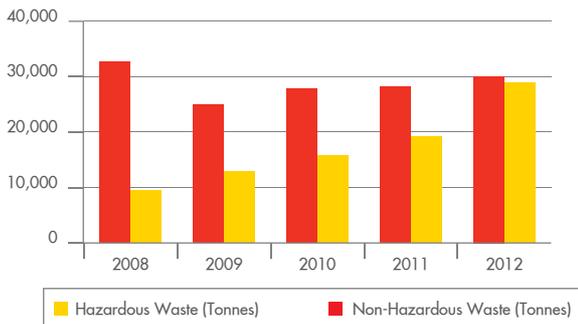
Oil to Sea (Tonnes) (Discharged in Produced water) Annual totals 2008-2012



Annual Wells Chemicals Used (Tonnes) and Percentage Discharged (2008-2012)



Total Hazardous and Non Hazardous Waste 2008 - 2012



APPENDIX 2

OIL AND CHEMICAL SPILLS WITH ADDITIONAL DETAILS OF SPILLS GREATER THAN 2 TONNES

Notifiable (PON 1) Oil and Chemical Spills - Number	44
Notifiable (PON1) Oil and Chemical Spills - Total Mass (tonnes)	13

Incidents and Response* *Oil and Chemical Spills > two tonnes	Tonnes
<p>Incident: Curlew - Chemical spill (50% TEG, 25% MEG, 25% Flotreat) due to heavy weather damage allowing totes to go overboard</p> <p>Response: Initial response was to secure remaining containers and barrier missing handrails. Longer term response was to review chemical management procedures and review laydown area movements and tracking. Survey of laydown and storage areas.</p>	8.8

PON 1 = Petroleum Operations Notice No.1

We are required to notify the relevant authorities of all visible sheens and accidental/unplanned discharges or spills of oil or chemicals to sea, regardless of volume, using a PON1 to:

- Nearest Coastguard Station
- Department of Business, Enterprise and Regulatory Reform; DECC
- Joint Nature Conservation Committee (JNCC)
- Any relevant statutory Nature Conservation Agency

The list of spills above shows only those greater than 2 tonnes, this figure was used in previous reports and retained for 2012 to maintain consistency.

APPENDIX 3

WELL ACTIVITIES IN 2012

Wells Drilled in 2012

Installation / Rig	Shell Well Name	Well Start Date	DECC Permit Reference
Ocean Guardian	FRAM P5	1 July 2012	PON15B/668
Ocean Guardian	FRAM G4	11 July 2012	PON15B/669
Ocean Guardian	FRAM P3	11 July 2012	PON15B/670
Ocean Guardian	FRAM G3	11 July 2012	PON15B/671
Ocean Guardian	FRAM P1	11 July 2012	PON15B/672
Swift 10	Denver (49/20a-8)	20 November 2012	PON15B/687

APPENDIX 4

ABBREVIATIONS AND TERMINOLOGY

Asset	Used internally in Shell to describe a collection of locations and supporting services; also includes onshore plants and interconnecting pipelines.
Associated Gas	Gas liberated from oil as the pressure is reduced from subsurface conditions to the surface separation facilities.
Benthos / Benthic	Flora (plants) and fauna (animals) found at the bottom of ocean, sea or lake.
Bentonite	Natural clay used to thicken well engineering and completion fluids.
CCS	Carbon Capture and Storage
CEFAS	Centre for Environment, Fisheries & Aquaculture Science
CFC	Chloro-Fluoro-Carbon. A substance containing chlorine, fluorine and carbon, used in refrigeration systems.
CI	Corrosion Inhibitor
CMS	Corporate Management System
CNNS	Central and Northern North Sea Assets
COMAH	Control of Major Accident Hazards Regulation
CoP	Cessation of Production
DECC	Department of Energy and Climate Change (formerly BERR)
De-oiler	Chemical used in the production process to promote separation of oil from produced water
EEMS	Environmental Emissions Monitoring System (Oil & Gas U.K.)
EMS	Environmental Management System
EP	Exploration and Production
EPR	Environmental Permitting Regulations (England and Wales)
EU ETS	Council Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading with the community
F-Gas	Fluorinated greenhouse gases
FPSO	Floating Production, Storage and Offloading vessel
GHG	Greenhouse gases (mainly carbon dioxide, methane, nitrous oxide and HFC's)
HCFC	Hydro-Chloro-Fluoro-Carbon. A substance containing hydrogen, chlorine, fluorine and carbon, used in refrigeration systems.
HSSE & SP	Health, Safety, Security, Environment and Social Performance
HQ	Hazard Quotient
IPPC	Integrated Pollution Prevention and Control (Scotland)
ISO14001	International Standard Specification for Environmental Management Systems.
KPI	Key Performance Indicator

CONTINUED

ABBREVIATIONS AND TERMINOLOGY

JNCC	Joint Nature Conservation Committee. Public body that advises the U.K. Government and devolved administrations on nature conservation
MEG	MonoEthylene Glycol
NUI	Normally Unmanned Installation
NSP	Northern Systems and Plant
OCNS	Offshore Chemical Notification Scheme
OGUK	Oil and Gas U.K., U.K. offshore oil industry association
OIPW	Oil in Produced Water
OPEP	Oil Pollution Emergency Plan
OPPC	Offshore Petroleum Activities (Oil Pollution Prevention and Control) Regulations 2005
OSPAR	Convention for the Protection of the Marine Environment of the North-East Atlantic. In 1998 this replaced the Oslo Convention (for the Prevention of Marine Pollution by Dumping from Ships and Aircraft) and the Paris Convention (for the Prevention of Marine Pollution from Land-Based Sources).
PON1	Petroleum Operations Notice type 1. DECC requires Operators to report any oil or chemical spills, sheens, or excessive discharges to their Offshore Inspectorate using a PON1 form available on their website at https://www.og.berr.gov.uk/regulation/pons/index.htm
PPC	Pollution Prevention and Control Act 1999 and Offshore Combustion Installations (Prevention and Control of Pollution) Regulations 2001
PWRI	Produced Water Re-Injection
SAC	Special Area of Conservation
SEPA	Scottish Environmental Protection Agency
SERPENT	Scientific and Environmental ROV Partnership using Existing iNdustry Technology
SICI	Scale Inhibitor/Corrosion Inhibitor
SNS	Southern North Sea Assets
SP	Social Performance
TEG	TriEthylene Glycol (antifreeze)
UKCS	United Kingdom Continental Shelf
WBM	Water Base Mud

CAUTIONARY STATEMENT

This report contains forward-looking statements concerning the financial condition, results of operations and businesses of Royal Dutch 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 Royal Dutch 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 "anticipate", "believe", "could", "estimate", "expect", "intend", "may", "plan", "objectives", "outlook", "probably", "project", "will", "seek", "target", "risks", "goals", "should" and similar terms and phrases. There are a number of factors that could affect the future operations of Royal Dutch Shell and could cause those results

to differ materially from those expressed in the forward-looking statements included in this report, 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, 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; and (m) changes in trading conditions. All forward-looking statements contained in this report 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 factors that may affect future results are contained in Royal Dutch Shell's 20-F for the year ended December 31, 2011 (available at www.shell.com/investor and www.sec.gov). These factors also should be considered by the reader. Each forward-looking statement speaks only as of the date of this report, May 2013. Neither Royal Dutch Shell 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 report.

U.S. 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. You can also obtain these forms from the SEC by calling 1-800-SEC-0330.