



UK ENVIRONMENTAL STATEMENT 2018



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At TAQA, we are committed to the highest standards of health, safety, security, environmental and quality (HSSEQ) performance. We work to respect the natural environment and to achieve our goals of ensuring that no harm comes to people; to providing a safe, secure workplace; and carrying-out our activities with minimal impact on the environment. Our commitment to safe and incident-free operations goes hand-in-hand with improved operational reliability, lower costs and higher productivity.





Introduction

Welcome to TAQA's 2018 Environmental Statement

I am pleased to present the 2018 Environmental Statement for TAQA's UK business. At TAQA, we are committed to highest standards of health, safety, security, environmental and quality (HSSEQ) performance.

In 2018 TAQA celebrated 10 years in the UK. During the last 10 years we have developed our skills and strengths in successfully managing late-life operations. This was demonstrated during 2018 through our Eider late-life project. A highly effective collaborative approach, both internally at TAQA and externally with contractors, saw a programme of modifications and the start-up of a bespoke multiphase pump (MPP) at our Otter field; extending the operational life and enhancing production rates from our northern North Sea assets. A continuous focus on asset integrity also saw the effective execution of our 2018 shutdown programme. The programme featured a two-week outage on Cormorant Alpha to complete the final phase of the Brent System topsides bypass project, mitigating a significant integrity risk. 2018 also saw the creation of a decommissioning team within TAQA, reflecting our desire to take ownership of this element of our business.

During 2018 we continued to strive toward improving our environmental performance and reducing our impact. This focus saw a 29% decrease in diesel volume usage from 2017 (a decrease for the third consecutive year) and a 30% reduction in reportable produced water sheens. As a natural and direct result of increased activity some of our environmental impacts increased, but a focus on continuous improvement ensured this was mitigated in many areas. For example, despite the overall volume of produced water discharges to sea increasing by 8%, the total oil discharged in produced water decreased by 10% compared to 2017. Similarly, our overall chemical use increased, but the percentage volume of chemicals with a substitution warning reduced from 5.76% in 2017 to 2.19%.

We further embedded decommissioning activity within our Environmental Management System with its addition to the ISO14001 scope and inclusion in the Aspects Register. In addition, a major onshore shoreline exercise was completed to test and enhance our emergency response and shoreline response plans.

Sustainability continues to be a key business focus at TAQA, and this goes hand in hand with good environmental performance. We will continue to make this a priority and look at new ways to improve or further reduce our impact on the environment to ensure a safe and successful future in the UK.



“

In 2018 TAQA celebrated 10 years in the UK. During the last 10 years we have developed our skills and strengths in successfully managing late-life operations.

Donald Taylor

Donald Taylor
Managing Director, TAQA Europe

Health, Safety, Security & Environment Policy

The health, safety and security of our employees, contractors and the public is our highest priority; it is more important than any operational priority.

We must also:

- Ensure that our assets are operated safely
- Assure the integrity of our assets
- Respect, protect and understand the natural environment

HSSE = Health, Personal Safety, Major Accident Prevention, Security and Environment

We strongly believe that excellent business performance requires excellent HSSE performance – we recognise this as a core value.

Employees and contractors are required to focus on these four areas:

Leadership

- Everyone within TAQA understands their accountabilities for the management of HSSE
- The structure and resources necessary to achieve and measure HSSE accountabilities are provided
- Requirements of applicable legislation and standards are identified, understood and complied with
- Personnel have the required competencies and are fit for work
- Our workforce is aligned, involved and empowered in the identification and management of HSSE hazards and the achievement of our HSSE goals
- Key stakeholder groups are identified and a good working relationship is maintained with them (understanding and addressing their issues and concerns)
- Everyone within TAQA demonstrates commitment and accountability to implement this policy and to work in accordance with the TAQA Management System Elements and Expectations

Operational Risk Identification and Assessment

- Risks are identified, assessed and appropriately managed
- Information required to support safe operation is identified, accurate, available and up to date

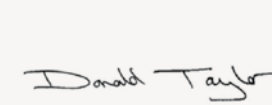
Operational Risk Management

- The standards, procedures and operating manuals required to support project, maintenance and operational activities are identified, developed, understood and consistently applied
- Process and operational status monitoring and handover requirements are defined, understood and carried out
- Operational interfaces with third parties are identified, assessed and appropriately managed
- Risks arising from any form of change are systematically identified, assessed and managed
- A systematic process is in place to verify the safe condition of plant and equipment and to ensure that personnel are appropriately prepared (before start-up or return to normal operations)
- We are appropriately prepared for all necessary actions which may be required for the protection of the public, personnel (including contractors), the environment, plant equipment and reputation in the event of an incident
- We aim to prevent pollution and protect the environment from the impact of our operations

Review and Improvement

- We routinely monitor our activities through internal/ external audits and produce key performance indicators – we review these indicators and intervene as necessary
- Compliance with our expectations is routinely reviewed and audited to determine whether this policy remains appropriate and is being implemented effectively
- The management system is routinely reviewed for continual improvement and to enhance HSSE performance
- All incidents, near misses and opportunities for improvement are consistently reported and investigated, and identified actions and learnings are implemented on a timely basis

We all have a personal responsibility to work safely and protect the environment. We are all safety leaders, irrespective of our role or location. Everyone is empowered to challenge and stop work if they are in any doubt regarding a job they are involved in or observing.



Donald Taylor
Managing Director



René Zwanepol
NL Country Manager



Neil Fowler
Decommissioning Director



Sandy Hutchison
Legal, Commercial and Business Services Director



Helen Stuart
Human Resources Director



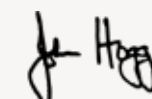
Andy Laird
Interim Technical Director



Calum Riddell
Operations Director



Iain Lewis
Finance Director



John Hogg
HSSEQ Director





North Sea Operations



Abu Dhabi National Energy Company PJSC (known as TAQA)

TAQA, meaning energy in Arabic, is the brand name of Abu Dhabi National Energy Company PJSC. TAQA is an international energy and water company listed on the Abu Dhabi Securities Exchange. TAQA strives to be safe and sustainable, and embrace the challenge of delivering affordable and reliable energy and water. TAQA is proud to align its strategy with Abu Dhabi's Economic Vision 2030, a roadmap for a sustainable economy with a focus on knowledge-based industry. TAQA's interests lie in conventional and alternative power generation, water desalination, oil and gas exploration and production, pipelines and gas storage. TAQA operates in Canada, Ghana, India, Iraq, Morocco, the Netherlands, Oman, Saudi Arabia, the United Arab Emirates, the United Kingdom and the United States.

TAQA in the UK

TAQA's UK business was incorporated in 2006 and is a wholly owned subsidiary of Abu Dhabi National Energy Company. Since acquiring its first North Sea interests in 2007, TAQA has created a business which is now ranked amongst the top exploration and production companies in the UK North Sea.

The majority of TAQA's UK portfolio is wholly owned and operated. In the northern North Sea it consists of 100% operated equity in the Tern, Kestrel, Eider, Otter, Cormorant North, South Cormorant, Falcon and Pelican fields. It also has a 64.5% operated interest in the Cladhan field, 60% operated interest in the Cormorant East field and a 26.73% non-operated interest in the Hudson field. TAQA has a 24% non-operated interest in the Sullom Voe Terminal and operates the Brent System, where it has a 16% interest.

In the central North Sea TAQA has a 70% operated interest in the Harding field, 70% in the Morrone field, 88.7% in the Devenick field and 37.04% non-operated interest in the Maclure field. In the Brae area TAQA has non-operated interests of 45.7% in Block 16/7a, 50.1% in East Brae and 65% in the Braemar field. It also has an interest in the SAGE pipeline and onshore terminal.





2018 overview

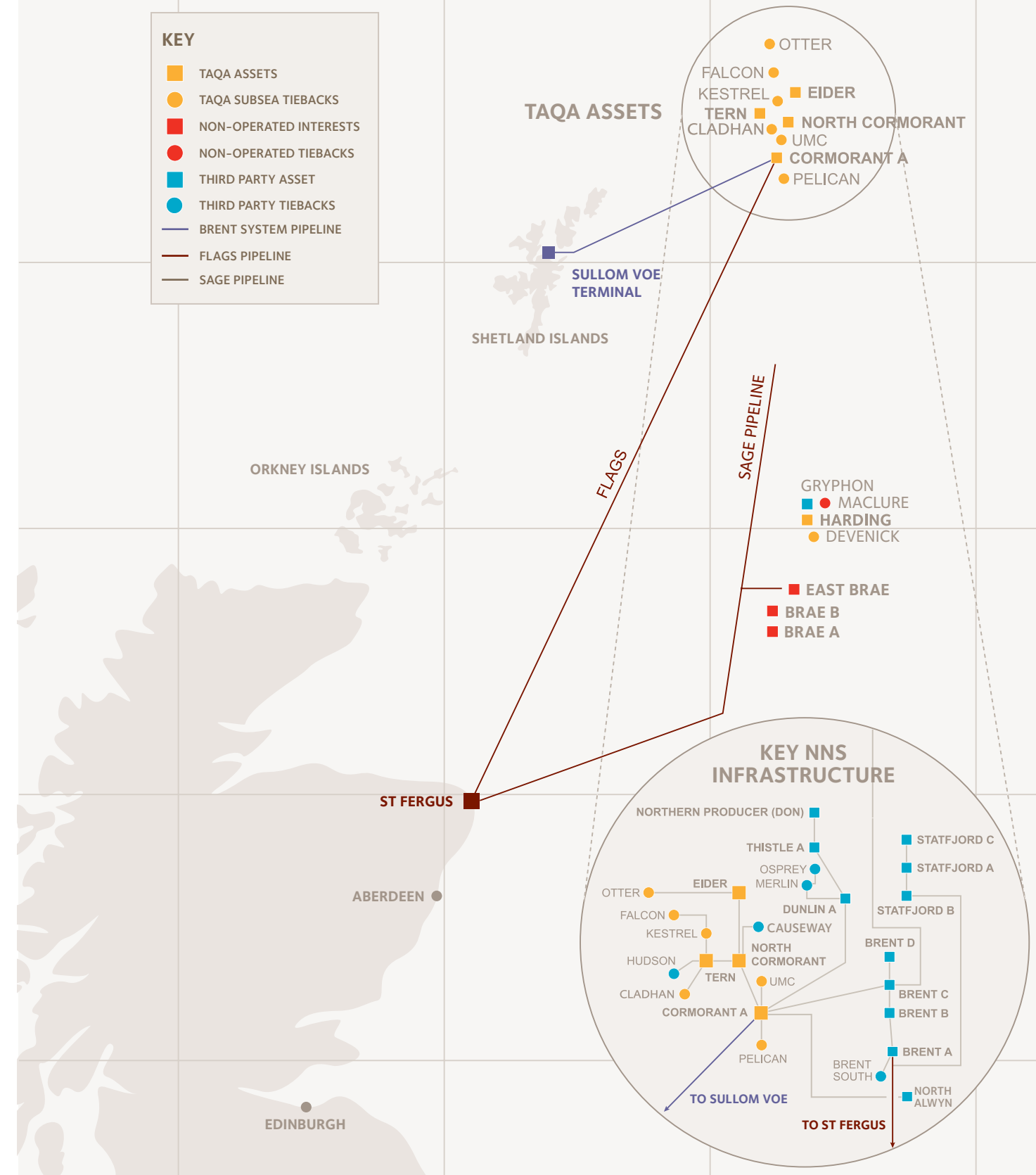
2018 marked a decade since TAQA became operator of its northern North Sea assets and the Brent Pipeline System in the northern North Sea. In that time TAQA has established itself as an expert in managing late-life operations. In 2018 we maintained our focus on late life extension of our northern North Sea (NNS) assets and asset integrity, while simultaneously taking ownership of decommissioning with early planning, to ensure our safe and successful future in the UK.

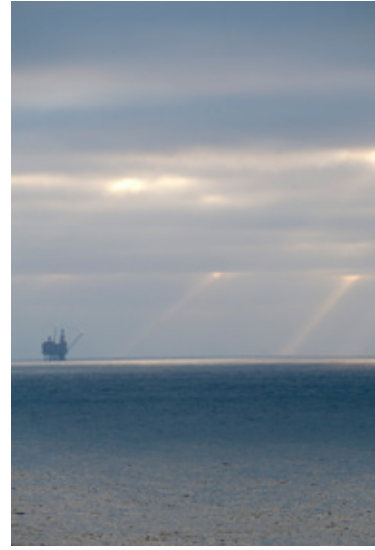
In 2018, production from our Europe operations averaged over 41,000 boed. Planned shutdowns got underway in June on our Tern, North Cormorant and Cormorant Alpha platforms. The 2018 programme featured a 35-day shutdown on Tern to address various integrity related scopes as well as a two-week outage on Cormorant Alpha to allow for the final tie-ins to the Brent System pipeline. This was the final phase of the Brent System topsides bypass project, which mitigates a significant integrity risk.

As part of our strategy to maximise economic recovery and extend the life of our oil and gas fields in the NNS, work continued in 2018 to ensure continued and enhanced production from TAQA's Otter field. In 2017 we redirected production from TAQA's Otter field to our North Cormorant platform. The late-life extension strategy subsequently involved ceasing production from Eider in January 2018 (to which Otter previously produced) and executing a major 18-well plug and abandonment (P&A) campaign at the platform. We installed a new multi-phase pump (MPP) system at Otter to support and enhance production – a multi-million-pound investment that extends the producing life of the field and the North Cormorant platform. The Eider platform moved into utility mode in early 2019, in which it now provides critical power, chemical and system support to other assets in the area.

The mobile rig MSS1 came on hire in March. The rig moved to the Pelican

field to commence a mixed drilling and well abandonment campaign. The first well in the sequence involved the slot recovery and sidetrack of well PU-P14 to bring new production on stream. The MSS1 subsequently embarked on a multiple well P&A campaign at Pelican and remained at the field to perform well intervention work to bolster production rates. The 18-well P&A programme at Eider was successfully completed through 2017 and 2018. The campaign consisted of three distinct phases, with the initial phase commencing in January 2017 with EA-09. The campaign consisted of isolating the reservoir and intermediate zones prior to performing the final stage to remove the conductors, making the wells safe and the platform hydrocarbon free. In addition, the rig on North Cormorant was recertified, in preparation for an ongoing multi-well development campaign, abandonment of obsolete well stock and potential future exploration work.





North Cormorant

Position:
177km (110 miles) north-east of Lerwick, Shetland

Block number:
211/21a

Operator/Duty Holder:
TAQA

Equity:
100% TAQA

Discovery date:
August 1974

Water depth:
161m (528ft)

Est ultimate recovery:
Approx. 165 million barrels of oil

Reservoir depth:
2710m (8900ft)

Producing horizon:
Middle Jurassic

Oil production:
Via Brent System

Storage capacity:
Nil

Type of installation:
8 legged steel jacket

Function:
North Cormorant is a drilling and production facility for the North Cormorant field. The oil is then routed to Cormorant Alpha for onward transmission through the Brent System to Sullom Voe Terminal.

Since 2012 the North Cormorant platform is also a production facility for the TAQA Cormorant East field and the third party Causeway and Fionn fields. Since 2017 North Cormorant is also the production facility for the Otter field.

Associated gas, and gas imported from Tern, is exported through the Western Leg via Brent A and the Far North Liquids and Associated Gas System (FLAGS) Pipeline to St Fergus Terminal. Crude oil, imported from Tern, is exported to Cormorant Alpha.



Eider

Position:
184km (114 miles) north-east of Lerwick, Shetland

Block number:
211/16a and 211/21a

Operator/Duty Holder:
TAQA

Equity:
100% TAQA

Discovery date:
May 1976

Water depth:
157.5m (517ft)

Est ultimate recovery:
Since first production in 1988, Eider produced in the region of 174 million barrels of oil equivalent.

Reservoir depth:
2620 - 2750m (8600 - 9030ft)

Producing horizon:
Middle Jurassic (Brent) sands

Oil production:
Via Brent System

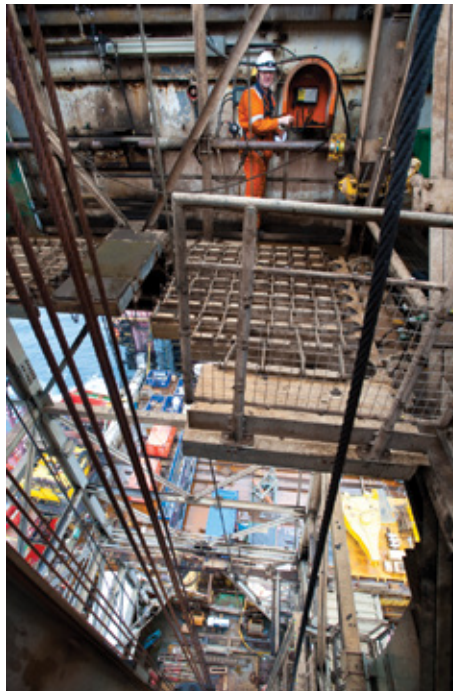
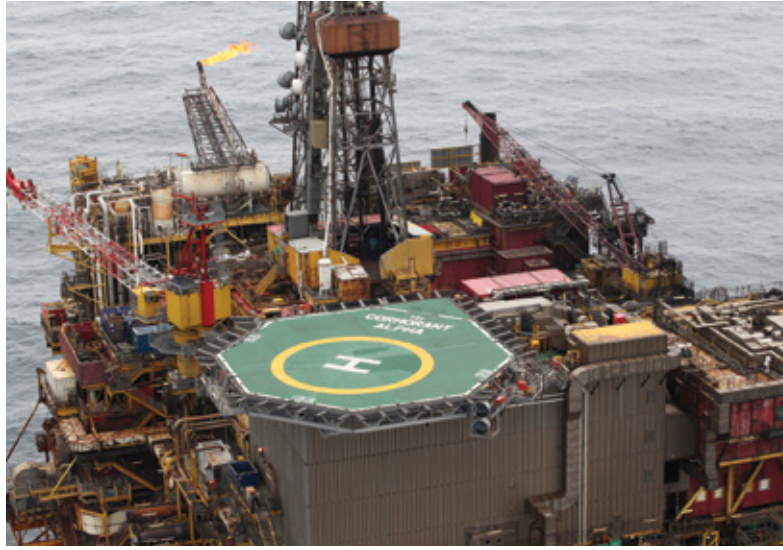
Storage capacity:
Nil

Type of installation:
8 legged steel jacket

Function:
Eider serves as a utility platform providing power, chemical and control systems to support the Multi Phase Pump (MPP) operation for the subsea completed Otter field.

Otter reservoir fluids are produced through the MPP, a subsea pumping station which pumps the fluids along the pipeline to North Cormorant. The fluids are processed on North Cormorant and exported via the Brent System to Sullom Voe Terminal.





Cormorant Alpha

Position:
161km (100 miles) north-east of Lerwick, Shetland

Block number:
211/26a

Operator/Duty Holder:
TAQA

Equity:
100% TAQA (not including Brent System owners' interest)

Discovery date:
September 1972

Water depth:
150m (492ft)

Est ultimate recovery:
Approx. 307 million barrels of oil

Reservoir depth:
2895m (9500ft)

Producing horizon:
Middle Jurassic (Brent) sands

Oil production:
Via Brent System

Gas production:
Commingled in process separation then via Western leg to FLAGS line to St Fergus.

Storage capacity:
1 million barrels

Type of installation:
Concrete gravity structure – 4 legs

Function:
Cormorant Alpha was designed to drill, produce, meter and pump oil and gas. Cormorant Alpha also receives oil via pipelines from Thistle, Brent C, North Alwyn and North Cormorant platforms as well as from the Underwater Manifold Centre (UMC) and Pelican subsea tie-backs. Oil from Cormorant Alpha is exported to Sullom Voe Terminal in the Shetlands via the Brent System. Gas from Cormorant Alpha also joins the Western Leg Gas Pipeline link to the FLAGS.

Tern

Position:
169km (105 miles) north-east of Lerwick, Shetland

Block number:
210/25a

Operator/Duty Holder:
TAQA

Equity:
100% TAQA

Discovery date:
April 1975

Water depth:
167m (548ft)

Est ultimate recovery:
Approx. 297 million barrels of oil

Reservoir depth:
2440m (8005ft)

Producing horizon:
Middle Jurassic (Brent) Sands

Oil production:
Via Brent System

Gas import/export:
Via Western leg

Storage capacity:
Nil

Type of installation:
8 legged steel jacket

Function:
The Tern platform serves as a production facility for the Tern, Kestrel, Hudson, Falcon and Cladhan fields, and as a drilling facility for the Tern field. It provides gas lift and water injection facilities for the Hudson, Cladhan and Kestrel fields, water injection facilities for the Otter field and gas lift for the Falcon field. Crude oil is exported to North Cormorant before joining the Brent System via Cormorant Alpha. The separated gas is compressed and used as fuel gas. It is also used as lift gas for Tern, Hudson, Kestrel, Falcon and Cladhan production wells.





Harding

Position:
320km (200 miles)
north-east of Aberdeen

Block number:
9/23b

Operator/duty holder:
TAQA

Equity:
70% TAQA
30% Maersk

Discovery date:
1987

Water depth:
110m (330 ft)

Est ultimate recovery:
Approx. 286 million barrels
of oil

Reservoir depth:
1676.4m (5500ft)

Producing horizon:
Tertiary (Balder)

Oil production:
Oil from Harding is exported via 24-
inch diameter oil export pipeline to a
submerged tanker loading system.

Storage capacity:
600,000 barrels

Type of installation:
Harding is a heavy-duty jack-up
production unit, resting on a gravity
base/storage tank.

Function
The basis of the Harding development is
a large, heavy-duty jack-up platform.
It is a fully integrated drilling and
production platform for the Harding field.
The topsides structure sits on the Gravity
Base Tank (GBT), a reinforced concrete
structure that provides the foundation.
The GBT is also a T-shaped storage tank,
which acts as a large storage tank for
the export of crude oil. Oil production is
exported from the GBT around every 4-6
weeks via a short (2km), 24" pipeline
and submerged Offshore Loading System
(OLS) to shuttle tankers.



Brent System

The Brent System is responsible for transporting
around 40k bbls a day from some 19 North
Sea fields. This accounts for almost 60% of the
oil processed by the Sullom Voe terminal and
around 3% of UK offshore oil export.

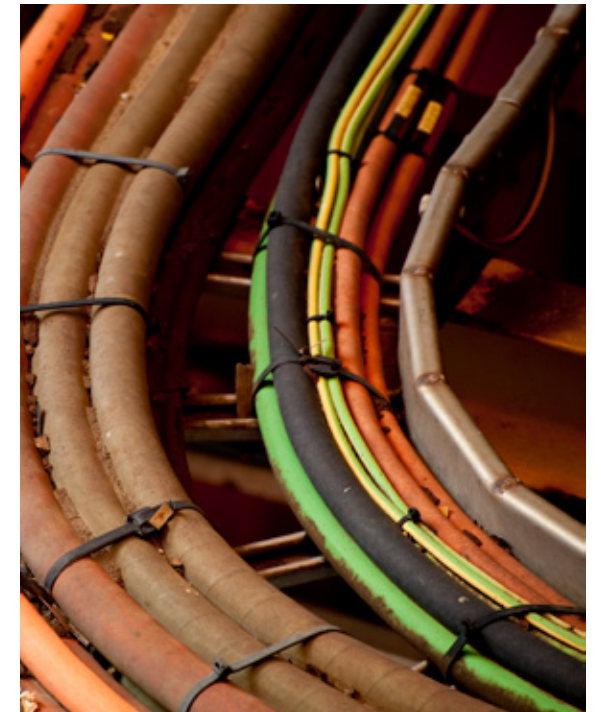
40,000 barrels – Average amount of oil
transported per day.

153km – Transportation distance from
Cormorant Alpha to Sullom Voe.

16% – TAQA interest.

The Brent System is a joint venture between
21 participants who each own a percentage
interest in the system. Brent System consists of
a proportion of the processing system on, and
structure of, the TAQA operated Cormorant
Alpha platform, as well as the 153km pipeline
connecting Cormorant Alpha to the Sullom Voe
Terminal in the Shetland Islands.

TAQA has been operator of the Brent System
since 2009.



TAQA'S HSSE Management System Elements And Expectations

Leadership

01. Leadership Involvement and Responsibility
02. Compliance with Legislation and Standards
03. Employee Competence
04. Workforce Engagement
05. Communication with Stakeholders

Risk Identification and Risk Assessment

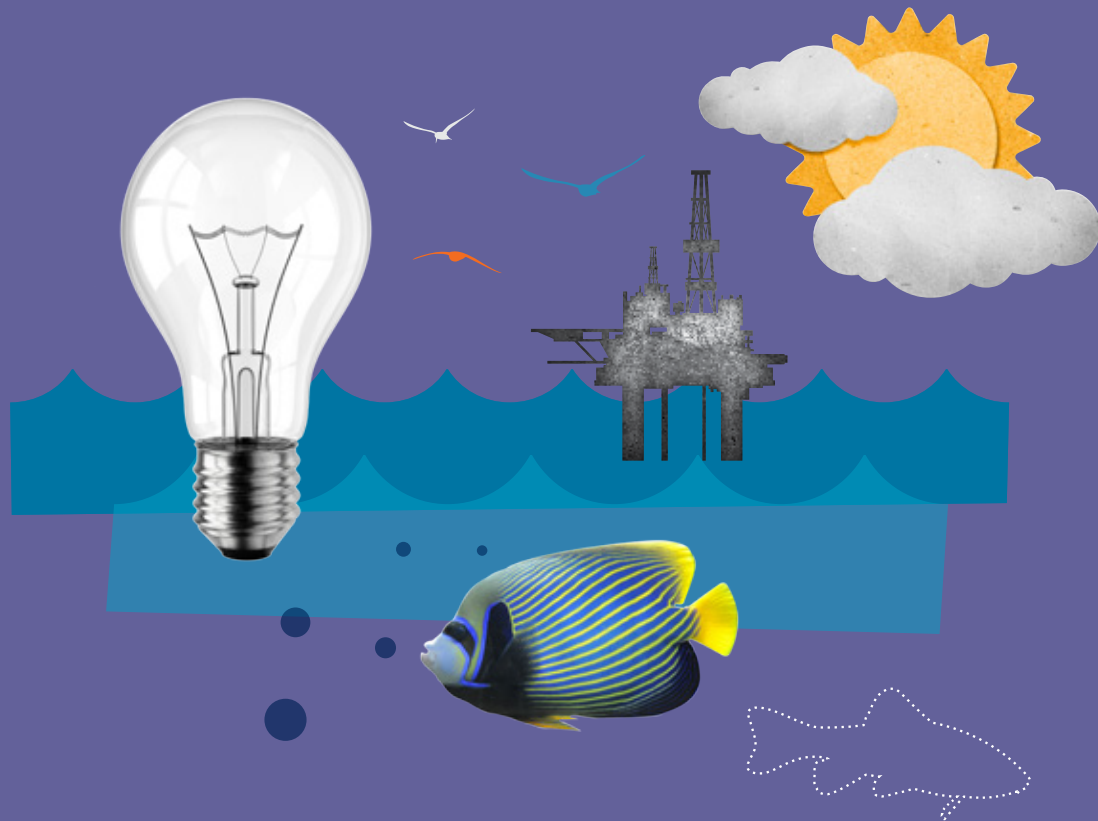
06. Hazard Identification and Risk assessment
07. Documentation, Records and Knowledge

Risk Management

08. Operating Manuals and Procedures
09. Process and Operational Status Monitoring and Handover
10. Management of Operational Interfaces
11. Technical Standards
12. Management of Change and Project Management
13. Operational Readiness and Process Start-up
14. Emergency Preparedness
15. Inspection and Maintenance
16. Management of Safety Critical Devices
17. Work Control, Permit to Work and Task Risk Management
18. Contractor Management

Review and Improvement

19. Incident Reporting and Investigation
20. Audit, Assurance and Management Review



TAQA Commitment to Operational Excellence

Health, Safety, Security and Environment (HSSE) Management Programme

TAQA is committed to the pursuit and attainment of a world class health, safety, security and environmental performance. It pledges to respect the natural environment, and to work to achieve its goals of ensuring that no harm comes to people; to provide a safe, secure workplace; and to carry out its activities with minimal impact on the environment. To meet this commitment, TAQA has established an HSSE policy that describes its core principles for HSSE management.

To implement the HSSE programme, TAQA utilises 20 elements and expectations that make up its HSSE Management System. The elements correspond to the "Plan-Do-Check-Act" elements of ISO standards for health, safety, environment and quality management systems.

The HSSE programme ensures that within all of its activities and operations, TAQA will as a minimum:

- Ensure all TAQA leaders demonstrate leadership and commitment to the programme throughout the organization, ensuring that the commitments set out in the HSE Policy are achieved
- Ensure compliance to legislation is maintained, whilst working constructively to influence proposed laws and regulations and debate on emerging issues
- Provide assurance that personnel are competent; that they possess the requisite underpinning working knowledge, understanding, skill & attitude, and clearly demonstrate the ability to routinely undertake the tasks and activities of the designated work roles, safely, consistently & reliably to the minimum defined standard of performance
- Identify key stakeholder groups and develop and maintain a good working relationship with them, understanding and addressing their issues and concerns
- Manage risks by performing comprehensive risk assessments to provide essential decision making information. Develop and implement plans to manage significant risks to an acceptable level
- Identify, maintain and safeguard important information. Ensure personnel can readily access and retrieve information. Required standards and safe working practices are provided to support project, maintenance and operational activities
- Design, construct, install, commission, operate, maintain, assure and decommission all TAQA assets in a healthy, safe, secure, environmentally sound, reliable and efficient manner
- Incidents will be prevented by identifying and minimising workplace and personal health risks, through implementation of robust and effective work control, permit to work and task risk management arrangements. Promote and reinforce all safe behaviours
- Identify all necessary actions to be taken to protect people, the environment, TAQA's assets and reputation in the event of an emergency or security threat
- Maintain operations stability and integrity throughout lifecycle of facility by use of clearly defined and documented operational, maintenance, inspection and corrosion control programs. Seek improvements in process and equipment reliability by systematically eliminating defects and sources of loss. Assessment of the degree to which expectations are met is essential to improve operations Integrity, maintain accountability and reliability
- Ensure that risks and exposures from proposed changes are identified, evaluated and managed to remain within pre-set (design) acceptance criteria
- Ensure contractors and suppliers perform in a manner that is consistent and compatible with TAQA policies and business performance standards. Ensure contracted services and procured materials meet the requirements and expectations of TAQA standards
- Report and investigate all incidents. Learn from incidents and use the information to take corrective action and prevent recurrence
- Confirm that TAQA processes are implemented and assess whether they are working effectively. Measure progress and continually improve towards meeting TAQA HSSE objectives, targets and key performance indicators



Environmental Management System and ISO 14001

TAQA operates an Environmental Management System (EMS) which is set out in accordance with the requirements of ISO 14001. In 2018 TAQA transitioned to the new ISO14001:2015 standard.

The EMS details the environmental aspects of all activities associated with TAQA's offshore operations and onshore offices, including risk ranking and mitigation measures. It also documents the procedures for monitoring and reporting environmental performance and for ensuring that TAQA's activities are in compliance with all relevant environmental legislation. At a location level TAQA's Environmental Management System addresses the following:

- **Identifies possible environmental aspects, their consequences and how to control them;**
- **Identifies processes, roles and responsibilities;**
- **Oil spill management and response;**
- **Confirmation of operations to legal, statutory and regulatory requirements.**

The EMS provides control of processes or activities which may have a potential environmental impact by means of procedures, instructions, training and education, in addition to assisting with:

- **Preventing pollution;**
- **A systematic approach to working processes;**
- **Identifying potential or actual problems and finding/implementing solutions;**
- **Tracking environmental performance;**
- **Utilising natural resources effectively;**
- **Managing legal compliance;**
- **Improving awareness of workforce.**



Key elements of TAQA's EMS

ENVIRONMENTAL ASPECTS

These are elements or activities that may result in a positive or negative impact on the environment. TAQA has an Aspects Register which identifies each operation (activities, products and services) with potentially significant environmental impacts or risks by function. This ensures the risks are addressed by appropriate management systems, objectives and targets, controls and measures.

High significant risk activities and their potential aspects and environmental effects are identified in the Aspects Register. The impacts of these activities were consequently reduced as low as possible due to implemented operational controls and/or procedures. In 2018 TAQA conducted a thorough review of the environmental aspects, assessing each with a revised company Risk Assessment Matrix (RAM). The environmental aspects of decommissioning was also included for the first time. The high significance activities for TAQA in 2018 are identified below.

- **Discharge of produced water** from process separation operations which contains hydrocarbons, NORM and any added chemicals
- **Generation of waste** including hazardous, NORM and non-hazardous solids and liquids from offshore activities
- **Power generation leading to atmospheric emissions** (CO, CO₂, NO_x and SO_x, CH₄, soot) from diesel and fuel gas use
- Hydrocarbon extraction and **use of finite resource**
- Routine operation of **Mobile Drilling Unit** with regards to seabed disturbance and damage to seabed fauna from Anchor / Leg deployment
- Return of Oil Based Mud (OBM) **drill cuttings for onshore treatment and disposal**.

TAQA also identified activities with aspects of high significance relating to decommissioning which although not currently being undertaken are part of possible future plans and are:

- Partial removal of Steel Jacket / Substructure resulting in noise and disturbance to marine mammals
- Generation of hazardous, NORM and non hazardous solid and liquid wastes from decommissioning activities

LEGAL REQUIREMENTS

Identification of applicable legal regulations is an integral part of the Environmental Management System.

OBJECTIVES, TARGETS AND PROGRAMMES

The TAQA 'Objectives and Targets List' with respect to environmental performance is reviewed annually then translated into plans and programmes to ensure effective and successful implementation.

TRAINING, AWARENESS AND COMPETENCE

Periodic training and awareness are cornerstones of the TAQA Learning and Development Programme.

COMMUNICATION

Effective external and internal communication of environmental issues by TAQA contributes to the success of the EMS. This is carried out internally through regular meetings and offshore visits and externally with authorities and third parties.

DOCUMENT CONTROL

All EMS documentation is systematically managed to ensure it is up to date, accurate and traceable.

OPERATIONAL CONTROL

TAQA's procedures and work instructions are set up to minimise and control the impact of environmental aspects.

EMERGENCY PREPAREDNESS AND RESPONSE

Location level response plans are in place and are designed to effectively manage a wide variety of emergency scenarios.

MONITORING AND MEASUREMENT

All incident reports, such as near misses, incidents and accidents are systematically recorded, root causes identified and preventative/corrective actions are tracked.

AUDITING

Regular auditing ensures the continued effectiveness of the EMS. All internal audits are performed according to the TAQA audit procedure, results are then discussed in cross functional meetings and corrective actions are tracked for progress.

MANAGEMENT REVIEW

Management reviews are crucial to the cycle for continuous improvement. Regular Management Review meetings initiate and evaluate improvement programmes.

ISO 14001

The International Standards Organisation (ISO) is a non-governmental network of global national standards institutes. ISO 14001 is the main management systems specification document in the ISO 14000 series containing the essential elements that must be satisfied by an organisation seeking registration or certification for its Environmental Management System. The backbone of ISO 14001 systems are:

- Senior management support and participation;
- Explicit organisational structures and responsibilities;
- Good communication;
- Competency reviews and training;
- Efficient document management and recording procedures;
- Audit capabilities;
- Regular well planned management reviews;
- Continual improvement and robust corrective action culture.

The ISO 14001 philosophy is based on the **Plan-Do-Check-Act (PDCA)** management model, originally known as the Deming cycle. In continuously going through each individual step, environmental management can result in improved environmental performance.

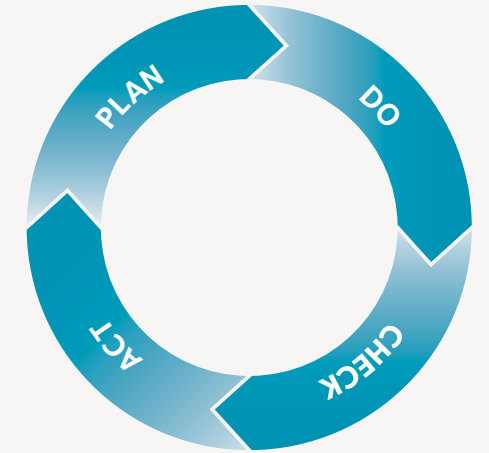
Plan: tools for identification of targets in environmental performance.

Do: tools for achieving goals of environmental management.

Check: tools for checking the effect of environmental management.

Act: tools for taking effective adjusting measures in environmental management.

The use of the PDCA cycle helps in keeping the environmental management system a continuous process instead of an individual event. This continuous process is illustrated in the graphic opposite. In designing TAQA's Environmental Management System to meet the requirements of ISO 14001, TAQA is effectively optimising the company's opportunity to reduce risk and liability within a structured system while enhancing its commitment to pollution control. Two independent ISO 14001 surveillance audits were undertaken in 2018, both on and offshore. These audits covered all of the elements of ISO 14001, the transition to the new 2015 standard and the inclusion of Decommissioning in the certificate scope. Both audits were positive with eight minor findings and a number of observations and opportunities for improvement identified.



“
[The Environmental Management System details the environmental aspects of all activities associated with TAQA's offshore operations and onshore offices, including risk ranking and mitigation measures. It also documents the procedures for monitoring and reporting environmental performance and for ensuring that TAQA's activities are in compliance with all relevant environmental legislation.](#)”

Environmental Performance



In 2018 TAQA saw the Cessation of Production (CoP) and transition of Eider from a production to a utility mode platform, the installation of a Multi Phase Pump at the Otter field, drilling and P&A activity as well as the delivery of planned shutdowns in the northern North Sea. This was all undertaken with a continued focus on safe, efficient and sustainable operations.



Atmospheric Emissions

Atmospheric emissions from TAQA's offshore activities arise primarily from the combustion of fuel gas and diesel for power generation and the flaring of associated gas that cannot be used or exported for safety reasons (an integral part of the platform safety systems).

CARBON DIOXIDE EMISSIONS

The Greenhouse Gases Emissions Trading Scheme (Amendment) Regulations (2014) is the statutory mechanism used to regulate and reduce CO₂ emissions to the atmosphere. All TAQA assets account for carbon dioxide (CO₂) emissions by means of the cap and trade system, which allows for an allocated allowance of CO₂ to be emitted and then allowances for all subsequent releases have to be purchased.

The major combustion processes on TAQA's platforms resulting in the production of CO₂ is the generation of electrical power and the compression of gas for transportation to shore. Reservoir gas provides the primary fuel source with diesel acting as back up.

Figure 1 shows the actual (full year) amount of CO₂ emitted against the combined Emissions Trading Scheme (ETS) allowance. CO₂ emissions in 2018 were approximately 75% greater than the ETS allowance and on a par with the 2017 emissions. The introduction of ETS Phase III in 2013 saw a significant reduction in allowances which continue to decrease each year. TAQA's overall allowance decreased by 3,802 tonnes (1%) between 2017 and 2018. To account for the deficit between allowance and emissions TAQA purchased additional allowance from the trading scheme.

FIGURE 1:
2018 FULL YEAR CO₂ EMISSIONS VS ETS ALLOWANCES

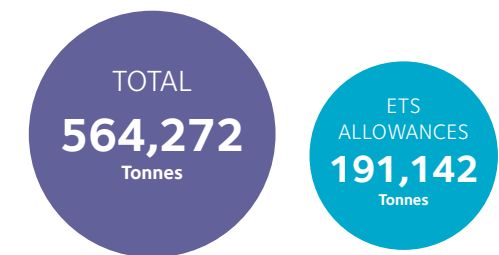


FIGURE 2:
CO₂ DISCHARGES BY SOURCE

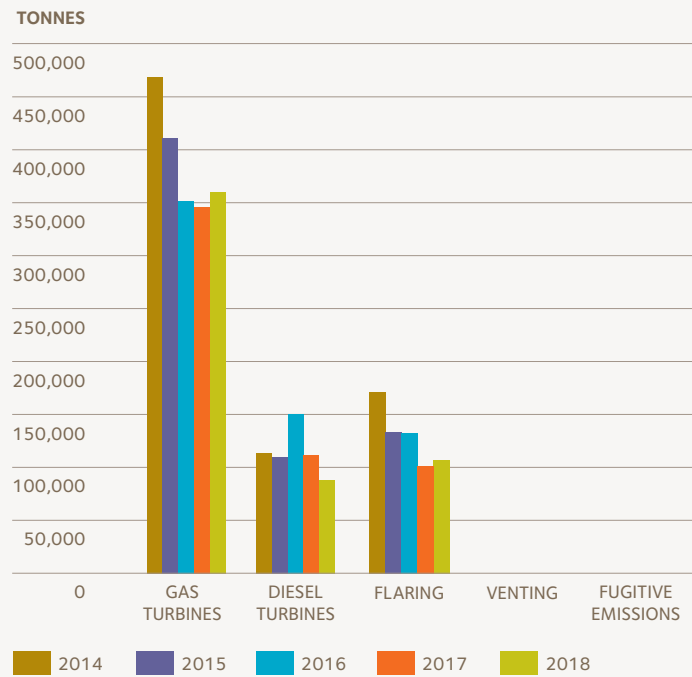


Figure 2 shows that the largest proportion of CO₂ discharge comes from turbine gas usage. The CO₂ emissions from gas turbines increased in 2018 compared to 2017. This was due to operational changes to focus on using fuel gas as opposed to diesel (as can be seen from the graphs, diesel use has decreased over the last three years to its lowest point since 2014).

NON CO₂ ATMOSPHERIC EMISSIONS

The main combustion emission from TAQA's operations is carbon dioxide, however smaller emissions of nitrous oxide, sulphur dioxide, carbon monoxide, methane and volatile organic compounds are also produced. Non CO₂ atmospheric emissions from TAQA installations are regulated via legislation covering flare emissions, vent gas emissions and combustion plant emissions.

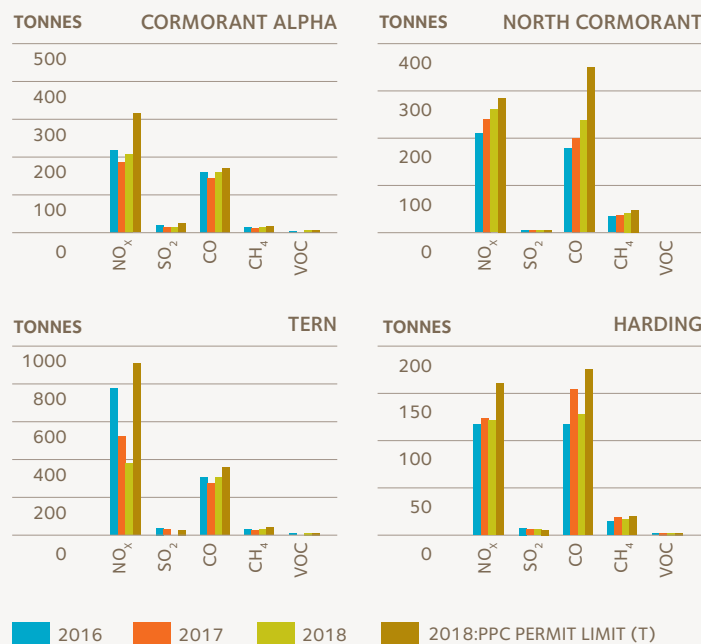
As shown in **Figure 3** all platforms were within the permitted allowance for all non CO₂ atmospheric emissions. However, North Cormorant diesel and fuel gas emissions increased from 2017 to 2018 due to the increase in production activities associated with bringing the Otter well online (bypassed from Eider).

It is noted that Eider is the only platform that does not have a PPC permit because the installed combustion plant on board is below the threshold required to hold a permit.

Produced Water

Produced water is created during the extraction of oil and gas from subsurface. The produced water may contain water which has come directly from the reservoir, water injected into the formation to aid the extraction of oil or gas and any chemicals added during the production/treatment process. Oil reservoirs typically produce more water during extraction compared to gas reservoirs and as the reservoirs mature the proportion of water increases. The produced water is separated from the hydrocarbons so it contains dissolved and dispersed hydrocarbons.

FIGURE 3:
2018 ACTUAL NON CO₂ ATMOSPHERIC EMISSIONS VS PERMIT ALLOWANCE



The Offshore Petroleum Activities (Oil Pollution Prevention and Control) Regulations 2005 (OPPC) (as amended) regulate all oil discharges to sea and require that all of these discharges must be permitted by the Offshore Petroleum Regulator for Environmental and Decommissioning (OPRED). OPRED place strict limitations on both the concentration and quantity of oil discharged within the produced water in order to protect the marine environment.

The five TAQA installations report a total of nine individual discharges streams – two on Cormorant Alpha, one on Eider, two on North Cormorant, two on Tern and two on Harding – all of which must meet the legal monthly oil in water discharge average of 30mg/l. The exception to this is the second discharge stream on Harding which comprises of displacement water discharged from the buffer cell (during oil production water is displaced through the buffer cell and discharged to sea to a legislative limit of 40mg/l). A third discharge from Tern, the Hudson subsea tieback, is operated by Dana Petroleum; therefore the produced water discharge data is not included in this report.

Reporting discharge streams on an individual basis ensures that a constant focus can be maintained on the quality of each discharge stream via the required sample regime. If any deterioration in quality is observed then subtle process adjustments can be made (e.g. skimming produced water flash drums or changing vessel liquid interface levels) to minimise the overall quantity of dispersed oil being discharged to sea.

Figure 4 shows that the TAQA internal target for average oil in produced water (OIPW) concentration for each discharge stream was met in 2018, except for Eider and Tern B train. Tern B Train exceeded the internal target by 0.20mg/l (1.6%). On Eider there were two OPPC non compliances due to the low volumes of production through the separation system leading to emulsion formation (discharges over 100mg/l). These excursions occurred in January immediately prior to the Cessation of Production (COP), which gave rise to an average discharge of 23.66mg/l (13.66mg/l higher than the target) in the six days of operation in 2018.

All discharge streams meet the legal monthly average limit of 30mg/l.

FIGURE 4:
2018 ACTUAL OIPW VS TARGET OIPW CONCENTRATIONS

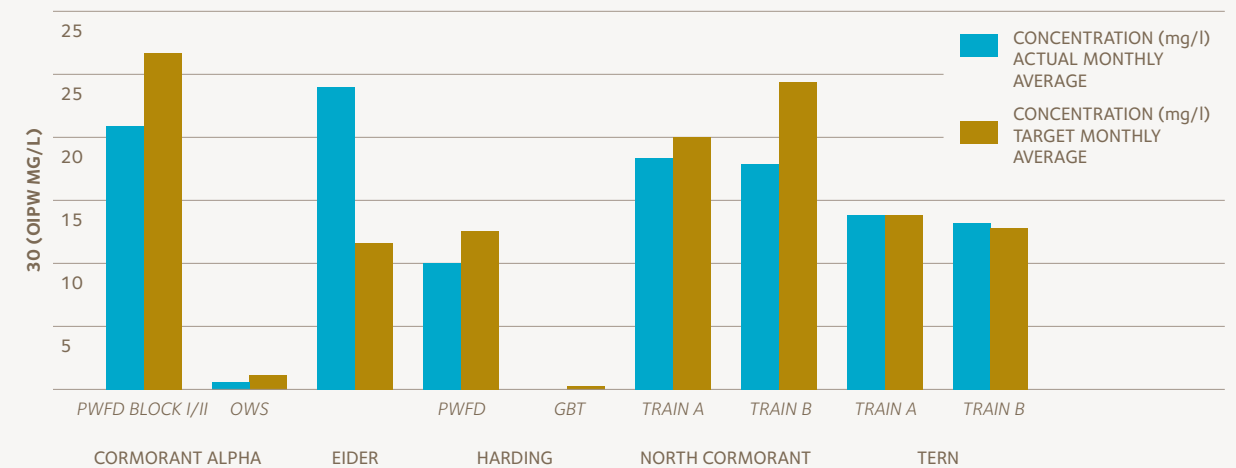


Figure 5 (overleaf) illustrates that all platforms met their internal produced water discharge targets for 2018 with the exception of Cormorant Alpha which was marginally over target by 1.1% due to challenges with solids in the separation system and increased produced water from the new subsea well PuP-14. 2018 saw a further 3.5% decrease in the volume of discharged produced water compared to 2017 (there was a 3% decrease from 2016/2017), due to platforms undertaking planned and

unplanned shutdowns and Eider COP. Harding is the only platform that has the capability to re-inject produced water. 2018 saw 91% (5,189,467m³) of the total produced water being re-injected back into the reservoir which decreases the volume discharged to sea. It is also noted that produced water on Harding comprised of 12% of all discharges to sea (57,444m³) with the remaining 88% from displacement water from the GBT (419,870m³).

FIGURE 5:
ACTUAL VS TARGET PRODUCED WATER DISCHARGE

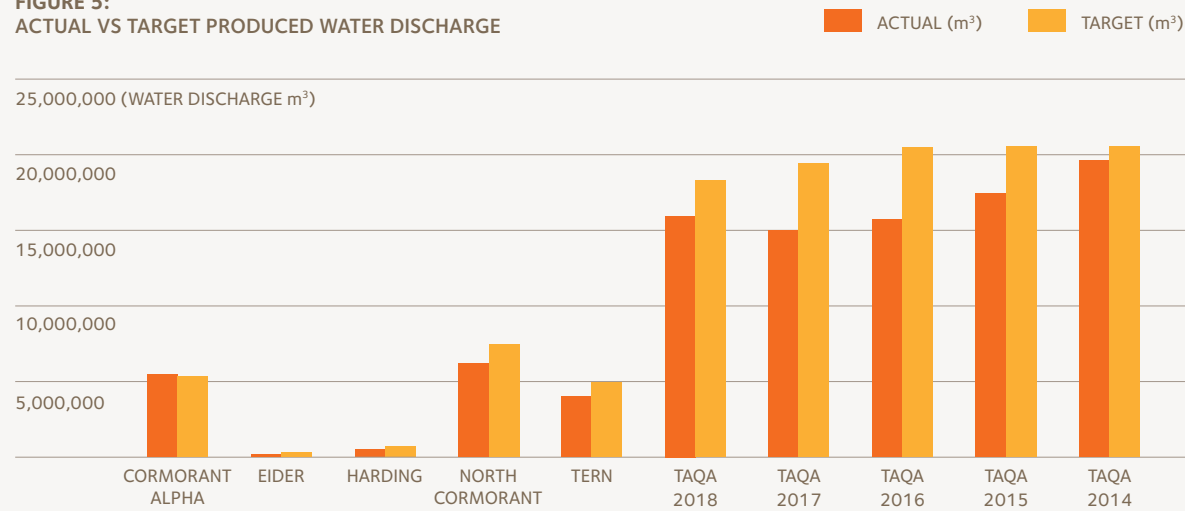


FIGURE 6:
ACTUAL VS TARGET OIL IN PRODUCED WATER DISCHARGES TO SEA

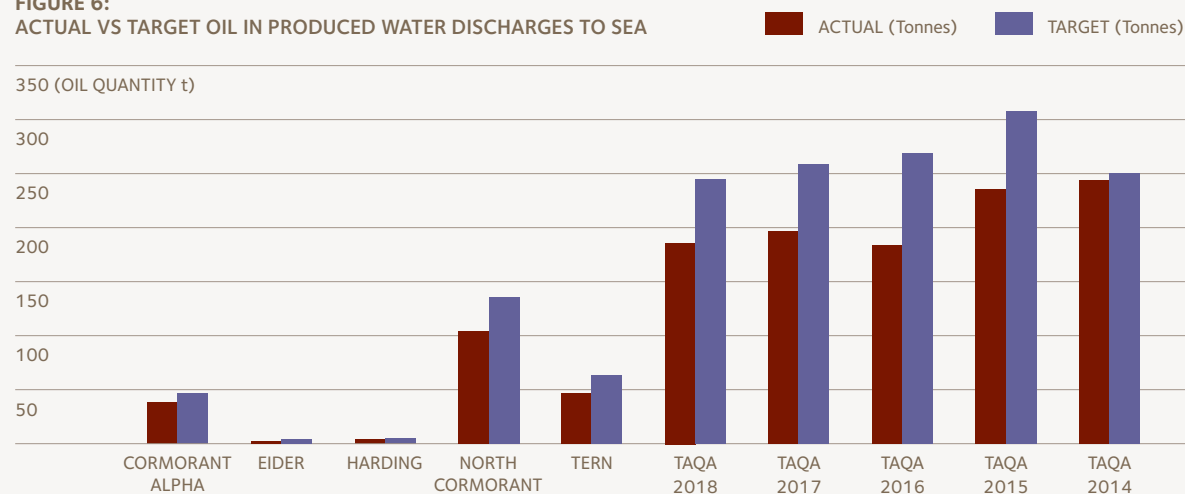


Figure 6 shows the actual quantity of oil discharged to sea via produced water for all TAQA platforms during 2018 compared to internal targets. A total of 185.74 tonnes of dispersed oil was discharged to sea which is 24% below the internal target. This is a 10.45 tonne decrease from the amount that was discharged in 2017.

In addition to the produced water discharge streams on the installations there were also five additional project based term OPPC permits in place during 2018. These projects were subsea works and drilling operations including the disconnection of the production riser at Eider with a discharge of 20kg and a Tree cap replacement at the Otter field which discharged 50kg of oil.

Waste

A variety of solid and liquid hazardous and non-hazardous wastes are produced from TAQA's offshore operations, including: drill cuttings, waste chemicals, tank washings, waste oil, paper, scrap metal, glass and wood. To ensure legal compliance all TAQA platforms actively segregate their waste streams which reduces contamination of disposal routes and minimises environmental impact by reusing, recycling and using waste in Waste-to-Energy (WtE) plants (where possible).

The Merchant Shipping (Prevention of Pollution by Garbage) Regulations 1998 prohibits overboard discharge of offshore

waste. All waste is therefore segregated offshore and disposed of onshore via a variety of routes including re-use, recycling, WtE, landfill and incineration.

Figure 7 details the tonnage of TAQA waste going to each disposal route over the last five years. In 2018 TAQA changed the incumbent waste management company which allowed a greater quantity of waste to be sent to Waste to Energy (WtE). There has been an increase in all the waste streams during 2018 with the exception of reuse which was due to the work on the Eider platform and the hire of the MSS1 mobile drill rig. The work on Eider was post CoP to change the platform to utility mode, working towards hydrocarbon free and removing redundant equipment. The drilling work from MSS1 accounted for 91% of the waste going to landfill.

Figure 8 gives an overview of the percentages of different waste disposal routes generated by the TAQA offshore locations. The proportion of waste sent for recycling and WtE across all assets saw an increase compared to 2017 (7% and 5% respectively) and is mainly due to the Eider utility mode work

and the further opening of the WtE route and the higher drilling activity than recent years has increased the landfill use by approximately 4%.

Annual waste targets for general waste were set for all platforms during 2018. The platform target for 2018 was for 94% (average) correct segregation of general waste (an increase on the previous target of 93%). This was measured by conducting quarterly general waste skip audits. The target was based on continual improvement in waste segregation to ensure that waste is sent to the correct disposal route. The higher waste targets were not met by the platforms, although they did achieve 90% for Tern and North Cormorant, 88% for Cormorant Alpha, and 81% and 76% respectively for Eider and Harding. New targets have been identified for 2019 to focus on the wastes which were incorrectly placed in the general waste skips in 2018. The 2019 targets are to reduce food waste contamination to <3% and dry mixed recyclables to <4% in general waste.

FIGURE 7:
2018 WASTE DISPOSAL ROUTE COMPARISON (TONNES)

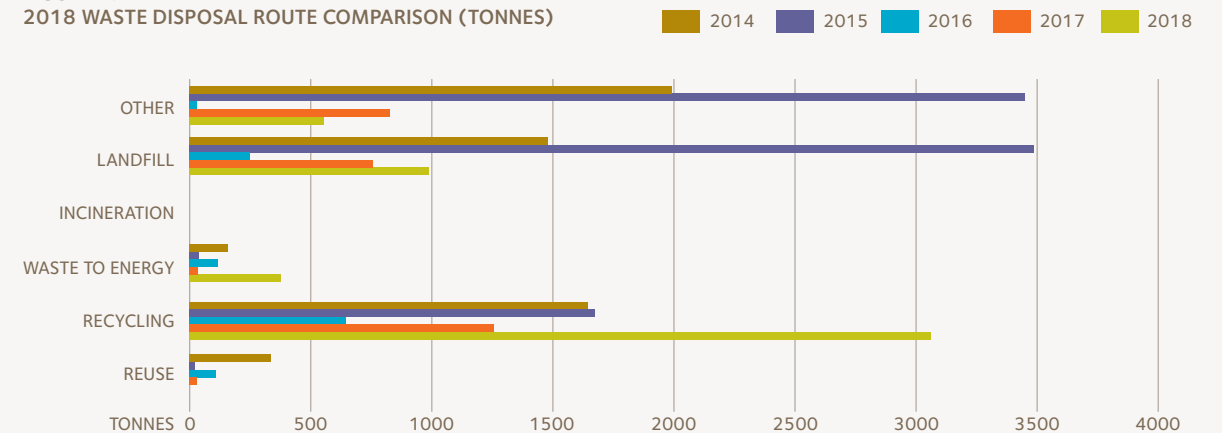
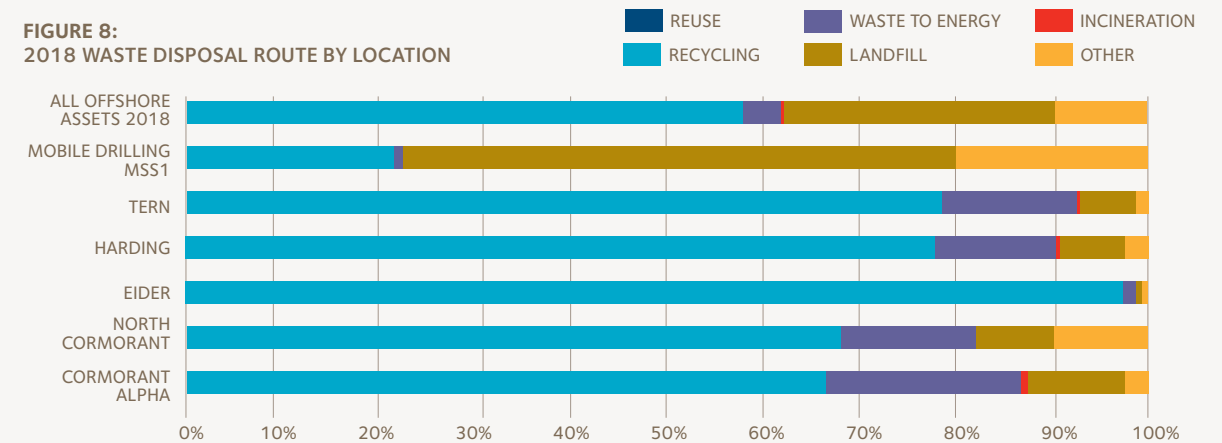


FIGURE 8:
2018 WASTE DISPOSAL ROUTE BY LOCATION



Chemicals

Chemical use and discharge is regulated under the Offshore Chemicals Regulations 2002 (as amended) (OCR). A permit must be obtained from OPRED prior to the use and discharge of chemicals associated with production, drilling, well interventions and pipeline operations offshore.

These permits describe the selection, deployment, discharge route and environmental impact assessment for chemicals that are either used continuously or on an ad-hoc basis.

A key objective of the OCR Regulations is “to identify chemicals that might be considered hazardous and to ensure wherever possible their substitution by less hazardous or non-hazardous chemicals”.

Classification of chemicals is undertaken via the Offshore Chemical Notification Scheme (OCNS). This scheme assigns a substance a risk/hazard category. This is either a colour or a letter (dependent on the method used to model the risk), based on the varying levels of hazard/risk to the receiving environment associated with its discharge (see **Figure 9**).

Figure 9 shows the relative quantities of chemicals used and discharged according to their classification under the OCNS. The quantities of chemicals used (12,853 tonnes) and discharged (7,497 tonnes) cover all those used during 2018 for TAQA's platform operations, drilling of new wells, Otter multiphase pump project, well intervention/abandonment activities and pipeline operations.

A substitution warning is assigned to an offshore chemical if it is considered by CEFAS to be harmful to the environment. i.e. the chemical or one of its components fails to meet set criteria with respect to biodegradation, bioaccumulation potential or toxicity.

It should be noted that of the total 7,498 tonnes of chemicals discharged to sea during 2018, 99% of this was a discharge of either the lowest risk CHARM (Chemical Hazard Assessment and Risk Management) category Gold, or the Non-CHARM lowest risk category E: a 1.35% increase from 2017. Of the chemicals discharged to sea during 2018, just over 2% was comprised of chemicals which carry a substitution warning – a reduction on previous years.

FIGURE 9:
2018 CHEMICAL USAGE AND DISCHARGE QUANTITIES
ACCORDING TO OCNS CATEGORY

	TOTAL USAGE (KG)	TOTAL DISCHARGE (KG)
A	12,103.00	0.00
B (NONE)	0.00	0.00
C	14.30	9.14
D	23,767.55	23,011.02
E	9,665,797.44	4,891,051.66
BLUE (NONE)	0.00	0.00
SILVER	58,846.08	19,389.20
GOLD	3,092,964.19	2,564,044.05
	12,853,492.56	7,497,505.07

FIGURE 10:
2018 CHEMICAL USAGE AND DISCHARGE

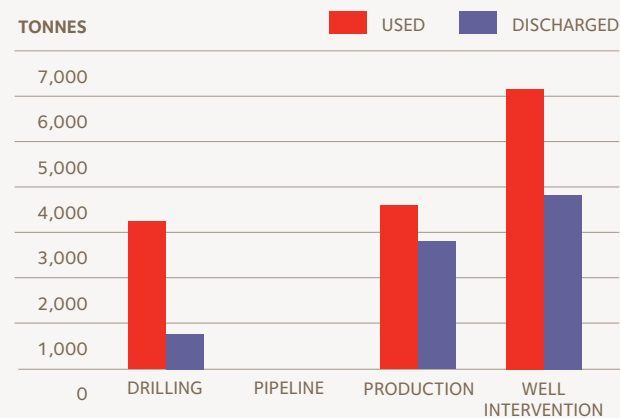


Figure 10 highlights that well intervention operations used the largest amount of chemicals during 2018, increasing by 77% use from 2017 and 92% increase in discharge quantities – mainly due to the commencement of TAQA's plug and abandonment activity during 2018. Drilling related chemical use and discharge also increased which is reflective of the increase in activity in 2018 where MSS1 drilled at the Pelican Field (PuP-14). Comparing with historical production chemical usage although there has been higher use and discharge than 2017, it is on a par with previous years of similar activity.





Accidental Spills

All offshore operations must be covered by an approved Oil Pollution Emergency Plan (OPEP). These plans describe the procedures and notifications that must be undertaken in the event of a release. They are regularly tested and exercised by offshore and onshore response teams to ensure they are robust and fit for purpose. All unplanned discharges to sea of oil and chemicals, regardless of volume, must be reported to relevant authorities (OPRED, Marine Scotland, MCA and JNCC) via a Petroleum Operations Notice 1 (PON1).

At TAQA, there are a variety of systems and procedures in place to mitigate against and reduce the potential of the unplanned releases to sea. If a loss of containment does occur whether it reaches the sea or is recovered at the location, it is captured in the company's incident reporting database. The release is then subject to investigation to identify the root cause.

Figure 11 shows the number of PON1s submitted by TAQA during 2018, detailing if it was an oil or chemical release and the corresponding quantity. A total of 33 releases occurred from TAQA operations in 2018, four more than 2017 but matching the average of the last four years. Nine of these spills were hydrocarbon and totalled 0.2 tonnes (a 70% reduction in hydrocarbon release from 2017 and the lowest quantity in the last four years). Chemical accidental releases however had a 52% increase to 12.57 tonnes. The majority of this volume (11.25 tonnes) originated from damaged sodium hypochlorite dose hoses that were located within a severed caisson on the Harding platform. The severed caisson and ruptured hoses were identified during subsea inspections with an ROV and back dated to the last known successful application to ensure a conservative estimate of the total release volume.

FIGURE 11:
ACCIDENTAL SPILLS TO SEA

■ OIL SPILL ■ CHEMICAL SPILL

PLATFORM	DESCRIPTION OF OIL OR CHEMICAL SPILL	MAX QUANTITY SPILLED (KG)
CORMORANT ALPHA	Diesel release from bunkering hose	4.3
	Hydraulic Fluid leak at stab plate during DSV Campaign	241.0
	Pelican Field intermittent leak (source unknown)	170.7
	Leak of crude from Flushing Dunlin Alpha Pig Receiver	4.482
	Hydraulic fluid leak to sea	143.299
	Temporary closed drains degasser hose leak	0.83
	Diesel release from East Side bunkering hose	4.9
EIDER	Diesel line failure	3.74
	Residue diesel/hydraulic oil spill from drain during cleaning operations	0.15
	Release of nominal oily waste/water to sea during drain tundish inspection	0.5
	Oily discharge to sea after draining liquids from the crude oil coalesce to the hazardous drains caisson	12.04
NORTH CORMORANT	Diesel hose failure during bunkering	154.99
	Diesel hose leak upon commencement of bunkering	0.416
TERN	Lube oil discharged to sea via drain gully which discharges directly to sea in error	462.0
DEVENICK	Oil leak (bubbles) observed at the S2 wellhead	0.0116
	Subsea hydraulic fluid leak from the S1 hydraulic system	7.7114
HARDING*	Conductor Tensioner Erifon leak on PC5 slot 6 (cylinder 1)	14.0
	Conductor Tensioner Erifon leak on PN1 slot 2 (cylinder 1)	29.5
	Conductor Tensioner Erifon leak on PN1 slot 2 (cylinder 2)	37.5
	Conductor Tensioner Erifon leak on PC4, slot 10 (cylinder 1)	5.0
	Conductor Tensioner Erifon leak on PC4, slot 10 (cylinder 3)	4.0
	Conductor Tensioner Erifon leak on PNE2 slot 4 (cylinder 3)	3.8
	Conductor Tensioner Erifon leak on PC1 slot 3 (cylinder 4)	12.0
	Small crude oil seep during tanker loading operations	0.05
	Conductor Tensioner Erifon leak on slot 8 (cylinder 3) and slot 3 (cylinder 4)	18.0
	Conductor Tensioner Erifon leak on PN1, slot 2 (cylinder 2)	17.50
	Conductor Tensioner Erifon leak on IC2 slot 8 (cylinder 1)	7.50
	Conductor Tensioner Erifon leak on WC1 slot 5 (cylinder 3)	11.00
	C13 Caisson severed resulting in Sodium Hypochlorite discharge to sea	11250
Conductor Tensioner Erifon leak on PC2 slot 7 (cylinder 4)	43.50	
Conductor Tensioner Erifon leak on PC2 slot 7 (cylinder 1)	40.50	
Conductor Tensioner Erifon leak on PNE2 slot 4 (cylinder 2)	37.50	
MSS1 MOBILE RIG	Leak of hydraulic oil from ROV	6.00
	Base oil discharge from closed PSV on P14 XT	15.00
	ROV oil leak	16.3

* It is noted that all but one of the chemical PON1 reports submitted in 2018 by Harding were attributed to losses of hydraulic fluid from the conductor tensioner system due to historical design issues. A rolling program of improvements ongoing since 2017 includes replacement of under performing units, an onshore test rig and installation of new types of cylinder.



Onshore Initiatives

As a responsible energy company, TAQA continually looks to support the communities in which it operates. We have an active corporate social responsibility programme which looks to achieve three overarching goals: protect the environment; support the local communities where we operate; and increase education, potential and creativity.

Macduff Marine Aquarium

Situated on Aberdeenshire’s scenic coast in the traditional fishing town of Macduff, Macduff Marine Aquarium features marine life from the Moray Firth, Scotland’s largest bay, in a variety of exciting and innovative exhibits. In 2018 TAQA backed two environmental projects – a hands-on workshop programme for young primary school pupils aimed at recycling and reducing plastic usage, and the purchase of a new digital microscope and accompanying interpretation panels for the sea lab area. TAQA already has a strong association with the aquarium and this strengthens the partnership even further.

Arnhall Moss

Arnhall Moss Local Nature Reserve lies on the edge of Westhill and Elrick in Aberdeenshire. The site is part of a former lowland raised bog and has a range of plants and animals. TAQA, also based in Westhill, has partnered with a local primary school to develop a discovery trail and quiz for visitors to follow through the reserve, helping them to identify many of the trees, plants, animals and bugs living there. Two events took place in 2018 to familiarise TAQA staff and pupils with the area: an evening bat watch, led by the Ranger Service and surveyors from the North East Bat Group, and an exercise to remove non-indigenous birch seedlings, while also collecting litter.

Outdoor Access Trust Scotland

In 2018 TAQA established a partnership with the Outdoor Access Trust Scotland, a conservation charity involved in the preservation, restoration and upgrading of our unique upland paths in both of Scotland’s National Parks. TAQA ‘adopted’ the popular 6km Broad Cairn mountain path on Royal Deeside. TAQA’s support provided vital funding for maintaining the path and, in addition, two teams of TAQA volunteers each spent a day on the path helping with path maintenance and repairs.

Greenpower

Greenpower is a national engineering competition which challenges school pupils to design, construct and race electric cars. As well as showing the fun side of science and exploring green energies, the event also develops teamwork, communication skills and elements of project management, providing participants with an all-round experience. TAQA recognises that the future of the oil and gas industry relies on a skilled workforce so it’s important that, from a young age, children get a better understanding of how subjects such as technology and engineering might be applied in real life. TAQA is principle sponsor and each year a team of TAQA staff volunteer to help run the event.



Environmental Objectives

Each year a number of key objectives are set. The purpose of these objectives are to help achieve and demonstrate continual improvement in the environmental performance of TAQA in the UK. Each objective is made up of a number of individual targets. The table below provides an overview of the status of the 2018 objectives at year end.

ENVIRONMENTAL OBJECTIVE OVERVIEW

OBJECTIVE		STATUS
1	Environmental Studies/Assurance Activities	85%
2	Offshore Operations Continuous Improvements	100%
3	Environmental Engineering Control Improvements	100%
4	Waste Management Continuous Improvements: Reduction of waste to landfill both onshore and offshore (see below):	100%
	<p>a) 94% (average) correct general waste segregation for offshore</p> <p>b) 80% (average) correct general waste segregation for onshore</p>	<p>TEA (90%), CON (90%), EIA (81%) and HAR (76%) COA (88%) targets not achieved</p> <p>TH (50%), Annex 1 (65%) targets not fully achieved</p>
5	Environmental Management System Continuous Improvements	93%

■ COMPLETED/ACHIEVED (>90%)
 ■ PARTIALLY COMPLETE (>75%)
 ■ INCOMPLETE/NOT ACHIEVED (<75%)

Overall five of the seven objectives in 2018 were met and two targets were not achieved. Environmental studies/assurance activities involved supporting a number of business units including decommissioning and projects in particular the Otter Multi Phase Pump installation, Eider Utility Mode and Materials Inventory generation. Given the size, complexity and time frames, several objectives were postponed until 2019, including the Large Combustion Plant BREF stack sampling, delivery of NNS asset Materials Inventories and some cuttings characterisation, therefore the 2018 target was only partially met.

The waste management targets were not met, with the offshore target having been increased to 94% correct segregation from the 2017 93%. Further focus is being placed on improving this both offshore and onshore in 2019 with particular attention being given to the waste streams that contaminated the general waste such as food waste and recyclables.

The Environmental Engineering Control objective and targets were fully completed and included the update of performance standards to reflect SECE / MEI identification for Eider. EMS continuous improvements objectives were met with the ISO 14001:2015 transition, updates completed on the OPEPs for EU Offshore Safety Directive changes and the facilitation and completion of a significant environmental emergency response exercise.

In 2019, TAQA is again continuing its efforts on a number of focussed objectives in five key areas:

1. Environmental Studies/Assurance Activities
2. Offshore Operations Continuous Improvement
3. Environmental Engineering Control Improvement
4. Waste Management Continuous Improvement
5. Environmental Management System Continuous Improvement

Glossary

CEFAS
Centre for Environment, Fisheries and Agricultural Science

CH₄
Methane

CHARM
Chemical Hazard Assessment and Risk Management

CO
Carbon Monoxide

CO₂
Carbon Dioxide

COA
Cormorant Alpha Platform

CON
North Cormorant Platform

CoP
Cessation of Production

EIA
Eider Platform

EMS
Environmental Management System

ETS
Emissions Trading Scheme

FLAGS
Far North Liquids and Associated Gas System

GBT
Gravity Base Tank

HAR
Harding Platform

HSSEQ
Health, Safety, Security, Environment and Quality

ISO 14001
International Standards Organisation 14001 – specifies the requirements for an environmental management system

JNCC
Joint Nature Conservation Committee

mboe/d
Thousand Barrels Oil Equivalent per Day

MCA
Maritime and Coastguard Agency

MEI
Major Environmental Incident

MODU
Mobile Offshore Drilling Unit

MPI
Major Pollution Incident

NORM
Naturally Occurring Radioactive Material

NO_x
Oxides of Nitrogen

OBM
Oil Based Mud

OCR
Offshore Chemicals Regulations (2002) (as amended)

OCNS
Offshore Chemical Notification Scheme

OIPW
Oil in Produced Water

OLS
Offshore Loading System (oil export system installed at the Harding Field during 2016)

OPEP
Oil Pollution Emergency Plan

OPPC
Offshore Petroleum Activities (Oil Pollution Prevention and Control) Regulations (2005) (as amended)

OPRED
Offshore Petroleum Regulator for Environment and Decommissioning

OWS
Oily Water Separator

PDCA
Plan-Do-Check-Act cycle for environmental management and improvement

PON
Petroleum Operations Notice

PPC
Offshore Combustion Installations (Pollution Prevention and Control) Regulations (2013)

PWFD
Produced Water Flash Drum

SECE
Safety and Environmental Critical Elements

SCM
Subsea Control Module

SO₂
Sulphur Dioxide

SPE
Society of Petroleum Engineers

STL
Submerged Turret Loading (oil export system removed from the Harding Field during 2016)

SSIV
Subsea Isolation Valve

TEA
Tern Platform

TH
TAQA House

UKCS
United Kingdom Continental Shelf

UMC
Underwater Manifold Centre

VOC
Volatile Organic Compound

WEEE
Waste Electrical & Electronic Equipment

WtE
Waste-to-Energy

WWF
World Wide Fund for Nature

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