

Environmental Statement

2018



Welcome to Serica Energy's inaugural Environmental Statement



2018 was a transformational year for Serica Energy, taking us into a new era after 14 years in the oil and gas business as we took over the Bruce, Keith and Rhum (BKR) assets from BP on the 30th November.

As a result our period of operatorship during 2018 spanned just 32 days during which our team maintained their excellent performance and attention to HSEQ standards.

With operatorship comes responsibility and from the start of Bruce's transition process Serica declared itself to be a safe, reliable and above all responsible Operator. Our leadership and highly

experienced Board is committed to putting the environment in which we have the privilege of operating at the forefront of our approach to operations.

In line with the requirements of the OSPAR Convention for the Protection of the Marine Environment of the North East Atlantic this annual statement focuses on our operations and portfolio on the UK Continental Shelf. It provides an overview of the environmental management system (EMS) that provides the framework to support our aspiration to continually improve our environmental performance. Finally, this document

also provides data and discussion points on key environmental performance in:

- atmospheric emissions
- chemical use and discharge
- oil discharges to sea and
- waste

Mitch Flegg
Chief Executive Officer

HEALTH, SAFETY, ENVIRONMENTAL AND QUALITY (HSEQ) POLICY



Our Commitment

Serica's management is committed to providing a **Safe, Reliable** and **Responsible** operating environment for all of our staff and contractors. To achieve this the company will strictly adhere to HSE legislation and the best industry standards to ensure that everyone working with us will protect the environment and one another.

In all our activities we recognise that effective HSEQ management is critical to business success. We shall:

- Comply with all applicable legislation, industry standards and best practice;
- Maintain safe places of work for our staff and contractors, promoting a positive HSEQ culture through visible commitment, communication and consultation;
- Be an environmentally responsible organisation;
- Ensure that all staff understand their delegated HSEQ responsibilities and are properly trained to undertake these;
- Utilise contractors who can demonstrate a suitable level of commitment to recognised HSEQ standards;
- Adhere to formal risk management processes to reduce risks to As Low As Reasonably Practicable (ALARP);
- Establish crisis and emergency response plans to respond to incidents and emergencies;
- Engage, as appropriate, with stakeholders and the public and have regard for their interests when planning activities;

- Report our HSEQ performance and learn from incidents and accidents;
- Continually improve our HSEQ performance through a systematic approach which includes the setting of objectives and targets, monitoring of performance and regular assurance and audit activities.

The Serica Operations Management System (OMS) sets out how we will systematically achieve these goals. It is the responsibility of all personnel who work for Serica to adhere with this policy and the OMS.

The Chief Executive Officer is accountable for the HSEQ performance of the Company and, along with the Board of Directors, shall ensure that sufficient resources are in place to implement this policy.



Mitch Flegg
Chief Executive Officer
May 2018

SAFE | RELIABLE | RESPONSIBLE

 **SERICAENERGY**

Serica Energy is an experienced, independent upstream oil and gas company that has drilled 23 wells since its inception, 17 of those as Operator

Serica Energy focuses the skills of its 140+ strong team on adding value to existing producing assets as well as developing and exploring new opportunities.

In the North Sea Serica Energy produces an average of 30,000 boe/d from four fields and, via Bruce facilities, handles up to 50,000 boe/d gross gas and liquids on behalf of the Company and its partners.

Serica Energy is Duty Holder and Well Operator for the Bruce, Keith and Rhum (BKR) assets as defined by the Offshore Installations (Offshore Safety Directive), (Safety Case etc.) Regulations 2015 (SCR 2015) and the Offshore Petroleum Licensing (Offshore Safety Directive) Regulations 2015.

Serica promotes a culture of safety, reliability and responsibility across all aspects of its business and is committed to minimising the impact of its activities on the environment.



Serica Energy operated assets

Operated Producing Fields **BKR**



The Bruce Platform is located in United Kingdom Continental Shelf (UKCS) 148 km east of Shetland and 17 km west of the UK/Norway median line in water depths of 122 m.

The Bruce facilities, operated by Serica Energy (UK) Limited, consist of the Bruce and adjacent Keith and Western Area Development fields in UKCS Blocks 9/8a, 9/9a and 9/9b in the northern North Sea. In addition, the Rhum gas field, 44 km north of the installation, is situated in UKCS

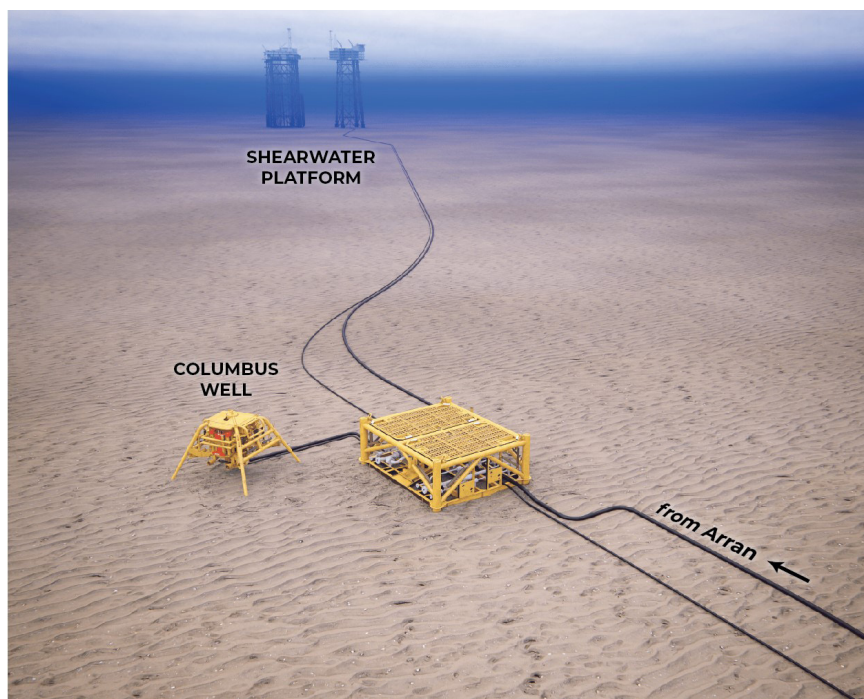
Block 3/29. Produced hydrocarbons (crude, condensate and gas) are exported to shore by separate pipelines. Oil is exported via the Forties Pipeline System to Cruden Bay, and on to the Kinneil Terminal. Gas is exported to St Fergus via the Frigg pipeline. The BKR assets predominantly produce gas/condensate, with only two crude oil producing wells.

BKR daily production in 2018 averaged in excess of 24,000 boe/d of exported oil and gas net to Serica.

Serica Energy operated assets

Operated Development **Columbus**

The Columbus Development is a gas condensate accumulation in the Forties Sandstone Formation that has been fully appraised by four wells. In 2018 the Columbus Field Development Plan was approved by the Oil & Gas Authority (OGA). Serica Energy plans to tie-back the Columbus Development to the Shearwater platform, 35 km to the southwest. Columbus start-up is targeted for Q2 2021.



Serica Energy non-operated assets

Non-operated Production **Erskine**

Serica Energy holds an 18% non-operating interest in the Erskine field, located in the UK central North Sea.

The field, operated by Chevron, is a High Pressure High Temperature (HPHT) gas condensate field and was originally discovered in 1981. Main reserves lie in three separate, but generally overlying, Jurassic Sandstone producing horizons. The field has been developed with five producing wells.

The production facilities comprise a normally unattended installation located at Erskine with production

handled and controlled from the Chrysaor-operated Lomond platform, 30 km to the north. The Lomond platform lies 269 km east of Aberdeen and is adjacent to the Columbus field.

Gas from Lomond is exported to a terminal at Teeside.

The condensate from Lomond is exported to Cruden Bay.

Exploration **Rowallan**

During 2018 Serica drilled an exploration well (22/19c-7) to explore the Rowallan prospect, reaching a total depth of 4,641 metres. The well encountered a 182 m section of sandstone and shale, but this was not found to be hydrocarbon bearing.

Health, safety and environmental protection are responsibilities shared by everyone working for Serica Energy

In 2018, the Serica Energy Health, Safety, Environment and Quality (HSEQ) Management System was revised and extended to address the specific requirements of becoming a Production Operator on the UKCS.

The Serica Energy Operations Management System (OMS) provides the framework for the systematic management of HSEQ across the Serica Energy organisation and aims to ensure the delivery of safe, environmentally responsible and reliable operations in accordance with defined policies, practices, processes and standards.

The Environmental Management System (EMS) contained within the OMS went through a successful OSPAR 2003/5 re-verification audit in August 2018.

The structure and content of the OMS recognises the principles of HSG65 (Managing for health and safety), ISO 45001 (Occupational Health and Safety Management Systems) and ISO 14001 (Environmental Management Systems) and ensures that risks to health and safety of personnel and to the environment are reduced to As Low As Reasonably Practicable (ALARP). The purpose of the OMS is to ensure that, as far as reasonably practicable, all activities are undertaken in accordance with Serica's commitment to HSEQ and in compliance with all relevant statutory provisions applicable to operations across the UKCS and at its supporting onshore locations.

At the core of Serica Energy's OMS is the Serica HSEQ Policy. The HSEQ Policy articulates Serica Energy's commitment to:

- provide a safe, reliable and responsible operating environment for the well-being of staff and contractors
- comply with, or strive to surpass, all applicable legislation and industry best practices

The HSEQ Policy also states an expectation that all personnel and third-party organisations working for Serica Energy share the values of protecting the environment and one another.

The HSEQ Policy is signed and dated by the Chief Executive Officer (CEO) and is reviewed at defined intervals as part of the Management Review process.

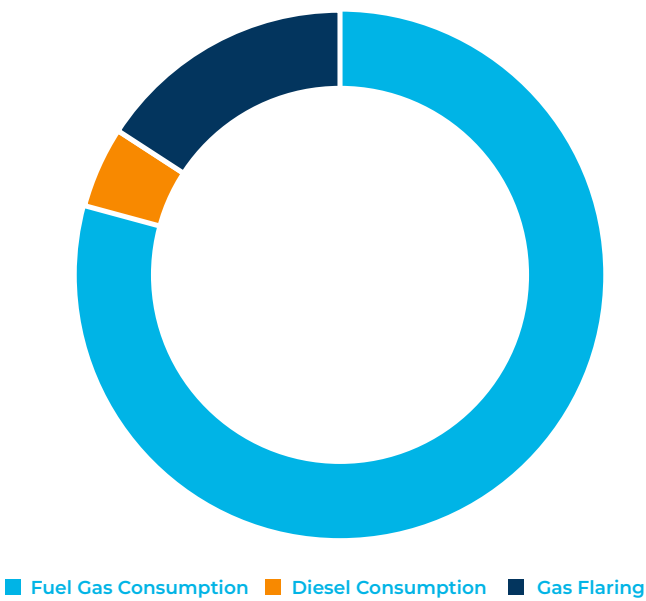
Environmental performance (post-transition)

Atmospherics

Gaseous emissions such as carbon dioxide (CO₂), nitrogen oxides (NO_x), sulphur dioxide (SO₂), carbon monoxide (CO), methane (CH₄) and non-volatile organic compounds (VOCs) have the potential to adversely impact the environment.

Power generation using fuel gas on Bruce is the leading source of CO₂ emissions, accounting for 199,801 tonnes in 2018. Flaring accounted for 39,939 tonnes of CO₂ and diesel usage accounted for 12,496 tonnes of CO₂ giving a total of 252,236 tonnes of CO₂ emitted at Bruce for 2018 (Figure 1).

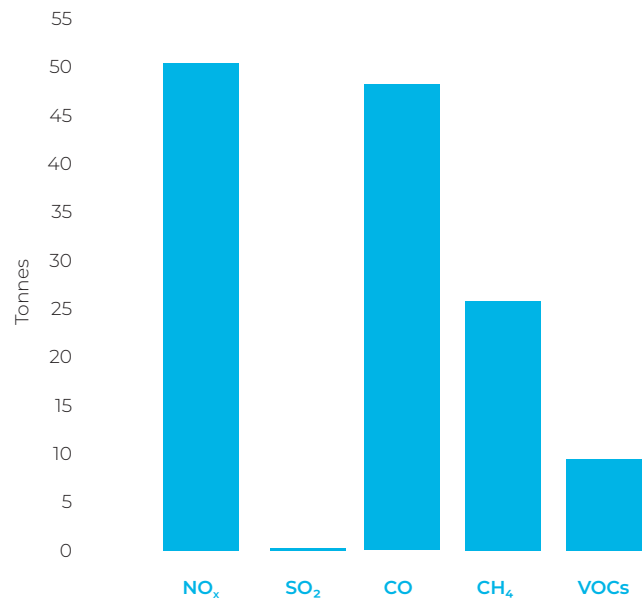
Figure 1 CO₂ Emissions from Bruce in 2018 (post-transition)



Cumulative emissions of non-CO₂ gases from Bruce were: NO_x 50.4 tonnes, SO₂ 0.2 tonnes, CO 48.0 tonnes, CH₄ 25.7 tonnes and VOCs 9.4 tonnes (Figure 2).

Note: The specific regulatory requirements for reporting of atmospheric emissions meant that Serica Energy submitted the total 2018 CO₂ emissions figures for Bruce but only the post-transition emissions for the other gases emitted.

Figure 2 Non-CO₂ Emissions from Bruce in 2018 (post-transition)



Chemical use and discharge

The offshore use and discharge of chemicals on the UKCS is closely regulated by the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED). This is managed through the Offshore Chemical Regulations (OCR) (2002) as amended 2011. The majority of chemicals used offshore are regulated, requiring a risk assessment and approval for their use and discharge.

All chemicals that are regulated under OCR have been tested to evaluate their toxicity, bioaccumulation and biodegradation, and are ranked according to their potential to cause harm to the receiving environment. The most hazardous chemicals carry a substitution (SUB) warning label, and Operators are required to aim to continually reduce their usage of SUB chemicals.

Post-transition operations at BKR in 2018 utilised 31,240 kg of chemicals. Of these, 15,779 kg were products carrying a SUB warning label. Figure 3 shows that the discharge of SUB warning label chemicals was 153 kg (approximately 1% of the mass used). The remaining 15,461 kg of chemicals were non-SUB warning label and 6,507 kg of these were discharged (approximately 42% of the mass used). Figure 4 shows chemical use and discharge by chemical function. Serica Energy had no chemical non-conformance events during their 2018 operations on Bruce.

Figure 3 Chemical Usage and Discharge from Bruce in 2018 (post-transition)

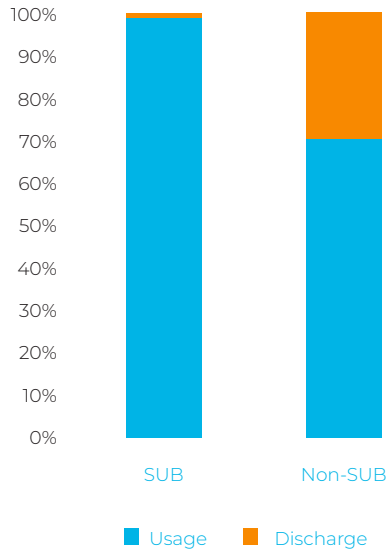
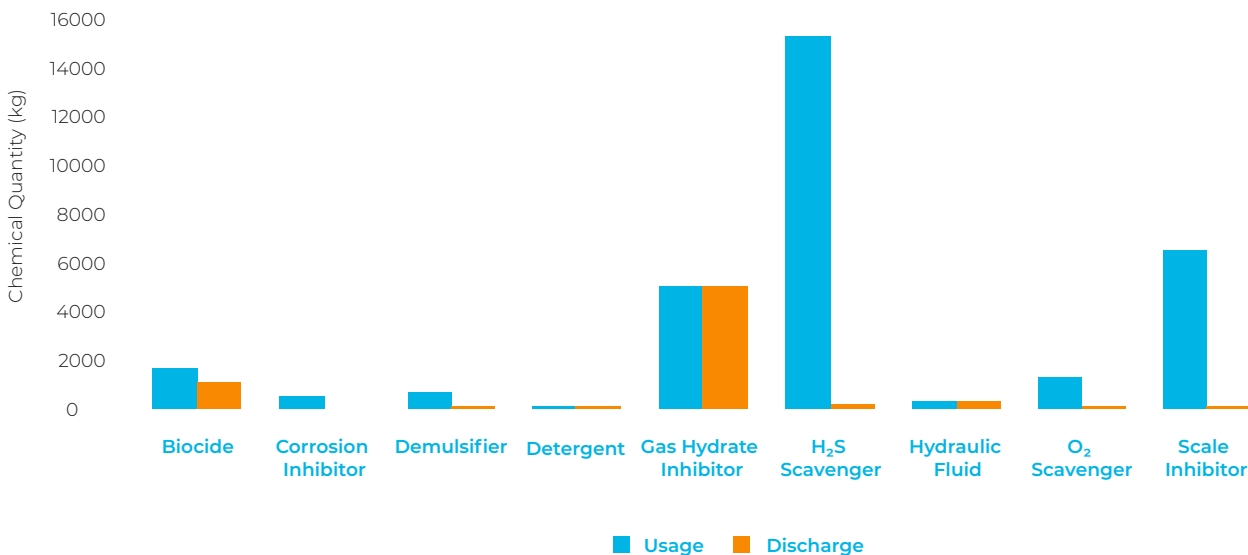


Figure 4 Chemical Usage and Discharge by Chemical Function from Bruce in 2018 (post-transition)



Environmental performance (post-transition) continued

Oil Discharges to Sea

Routine discharge and re-injection of produced water is closely monitored and monthly concentrations of oil in produced water (OiPW), mass of dispersed oil discharged, and single sample concentrations are recorded and reported to the Regulator (OPRED), as per the conditions of the Oil Discharge Permit under the Offshore Petroleum Activities (Oil Pollution Prevention and Control) Regulations 2005 (as amended 2011) (OPPC).

Bruce wells produce a mixture of crude oil, condensate and gas. Following separation, produced water is re-injected into a dedicated re-injection well. Produced water is only routed to sea when the Produced Water Re-injection (PWRI) system becomes unavailable for maintenance reasons. PWRI acts as a disposal route only, with 100% of produced water being re-injected during PWRI uptime.

There was no discharge of produced water to sea during the post-transition period of 2018 with all produced water being re-injected. Serica Energy had no oil non-conformance events during their 2018 operations on Bruce.

Waste


As with all industrial processes, waste is generated offshore during oil and gas operations. These wastes can be categorised as either being liquid or solid wastes. Liquid waste streams including produced water and chemical residues which are either injected downhole or discharged to sea, are strictly regulated and covered separately under permits for authorised disposal.

Solid waste streams however are required to be shipped back to shore for appropriate treatment, recycling or disposal, in line with The Merchant Shipping (Prevention of Pollution by Sewage and Garbage from Ships) Regulations 2008 which prohibit the disposal of solid waste at sea. These waste items can include, scrap metal, barrels, wood, plastics, cardboard, aluminium cans, medicinal waste and WEEE (Waste Electrical and Electronic Equipment).

The volume of waste generated, and its type is entirely dependent on the activities being conducted. Increasingly within the oil and gas industry, there is a steer towards reducing, reusing or recycling waste. Serica has robust arrangements in place for the management and segregation of waste materials generated by its BKR operations, through application of its 'Waste Management' procedures. Serica Energy's waste policy, is that where possible waste should be eliminated and minimised according to the waste hierarchy. Following transition in 2018, Bruce generated 17.68 te of waste, of which 9.47 te (54%) was sent to landfill, while the remainder, 8.21 te (46%), was recycled (Figure 5).

Figure 5 Waste Produced from Bruce in 2018





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