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Abbreviations

BMS	Business Management System
CATS	Central Area Transmission System
CEFAS	Centre for Environment, Fisheries and Aquaculture Science
CH ₄	Methane
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
DECC	Department of Energy and Climate Change
ECE	Environmentally Critical Elements
EEMS	Environmental Emissions Management System
EMS	Environmental Management System
EPM	Erskine Production Module
ETS7	Emissions Trading Scheme 7 (Annual emissions reporting form)
EU ETS	European Union Emissions Trading Scheme
FPS	Forties Pipeline System
FPSO	Floating Production Storage and Offloading
HMCS	Harmonised Mandatory Control Scheme
HSSEQ	Health, Safety, Security, Environment and Quality
ISO14001	International Standard Organisation - Environmental Management Systems
NO _x	Oxides of Nitrogen
N ₂ O	Nitrous Oxide
OCNS	Offshore Chemical Notification Scheme
OPPC	Offshore Petroleum Activities (Oil Pollution Prevention and Control) Regulations 2005 (as amended 2011)
OSPAR	Oslo Paris Convention
OCR	Offshore Chemical Regulations 2002 (as amended, 2011)
PON1	Petroleum Operations Notice (associated with oil and or chemical spills to sea)
RGVI	Rowan Gorilla VI
SMS	Safety Management System
SO _x	Oxides of Sulphur
TPS	Tilted Plate Separator
UKCS	United Kingdom Continental Shelf
VOC	Volatile Organic Carbon

1.0 INTRODUCTION

BG Group plc owns various offshore interests in the UK and Norway, both operated and non-operated. The business unit and organisation title for UK and Norway is Europe E&P. This annual environmental report focuses on our UKCS interests which are conducted through several entities including; BG International (CNS) Limited and BG International Limited however, for the purposes of this report those entities will be referred to, together, as Europe E&P.

Europe E&P operates the Armada, North Everest and Lomond platforms in the UK waters of the North Sea (Figure 1-1). The Blake field, subsea tie-back to third-party-operated Bleo Holm FPSO, was sold to Talisman in 2014. Environmental performance for Blake will be incorporated into the Talisman annual environmental report. Europe E&P also operates the Atlantic field and the associated subsea facilities as well as the Cromarty subsea facilities (but not the Cromarty field) pursuant to a Joint Facilities Operating Agreement. The Cromarty field Operator is Hess Limited. The Atlantic and Cromarty fields have been shut since 2010 and have been made hydrocarbon free. There was no active drilling activity in the UK for 2014.

The Armada, North Everest and Lomond installations all had planned shutdown and production outages during Q4 2014. This operational outage across the assets accounted for a reduction in produced water, associated dispersed oil discharge, as well as emissions to the atmosphere via operational and safety-related combustion activities.

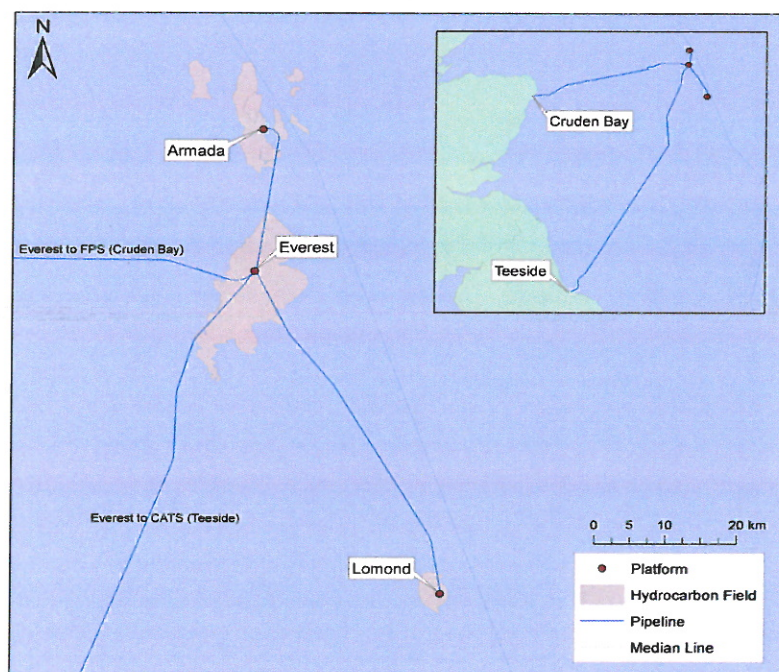


Figure 1-1: Overview of Europe E&P operated platforms

2.0 ARMADA INSTALLATION

The Armada platform is located in Block 22/5 of the central North Sea; 250 km east of Scotland and 3.8 km from the UK/Norway median line in water depths of approximately 89 m. Armada was originally developed to exploit three gas and condensate fields: Fleming, Drake and Hawkins. However, the development has since expanded operations and in 2013 fluids from the North-West Seymour, Maria, Rev and Gaupe fields were also processed at the facility. The North-West Seymour field was developed in 2004/2005, the Maria field in 2006, the Rev field in 2007 and the Gaupe field in 2011.

Gas, oil and condensate produced at the Armada development are transported 23 km via separate pipelines to the CATS riser platform, located adjacent to the North Everest platform in Block 22/9. Once at the CATS riser, gas enters CATS for onward transportation to the Teesside Terminal, while oil and condensate enter the Everest Liquid System for onward transportation to FPS which comes onshore at the Kinneil Terminal, Cruden Bay.

3.0 NORTH EVEREST INSTALLATION

The North Everest platform is located in Block 22/10 of the central North Sea; 215 km east of Scotland and 13 km from the UK/Norway median line in water depths of approximately 90 m.

As well as the North Everest Field, the installation processes gas and condensate from the South Everest subsea wellheads. The CATS riser platform is bridge linked to the North Everest Platform. This is the starting point for the 36" diameter, 412.5 km CATS export line to Teesside, which was completed in 1992. CATS has a capacity of 1,600 mmscf/d and carries wet gas and natural gas liquid. Sour gas can also be transported if necessary. Liquids are transported to FPS and come onshore for processing at the Kinneil Terminal, Cruden Bay. North Everest came onstream in 1993.

4.0 LOMOND INSTALLATION

The Lomond platform is located in block 23/21 of the central North Sea; 239 km east of Scotland and 5.8 km from the UK/Norway median line in water depths of approximately 87 m.

Lomond comprises a single integrated production platform, which commenced production in 1993. In addition to Lomond fluids, gas and condensate from Chevron's Erskine development are processed on the platform via the EPM which was installed on Lomond in 1997. Both wet gas and condensate are exported from Lomond to the nearby Everest facility before entering CATS. Gas is exported through CATS to Teesside while the condensate is piped via Everest to FPS, 65 km to the west and onward to the Kinneil Terminal at Cruden Bay for processing.

5.0 ENVIRONMENTAL MANAGEMENT SYSTEM

5.1 HSSEQ Policy

Europe E&P's commitment to the environment, as well as to health, safety and security, are detailed within its policy statement, as below.

The Europe E&P HSSEQ policy sets goals of no injuries or work-related ill health, no significant impact to the environment and to consistently meet shareholder and stakeholder requirements.

EE&P HSSE Policy and Commitment to Health, Safety, Security and Environmental Performance

Outstanding business performance requires outstanding HSSE performance. Our goals are: no injuries or work-related ill health; no significant impact to the environment; and meeting our shareholder and stakeholder requirements consistently.

HSSE is everyone's responsibility and we expect all staff and contractors to accept responsibility and be held accountable for their own behaviour and performance, to reinforce good behaviour and to intervene to prevent inappropriate actions.

This policy applies to BG Group EE&P oil and gas exploration, development and production operations and supports our commitment to:

- Comply with or exceed all applicable HSSE legal requirements and relevant industry standards to which EE&P subscribes
- Demonstrate BG Group HSSE compliance
- Include measurable HSSE targets in our annual business plans and provide leadership commitment to meeting them
- Systematically identify and evaluate the hazards, impacts and risks and reduce them as far as is reasonably practicable
- Ensure that our HSSE management systems reflect industry best practice and are resourced properly and competent to achieve continuous improvement in HSSE performance and prevention of pollution
- Promote minimisation of waste, prevention of emissions to air and discharge to marine environment
- Consult with and respond openly to our stakeholders and industry partners to take account of any concerns and learn from others' experiences
- Investigate any incident or near-misses to address future risks and evaluate projects and learn lessons
- Encourage open reporting about our performance and recognise those who contribute to improved HSSE performance
- Attain the required level of quality for all our products and services
- Maintain and test suitable plans to ensure business continuity and mitigate the consequences of any emergency
- Promote active HSSE monitoring

Signed:



Date: 31/3/15

Ernst den Hartigh
Managing Director, Europe E&P

The documented controls used to manage Europe E&P operations are retained within the BMS and the SMS. The EMS, which details environmental risks and environmental controls, is interlinked within the BMS and SMS. 2015 will see the further integration of the Safety and Environmental management systems as we move to compliance with the new Offshore Safety Directive (Safety Case) Regulations 2015.

The Armada platform first received ISO 14001 certification in 2008 with the North Everest and Lomond certifications in 2009 and 2010, respectively. 2014 saw the successful re-verification of ISO 14001 for BG Europe E&P assets.

5.2 Environmental Management System

At the heart of the EMS is the environmental aspects and impacts process, which comprises four levels:

- Identification of the environmental aspects and their impact(s) on the environment
- Evaluation of the magnitude and significance of the aspects and impacts and assessment of control options
- Implementation of control techniques to remove or lessen the severity of the impacts and to manage the aspects
- Development of plans and procedures to mitigate the consequences of unplanned events.

The environmental aspects and impacts management process allows Europe E&P to concentrate efforts on those elements with greatest environmental risk.

6.0 ENVIRONMENTAL PERFORMANCE

The significant environmental aspects of Europe E&P's operations in 2014 were identified as:

- Energy use and the discharge of atmospheric emissions (permitted)
- Accidental spills

Decommissioning has also been identified as a significant aspect for BG operations, however, it is not discussed in this report as no active decommissioning activity has taken place in 2014.

The key achievements in 2014 for delivery of planned objectives included:

- Update of the Asset Energy Management Plans
- Continued increase in environmental awareness and compliance
- Significant investment in production and emissions metering systems

6.1 Accidental Release of Oil and Chemicals and Non-Compliant Events

Europe E&P is committed to the prevention of accidental releases and minimising the likelihood of environmental non-compliant events. Table 6-1 summarises the unplanned releases and non-compliant events from Armada, Lomond, North Everest platforms during 2014.

No enforcement action was taken against Europe E&P in relation to accidental releases of chemical or hydrocarbon in 2014.

Table 1: Summary of accidental releases in 2014

Type	Armada	Lomond	Everest	Total
PON1s - Oil Spills <1 Tonne	5	7	4	16
PON1s - Oil Spills >1 Tonne	0	0	0	0
OCR, EUETS and OPPC Non-compliance	16	8	8	32
Total	21	15	12	48

6.2 Produced Water Discharges

Europe E&P routinely monitors produced water discharges including the monthly concentration of oil in the produced water, mass of dispersed oil discharged and single discharge sample concentrations. The produced water separation processes on the Armada, North Everest and Lomond platforms reduce the oil and condensate in produced water prior to discharge.

As a means of illustrating the scale of Europe E&P produced water discharges a comparison has been carried out against published 2013 produced water data. The total dispersed oil in produced water discharged from oil and gas installations in the UKCS for 2013 was 2,178 tonnes (UK Government, 2015). The cumulative discharge from Armada, North Everest and Lomond platforms in 2014 was 4.36 tonnes which equates to approximately 0.2% of the comparison total for 2013 UKCS discharge.

Armada Platform

During 2014, the Armada platform discharged 2.917 tonnes of dispersed oil to sea against an estimated maximum annual permitted discharge of 6.044 tonnes, as illustrated in Figure 6-1. The annual average oil in water concentration for the Armada produced water discharge was 19.68 mg/l.

Non-compliant events are reducing through the increased knowledge around the optimisation of the Cetco oil in water polishing unit and the optimisation of chemical injection.

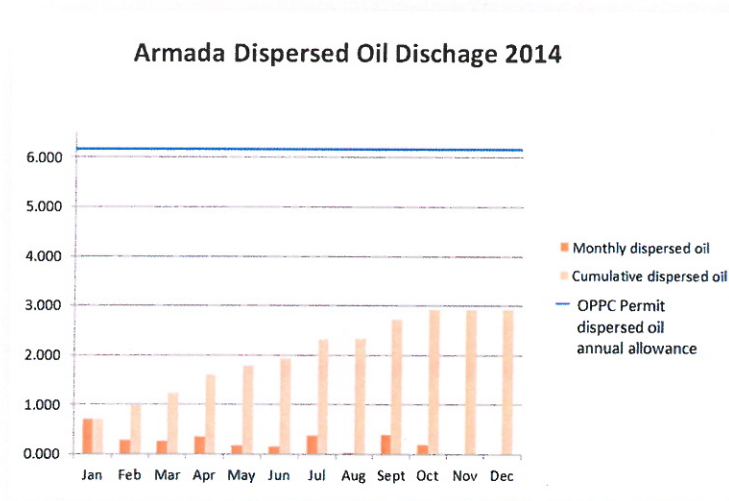


Figure 6-1: 2014 Armada Platform oil in produced water discharges

Lomond Platform and EPM

During 2014, the Lomond platform and EPM discharged 0.428 tonnes of dispersed oil to sea against an estimated annual permitted discharge of 3.09 tonnes, as illustrated in Figure 6-2. The average annual oil in water concentration for the Lomond produced water discharge for producing months was 16.63 mg/l and, and for the EPM produced water discharge for operational months was 37.57 mg/l. The high oil in water figure for the EPM was a result of plant instability during start up operations.

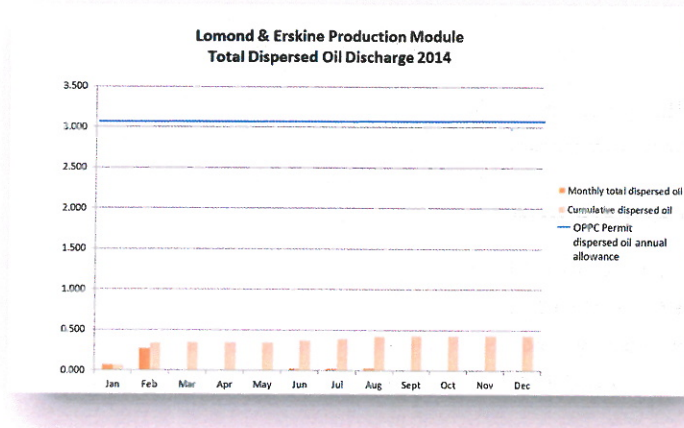


Figure 6-2: 2014 Combined Lomond & Erskine oil in produced water discharges

North Everest Platform

During 2014, the North Everest platform discharged 1.01 tonnes of dispersed oil to sea against an estimated annual permitted discharge of 1.83 tonnes, as illustrated in Figure 6-3. The average oil in water concentration for the producing months was 30.9 mg/l. The high oil in water figure for 2014 is reflective of high solids in the Tilted Plate Separator. This build up of solids in the separation system was addressed during the Q4 shutdown scopes.

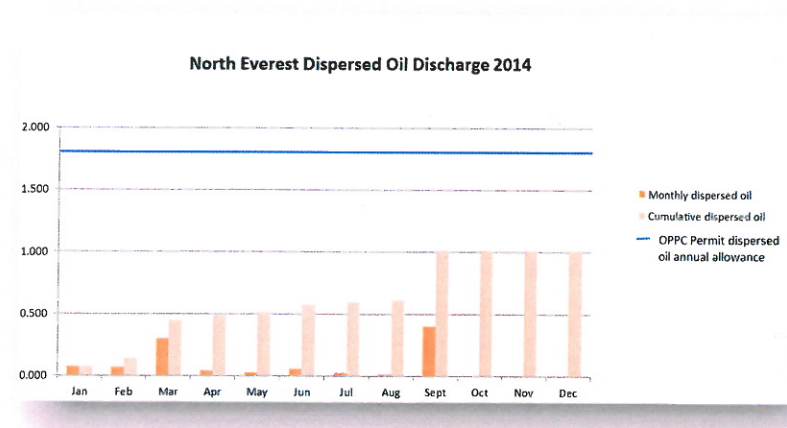


Figure 6-3: 2014 North Everest Platform oil in produced water discharges

6.3 Chemical Discharges

The use of chemicals offshore is closely regulated by DECC with advice from CEFAS and Marine Scotland. This is managed through OCNS which uses the OSPAR HMCS administered under OCR.

CEFAS produce data sheets and conduct toxicity testing to evaluate potential hazards from bioaccumulation and biodegradation of chemicals used. Chemicals are ranked according to their potential to cause harm. The original OCNS A to E system (A is most toxic and E is least toxic) has been replaced by the Gold to Purple system based on calculated hazard quotients (gold is least harmful and purple is most harmful); however, some chemicals remain under the letters system. A number of chemicals used offshore have substitution warnings and Europe E&P is working to reduce the use of these. For each platform, the 2014 chemical data has been categorised into their CEFAS ranking group and the total use and discharge is shown.

Armada Platform

Figure 6-4 shows that the majority of chemicals used and discharged to sea at the Armada platform in 2014 were ranked Silver, Gold or E.

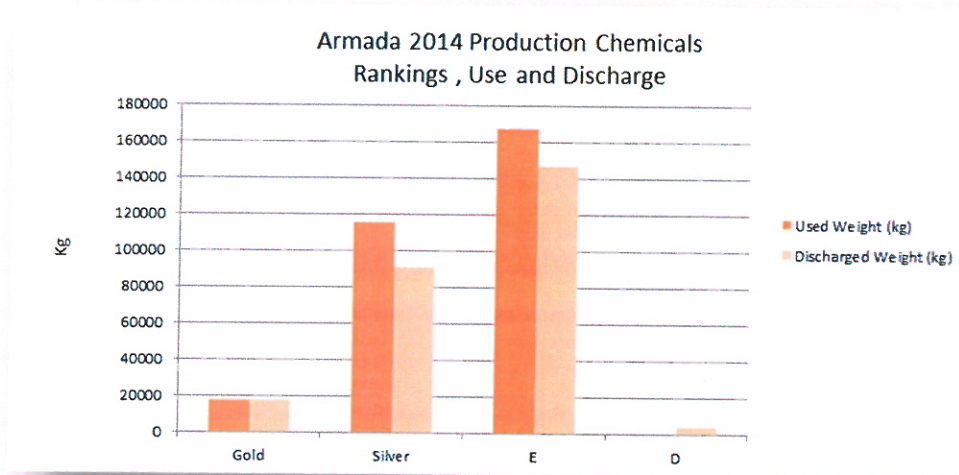


Figure 6-4: Summary of CEFAS toxicity rankings of chemicals used on the Armada Platform in 2014

North Everest Platform

Figure 6-5 shows that the majority of the chemicals used and discharged to sea at the North Everest platform in 2014 were ranked as either E or Gold.

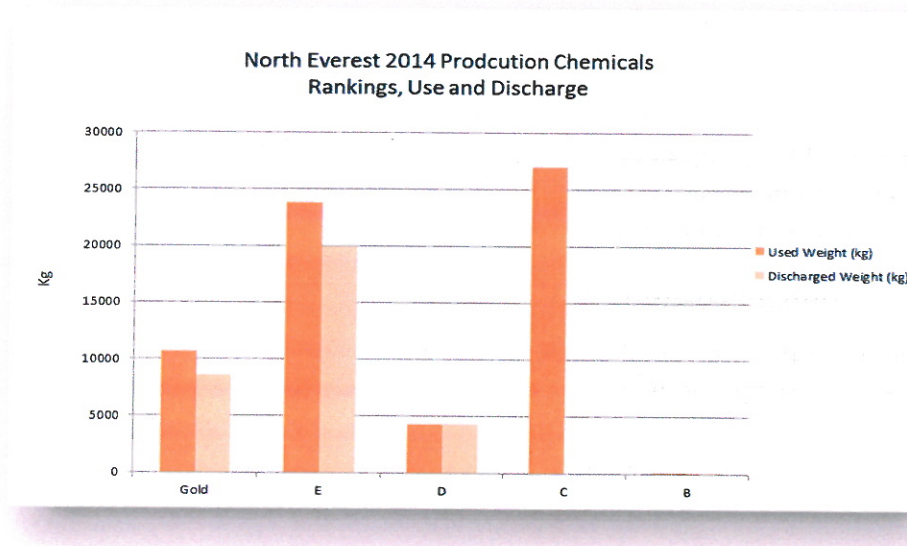


Figure 6-5: Summary of CEFAS toxicity rankings of chemicals used on the North Everest Platform in 2014

Lomond Platform

Figure 6-6 shows that the majority of the chemicals used and discharged to sea at the Lomond platform in 2014 were ranked either Gold or E.

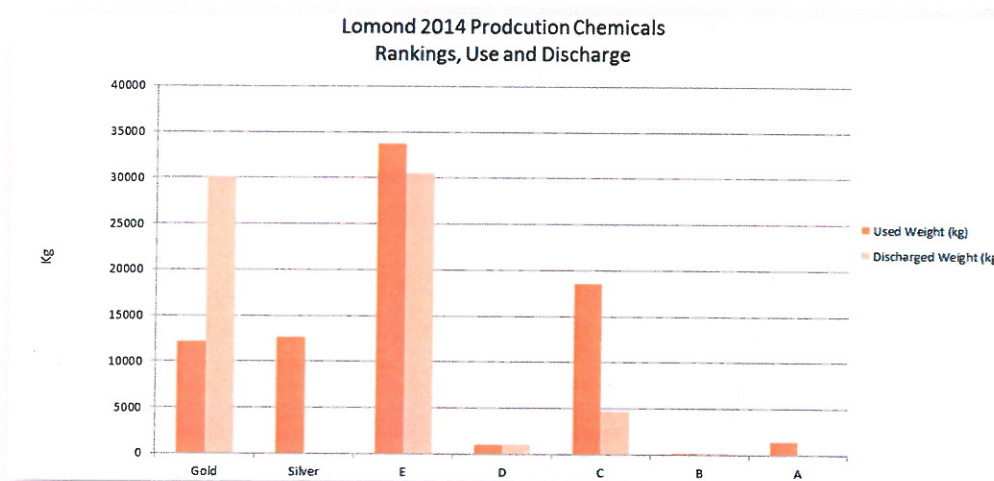


Figure 6-6: Summary of CEFAS toxicity rankings of chemicals used on the Lomond Platform in 2014

6.4 Atmospheric Emissions

Atmospheric emissions generated by combustion activities are regulated by EU ETS 2005 and the Offshore Combustion Installations (Prevention and Control of Pollution) Regulations 2013. Europe E&P is continually looking to identify opportunities that may reduce emissions from its operations.

Combustion activities on the installations are essential and include the use of fuel gas and diesel for power generation as well as process gas flaring for safety purposes. Combustion activities generate CO₂, NO_x, SO_x, N₂O, CO, CH₄ and non-volatile VOC emissions. Figure 6-7 illustrates the CO₂ emitted from each installation as determined at the time of report writing. Figure 6-8 illustrates the mass of emissions discharged during 2014 as reported via the EEMS database.

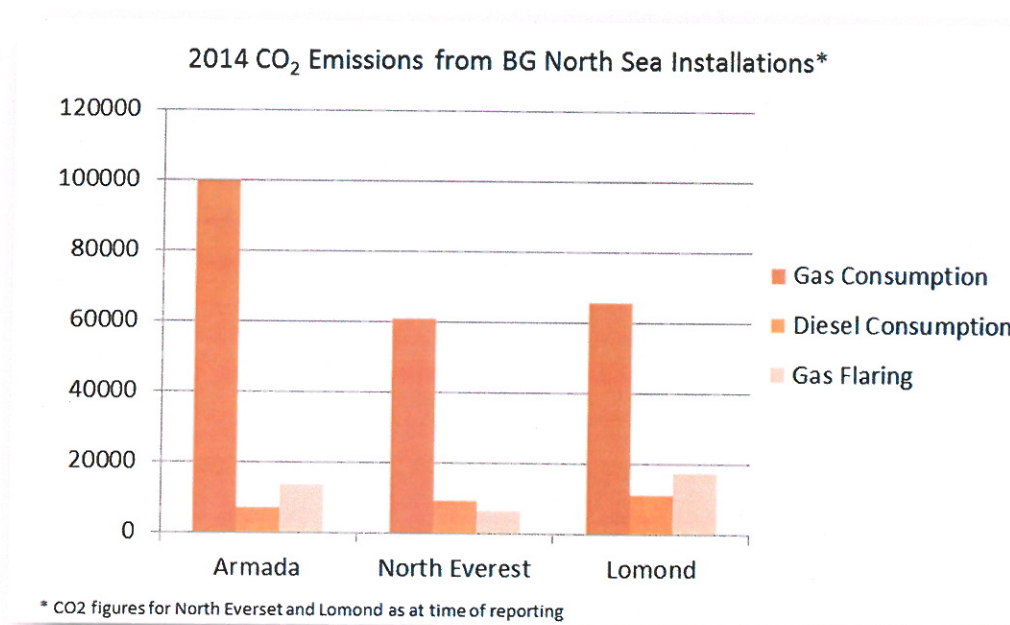


Figure 6-7: 2014 CO₂ emissions from BG's North Sea Installations

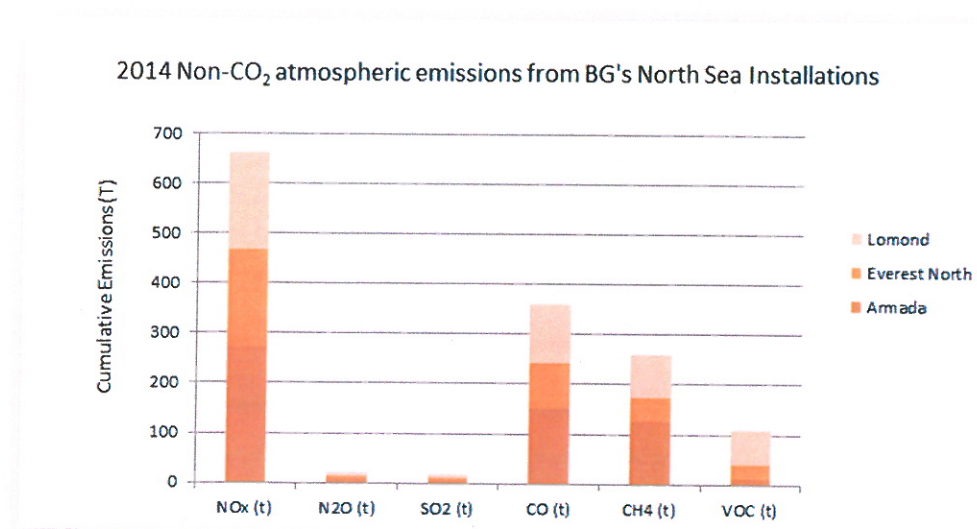


Figure 6-8: Non CO₂ atmospheric emissions from BG's North Sea Installations

6.5 Solid Waste

Solid waste levels reflect the amount of activity offshore. The Armada, North Everest and Lomond platforms have robust arrangements in place for the management and segregation of waste materials. Europe E&P's policy is that waste should be minimised according to the waste hierarchy. As demonstrated in Figure 6-9, recycling of operational platform waste represented the main and preferential route for management of waste materials. Waste disposed to landfill made up 15.6% of overall waste managed in 2014. Total waste to energy across assets was 2.9 tonnes with treatment of wastes accounting for 15.5 tonnes.

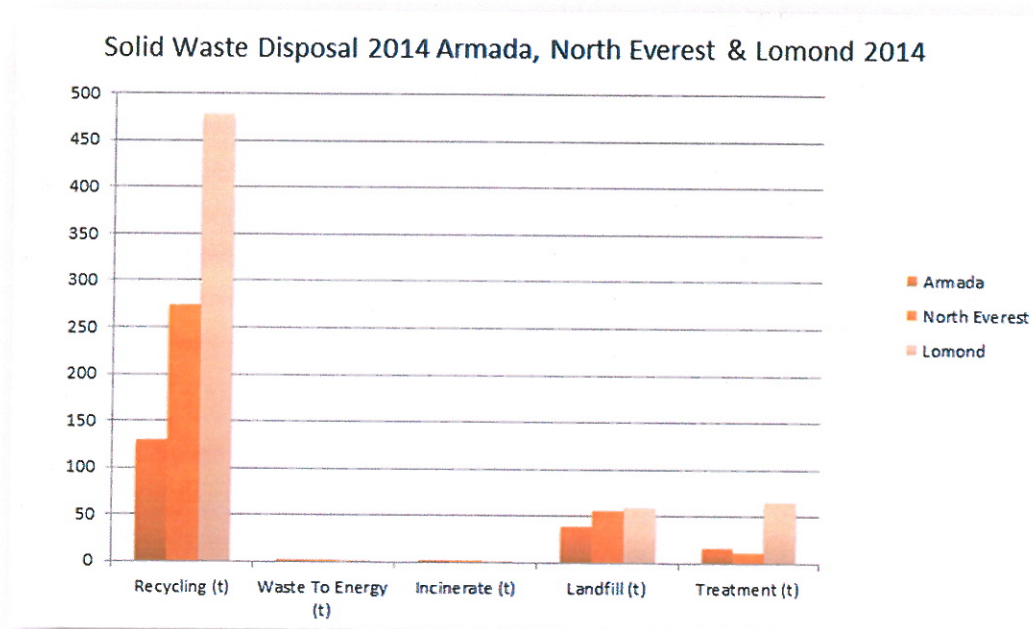


Figure 6-9: Waste disposal in 2014 by asset

7.0 CONCLUSION

Europe E&P is committed to minimising impacts to the environment from its offshore operations. Through the regular review of environmental performance and the setting and delivery of environmental objectives and targets that are appropriate to our environmental risks, Europe E&P shall continue to improve environmental performance.

Key environmental objectives for focus and delivery in 2015 include the following:

1. Review and improvement of the chemical management procedure and processes
2. Review of platform bunding and secondary containment requirements and practices
3. Introduction and assessment under Energy Savings Opportunity Scheme (ESOS)
4. Continued training and awareness engagement around EMS, consents and compliance

8.0 REFERENCES

1. UK Government (2014). Oil Discharged in Produced Water. Available to download at : https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/289801/OIPW_06-13.pdf. Accessed 01/05/2015