



# EMS Annual Performance Report

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North Sea Operations

2023

*Apache*



# Apache in North Sea

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## Global Team

Our global team is brought together by a sense of ownership and the knowledge that the best answers win.



## Our Purpose

To meet growing demand for energy and to do so in a cleaner, more sustainable way.

## Our Vision

To contribute to human progress by responsibly helping meet the world's oil and gas needs.



## Our Portfolio

Apache Corporation's subsidiaries have operations in the U.S., Egypt, U.K. North Sea and offshore Suriname.



# EH&S Policy Statement

## Apache North Sea Environmental, Health and Safety Policy



Apache is committed to operating responsibly by maintaining high environmental standards and preserving the health, safety and well-being of our employees, contractors, and communities in which we operate. Apache will apply all that is reasonably practicable to manage risks throughout our asset's lifecycle.

To meet our commitments, Apache pledges to:

- Comply with applicable regulations and company operating standards and policies
- Recognise that no business objective is so important that it will be pursued at the expense of the environment or compromise health, safety or security considerations
- Design and manage our operations to actively prevent environment, health and safety impacts, effectively identifying hazards, threats and vulnerabilities to manage risks
- Ensure availability of appropriate information and necessary resources to achieve the health, safety, and environmental objectives and targets
- Guarantee all changes are implemented effectively using a defined process and performance is regularly monitored
- Manage risks through appropriate contingency planning, emergency preparedness, response and recovery practices
- Report, investigate and learn from weak signals, events and near misses
- Seek opportunities for improvement by managing and reporting our performances, inspecting worksites and auditing management system processes
- Promote a positive safety culture through strong leadership and commitment at all levels within the organisation
- Empower all employees or persons working with us to challenge any activity or condition and to stop the job where, in their opinion it may cause a harmful effect to their own health, safety or security, or to the environment
- Encourage open and honest communications

Through execution of this policy, Apache affirms its commitment to conduct business in a manner that protects both people and the environment. We all have a personal responsibility to conform to our policies, standards, and values.

We trust you will lead by example.



*Jeffrey Tate*  
**Vice President, North Sea Asset**  
Apache North Sea

## Taking our environmental responsibility seriously

We have continued to advance our performance in a range of environmental focus areas as atmospheric emissions, produced water management and chemical utilisation such as:

- Efficient management of process resulted to reduction of plant upsets
- Development of the GHG Emissions Action Reduction Plans (ERAPs)

Apache is committed to conducting our business in a manner that protects the health, safety, security and wellbeing of our employees, contractors and the general public while maintaining the quality of the environment in which we operate.





# Beryl Asset

**01**

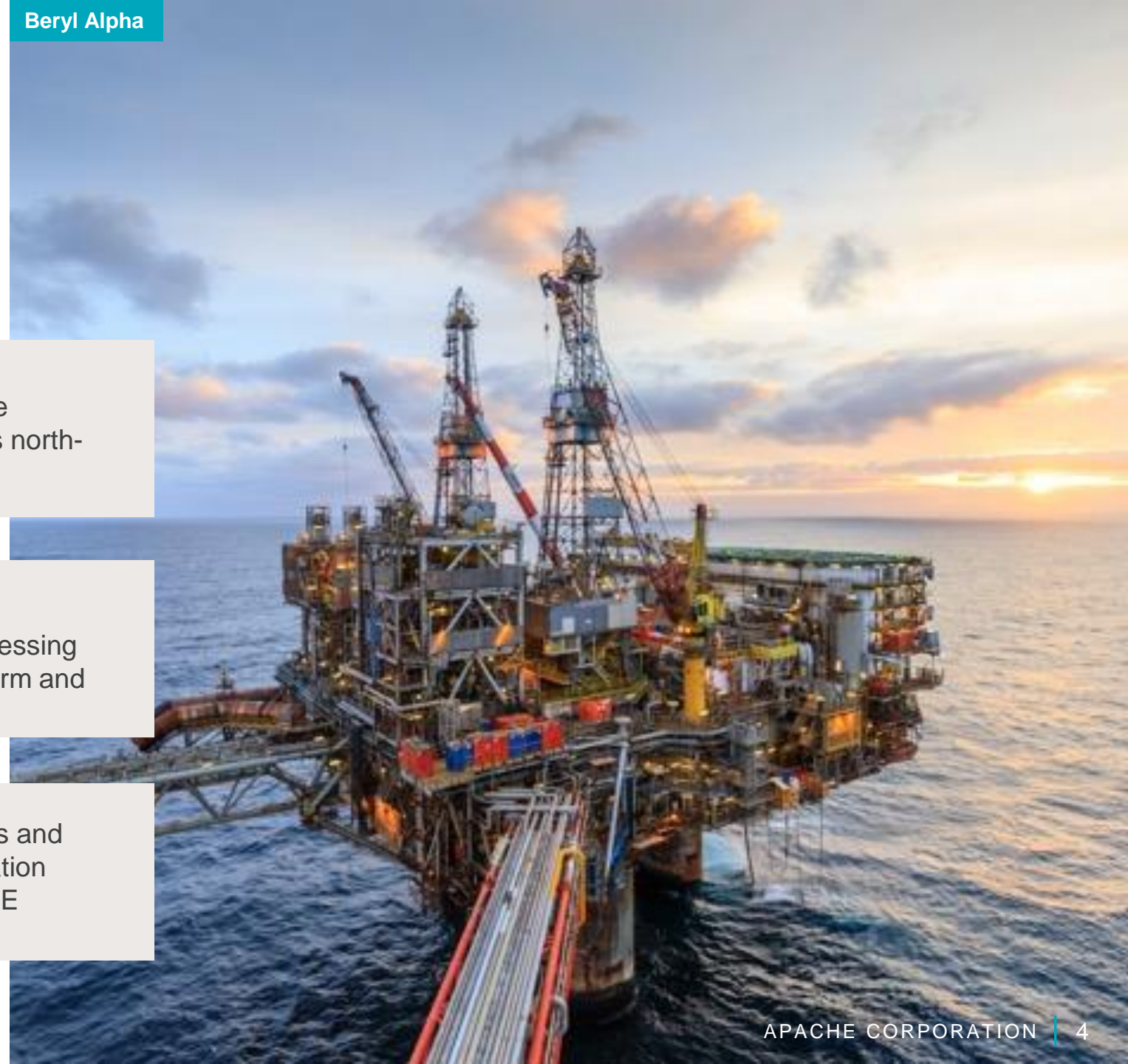
The Beryl Field is located in Block 9/13 of the northern North Sea, approximately 190 miles north-northeast of Aberdeen.

**02**

Beryl Alpha and Beryl Bravo installations are equipped with facilities for drilling wells, processing and exporting fluids and gas from both platform and subsea tie-back wells.

**03**

Oil production is transferred to tanker vessels and gas is exported to Scottish Area Gas Evacuation (SAGE) Gas Plant at St Fergus, via the SAGE pipeline.



# Forties Asset

**01**

The Forties Field is located in Blocks 21/10 and 22/6a of the central North Sea, approximately 140 nm north-east of Aberdeen.

**02**

Forties Alpha, Bravo, Charlie and Delta platforms are all single steel jacket installations, providing facilities for drilling wells and processing fluids and exporting oil.

**03**

The Bacchus oil subsea and Aviat gas subsea facilities are tied-back to the Forties Alpha platform. Oil production is exported to shore via the Forties Pipeline System (FPS).

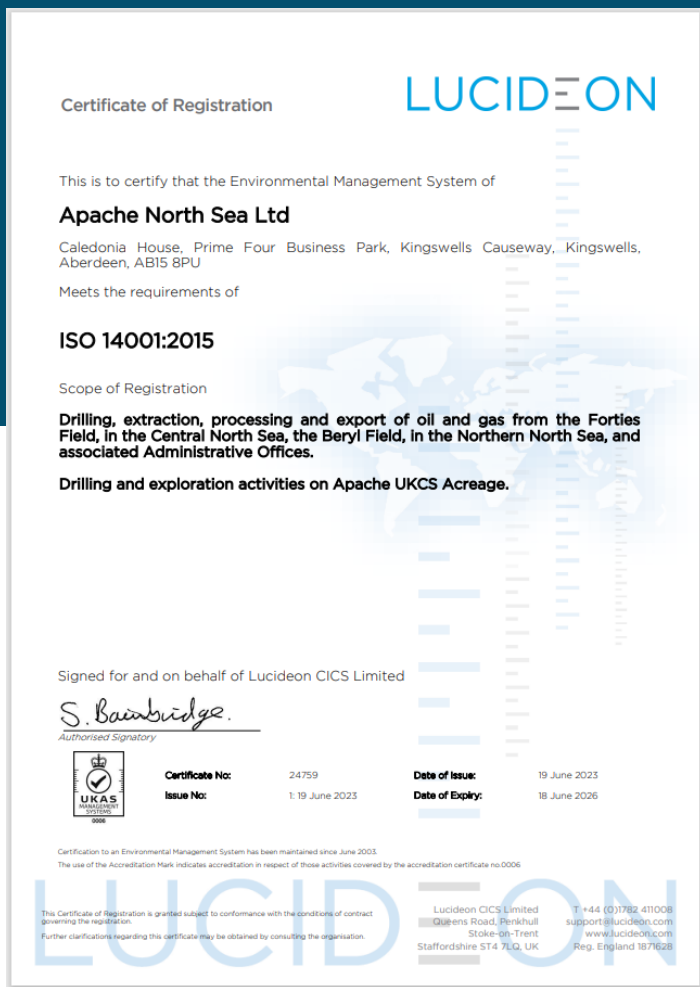
**04**

Forties Bravo and Forties Echo platforms do not produce electricity but import power via the Forties Power Ring Main.





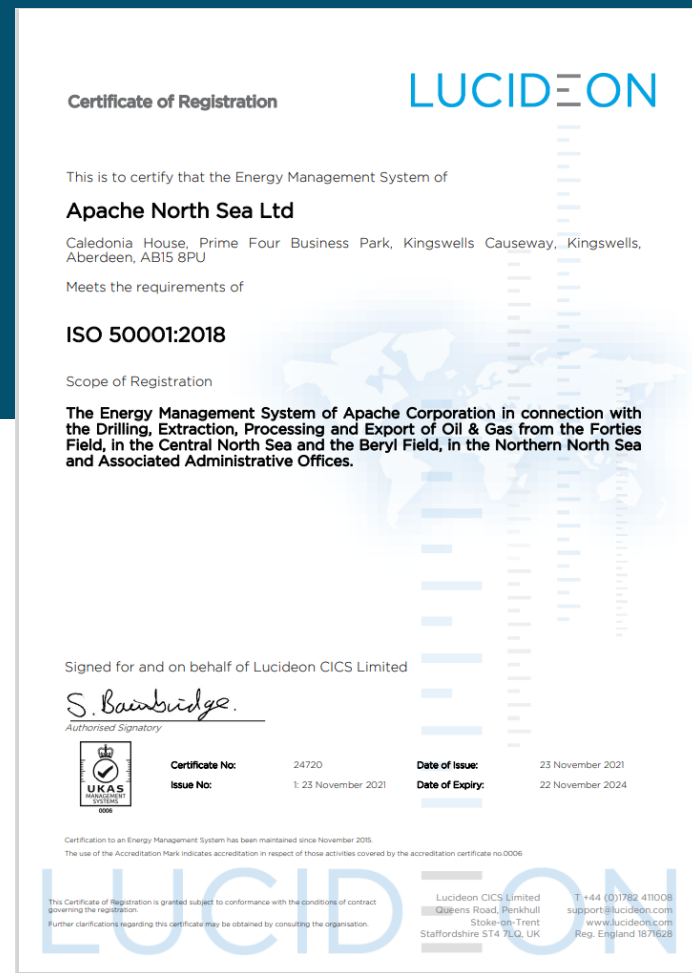
# Management System



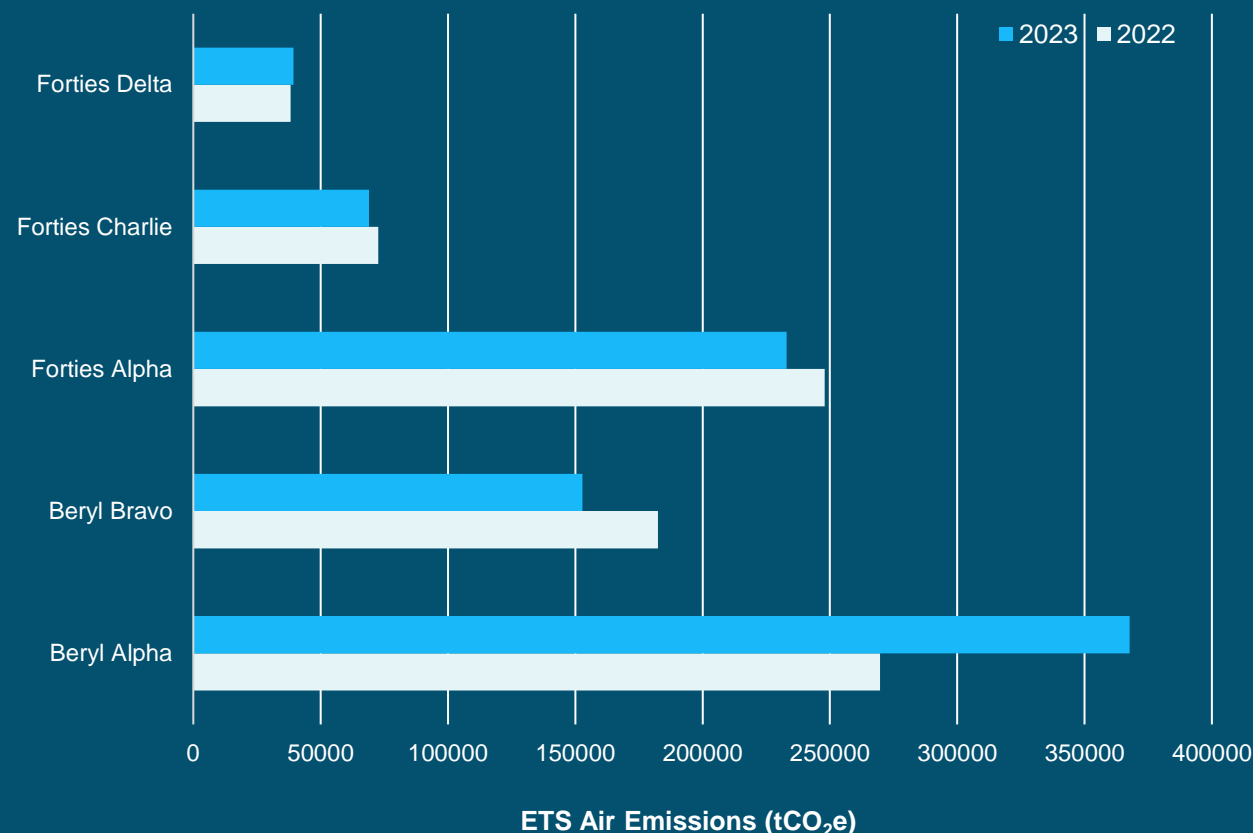
Apache's **integrated Environmental and Energy Management Systems** (EMS) are certified to the International Standards ISO 14001:2015 and ISO 50001:2018. The EMS is subject to periodic review and assessment, by both internal audit and external third-party audits. The most recent routine audits for the ISO 14001 and recertification ISO 50001 were successfully completed in October 2023.

Corrective actions were raised for the observations and findings identified by the internal and external audits and are being tracked to completion through Apache's action-tracking system.

The re-certification of the ISO 14001 was completed in June 2023. ISO 50001 re-certification is scheduled for October 2024.



# Air Emissions



The effect of different greenhouse gases (GHGs) are measured against carbon dioxide equivalent (CO<sub>2</sub>e) which is the most commonly emitted GHG.

Under normal operating conditions, atmospheric emissions are a result of the following:

- Flaring, which is an integral part of platform safety
- Gas compression
- Turbines and generators used to supply operational power (fuel gas and diesel)
- Volatile organic compounds (VOCs) emitted during oil loading
- Fugitive emissions, for example from valve seals

01

The majority of GHG emissions were generated from fuel gas consumption (74.5%) to provide electrical power, compression and for oil and gas export.

02

Emissions from the combustion of diesel (2.9%) are generated due to its required use where fuel gas is unavailable.

# Resources Management

## Flaring

Due to an unforeseen breakdown on an LP gas compressor in July on Beryl Alpha, we recorded an increase to flaring rates in 2023.

## Combustion

Apache continues to focus on and drive down combustion emissions through responsible equipment operation and the implementation of a range of projects directly intended to optimise efficiency and enable enhanced surveillance of the combustion plant and power users.

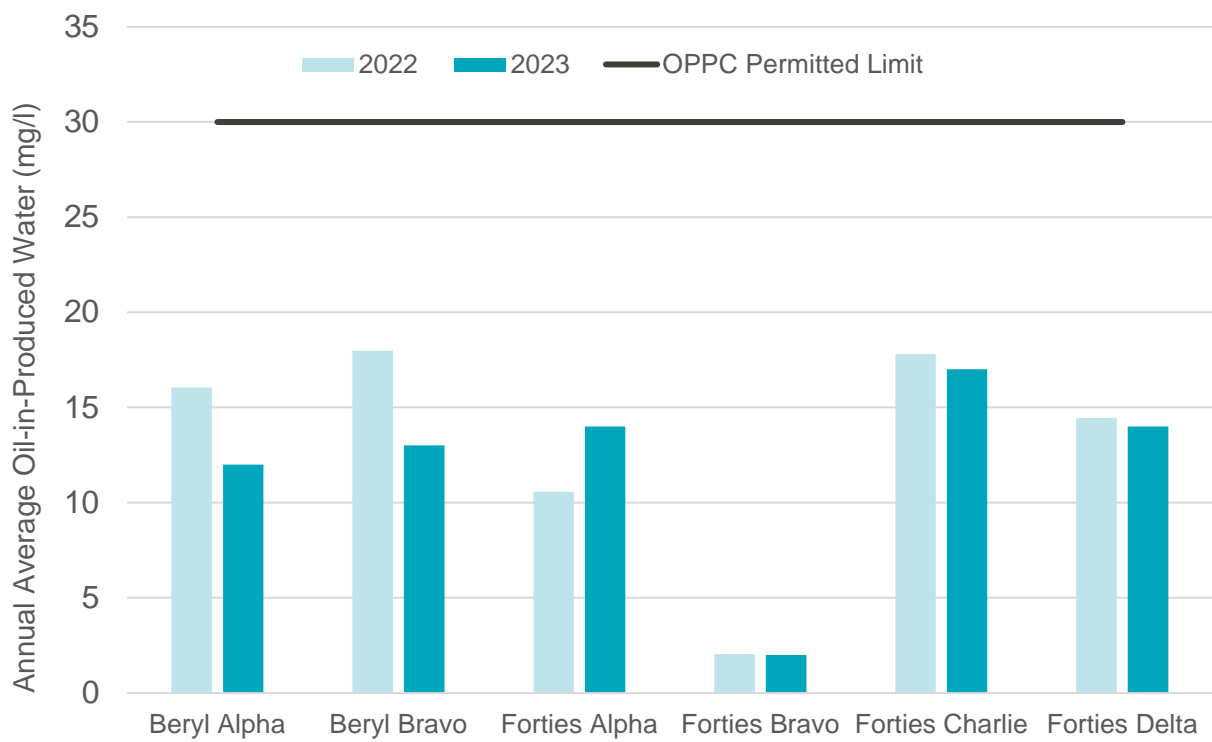


The final Solar Titan 130E upgrade was completed in 2023 enabling the Forties Alpha facility to reduce the number of online gas turbine generators from four to three. Operating three upgraded Titan 130E generators at optimal thermal efficiencies reduces the annual combustion emissions by 16,600Te(CO<sub>2</sub>e).

2023	Flaring	Fuel Gas Usage	Diesel Usage
	(in tonnes)	(in tonnes)	(in tonnes)
Beryl Alpha	36,672	105,278	763
Beryl Bravo	5,829	44,150	6,610
Forties Alpha	11,228	74,869	259
Forties Charlie	9,187	15,647	716
Forties Delta	7,538	5,726	1,246
2022	Flaring	Fuel Gas Usage	Diesel Usage
	(in tonnes)	(in tonnes)	(in tonnes)
Beryl Alpha	10,311	88,110	4,030
Beryl Bravo	6,982	55,730	5,155
Forties Alpha	13,115	77,787	863
Forties Charlie	10,554	14,723	1,537
Forties Delta	5,656	5,413	2,673



# Produced Water Discharges



## Amount of Oil Discharged

(in tonnes)

	2022	2023
Beryl Alpha	32.6	27.6
Beryl Bravo	24.1	6.3
Forties Alpha	36.9	40.7
Forties Bravo	6	9.4
Forties Charlie	17.8	14.8
Forties Delta	14.4	23.9

01

All discharging offshore assets operate well below the legislative 30 mg/l limit for oil in produced water concentrations.

02

Approximately a decrease of 7% of oil was discharged into the marine environment in 2023 versus 2022.

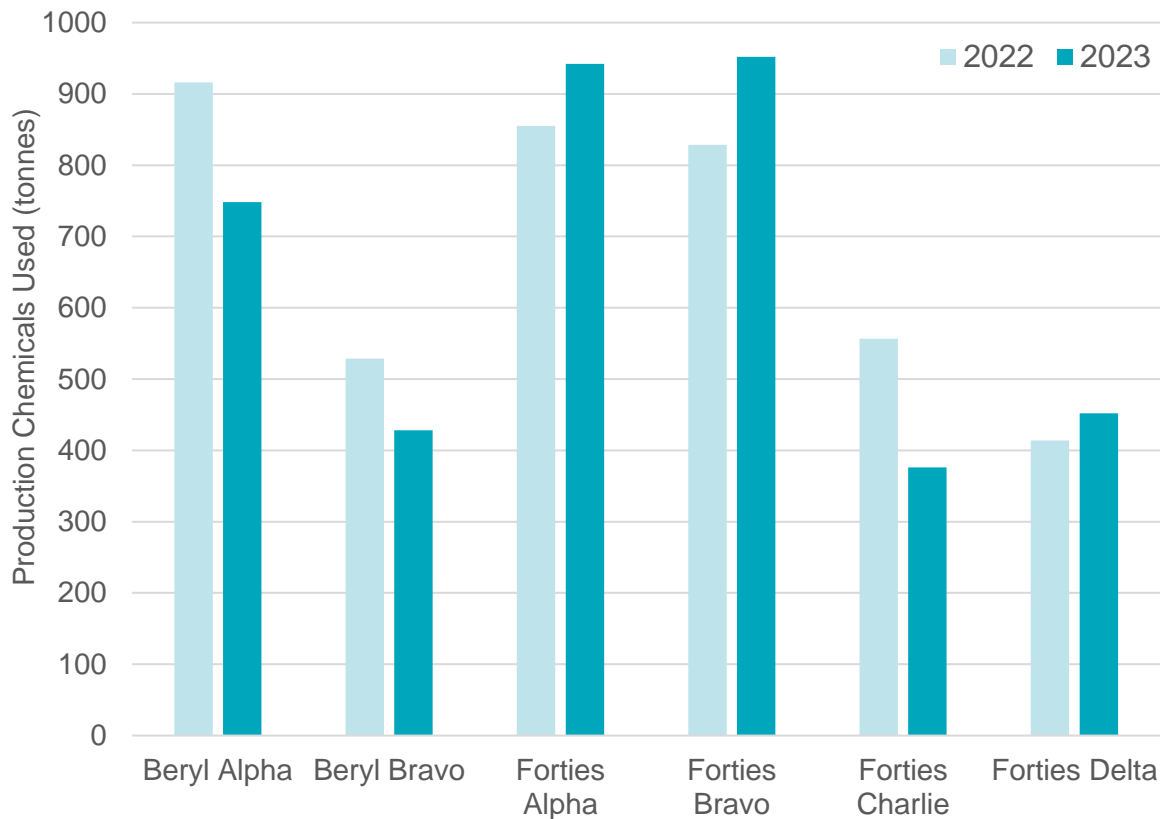


# Releases

All spill to sea events were reported to the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) in line with regulatory requirements. Each event was investigated, with corrective actions identified which are being tracked to completion through Apache’s action-tracking system.

	2022	2023
Number of Releases	9	5
Mass of oil released (in tonnes)	0.08	2.49
Mass of chemical released (in tonnes)	0	0.132

# Chemical Discharges



01

## Reduction of Chemicals with Substitution Label

Apache is committed to a programme of removal / reduction of all chemicals carrying a substitution warning, unless their use is required on technical and/or safety grounds.

02

## Offshore Chemical Notification Scheme

The vast majority of chemicals used and discharged during Apache operations, fall within Offshore Chemical Notification Scheme (OCNS) categories “Gold” and “E”, which are least hazardous to the environment.

03

## Continuous Improvement

There was a decrease of 5% in the usage of production chemicals in 2023 versus 2022.



# Waste Management

Waste Category (in tonnes)	Reuse	Recycling	Waste to Energy	Incineration	Landfill	Discharge Under Consent	Treatment	Total
Beryl Alpha	-	290.9	108.9	0.3	216.8	-	5.3	622
Beryl Bravo	-	187.2	49.6	16.8	138.8	1.0	5.2	399
Forties Alpha	-	186.4	64.2	0.9	135.4	1.3	54.0	442
Forties Bravo	0.08	124.1	24.9	0.7	58.9	-	8.6	217
Forties Charlie	-	125.6	27.8	0.5	111.0	5.4	4.8	275
Forties Delta	-	107.8	57.8	0.2	83.8	0.6	12.3	262
Forties Echo	-	15.6	2.7	-	8.3	-	14.2	41

\* Waste Data is for the full year of 2023



### Waste Hierarchy

Waste levels from the assets are directly related to the amount of activity on-site, and the waste produced, ranges from controlled or non-hazardous waste, to hazardous or ‘special’ waste.



### Non-Landfill Destination

An average of 69% of wastes was sent to a non-landfill destination (i.e. reuse, recycling, waste to energy or incineration) in 2023.

# 2024 Environmental & Sustainability Plan

An annual **Environmental and Sustainability Management Plan** is established, and environmental performance is constantly monitored, as Apache strive towards achieving **continual improvement** in environmental performance, alongside production enhancement.

E



Air

Implementation of the GHG Emissions Reduction Action Plans  
Development of Methane Action Plans

S



Communities  
+People

Join the East Grampian Coastal Partnership (EGCP)

G



Governance

Alignment with the United Nations Environment Programme (UNEP) - Oil and Gas Methane Partnership 2.0 (OGMP 2.0) methane reporting framework

*Apache*

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