

# **ENVIRONMENTAL PERFORMANCE REPORT 2022**

ITHACA ENERGY PLC

### **CONTENTS**

About Ithaca Energy	1
Our vision, missions and values	2
Introduction	3
Our long term commitments	4
Foreword	5
Our operations	6
Environmental Management System	9
Environmental goals and objectives	11
Environmental performance	12
Appendix 1: Abreviations and terminology	25
Appendix 2: Onshore initiatives	26

## **ABOUT THIS REPORT**

Welcome to our environmental performance report, which has been produced in accordance with OSPAR Recommendation 2003/5. This report includes information about our operated installation activities carried out in 2022 and summarises the environmental performance of all our upstream offshore activities (including drilling), our Environmental Management System (EMS), and a summary of our environmental performance and other initiatives.





You can also read our Annual Report online: investors.ithacaenergy.com

# ABOUT ITHACA ENERGY

For our people, shareholders, partners and communities, Ithaca Energy is a new kind of oil and gas operator.

We are proud of our heritage, our reputation for environmental compliance and our drive and ambition to forge a new future for our North Sea asset base. As we move into our industry's new era, Ithaca Energy is positioned to play a critical role in securing domestic energy supply and security for the UK, recognising that oil and gas will continue to be an important part of the long term energy mix, as we navigate the energy transition to Net Zero.

We are at the forefront of our industry's response, investing in sustainable, high-value and long term oil and gas production.

We are focused, innovative and adaptable. We work efficiently, collaboratively and responsibly, with our partners and suppliers, building strong relationships based on openness and respect. Collectively we will harness our operational expertise and innovative minds to challenge the norm, deploying smarter technologies to deliver exceptional results.

We acknowledge that the energy transition is a fundamental challenge to our industry and the targets we have set for decarbonisation are difficult to achieve. However, safety, sustainability and compliance matter deeply to us, giving confidence to all that we are in the vanguard of our industry's new era, creating increased value for our people, shareholders and communities, large and small, today and tomorrow.

#### **OUR GOALS**

We are a company dedicated to growing sustainably. This means operating safely and responsibly, developing our people and sharing our success.



#### SAFETY

We strive to be a safety leader in everything we do, ensuring no harm to our people or the environment.



#### PERFORMANCE

We will deliver scale with a long term production target of 100,000 barrels per day.



develop a skilled, adaptable and diverse workforce.



#### **EMISSIONS**

We will invest in low-carbon oil and gas to help meet the UK's long term energy needs into transition.



#### **EFFICIENCY**

We will drive high levels of operational efficiency and operate with strong cost discipline.

## ABOUT ITHACA ENERGY CONTINUED

# **OUR VISION**

As we conduct our business in a new era for the United Kingdom Continental Shelf (UKCS), Ithaca Energy will redefine what it means to be a leading oil and gas operator.

Our vision is to be the highest-performing UKCS independent oil and gas company, focused on growing value sustainably.

By putting our people's safety, environmental responsibility and operational excellence at the heart of everything we do, we will deliver strong shareholder returns.

In so doing, we will change perspectives on oil and gas production, making a positive difference by delivering low-emission energy security into the Net Zero transition.

# **OUR MISSION**

Our mission is to be the 'Strength of the North Sea'. We serve today's needs for domestic energy through operating sustainably.

#### Triumph.

We are driven to succeed, to be the Strength of the North Sea, maximising value through the safe, efficient and responsible production of our Group's assets.

#### Together.

We can only succeed if we work together, harnessing the collective expertise and experience of our people and partners.

# **OUR VALUES**

If our mission is the 'what' we aim for, our values are the 'how'. They guide how we work resiliently, collaboratively, openly and considerately.



#### Bring strength

We are resilient, agile and committed. We bring our collective talent, expertise and determination to bear daily.



#### Express yourself

We are empowered to question, sharing the right and responsibility to challenge and to use our voices in pursuit of 'best'.

## Deliver results

We control our destinies by harnessing our ambition and pragmatism to deliver successful outcomes.



#### Be considered

We genuinely care about making a positive impact for our people, shareholders and communities.

# OVERVIEW OF THIS REPORT

We believe in minimising the environmental impact of the Group's operations and by operating in an ever-cleaner manner.

The scope of this environmental report covers Ithaca Energy's operated assets, on the UKCS, for which it is Production Installation Operator and Well Operator. Operated assets tied back to host production facilities i.e. Cook, Alder and Erskine, are not included in this report as emissions from these assets are reported by others. This report does, however, include emissions from the Erskine Normally Unmanned Installation (NUI), associated with maintenance activities only.

Ithaca Energy places environmental responsibility at the core of our operations and is focused on optimising our current portfolio in the short term to reduce our emissions.

This report provides a summary of the initiatives being taken to reduce our emissions, and EMS processes used to identify and address the environmental impact of all aspects of our operations.

Environmental emissions data for each of our operated assets for which we are Production Installation Operator and Well Operator and associated activities is submitted to the UK environmental regulator (OPRED) via the Environmental Emissions Monitoring System (EEMS). A summary of the data reported for 2022 is provided in this report.

### TERMINOLOGY

Ithaca Energy is a licenced well and installation operator under the Offshore Petroleum Licensing (Offshore Safety Directive) Regulations 2015.

Terms used with this report include:

- Operated production assets refers to those assets for which Ithaca Energy is the installation operator
- MODU refers to a Mobile Operated Drilling Unit (drilling rig)
- Alba FSU refers to the Alba Floating Storage Unit
- ANP refers to the Alba Northern Platform
- FPSO refers to the Captain Floating Production, Storage and Offload vessel
- WPP refers to the Captain Wellhead Protector Platform
- BLP refers to the Captain Bridge Linked Platform
- FPF-1 refers to the host facility of the Greater Stella Area
- Acronyms and abbreviations used in the text are described in appendix 1 or on page 25

# 2022 SUMMARY

**482,647 tonnes** Scope 1 CO<sub>2</sub>e emissions from our operated assets

# 678 tonnes

Scope 2 CO<sub>2</sub>e emissions from our office

# 10 mg/l

The average oil in produced water (annual) across our production assets

# 74%

The percentage of our total produced water re-injected rather than discharged

# 62 tonnes

The amount of oil discharged to sea, in compliance with permit conditions

# **63%**

The percentage of production operation waste recycled/reused

Aligned with the North Sea Transition Authority's (NSTA) expectation on the World Bank Zero Routine Flaring Initiative, targeting 2030 deadline

Increased climate transparency through Task Force on Climate-related Financial Disclosures (TCFD) disclosure reporting

#### **OUR LONG TERM COMMITMENTS**

# OUR JOURNEY TO NET ZERO

Ithaca Energy has a sharp focus on emissions reduction with clear targets and the ambition to have one of the lowest carbon emission intensity portfolios in the UK North Sea. In 2022, an Energy Transition team was established to lead the Group's emission reduction activities. We plan to reduce emissions, exceed or align to industry targets, by optimising the performance of our current portfolio in the near-term and fundamentally transitioning the portfolio over the medium to long term.

# 2020

- Reduction in cold flaring on Alba
- Target of 25% reduction in CO<sub>2</sub>e (vs. 2019 baseline) by 2025 established for operated assets
- Emissions Strategic Working Group set up
- Emission reduction white papers developed for all operated assets

# 2022

- Energy Transition team established
- GHG Reduction Policy developed and signed
- Replaced hydrocarbon purging on FPF-1 with nitrogen, significantly reducing methane venting (saving 13 ktCO,e/year)

# 2019

- Ithaca Energy acquired Chevron North Sea assets (increasing operated assets)
- Baseline for operated assets 25% reduction by 2025

# 2021

- Moved to single Gas Turbine Generator (GTG) operation on FPF-1 (saving 11.5k tCO,e/year)
- Restored flare gas recovery on FPF-1 (saving 14.7 ktCO<sub>2</sub>e/year)
- Compression and controls optimisation on Alba, reducing routine flaring (saving 28 ktCO.e/year)
- Replaced a solar turbine on Captain BLP with a larger unit, to generate more power from fuel gas than diesel

# 2023

- Reporting of net equity emissions
  Commenced FEED for Captain flare gas recovery and Captain electrification
- Methane action plan developed

# 2025

Methane intensity reduction 0.20%

# 2040

Target Net Zero on a Scope 1 and 2 net equity basis 2030

Zero routine flaring

# 2026

Target completion of flare gas recovery on Captain

### FOREWORD

# ALAN BRUCE CHIEF EXECUTIVE OFFICER



With a clear focus on decarbonisation and embedded ESG mindset across our operations, Ithaca Energy's ambition is to have one of the lowest carbon intensity portfolios in the UKCS."

2022 was a transformational year for Ithaca Energy, with the completion of three significant acquisitions that cemented the company's position as a leading independent operator in the UK North Sea. With stakes in six of the top ten largest fields in the UKCS, including the two largest undeveloped discoveries, Ithaca Energy now ranks as the second largest independent operator by resources and third by production.

With a clear focus on decarbonisation and embedded ESG mindset across our operations, Ithaca Energy's ambition is to have one of the lowest carbon intensity portfolios in the UKCS. While we recognise that the Energy Transition is a substantial task facing our industry, we are committed to delivering our strategy in a sustainable manner, supported by a well-defined emissions reduction plan with a target of achieving Net Zero by 2040, on a Scope 1 and 2 net equity basis. We acknowledge that societal expectations towards the production of oil and gas are changing with the growing desire to transition from the use of hydrocarbons to renewable energy, but at the same time we also recognise our responsibilities in delivering critical energy security, in an affordable manner, while there is still demand and dependence on oil and gas, as we navigate the energy transition. To help meet these needs we will continue to operate our production assets in a safe, efficient and responsible manner, minimising our impacts on the environment.

Underinvestment in supply for the past several years, combined with robust global demand, has resulted in structural imbalance in commodity markets. While demand for hydrocarbons is predicted to peak at some point in the coming decades, given the extractive nature of the industry, further investment in supply, is required to prevent a proliferation of energy crises. The UK is currently a net importer of both oil and gas, a position which is not likely to change in the next thirty years, highlighting the necessity for oil and gas and its contribution to society to facilitate global trade, transportation, medicines and agriculture.

As an industry we are faced with many challenges associated with a mature basin, complex reservoirs and aging assets. We are at the forefront of our industry's response to investing in a sustainable manner, harnessing our deep operational capabilities, to make continuous incremental operational improvements within our portfolio, no matter how small, to ensure that we reduce the potential impacts on the environment and our emissions footprint. As part of our decarbonisation focus, the company has implemented emissions reduction opportunities across all operated assets, targeting a reduction in our  $CO_2e$  emissions, including the following successful initiatives:

- Reducing the number of gas turbine generators and restoring the flare gas recovery on FPF-1
- Optimising compression and controls on Alba resulting in reduced routine flaring
- Replacement of a Solar turbine on Captain BLP with a larger unit, to generate more power from fuel gas than diesel.

We continued to work towards lowering our emissions in 2022, including:

- Replacement of hydrocarbon purging on FPF-1 with nitrogen, significantly reducing methane venting
- Feasibility studies on flare gas recovery for Alba and Captain
- Pre-FEED study for electrification of Captain.

We have made significant progress in sharpening our decarbonisation focus in 2022. We formalised our plans to significantly reduce emissions, optimising our portfolio in the short-term while seeking to fundamentally transition our portfolio in the medium to long-term. Incremental changes make a difference, and I am thankful to the dedication and commitment of our teams onshore and offshore to drive continuous improvement every day.

ALAN BRUCE Chief Executive Officer

# OUR OPERATIONS

Diverse and high-value portfolio of operated and non-operated assets in the UKCS



AVERAGE 2022 PRODUCTION

Ο

Ο

71.4 KBOE/D

**Operated assets** 

Non-operated assets

## **OUR OPERATIONS** CONTINUED

#### **Overview of operations and activities in 2022**

Ithaca Energy is a leading independent exploration and production company operating in the UK North Sea. In recent years, the Group has been focused on growing its portfolio of assets through both organic investment programmes and acquisitions. Today, the Group owns a high quality, diverse portfolio of operated and non-operated assets consisting of 18 producing field interests, which lie predominantly in the Central North Sea area of the UKCS.

The portfolio is heavily weighted towards operated assets, both in terms of production and reserves, providing the Group with significant control and flexibility over execution of our strategic and operational priorities. It includes eight operated assets:

- Alba, 36.67%
- Alder, 73.7%
- Captain, 85%
- Cook, 61.35%
- Erskine, 50%
- Greater Stella Area (GSA) (contains Stella, Harrier, Abigail, 100%; Vorlich, 34%).

and ten non-operated assets:

- Britannia, 32.38%
- Britannia Satellites (Brodgar, 6.25%; Callanish, 16.5%; Enochdhu, 50%)
- Don Southwest, West Don and Conrie oil fields, 40%
- Elgin/Franklin, 6.09%
- Jade, 19.93%
- Mariner, 8.89%
- Pierce, 7.48%
- Schiehallion, 11.754%.

The scope of this environmental report will cover Ithaca Energy's operated assets only (Captain WPP, Captain FPSO, Alba ANP, Alba FSU, FPF-1 and Erskine).

#### Captain enhanced oil recovery (EOR) project

The full scope of the Captain EOR II project, which was sanctioned in April 2021, covers the drilling of six new subsea polymer injection wells across two new drill centres, and one new production well at an existing drill centre as well as the installation and commissioning of the required subsea infrastructure flowlines and umbilicals connected to the Captain BLP.

During 2022 a significant proportion of the project's offshore work scope was progressed. This included the installation of the process modules, pipework, a flowline and riser caisson and drilling and completion of a first stage II well.

In 2022 an Environmental Statement for the Captain EOR Phase II project was submitted to the regulator, OPRED, for public consultation and statutory stakeholder review.

Development planning activities are also continuing to advance on expansion of the Captain field EOR programme.

#### Decommissioning

In September 2022 the Ithaca Energy-operated Jacky field (100% working interest) topside and jacket was removed for decommissioning using the Heerema 'Thialf' Semi-Submersible Crane Vessel (SSCV). Once removed, the platform structures were transported to Hoondert in the Netherlands for dismantling and recycling. Final decommissioning activities will be completed to remove the remaining subsea equipment, mattresses, pipeline ends/spools and umbilicals which are not buried below the seabed. At the end of the Jacky field decommissioning programme, the seabed will be left clear.



66

Ithaca Energy has a sharp focus on emission reduction with clear targets and the ambition to have one of the lowest carbon emission intensity portfolios in the UK North Sea."

#### **OUR OPERATIONS** CONTINUED

## Our operated assets are located in the Northern and Central North Sea and Moray Firth areas of the UKCS.

## **CAPTAIN**



The Captain field lies approximately 90 miles (145 km) north-east of Aberdeen, Scotland, in the Outer Moray Firth. Captain crude oil is offloaded from the FPSO vessel to a dynamically positioned shuttle tanker and transported to customers. Captain gas is exported (and imported) via subsea pipeline to the Frigg UK Gas Transportation System and then on to St Fergus gas terminal.

Ithaca Energy continues to implement projects designed to sustain production and increase recovery at Captain. Following a successful phase I Enhanced Oil Recovery, the Group sanctioned a second phase of Captain EOR. Phase II of the EOR programme reflects an expansion of the platform-based EOR Phase I project to a focus in the subsea area in the Phase II development.

Through the ongoing EOR project, the Group is driving maximum economic recovery of reserves utilising its proven innovative polymer technology, achieving a more efficient reservoir sweep.





The Alba field lies about 130 miles (210 km) north-east of Aberdeen, Scotland, in the UK Central North Sea, in water depths of approximately 453 feet (138 m).

Discovered in 1984 in Block 16/26, Alba is a heavy oil field and was one of the first shallow Eocene reservoirs to be successfully developed in the North Sea. First oil was achieved in January 1994.

# ERSKINE



The Erskine field lies approximately 150 miles (241 km) north-east of Aberdeen, Scotland, in the Central North Sea, in water depths of about 296 feet (90 m).

Discovered in 1981 in Block 23/26, Erskine is a gas condensate field. First production was achieved in November 1997.

The Erskine NUI is tied back to a host production facility operated by others.

## **GREATER STELLA AREA**



The Ithaca Energy operated GSA is located in the heart of the Central Graben area of the Central North Sea, on the UKCS. It is an area surrounded by various large producing fields, predominantly operated by the Majors, and numerous undeveloped discoveries.

The GSA licences contain the Stella, Harrier, Abigail and Vorlich fields, all of which are in production.

## **ALDER**

Alder is a HPHT gas field tied-back to a host production facility via an advanced 17-mile (28 km) subsea pipeline and a single producing well. The Alder field has been online since 2016.

# СООК

The Cook field lies approximately 105 miles (170 km) north-east of Aberdeen, Scotland, in the UK Central North Sea, in water depths of approximately 301 feet (92 m).

Discovered in 1983, in Block 21/20a, the Cook field is an oil and gas condensate field. First oil from the field was achieved in April 2000. The Cook field is tied back to a host production facility operated by others.

# ENVIRONMENTAL MANAGEMENT SYSTEM

Our EMS processes identify and address the environmental impact of all aspects of our operations, driving continuous improvement in environmental performance and reducing our environmental impact.

Ithaca Energy's priority is to provide a safe and healthy working environment for all its employees, contractors and other personnel working for the Group, while simultaneously minimising the environmental impact of the Group's operations by working to operate in an ever-cleaner manner. The control and management of the environmental matters lies at the centre of the policies and procedures that constitute the health, safety and EMS, and the culture of the business.

Our EMS, certified to ISO 14001:2015 standard, is integrated into our Group Management System. The EMS is designed to implement the Group's Health, Environmental and Safety (HES) Policy, including emissions management and environmental stewardship. Our EMS is used to help provide assurance that we are protecting the environment and meeting our internal and regulatory requirements and obligations. All Ithaca Energy operations and projects have the potential to impact the environment and they are all subject to strict environmental regulatory controls which require Ithaca Energy to prepare and submit regulatory applications to gain approval before activities begin and during the ongoing operational activities.

We monitor and report our ongoing emissions, discharges and waste streams to ensure we meet regulatory requirements and do not cause significant impact on the environment. In the event of an unplanned release/spill to sea, or a non-compliance with regulatory requirements, a notification would be made to the appropriate regulatory authorities and action taken to respond to any threat of or actual pollution. Investigations of incidents are conducted to gain any learnings or actions to prevent recurrence.



### ENVIRONMENTAL MANAGEMENT SYSTEM CONTINUED

#### Relation to management strategy

The HSE Policy demonstrates a commitment to compliance with environmental legislation, and the Group's standards, processes, activities and objectives for environmental management of hydrocarbon exploration and production.

Ithaca Energy has adopted the United Nations' Sustainable Development Goals, responding to the call for action by all countries to promote prosperity while protecting the planet. Our commitment is to have responsible operations that protect ecosystems in which we operate, with emissions management, water, spills and waste as our key focus areas.



Ithaca Energy strives for Industry leading levels of environmental performance. Key to this ambition is our commitment to significantly reducing greenhouse gas emissions (GHG) from all our operations in line with the global transition to a low-carbon economy and the UK's Net Zero targets. As part of our commitment to emissions reduction and sustainability, Ithaca Energy has set an ambitious short term goal of reducing all our Scope 1 and 2 CO<sub>2</sub> and CO<sub>2</sub> equivalent emissions by 25% from 2019 levels by 2025 for its operated assets.

Each asset has developed and will maintain an emissions reduction action plan (ERAP) in line with the North Sea Transition Authority's (NSTA) Stewardship Expectation 11. These actions plans will detail Ithaca Energy's strategies for reducing methane, flaring and venting, as well as a portfolio of opportunities to reduce emissions through operational and physical changes to the installations. In the medium term the Group has committed to meeting targets in line with the North Sea Transition Deal (NSTD) for its equity share emissions for all owned assets, including 50% reduction in CO<sub>2</sub>e by 2030. This will be achieved through a strategic transition to new development assets such as Cambo and Rosebank. In the longer term, we are targeting achieving Net Zero by 2040, ten years ahead of the NSTD. To meet this commitment, we will consistently apply our EMS, including the improvement processes, to deliver positive impact across all our assets.

#### **Our emissions reduction initiatives**

In 2022, we have focused on progressing the following emissions reduction initiatives:

 Switched away from using hydrocarbon based blanket gas within storage vessels on the FPF-1 asset to using nitrogen as blanket gas, thus avoiding hydrocarbons being vented to the atmosphere when purging the blanket gas

- Conducted engineering studies, trials and implementation of new processes enabling the FPF-1 asset to be operated using a single gas turbine generator rather than past practice of using two gas turbine generators for regular operations
- Completed feasibility studies for flare gas recovery on Alba and Captain
- Completed feasibility studies for Captain electrification
- Commenced pre-FEED engineering design activities on electrification and flare gas recovery projects
- Participated actively in industry workgroups exploring regional offshore electrification hubs which have the potential to deliver emissions reductions by facilitating electrification of some of Ithaca Energy's operated and non-operated assets.

#### **OUR EMISSIONS PLAN**

Plan to significantly reduce emissions by optimising our current portfolio in the short term and fundamentally transitioning the portfolio over the medium to long term.

## SHORT TERM

# Operational improvements within the current portfolio

Significant progress made towards 2025 operated assets CO<sub>2</sub>e reduction target.

#### Captain

- Planning for flare gas recovery
- Exploring electrification options.

#### FPF-1

- Flare gas recovery
- Reduced hydrocarbon purging.

### **MEDIUM TERM**

**Significant shift to lower emission-intensity assets** New developments expected to be 65-80% lower emissions intensity than current UKCS average.

#### Rosebank

Partial electrification, 3.3 kg CO<sub>2</sub>e/boe.

#### Cambo

Partial electrification, 3.7 kg CO<sub>2</sub>e/boe.

## LONG TERM

Adoption of low carbon power and carbon offsets

Target Net Zero by 2040, on a Scope 1 and 2 net equity basis – ten years ahead of NSTD commitments.

# ENVIRONMENTAL GOALS AND OBJECTIVES

#### **Policy Statements**

Our HES Policy and Greenhouse Gas Emissions Policy are both endorsed by the Chief Executive Officer of Ithaca Energy on behalf of the Board of Directors. The HES Policy, along with our Company Management System, sets out our commitment to assess and manage the risks and impacts associated with our operations; and a commitment to comply with legislative requirements and corporate policies.

#### **HES Policy and Company Management System commitment**

It is the vision of Ithaca Energy plc, its affiliates, and subsidiaries (the 'Company') to be the highest performing UK North Sea independent oil and gas company, focused on sustainably growing value. We strive to be leaders in terms of process safety; occupational health and safety; environmental responsibility; and asset reliability and efficiency.

#### We aim to:

- · Identify and reduce the risk from major accident hazards including process safety and environmental risks
- Always be in control of work, taking time to reassess when conditions change
- Understand the impact of errors and put in place barriers to mitigate the consequences
- Promote a healthy workplace and mitigate significant health risks
- Ensuring continual improvement in all aspects of our business.

#### **Greenhouse Gas Emissions Policy**

Ithaca Energy plc, its affiliates, and subsidiaries (the Company) strives for Industry leading levels of environmental performance. Key to this ambition is our commitment to significantly reducing GHG emissions from our operations in line with the global transition to a low carbon economy and the UK Government's Net Zero targets.

#### Our targets:

- Reduce all our Scope 1 and 2 CO, and CO, equivalent emissions of operated assets by 25% from 2019 levels in 2025
- Achieve 0.20% methane intensity by 2025
- Zero Routine Flaring by 2030
- Net Zero by 2040.

-> See our website to read the full policy statements: https://www.ithacaenergy.com/esg

# OUR ENVIRONMENTAL PERFORMANCE

Ithaca Energy is committed to continually improving environmental performance through responsible design, development and operations. We record and monitor our environmental data in line with regulatory reporting requirements and comply with obligations to report our environmental performances via the EEMS defined in the introduction of this report.

#### **Improvement plan 2023**

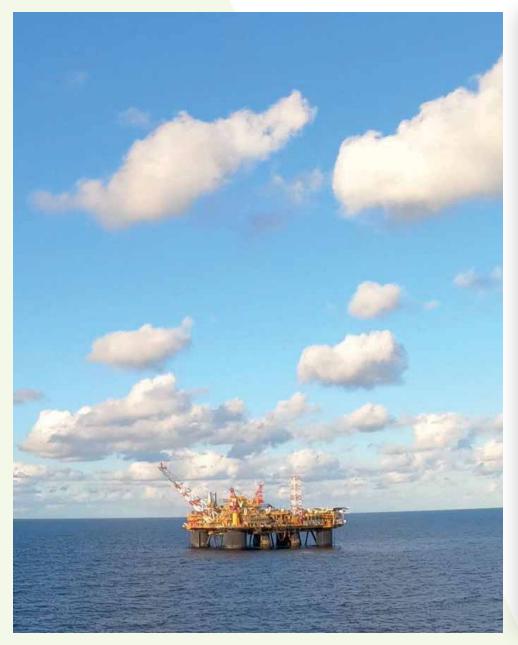
Ithaca Energy has put in place an environmental improvement plan focusing on several key areas:

- Increasing awareness of environmental compliance: ensure colleagues fully understand spill definitions, the risk to the environment and the implications of non-compliance. This learning will be specifically targeted to deliver asset and permit-specific training
- Reviewing risk processes: giving the environment a higher priority in terms of permits and protection
- Control of work and work-site risk controls: standardising handover processes and reviewing control measures for well activity
- Check assurance: part of 'Plan, Do, Check, Act', aligned with the externally accredited Environmental Standard 140001.



\* Oil in produced water.

### OUR ENVIRONMENTAL PERFORMANCE CONTINUED



#### **ATMOSPHERIC EMISSIONS**

Ithaca Energy releases Scope 1 atmospheric emissions primarily through combustion activities (i.e. combustion of fuel gas and diesel for power generation, compression and heat, and routine and non-routine flaring) on its offshore assets. We are also responsible for the direct emissions of hydrocarbons via venting, episodes of unlit flaring and fugitive emissions, and for the emissions of halogen gasses (F-gases) from refrigeration units and heating, ventilation, and air conditioning (HVAC).

Ithaca Energy has reports on all emission sources within its operational control required under the Companies Act 2006 (Strategic Report and Directors' Report) Regulations 2013, and The Companies (Directors' Report) and Limited Liability Partnerships (Energy and Carbon Report) Regulations 2018. Ithaca Energy uses the principles of the GHG Protocol Corporate Accounting and Reporting Standard (revised edition), and data gathered to fulfil the requirements under the Environmental Reporting Guidelines including Streamlined Energy and Carbon Reporting guidance March 2019. We monitor and compile our emissions in line with regulatory reporting for the UK Emissions Trading Scheme (UK ETS) and for EEMS.

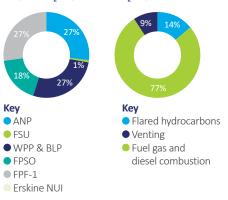
The figures in the following sections represent our environmental performance across all our operated assets: Captain WPP and BLP, Captain FPSO, Alba Northern Platform (ANP), Alba FSU, Stella FPF-1, and Erskine NUI.

#### Carbon dioxide equivalent emissions

To demonstrate and understand the full impact of our operations, and to be able to monitor progress towards our GHG targets, we quantify all our emissions in tonnes of carbon dioxide equivalent  $(tCO_2e)$ . Carbon dioxide equivalent or  $CO_2e$  is a metric measure used to compare the emissions from various GHGs on the basis of their Global Warming Potential (GWP), by converting amounts of other pollutant gases released to the equivalent amount of carbon dioxide with the same GWP. Ithaca Energy uses the IPPC AR4 list of GWP factors for this conversion. Gases included in our CO<sub>2</sub> e emissions are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O).

In 2022, our total Scope 1 CO<sub>2</sub>e emissions from our operated assets was 482,647 tonnes. The figure below shows the break down of CO<sub>2</sub>e emissions by asset. Emissions associated with the processing of fluids at installations where Ithaca Energy is not the operator, are not included in this figure. The emissions from the processing of the Cook and Alder fields are reported by the operators of the host facilities. Emissions from the Erskine NUI are included in the breakdown, but the emissions associated with the processing of the fluids are reported by the operator of the host facility.

Scope 1 CO,e by asset CO,e by source



#### OUR ENVIRONMENTAL PERFORMANCE CONTINUED

77% (373,235 tonnes) of our emissions come from the combustion of fuels for energy, this includes the combustion of diesel and fuel gas for electricity generation, gas compression and process heating required on our assets. Wherever possible, Ithaca Energy preferentially uses fuel gas for electricity generation in order to minimise emissions from combustion, reduce flaring, and minimise emissions associated with the transport of diesel to our assets.

The second largest source of emissions is flaring, which occurs on four out of our six operated assets and accounted for 14% (67,608 tonnes) of our Scope 1 emissions. The remaining 9% (41,135 tonnes) of our emissions arise from venting. Sources of vent on our assets include unlit flaring, oil cargo loading, purging, and process vents such as those on glycol systems.

A nitrogen purge project was completed on FPF-1 in December 2022, three months ahead of target. This project involved replacing the vent purge gas from fuel gas to nitrogen. This project will reduce emissions from venting by 74% in 2023.

Ithaca Energy also understands the importance of the emissions intensity of its operations. We quantify this in kilograms of carbon dioxide equivalent per barrel of oil equivalent exported to pipeline (kgCO<sub>2</sub>e/boe). The emissions intensity of our operation allows us to understand the impact of our operations compared to our production output. The overall Ithaca Energy emissions intensity in 2022 was 23.8 kgCO<sub>2</sub>e/boe.

#### **Emissions intensity**

Field	kgCO <sub>2</sub> e/boe
Total	23.8

#### Other atmospheric pollutants

Emissions of carbon dioxide ( $CO_2$ ) accounted for 87% (406,396 tonnes) of our total  $CO_2$  e emissions in 2022, with the remainder made up of other pollutants produced through the incomplete combustion of fuels, and from the venting of hydrocarbon gas via process or oil loading vents. In addition to  $CO_2$  emissions the other atmospheric emissions that are measured are summarised in the table below.

# Total atmospheric pollutants from all operated assets

Pollutant	Tonnes
NO <sub>x</sub>	1,750
N <sub>2</sub> O	30
SO <sub>2</sub>	143
СО	456
CH <sub>4</sub>	2,142
VOC	190

### PERMITTED OIL<sup>\*</sup> DISCHARGES TO SEA

The extraction of oil and gas results in the production of 'produced water' containing dispersed hydrocarbons, some naturally occurring materials, and residues of the chemicals used in the extraction and production processes. Ithaca Energy assets have processes in place to minimise the concentrations of oil in water before fluids are either re-injected into the reservoir or discharged to sea. Produced water management on Ithaca Energy assets meets or exceeds the requirements set out in the Offshore Petroleum Activities (Oil Pollution Prevention and Control) Regulations 2005 (OPPC).

Produced water from Alba and FPF-1 is treated to reduce the concentration of the residual oil before it is discharged to sea so that OPPC permit conditions are met. This activity is regulated under the provisions of a permit issued by the environmental regulator OPRED. Produced water handling remains a key challenge at the Alba field as the volume of water co-produced with the oil is rising as the field matures.

At the Captain field, all produced water is reinjected back into the reservoir with no produced water discharged to sea. Erskine produced fluids are exported and processed on a host installation and produced water is discharged and reported from this location under the provisions of a discharge permit issued to the operator of the host installation. Similarly, the Alder field is tied back to a host installation, with any water produced from the field discharged in accordance with the discharge permit. Produced water discharge from the Cook field is managed by the operator of the host facility.

In 2022, Ithaca Energy's oil and gas extraction activities resulted in total produced water (combined total water discharged and produced water re-injected) of 24,450,854 tonnes. More than 74% of this (18.2 million tonnes) was reinjected at the Captain field, where no produced fluids are discharged to sea. The remaining 6.2 million tonnes were discharged to sea at the Alba Northern Platform, the Alba FSU, and the Stella FPF-1. Produced oil and water discharges are summarised below.

total produced water (tonnes) 24,450,854

TOTAL PRODUCED WATER RE-INJECTED (TONNES)

18,244,584

**TOTAL PRODUCED WATER DISCHARGED (TONNES)** 

6,206,271

	Total water discharged (t)	Total oil discharged (t)	Average oil in water concentration (mg/L)
Alba NP	6,136,764	60.9	10
Alba FSU	2,588	0.1	24
FPF-1	66,918	0.9	13
Total	6,206,271	61.8	10

	Total water re-injected (t)	Total oil re-injected (t)
Captain WPP	18,244,584	21,492

\* Oil in produced water.

#### ENVIRONMENTAL PERFORMANCE CONTINUED

### PERMITTED CHEMICAL USE<sup>\*</sup> AND CHEMICAL DISCHARGE<sup>\*\*</sup>

Chemicals are an essential requirement in drilling and production operations with many different types being used. These chemicals are primarily used to control corrosion, inhibit bacterial growth, assist with the production process, and assist with the drilling process. Due to the nature of these processes some discharge of chemicals to the sea will occur. Chemical use and discharge is strictly regulated under the Offshore Chemical Regulations 2002 (as amended) and a permit is required before any use or discharge to sea of a production or drilling chemical can take place.

In 2022, Ithaca Energy was permitted to discharge 23,980 tonnes of chemicals across all operations. However, less than half (46%, 10,943 tonnes) of these chemicals were actually discharged. Of the 10,943 tonnes of the overall permitted chemical discharges, platform and MODU drilling operations accounted for the largest proportion, with 6,484 tonnes of associated chemicals being discharged. Well workover operations resulted in 3,519 tonnes of permitted discharges, followed by production operations (928 tonnes) and pipeline operations (12 tonnes). Approximately 5% of production chemicals used were discharged to sea, most of which were low hazard – that is chemicals classed E or banded Gold under the regulated Offshore Chemical Notification Scheme.

Ithaca Energy continues to focus on replacement of higher hazard chemicals with less hazardous substitutes where this is technically feasible.

All chemical use and discharge is subject to strict regulatory controls and are managed in accordance with internal procedures and processes.

#### WASTE

Ithaca Energy's offshore operations produce a variety of waste streams which include packaging, scrap metal and redundant chemicals. Ithaca Energy works actively to reduce the amount of waste that it produces and to reuse or recycle what remains. Improvements in the proportion of recycled or reused waste have been identified with, for example, wooden storage pallets are used for chipboard and plastic drums are shredded for recycling and reuse. Waste which is not reused, recycled or sent for energy production is sent to landfill.

Ithaca Energy works with our waste management contractors to continuously improve waste management and minimise landfill volumes. In 2022, our production assets produced a total of 3,020 tonnes of waste. 1,898 tonnes (63%) of this waste was either recycled, reused or sent for energy production. A breakdown of waste produced per asset is provided in the table below.

Production asset	Total waste (tonnes)
ANP	349
FSU	145
WPP	1,901
FPSO	281
Erskine	20
FPF-1	324

#### **UNPLANNED RELEASES**

In accordance with regulatory requirements all unplanned accidental releases of oil or chemicals to sea, regardless of quantity, must be reported on a Petroleum Operations Notice No.1 (PON1). Our performance with regard to events reported to the regulator as spills (PON1s) are shown in the graphic below and are seen as an area of focus and improvement for the Group.

#### Number of PON1 reportable incidents 2022

PON1 Hydrocarbon

Releases >2 tonnes

PON1 Chemical

In 2022, Ithaca Energy had 22 unplanned releases from offshore installations. The majority (thirteen) of these releases were hydrocarbons, such as hydraulic oil, from equipment or tool failures, or releases from drains or deck wash activities. All of the unplanned releases of oil to sea were less than 0.03 tonnes. The remaining nine releases were chemical spills from various sources. Three of the nine chemical release were >2 tonnes. Further information on the releases >2 tonnes are shown below:

PON1 reference	Quantity (tonnes)	Chemical	Description	Location
IRS/2022/619/PON1	48.9	Sodium Chloride Brine	Brine release from well surface casing	Captain WPP/BLP
IRS/2022/1114/PON1	18.5	Water Based Mud	High level overflow	Captain WPP/BLP
IRS/2022/1457/PON1	2.2	Oceanic HW540 E	Subsea hydraulic fluid release	Captain WPP/BLP



\* Any intentional application of a chemical in the carrying out of offshore activities under normal operating conditions.

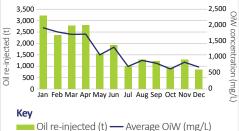
\*\* Discharge relates to any intentional emission of the chemical, or any of its degradation or transformation products, from an offshore installation to sea.

# CAPTAIN WPP

## PERMITTED OIL DISCHARGES TO SEA

There is no produced water discharged to sea on Captain as it is 100% re-injected. On Captain WPP there was a downward trend in 2022 in both the amount of oil re-injected and the average oil in water concentration. The reduction in injection water oil in water (OiW) was due to the application of a trial water clarifier mid year and then continuous application from July 2022.

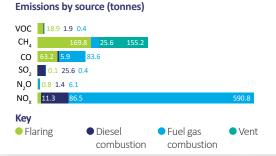
#### Monthly oil re-injection



Platform drilling activity on the Captain WPP during 2022 accounted for an additional 2,013 tonnes of well intervention and well dean up fluids discharged to sea (0.27 tonnes of dispersed oil in fluids discharged).

Oil	Water	Quantity of produced
discharged	discharged	water re-injected
(t)	(t)	(t)
0.27	2013	18,244,584

# ATMOSPHERIC EMISSIONS



Tonnes of permitted chemicals

1.513

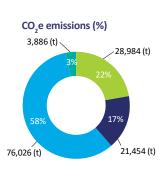
108

128

9,332

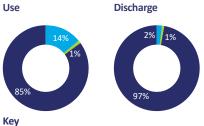
4,652

41



## PERMITTED CHEMICAL USE AND DISCHARGE

In 2022, a total of 10,974 tonnes of chemicals were used on Captain WPP and 4,801 tonnes discharged within permit conditions. The majority (85%) of chemicals used were associated with platform drilling, with 97% of chemicals discharged associated with the same activity.





• Well interventions

• Platform drilling

Chemicals discharged
Well interventions
Chemicals used
Chemicals discharged
Platform drilling
Chemicals used
Chemicals discharged

Chemicals discharged

Production

Chemicals used

## WASTE

In 2022, activity on Captain WPP intensified with the execution of offshore work scope associated with Phase II of the EOR programme. Activities included installation of process modules, pipework, flow line, riser caisson and the drilling and completion of the first stage II well. The additional activity during this time resulted in an increase in the amount of waste generated and as such Captain WPP accounts for the largest proportion of overall waste produced across the assets. However, of the total 1,901 tonnes of waste produced, 891 tonnes was recycled and 91 tonnes was sent for energy production.

#### Waste disposal routes



#### **UNPLANNED RELEASES**

Of the seven chemical releases, five originated from the WPP and two from subsea manifolds. Two of the hydrocarbon releases originated from the Captain BLP and one from the WPP.

Reportable inc	idents
Unplanned hydrocarbon release	3
Unplanned chemical release	7

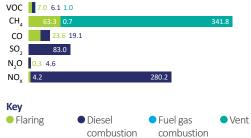
#### ENVIRONMENTAL PERFORMANCE CONTINUED

# CAPTAIN FPSO

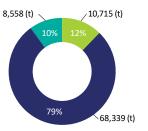


#### **ATMOSPHERIC EMISSIONS**





#### CO, e emissions (%)



### PERMITTED CHEMICAL USE AND DISCHARGE

Since 1998, all water produced from Ithaca Energy's Captain field reservoir has been used either as re-injection water for reservoir pressure maintenance or as power water for downhole hydraulic pumps. As a result, chemical discharges at this field are minimal. In 2022, 15,500 tonnes of chemicals were used on the Captain FPSO. A large proportion of the chemicals was due to Polymer injection which was used to increase Captain reserves. There was no discharge of this chemical.

Tonnes of permitted chemicals	
Production	
Chemicals used	15,500
Chemicals discharg	ed 10

## WASTE

In 2022, the Captain FPSO produced a total of 281 tonnes of waste, 79% (222 tonnes) of which was recycled/sent for energy production.

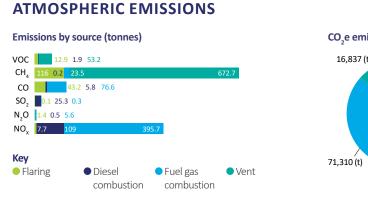
#### Waste disposal routes

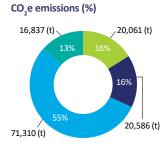


#### UNPLANNED RELEASES

Report	table incidents
Unplanned hydrocarbon release	0
Unplanned chemical release	0

# ALBA NORTHERN PLATFORM (ANP)





### WASTE

In 2022, the ANP produced a total of 349 tonnes of waste, 282 tonnes of which was recycled/ sent for energy production; representing 81% of the total.

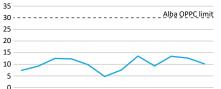
#### Waste disposal routes



## PERMITTED OIL DISCHARGES TO SEA

In 2022, the ANP discharged a total of 6,136,764 tonnes of produced water. Produced water discharge on ANP remained within the monthly average limit of 30mg/l during 2022, and the cumulative oil discharged (60.9 tonnes) was within the permitted limit of 110.95 tonnes.

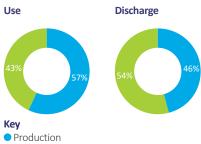
#### Monthly oil in water performance



Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

## PERMITTED CHEMICAL USE AND DISCHARGE

In 2022, a total of 1,580 tonnes of chemicals were used on the ANP and 1,109 tonnes discharged within permit conditions. Chemicals used during production operations were slightly higher than those used during well intervention work; whereas the amount of chemicals discharged during well interventions was marginally higher than production operations.



Well interventions

Tonnes of permitted chemicals
899
515
681
595



#### UNPLANNED RELEASES

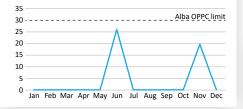
	Reportable i	ncidents
Unplanned hy	/drocarbon release	1
Unplanned ch	nemical release	0

# ALBA FSU

## PERMITTED OIL DISCHARGES TO SEA

In 2022, the FSU discharged a total of 2,588 tonnes of produced water. Produced water discharge on the Alba FSU remained within the monthly average limit of 30mg/l during 2022, and the cumulative oil in water discharged (0.061 tonnes) was within the permitted limit of 0.90 tonnes. Produced water discharges at the FSU are undertaken in batches this accounts for the spikes in the data as illustrated in the graph below.

#### Monthly oil in water performance



#### WASTE

In 2022, the FSU produced a total of 145 tonnes of waste, 115 tonnes of which was recycled/sent for energy production; representing 80% of the total.

#### Waste disposal routes





### PERMITTED CHEMICAL USE AND DISCHARGE

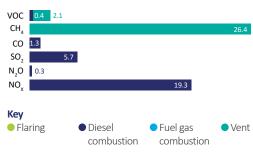
	Tonnes of permitted chemical	s
Production		
Chemicals used	1	L
Chemicals dischar	ged 14	1

UNPLANNED RELEASES

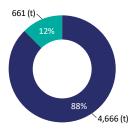
Reportable in	cidents
Unplanned hydrocarbon release	0
Unplanned chemical release	0

## **ATMOSPHERIC EMISSIONS**

#### Emissions by source (tonnes)

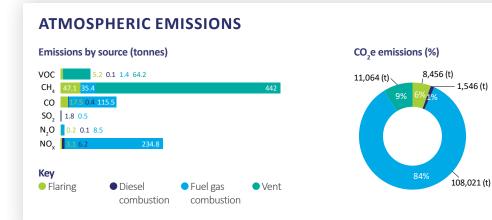


#### CO<sub>2</sub>e emissions (%)



## ENVIRONMENTAL PERFORMANCE CONTINUED

# FPF-1



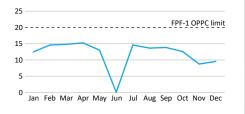


## PERMITTED OIL **DISCHARGES TO SEA**

In 2022, the FPF-1 discharged a total of 66,918 tonnes of produced water. Produced water discharge on the FPF-1 platform remained within the monthly average limit of 20mg/l during 2022, and the cumulative oil in water discharged (0.864 tonnes) was within the permitted limit of 1.94 tonnes. During mid year there were no produced water discharges from FPF-1 as the facility was shutdown due to scheduled maintenance (known as a TAR (turnaround activity); allowing for essential maintenance to be undertaken).

#### Monthly oil in water performance (mg/l)

1,546 (t)



## PERMITTED CHEMICAL **USE AND DISCHARGE**

Tonnes of	permitted chemicals
Production	
Chemicals used	359
Chemicals discharged	282

#### **UNPLANNED RELEASES**

Of the five hydrocarbon releases, one was a subsea release from the main drill centre with the remaining four from the FPF-1 production platform.

Reportable in	cidents
Unplanned hydrocarbon release	5
Unplanned chemical release	1

## WASTE

Of all Ithaca Energy's production assets, FPF-1 had the highest percentage (87%) of waste that was recycled/sent for energy production. In 2022, FPF-1 produced a total of 324 tonnes of waste, 231 tonnes of which was recycled and 51 tonnes sent for energy production.

#### Waste disposal routes



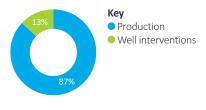
# ERSKINE

## PERMITTED CHEMICAL USE AND DISCHARGE

In 2022, a total of 161 tonnes of chemicals were used on Erskine; the majority (87%) of which were associated with production. No chemicals were discharged from Erskine. As Erskine produced fluids are exported and processed on the host installation chemicals used during production are discharged and reported from this location under the provisions of a chemical permit issued to operator of the host facility.

Tonnes of permitted o	chemicals
Production	
Chemicals used	140
Chemicals discharged	0
Well interventions	
Chemicals used	21
Chemicals discharged	0

#### Chemical use



### **ATMOSPHERIC EMISSIONS**

#### Emissions by source (tonnes)

Erskine produces the least amount of waste across all of Ithaca Energy's assets with 20 tonnes of waste produced in 2022. 77% (15 tonnes) waste recycled/sent for

Key

Recycling

• Landfill

Waste to energy

CO,	525.5 0.14
CH <sub>4</sub> 0.15 5.16	
N <sub>2</sub> O 0.04	
Atmospheric emissions from Erskine represent less	
than 1% (0.14%) of our total operated emissions.	

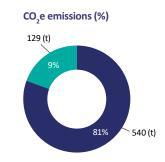
#### Key

WASTE

energy production.

Waste disposal routes

Flaring
 Diesel
 Combustion
 Combustion
 Combustion



### **UNPLANNED RELEASES**

Reportable inc	idents
Unplanned hydrocarbon release	0
Unplanned chemical release	0



# DRILLING – MODU

## PERMITTED OIL DISCHARGES TO SEA

Drilling activity on the MODU during 2022 accounted for an additional 899 tonnes of well intervention, well clean up and well testing fluids discharged to sea (0.01 tonnes of dispersed oil in fluids discharged).

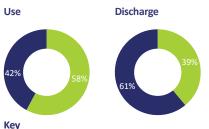
Oil discharged (t)	Water discharged (t)
0.01	921
•••••••••••••••••••••••••••••••••••••••	

## **UNPLANNED EVENTS**

Reportable inci	dents
Unplanned hydrocarbon release	1
Unplanned chemical release	1

## PERMITTED CHEMICAL USE AND DISCHARGE

In 2022, the MODU used a total of 8,337 tonnes of chemicals, with 58% being used for drilling operations in comparison with 42% for well interventions. A total of 4,716 tonnes of chemicals were discharged, the majority (61%) of which were associated with well interventions, compared to 39% associated with drilling.



Well interventionsPlatform drilling

	Tonnes of permitted chemicals
Platform drilling	
Chemicals used	4,805
Chemicals discharged	1,833
Well interventions	
Chemicals used	3,532
Chemicals discharged	2,883

### WASTE

In 2022, the MODU undertook drilling activity associated with Abigail, Captain EOR and Athena. Specifically, the MODU arrived at the Captain field and completed the suspension of one well and the drilling of a new production well. In addition, the MODU was involved in drilling production wells associated with the Abigail field development, which ties back to FPF-1 and the decommissioning of subsea wells at Athena.

A total of 3,572 tonnes of waste was produced. The majority (2,357 tonnes) of the waste produced was miscellaneous special waste (e.g. oily water, mud sludge, oily hoses, chemical sacs), waste mud and drill cuttings, none of which can be reused/recycled. However, 1,215 tonnes (34%) of which was recycled/sent for energy production.

#### Waste disposal routes





# PIPELINES AND DECOMMISSIONING

## WASTE

#### Anglia

In addition to waste from production assets, waste was also produced from decommissioning activities.

In 2022, decommissioning of the Anglia platform wells commenced. This activity resulted in 0.14 tonnes of waste, 100% of which was recycled/sent for energy production.

Waste from platform	wells decommissioning (tonnes)
Anglia	0.14

## UNPLANNED RELEASES

Decommissioning (Anglia)

Reportable i	incidents		
Unplanned hydrocarbon release	2		
Unplanned chemical release	0		
Other – subsea release at Cook			

Reportable inc	idents
Unplanned hydrocarbon release	1
Unplanned chemical release	0

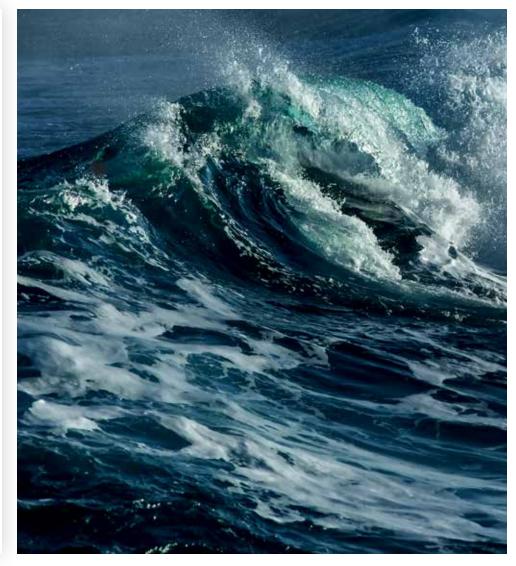
### PERMITTED CHEMICAL USE AND DISCHARGE – PIPELINE OPERATIONS

Chemicals used and discharged during pipeline operations (Abigail and Captain EOR) represented the lowest amount in comparison with other operated activity.

Toni	nes of permitted chemicals
Production	
Chemicals used	42
Chemicals discharged	12

# 2022 Chemical use and discharge during pipeline operations





## ENVIRONMENTAL PERFORMANCE CONTINUED

#### 2022 Chemical use and discharge (detailed)

Facility/Operation	kg	А	В	С	D	E	Orange	Blue	White	Silver	Gold	Total (kg)
Alba Floating Storage Unit (FSU) Production	Used	0	0	0	0	0	0	0	0	0	727	727
Operations	Discharged	0	0	0	0	0	0	0	0	0	14,187	14,187
Alba Northern Platform (ANP) Production	Used	0	0	0	7,979	143,439	0	44,889	0	20,309	682,367	898,983
Operations	Discharged	0	0	0	7,979	143,439	0	273	0	20,309	342,562	514,562
Alba Northern Platform (ANP) Well interventions	Used		0	0	0	376,148	0	0	0	0	305,304	681,452
	Discharged	0	0	0	0	376,148	0	0	0	0	218,572	594,720
Captain FPSO Production Operations	Used	35,850	0	0	0	8,052	0	0	26,560	11,802,730	3,627,194	15,500,386*
	Discharged	0	0	0	0	8,052	0	0	0	0	1,505	9,556
Captain Wellhead Protector Platform (WPP)	Used	30,986	0	0	71,604	30,550	0	0	2,033	89,661	1,288,224	1,513,058
Production Operations	Discharged	0	0	0	71,604	30,510	0	0	0	0	5,891	108,004
Captain Wellhead Protector Platform (WPP)	Used	0	0	0	0	124,671	0	0	0	0	3,634	128,305
Well interventions	Discharged	0	0	0	0	39,707	0	0	0	0	1,544	41,251
Captain Wellhead Protector Platform (WPP)	Used	0	25	0	25	8,630,938	0	0	0	51,750	649,522	9,332,260
Platform Drilling Operations	Discharged	0	0	0	3	4,187,933	0	0	0	8,050	455,552	4,651,538
MODU Drilling Operations	Used	8,550	3,010	9,264	16,348	4,490,103	0	0	0	0	277,632	4,804,907
	Discharged	0	0	3,614	7,348	1,687,266	0	0	0	0	134,684	1,832,912
MODU Well interventions	Used	0	0	10,099	14,895	3,456,599	0	0	0	0	50,436	3,532,028
(Captain EOR & Athena)	Discharged	0	0	10,099	14,852	2,820,665	0	0	0	0	37,776	2,883,391
Erskine Production Operations	Used	0	0	0	0	19,051	0	0	0	0	120,817	139,868
	Discharged	0	0	0	0	0	0	0	0	0	21	21
Erskine Well interventions	Used	0	0	0	0	348	0	0	0	18,750	2,045	21,143
	Discharged	0	0	0	0	0	0	0	0	0	0	0
Pipeline Operations	Used	0	1,000	670	13	31,541	0	0	0	0	8,807	42,031
	Discharged	0	0	17	0	11,095	0	0	0	0	396	11,508
Stella FPF-1 Production Operations	Used	6	4,097	0	0	123,971	0	0	0	0	231,044	359,118
	Discharged	6	4,097	0	0	123,971	0	0	0	0	153,585	281,659
Tatal	Used	75,391	8,132	20,033	110,864	17,435,410	0	44,889	28,593	11,983,200	7,247,753	36,954,265
Total	Discharged	6	4,097	13,730	101,786	9,428,785	0	273	0	28,359	1,366,274	10,943,310

\* A large proportion of the chemical use was due to Polymer injection used to increase reserves.

The Offshore Chemical Notification Scheme (U.K.) (OCNS) conducts Chemical Hazard and Risk Management (CHARM) assessments on chemical products that are used offshore. They use colour banding to risk rank each product, with Gold products posing the lowest potential hazard and, on the table above, Orange being the highest risk. Products not applicable to the CHARM model (i.e. inorganic substances, hydraulic fluids or chemicals used only in pipelines) are assigned an OCNS grouping, A – E. Group A includes products considered to have the greatest potential environmental hazard and Group E the least.

## **APPENDIX 1: ABBREVIATIONS AND TERMINOLOGY**

ANP	Alba Northern Platform
BLP	Bridge Linked Platform
BOE	Barrels of oil equivalent
CH <sub>4</sub>	Methane
СО	Carbon monoxide
CO <sub>2</sub>	Carbon dioxide
CO <sub>2</sub> e	Carbon dioxide equivalent
EEMS	Environmental Emissions Monitoring System
F-gases	Halogen gasses
FPSO	Floating Production, Storage and Offload vessel
FSU	Floating Storage Unit
GBA	Greater Britannia Area
GHG	Greenhouse gas
GSA	Greater Stella Area
GWP	Global Warming Potential – A measure of how much a given mass of gas is estimated to contribute to global warming, relative to the same mass of carbon dioxide.
HES	Health, Environment and Safety
НРНТ	High Pressure High Temperature
HVAC	Heating, ventilation, and air conditioning
ISO14001	International Standard for Environmental Management Systems
kg	Kilogram
mg/l	Milligrams per litre
N <sub>2</sub> O	Nitrous oxide
NO <sub>x</sub>	Nitrous oxide
NSTA	North Sea Transition Authority

NUI	Normally Unmanned Installation						
OiW	Oil in Produced Water						
OPPC	The Offshore Petroleum Activities (Oil Pollution and Control) Regulations 2005						
OPRED	Offshore Petroleum Regulator for Environment and Decommissioning						
OSPAR	Oslo Paris Convention for the Protection of the Marine Environment of th North-East Atlantic						
Scope 1 Atmospheric Emissions	Direct GHG emissions that the Company makes directly, e.g. fuel combustion						
Scope 2 Atmospheric Emmissions	GHG emissions that the Company makes indirectly e.g. office energy use						
SO <sub>2</sub>	Sulphur dioxide						
TAR	Turnaround activity						
TCFD	Task Force on Climate-related Financial Disclosures						
t	Tonnes						
UK	United Kingdom						
UKCS	United Kingdom Continental Shelf						
UK ETS	United Kingdom Emissions Trading Scheme						
Venting	The discharge of un-burnt, unwanted gases or hydrocarbons.						
VOCs	Volatile Organic Compounds						
Well intervention	The monitoring of wells to ensure that technical integrity is maintained is standard oil industry practice. A well intervention may be required to investigate and remediate any anomalies in the well e.g. flow assurance issues such as scale build-up, hydrate formation or well integrity anomalie						
WPP	Wellhead Protector Platform						

#### **APPENDIX 2: ONSHORE INITIATIVES**

# OFFICE REFURBISHMENT

#### **Office refurbishment**

In 2022 Ithaca Energy completed the refurbishment of its office in Aberdeen. The office was designed to create a sense of community and a welcoming workplace that would keep employees engaged. Environmental sustainability was a critical driver in the decision making process with a mix of reused materials and new ecologically reliable elements being used. For example, new carpet tiles made from a biocomposite with a net carbon negative backing were selected. The manufacturer of these tiles also agreed to take back the product at the end of its life so it can be recycled entirely. Many of the office items were also reused, including the re-upholstering of some storage units and the ceiling tiles which were stripped out, stored carefully, cleaned and placed back within a new grid. All AV equipment was replaced with a new energy efficient type. Redundant equipment was either recycled and re-purposed by charitable bodies or sent for recycling. Ithaca Energy continues to improve its office environment and plans to install solar panels on the office roof in 2023.

# Strengthening environmental presence and support

In 2022 Ithaca Energy contracted Compass Group to provide facilities support for all offshore production assets and onshore office facilities. Various initiatives have been launched by Compass Group to help them reach their emission reduction targets and ultimately reach climate Net Zero by 2030. One such initiative was the launch of a Climate Net Zero Toolkit designed to enable users to contribute to and support Compass Group's Net Zero journey. This toolkit has been distributed to all Ithaca Energy operated assets. In 2022 Ithaca Energy strengthened its environmental support team with five full time environmental advisors and an environmental team lead in place. The environmental team is a core part of our business providing essential support to operations, drilling, projects and decommissioning. Key responsibilities include environmental permitting and compliance, emissions monitoring and promoting good environmental practice. Maintaining a strong working relationship with industry's key regulatory stakeholders is also a key strength and focus area for the onshore environmental team.

In addition Ithaca Energy strengthened its environmental presence offshore with HES Advisors (working back to back) assigned to each offshore production asset. Each offshore HES Advisor works closely with their respective onshore environmental advisor to identify key issues and drive forward improvements. For example, in August 2022 the onshore environmental advisors worked with colleagues offshore to implement the TAGAWAY (by REGALTAGS) recycling scheme, which was rolled out across several assets.

In 2022 Ithaca Energy contributed to a saving of 1,299.05 t  $CO_2$ e through the sale of redundant steel through John Lawrie Tubulars. This steel is ultimately repurposed, helping to reduce waste and protect resources.





