UKCS Decommissioning market

Fiona Legate, 28 June 2018

Agenda

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2 What, when and where is activity in the UKCS?

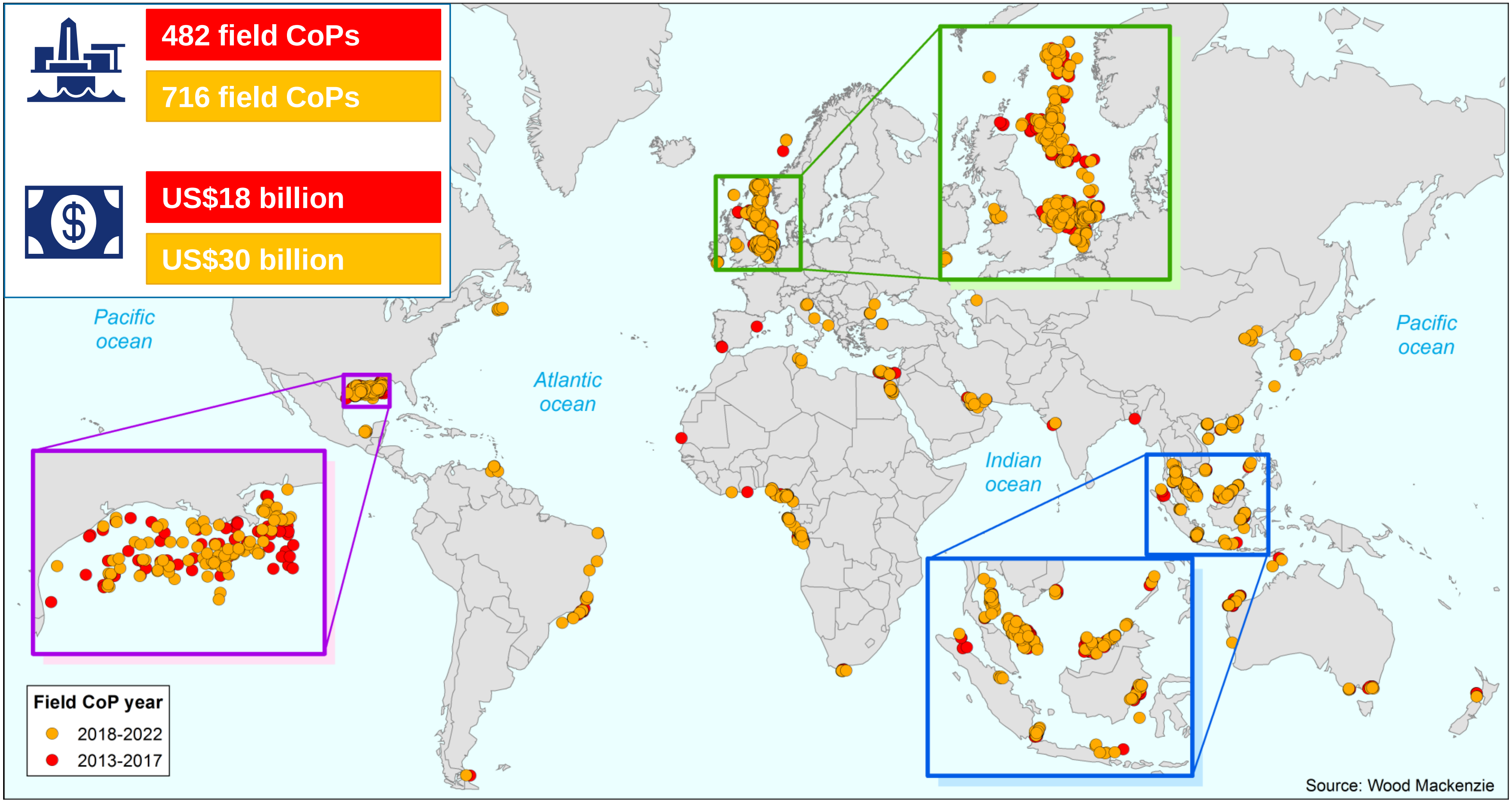
3 Decommissioning, an evolving picture

4 What's next for the decommissioning industry?

Where does the UK sit in a global context?

Have many fields have ceased globally?

Around 500 fields ceased production over the last five years, activity was focused in the North Sea, Gulf of Mexico and Asia Pacific

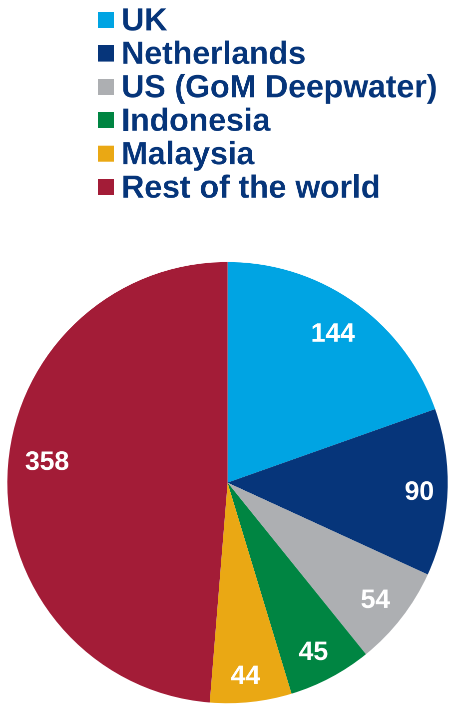


Source: Wood Mackenzie

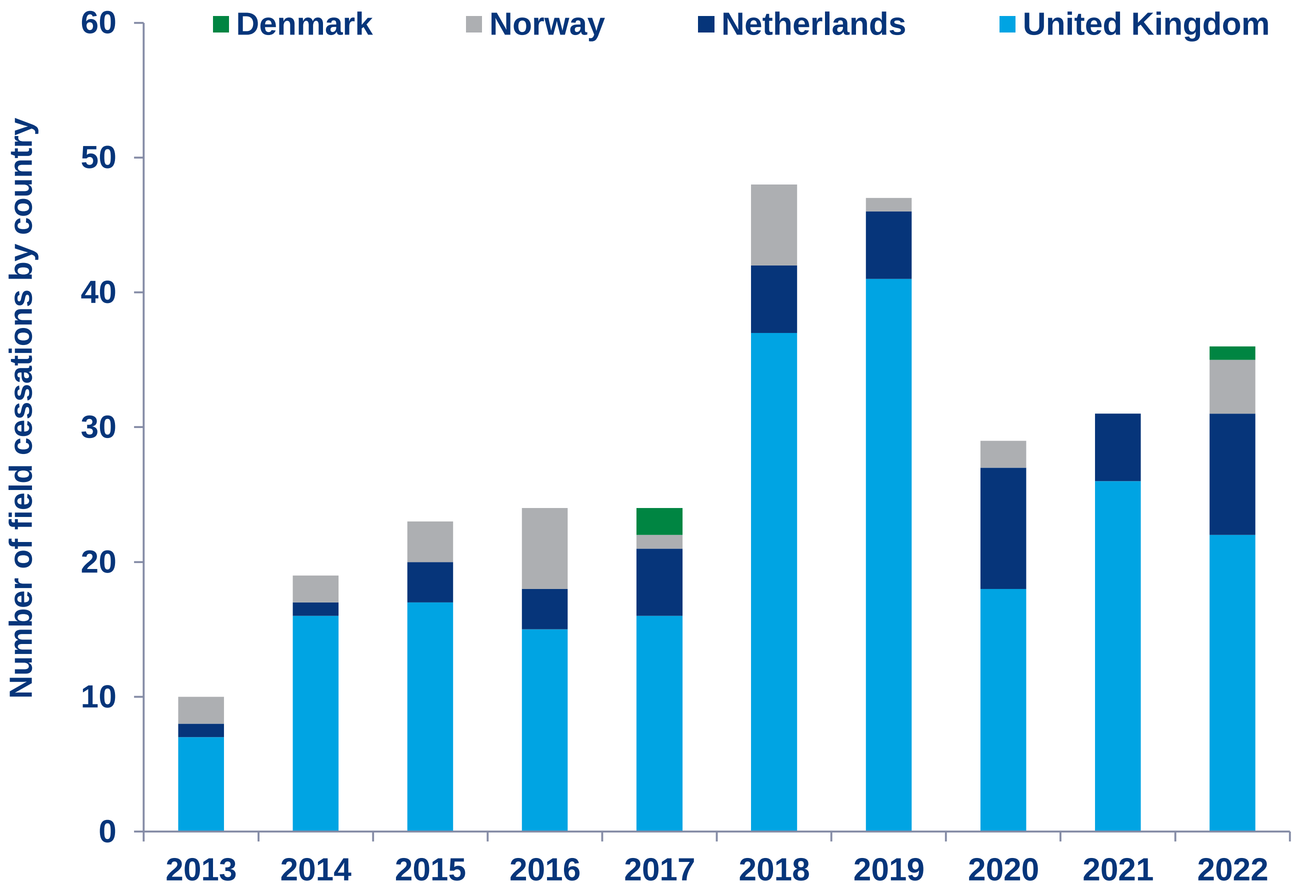
The UKCS has the highest number field cessations globally to 2022

20% of offshore field cessations were in the UKCS between 2013-2022

2013-2022 Global cessations by country



2013-2022 North Sea field cessations

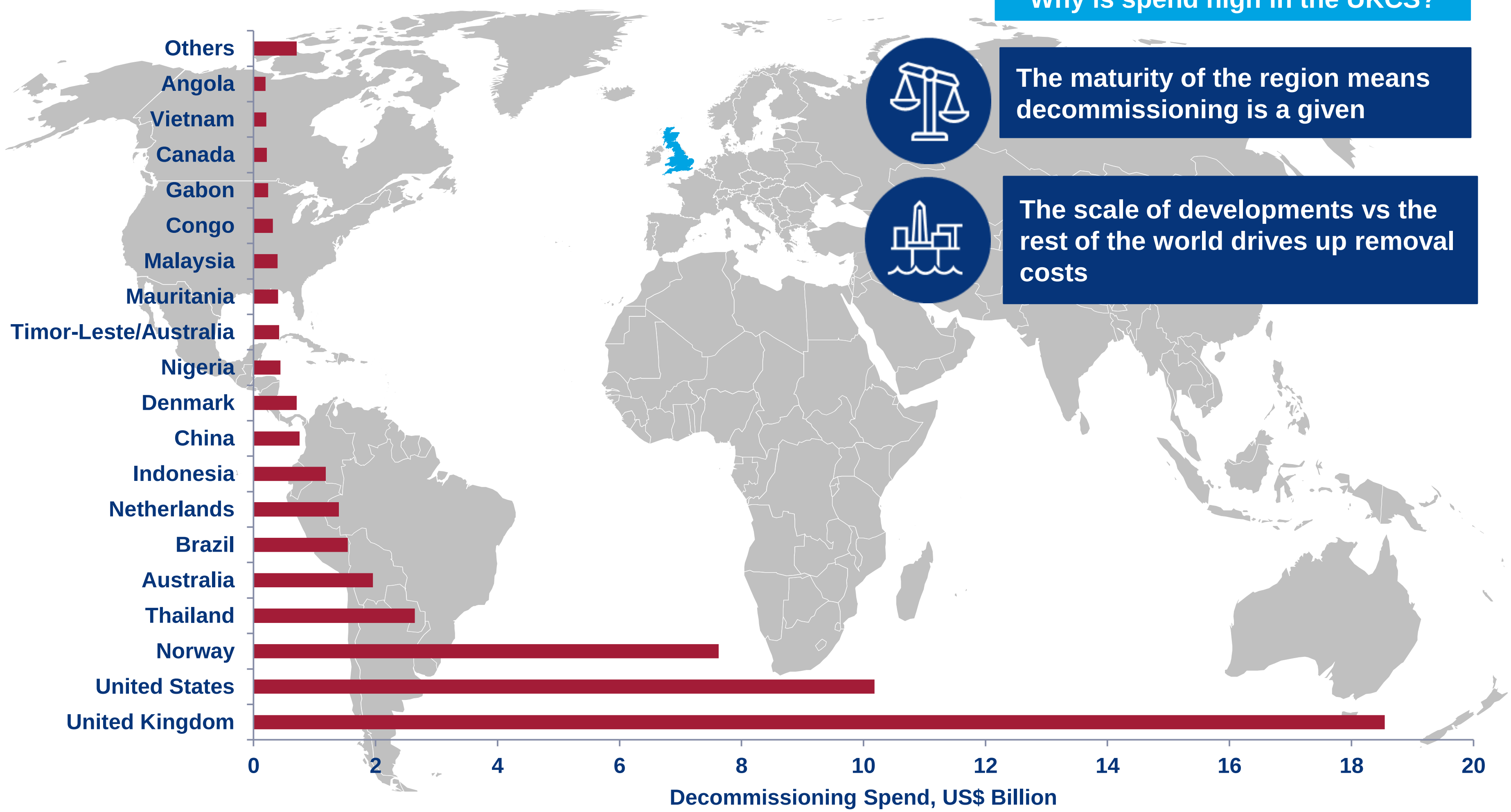


Source: Wood Mackenzie GEM Q2 2018

The UKCS is at the forefront of global decommissioning

Near term decommissioning spend in the mature UKCS is higher vs. the rest of the world

Total decommissioning spend by country 2013-2022



Why is spend high in the UKCS?

- The maturity of the region means decommissioning is a given
- The scale of developments vs the rest of the world drives up removal costs

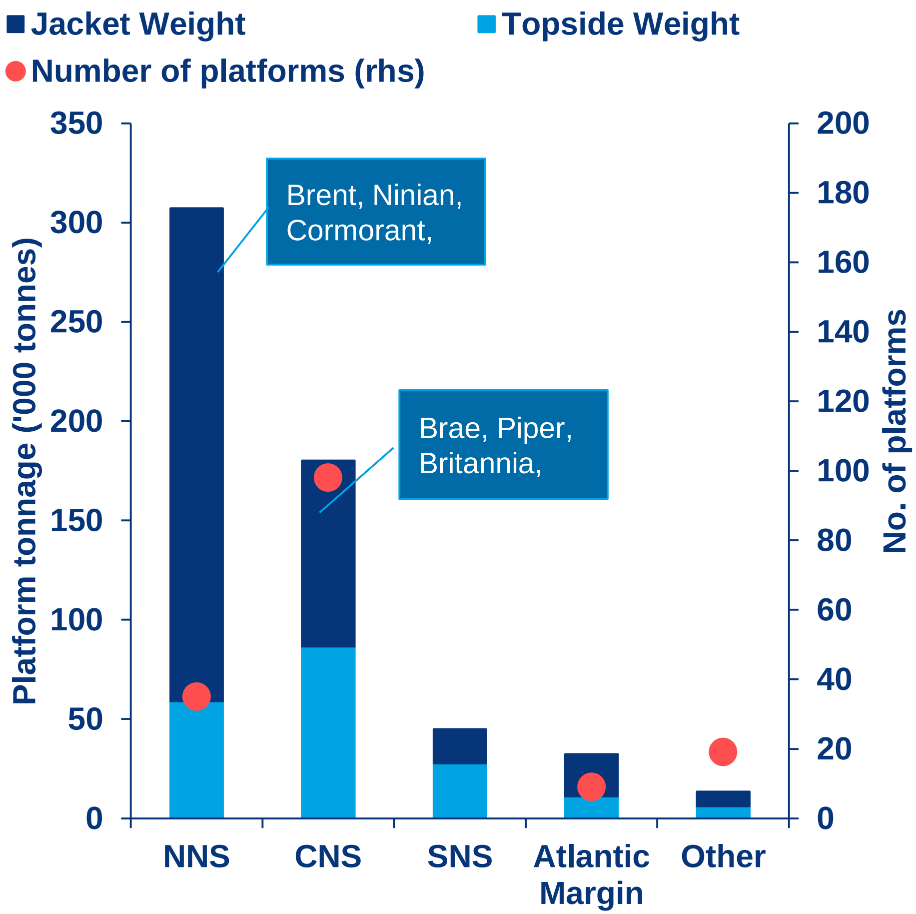
Source: Upstream Data Tool Q2 2018

What, when and where is activity in the UKCS?

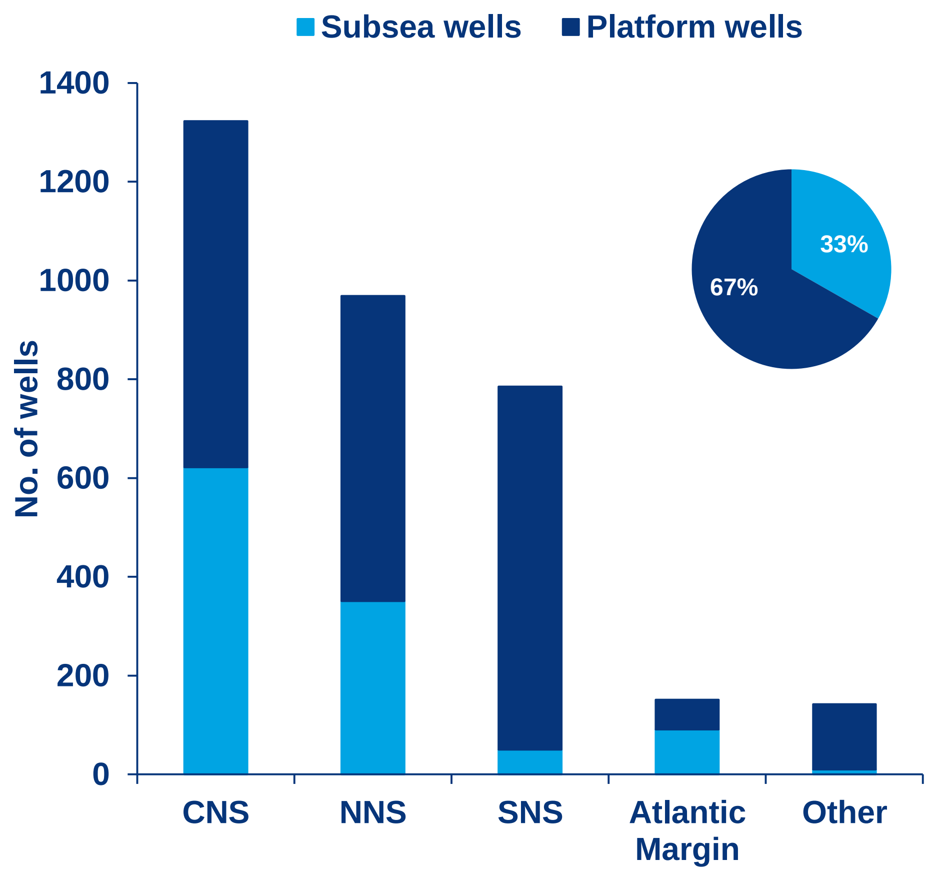
There are around 350 platforms and 3,000 wells to decommission

Southern North Sea has 50% of platforms, and 25% of wells, but these are much simpler to abandon than the large fixed platforms in the Cental and Northern North Sea

Platforms by sector



Wells by sector

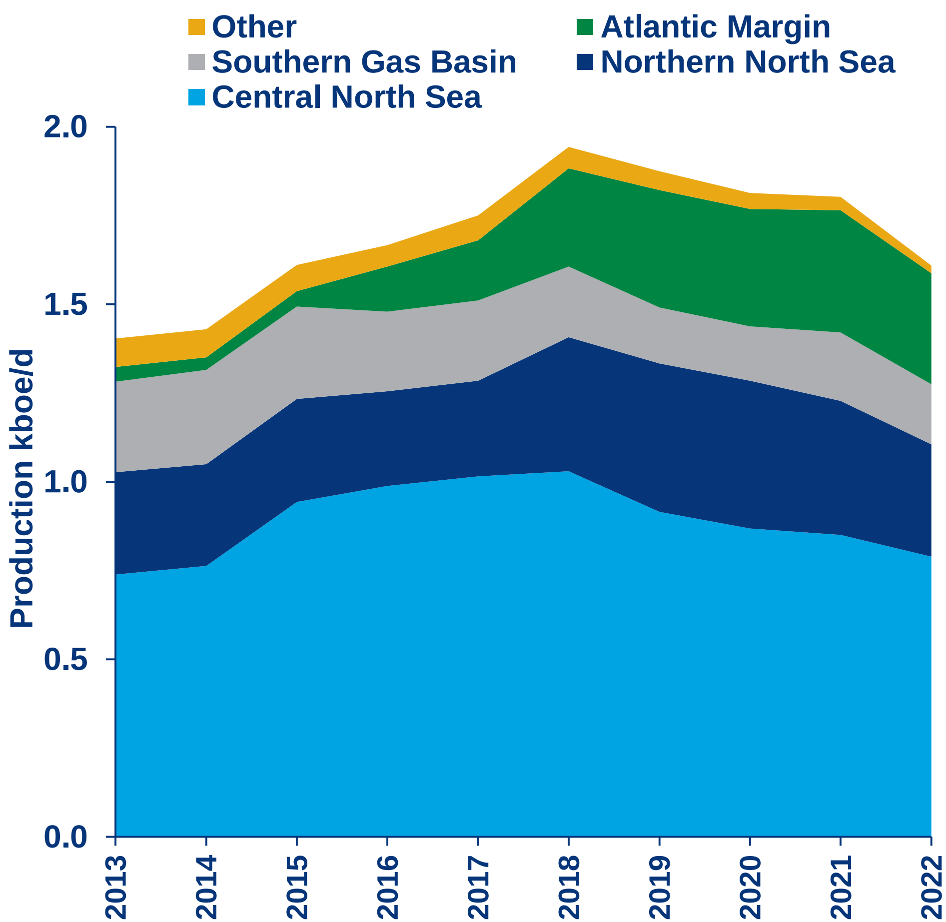


Source: Infield Systems Ltd
Includes operational, installed, planned, shut-in, under construction and under conversion platforms

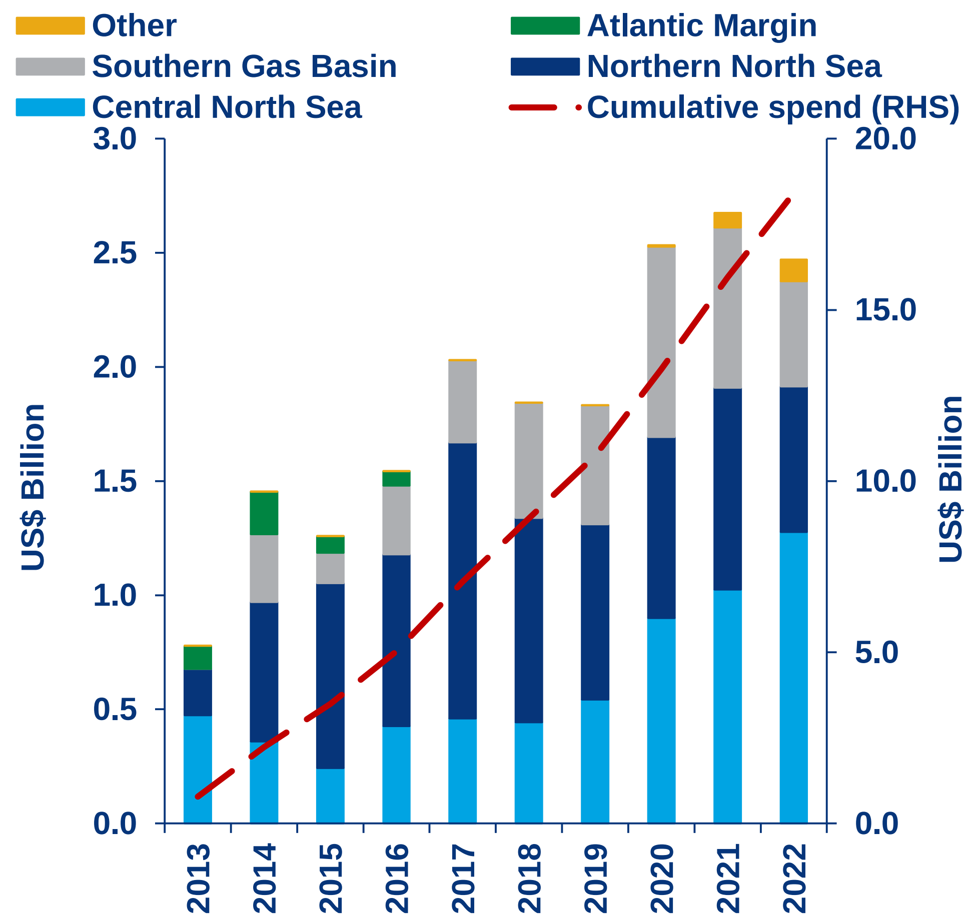
Production is expected to enter terminal decline from 2019

Decommissioning spend is set to increase y-o-y. Near term spend is focused in the mature Central North Sea and Northern North Sea sectors

2013-2022 UKCS production



2013-2022 UKCS decommissioning spend by sector

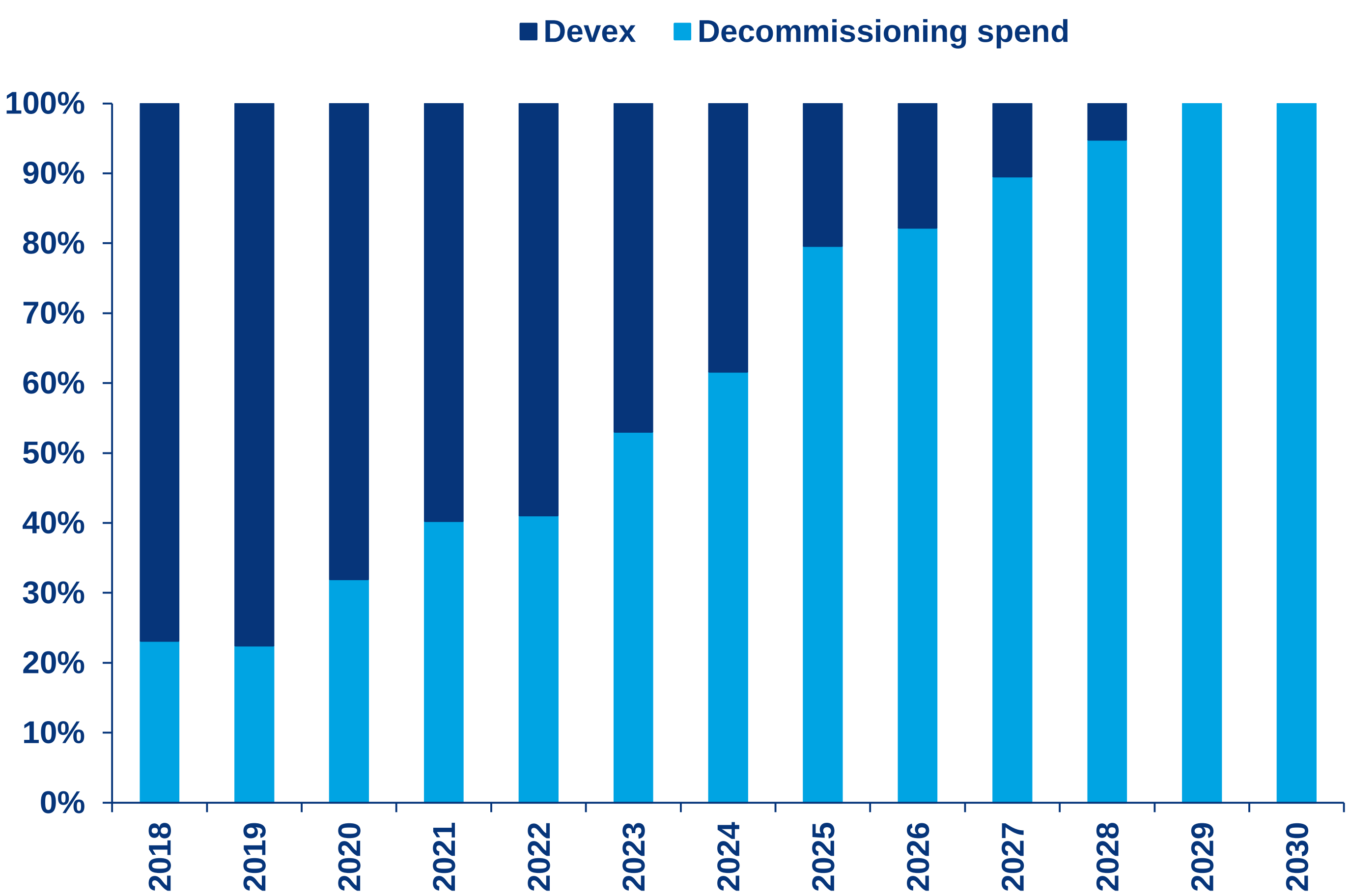


Source: Wood Mackenzie Upstream Data Tool Q2 2018

Without new investment decommissioning will overtake development spend in 2023

US$42 billion of decommissioning is forecast to 2030 vs US$33 billion of development spend

2018-2030 Decommissioning vs development spend



What is driving our devex forecast?

1 Pre – FID post 2020

3 Exploration wells spud in 2018

8% reserves replacement in 2017

Source: Wood Mackenzie Upstream Data Tool Q2 2018

Decommissioning, an evolving picture

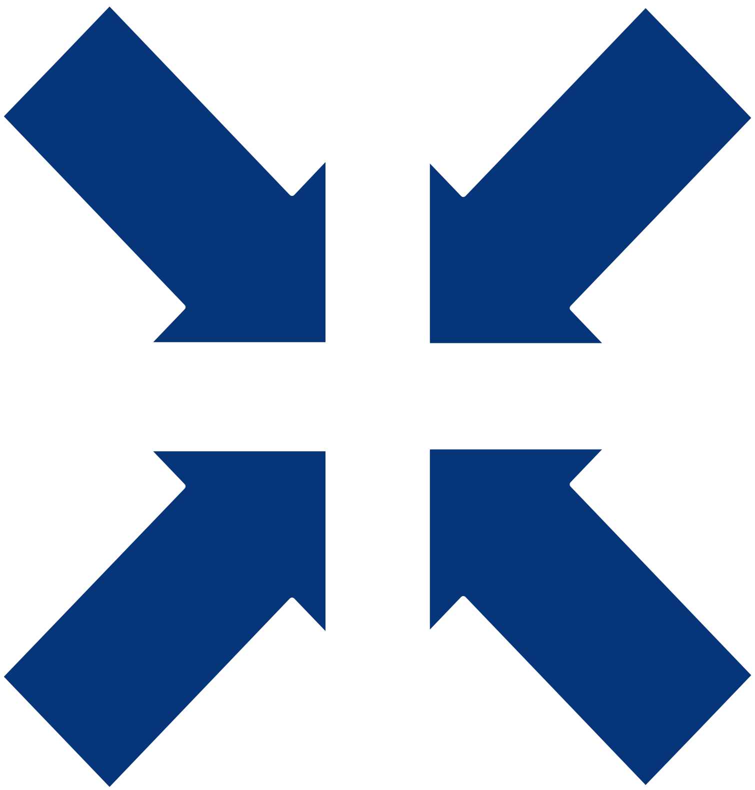
When is the right time to cease a field?

There are four main reasons to cease a field

Types of CoP

Economic

Reservoir



Infrastructure

Technical

CoP timing isn't always straightforward

2016

30% of fields operated at a loss

Opex reduced 50% in 2018 vs. 2014

Production increase 35% in 2018 vs. 2014

2017

7% of fields operated at a loss

2018

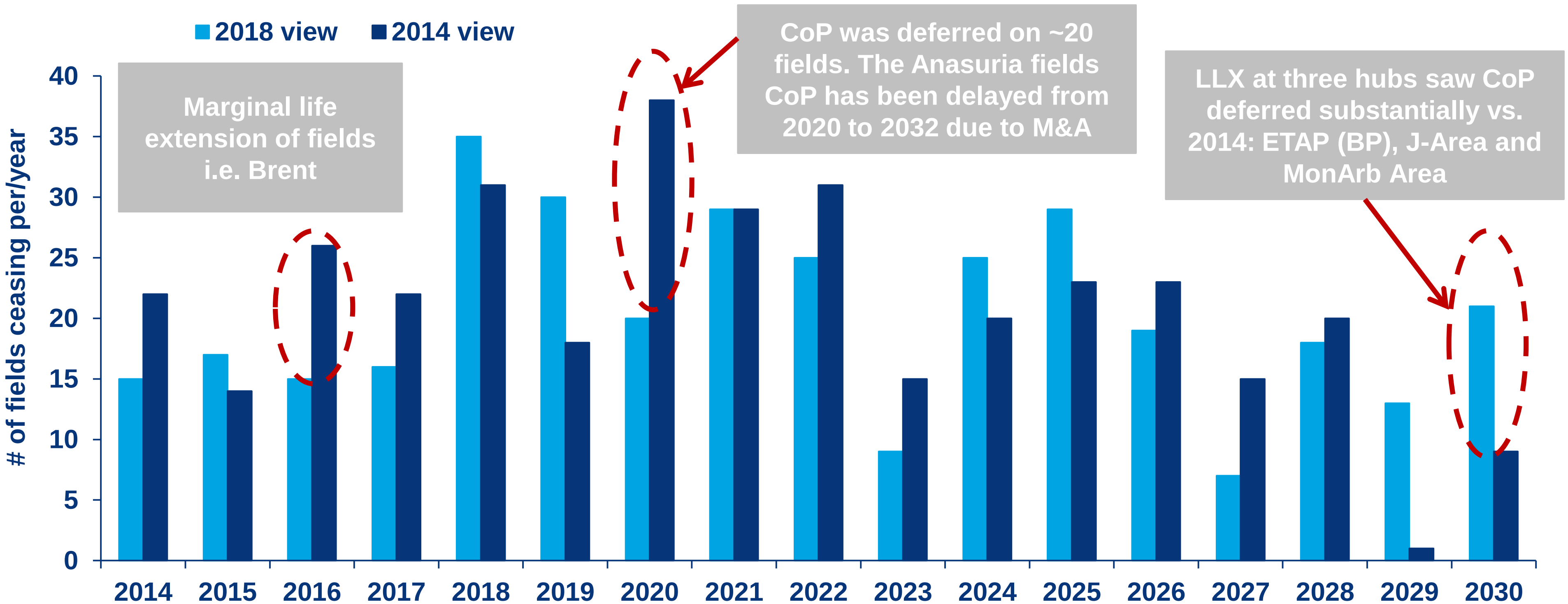
6% of fields operating at a loss

Source; Wood Mackenzie Upstream Data Tool Q2 2018

Field cessation timing can be a moving target

A number of factors influence the timing of cessation

2014-2030 CoPs – 2018 view vs 2014 view



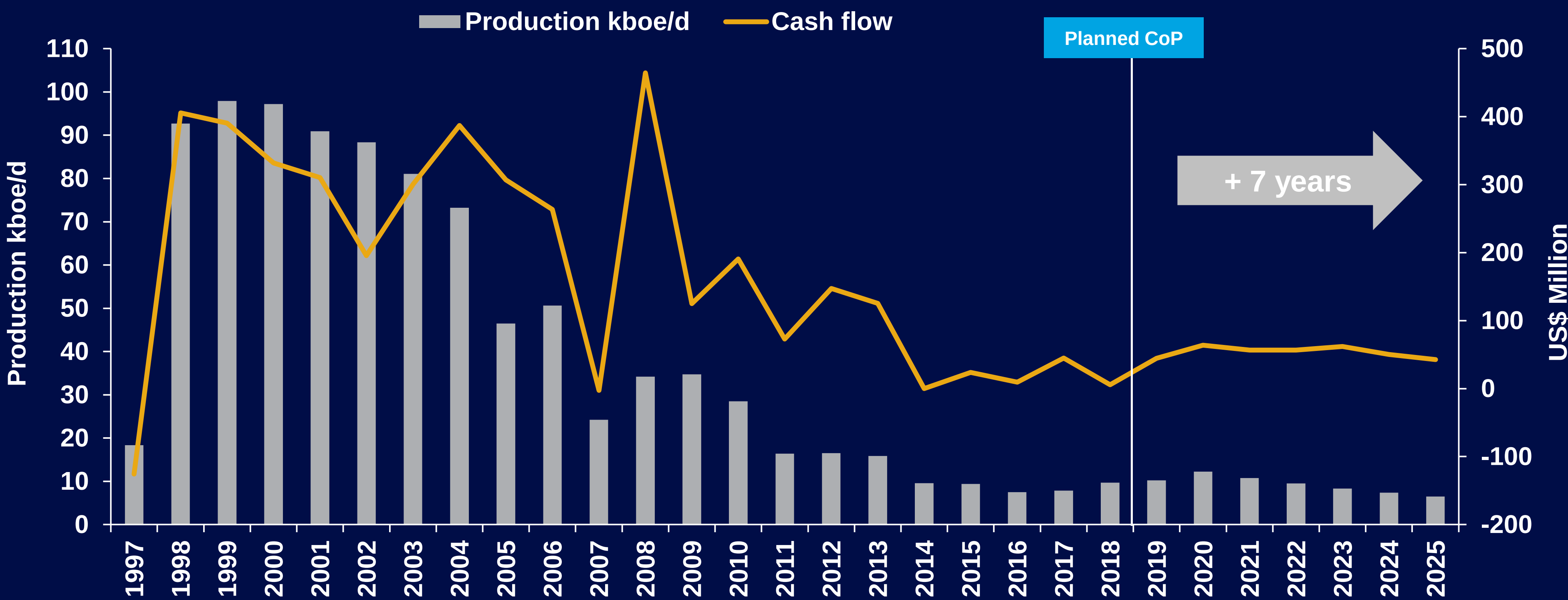
30 fields ceased earlier than we expected. Almost have of these were due to poor production performance

Eight fields were re-evaluated as ceased. Our 2014 view assumed a restart.

18 fields are expected to cease beyond 2030 due to late life investment. 30% of these are due to M&A i.e. getting assets into the right hands

Source: Wood Mackenzie database Q2 2018

Case study: Chrysaor's late life investment in the Armada hub



M&A changes

2015	2017	2018
April	January	Mar
BG GROUP, Shell	Shell, Chrysaor	Chrysaor, Spirit Energy

+ 25 mmboe

- US$110M

+ US$380M CF

Source: Wood Mackenzie GEM Q2 2018

What’s next for the decommissioning industry?

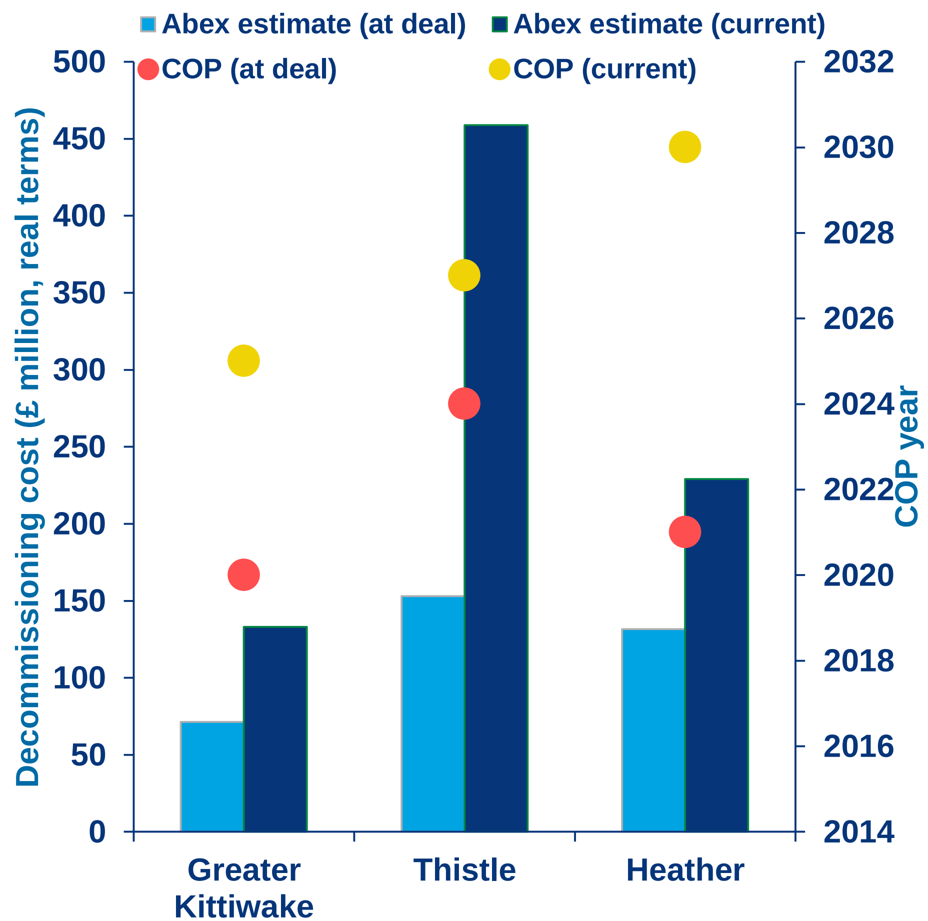
What's next for the decommissioning industry?

Decommissioning experts are emerging, but it is still early days

How to tackle decommissioning

- LLX to defer decommissioning
  - Investment in facilities
  - Explore near field
- Divest late life assets
- Technology advances
- Vendor financing

Previous liability retention deals

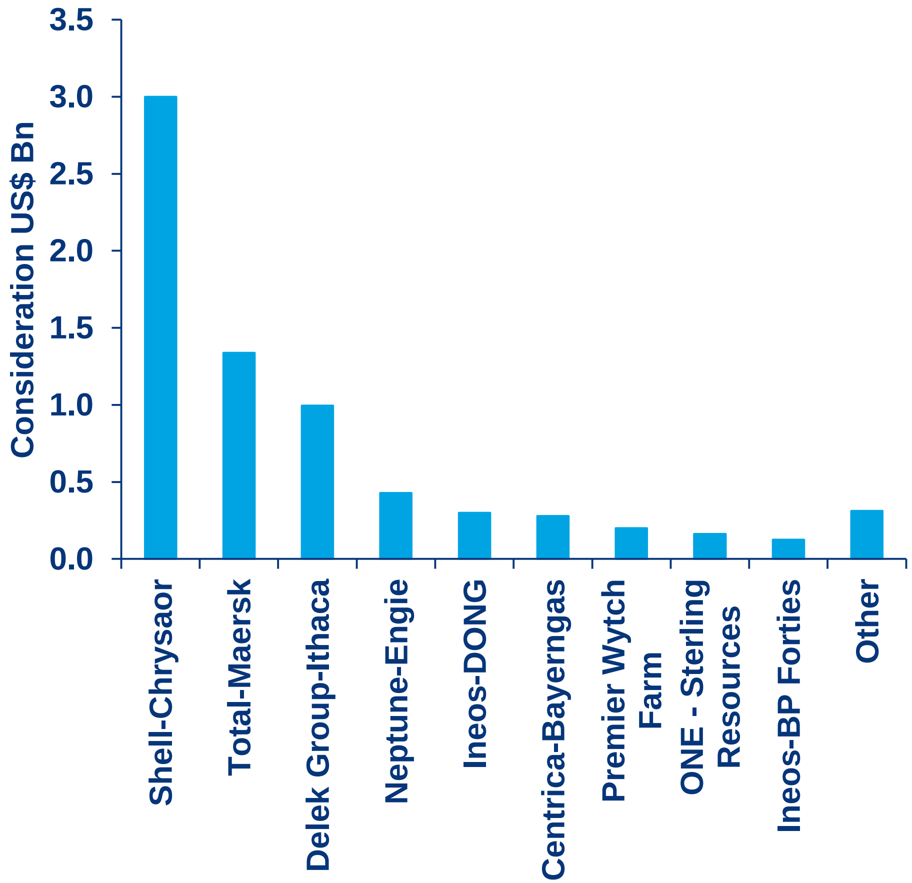


Source: Wood Mackenzie

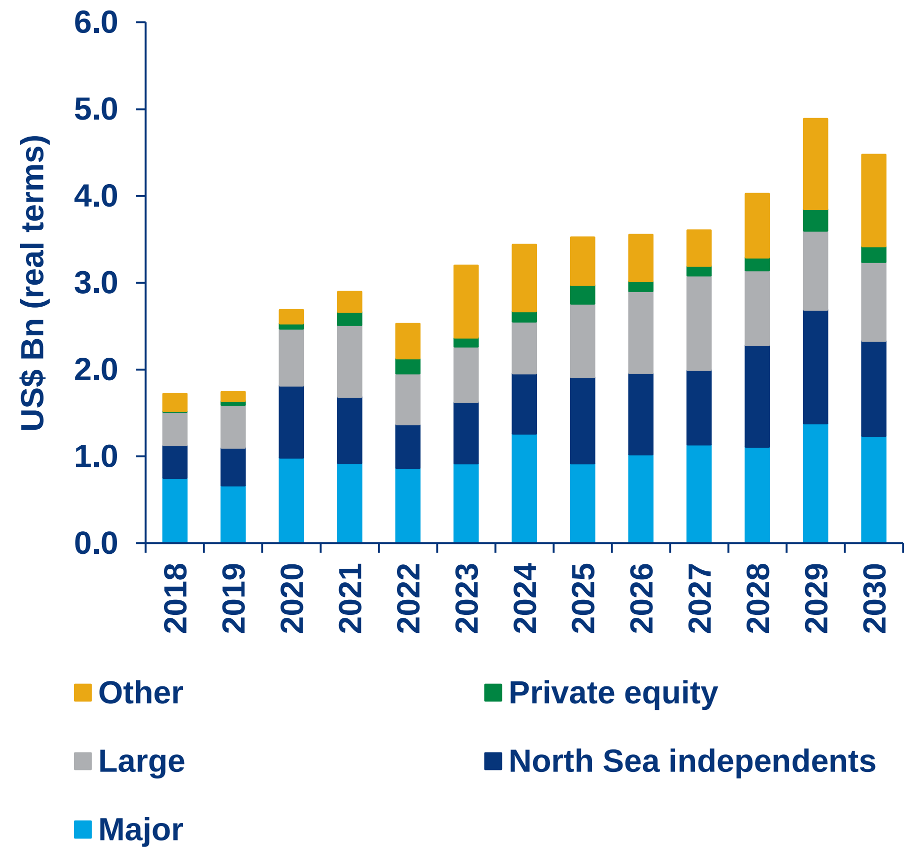
UK M&A was booming in 2017, but did decommissioning liabilities change hands?

The Majors retained US$2 billion of decommissioning on assets sold last year

2017 UKCS value traded



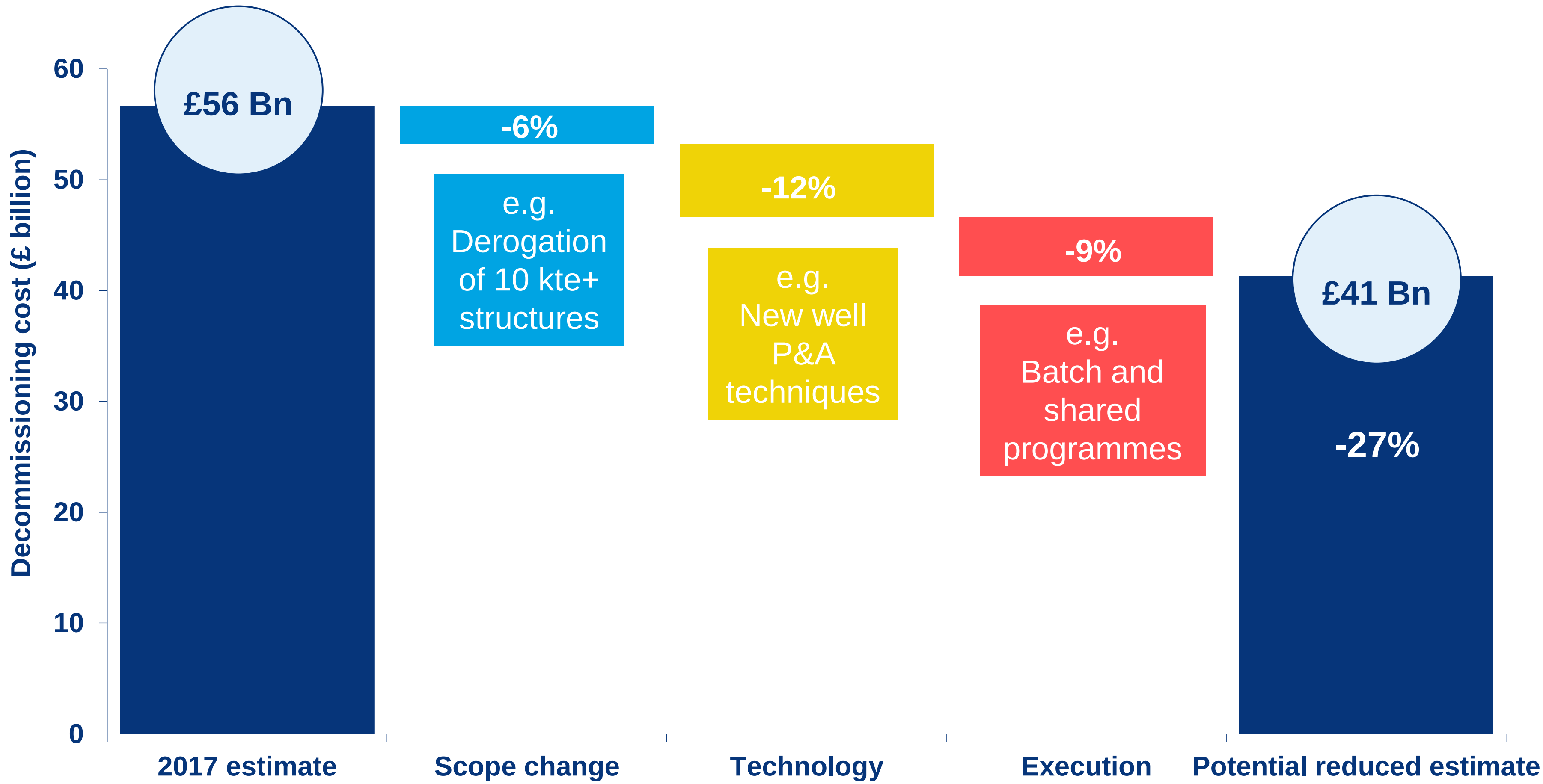
2018-2030 decommissioning spend by company type



The opportunity in cost reductions

OGA target of 35% reduction looks ambitious, but achievable. Technology the key enabler

Estimate of potential decommissioning cost reductions by category



Source: Wood Mackenzie

Q&A

Fiona Legate

Senior Research Analyst, North Sea Upstream Oil & Gas Team

Biography

Fiona is an analyst on the North Sea Upstream Research team. She joined Wood Mackenzie in 2012 and has six years of experience.

Fiona has spoken at a number of decommissioning conferences providing Wood Mackenzie's market analysis and market commentary. Fiona has also authored several Insights looking at a variety of critical issues impacting on the North Sea including the changing fiscal environment, exploration and decommissioning.

Prior to joining the UK Upstream Research team Fiona worked in the LNG team.

Fiona graduated has a MA Honours in Management with Business Law from Heriot-Watt University. She also holds a MSc in Environmental Law from the University of Edinburgh.

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