Well Late Life and Abandonment

Opening address

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Today’s Agenda

State of the Basin

The late well life opportunity

Well P & A

Conclusions
Healthy inventory of hydrocarbon resources

Reserves & Resource Estimates 2017

- **2017 changes**
  - Low, Central and High Cases: 2-6-9* yet to find
  - Billion boe added from new discoveries in 2017: 7.8
  - Billion boe moved into sanctioned from project approvals in 2017: 5.4
  - Produced in 2017 with 74% production efficiency: 44.1 produced to date

Range of total potential resources ca. 10 to 20 bn boe

UKCS Reserves and Resources by Maturity Stage (OGA central case)
Protecting the Base

Importance of sustaining efficiency improvements

Production Efficiency

Unit Operating Cost (£/boe)

Sources OGA (2017)

Importance of sustaining efficiency improvements
The Challenge

Producing out the base reserves

Sources OGA (2017)
Late Well Life Opportunity

- Improve economic recovery
- Shut in wells
- Reducing well losses
- Incremental gains from near field activity

Opportunities are linked...needs an integrated approach
c. 7800 development wells have been drilled in the past 50 years on the UKCS

Development Wells

Wells associated with Facilities

Manned Platform
Subsea
Un-Manned Platform
Improve Recovery

43% of UKCS oil initially in place is expected to have been produced by the end of the region’s life.

There has been little change to the overall expected RF of the UKCS.

The quality of fields developed has decreased over time.

RF increases to producing fields with large remaining reserves could yield an additional 900 million barrels.
Production & Well Losses

Production Losses 2012 - 2017

UKCS production losses, 2012 to 2017

Well Losses

Well losses / 2015-2017

Top Quartile wells opportunity
c. 90 k boed

Well losses 16% of total Production Efficiency losses
Well Intervention Performance

- £398m on P&A activity
- £287m on production-related interventions.

Total well intervention spend in 2017 was £685m

50 mmboe achieved through well activity
Safeguarding/restoration - Well Issues

Well Issues - Asset Breakdown

- Offshore Platform
- Subsea
- Un-manned Platform

396 well issues reported
266 issues in operating wells
158 actions taken

60% of issues actioned from 23 operators
Well Intervention Activity UKCS

627 interventions were carried out in 2017 on UKCS wells across manned platform, un-manned platform and subsea assets.

Operators intervened in 14% of the available well stock for production related purposes.
In Field Development activity

**Number of FDP / FDPAs**

- Difficult past years but signs of an upturn
  - Significant hopper of FDPAs under discussion with the OGA

**Drilling activity predictions**

Wells (excluding mechanical and geological sidetracks)
(2012-2017 Based on Completion date)

- New
- Infill
- Appraisal
- Exploration

Source: OGA WONS (Development Well Analysis)
Well abandonment schedule

UKCS Annual Well Abandonment by Type
(As reported in Decom section of the Stewardship Survey)

- Transformational technologies
- Collaborating strategies
- Fit for purpose execution best practices
Well Abandonment Cost

Well abandonment 40% total decommissioning cost
Key Messages

To fully deliver MER UK opportunity industry needs to focus on well intervention efficiencies, and transformational technologies.

OGA to issue well report and decom cost report with suggested actions.

OGA will continue to use stewardship process to work closely with operators on upcoming plans.

OGUK-led wells forum vital, OGA keen to fully support.
Thank you