UK Decommissioning
Decommissioning
What is the future for the UKCS?

Oonagh Werngren MBE
Operations Director
Agenda

• Key metrics
• Cost & Efficiency
• Opportunity
• Tripartite delivery
• Implications of Decommissioning
• The Future
Cost and Efficiency

What is behind this cost increase?

Greater Inefficiency
30-40%

Increased Unit Costs
40-50%

Increased Activity
20%

Source: McKinsey Energy Insights; “Meeting the challenge of increasing North Sea costs” McKinsey article

Decommissioning
What is the future for the UKCS?
Recent announcements affecting UK

- Over **5,500** UK jobs lost and **1200** at risk – **43** Companies
- 40,000 global jobs lost – Operators and Tier 1 Contractors
  - (100,000 global jobs estimated by Douglas-Westwood)
- £1.9bn reduction in spend by UK Operators
- £20.5bn cuts globally by Majors will impact UK
- Offshore rotas – move to 3:3 by 8 UK Operators
- UK Contractor Rate cuts 10 - 20%
- UK staff salary cut -5%
- 10 rigs stacked in the UK
- Over 40 rigs to be scrapped globally
- UK projects being stalled
- Company mergers
The UKCS needs to be sustainable in a $60 world
Opportunity – it isn’t all mature

14-24 Billion Barrels?

672 Licences

Decommissioning
What is the future for the UKCS?
Tripartite Delivery – OGA, Treasury, Industry in action

**Driving Investment**
- Supplementary corporation tax reduced from 30% to 20%
- Confirmation of new basin-wide investment allowance
- £20m for new geophysical surveys
- Petroleum revenue tax reduced from 50% to 35%

**Asset Stewardship**

**Production Efficiency Performance**

<table>
<thead>
<tr>
<th>PILOT Target</th>
<th>0%</th>
<th>20%</th>
<th>40%</th>
<th>60%</th>
<th>80%</th>
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</thead>
</table>

**Revitalising Exploration**

- Rockall
- Mid North Sea High

**Protecting Critical Infrastructure**

- Increase cost pressure on retaining fields E,F,G
- Exploration plans cancelled
- Removal of Platform A
- Early decommissioning of satellite fields B,C,D

Decommissioning
What is the future for the UKCS?
What are the implications of decommissioning?
Decommissioning - What gets taken away?

- Jackets
- Topsides
- Platform Conductors
- Pipelines
- Mattresses
- Manifolds/SSIVs/Christmas trees
- Wells
- Onshore Recycling

Decommissioning
What is the future for the UKCS?
## Decommissioning – in numbers

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
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<tbody>
<tr>
<td>Installations</td>
<td>475</td>
</tr>
<tr>
<td>Pipelines</td>
<td>10,000 km</td>
</tr>
<tr>
<td>Wells</td>
<td>5,000</td>
</tr>
<tr>
<td>Mattresses</td>
<td>&gt;5,400</td>
</tr>
<tr>
<td>Onshore terminals</td>
<td>15</td>
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</table>

Source: Decommissioning Insight Report 2014

### Questions

- **Decommissioning**
  - What is the future for the UKCS?

### Figures

- **Installations**: 475
- **Pipelines**: 10,000 km
- **Wells**: 5,000
- **Mattresses**: >5,400
- **Onshore terminals**: 15
Impact of Cessation of Production Dates

Today

2025+

Current Trajectory

Oil Hub

Gas Hub

Decommissioning
What is the future for the UKCS?
Decommissioning Cost Forecast – Accelerated in 2015?

Increased Uncertainty in Forecasts

Source: Oil & Gas UK

Decommissioning
What is the future for the UKCS?
Decommissioning Cost Forecast Breakdown

- **Removing**: 19%*
- **Well Abandonment**: 44%
- **Owners' Costs**: 21%

Total forecast expenditure is $14.6 billion between 2014 and 2023

Source: Oil & Gas UK
The Environmental Challenge of Decommissioning

Challenges

Waste Management
- Legacy Wastes
  - Cuttings Piles
  - Radioactive Sources
- Decomm Wastes
  - Steel
  - Hazardous / Biological
  - NORM

Marine Environment
- Ecosystems
- Biodiversity
- Marine Protected Areas
- Species
  - Marine Mammals
  - Fish
Opportunities

Management of asset late life: pre-invest in decom readiness

Assets in the right hands: alleviate obstacles to M&A

Early engagement: efficient execution of regulatory requirements

Industry cooperation: benefits from scale; joint campaigns eg SNS

Standardisation: equipment sharing, efficiencies & reduce risks

Share learnings: Companies, regulators & other basins

Technology: P&A, topsides removal, pipeline inspections

Supply chain: capacity planning, incentives, global export
Sunrise or sunset?
Decommissioning tax policy

Derek Leith
Oil and gas tax policy changes in recent years

- Initial discussions re decommissioning security
- Cap on RFCT/SC decommissioning relief at 50% effective
- DRD finalised
- Investment allowance introduced
- 2011: Increase in SC rate to 32%
- 2012: Field allowances extended
- 2013: FA 2013 changes to decommissioning tax regime
- 2014: SC rate reduced back to 20%, effectively removing cap

► And PRT rate to be reduced to 35% from 2016
Decommissioning Relief Deeds

- No cost to government:
  - Simply guarantees tax relief that is expected to be paid by government
  - More than halves the required security
  - Reduces provision of security for Government’s share, promotes investment

Revenue booked by HMT from increased investment (£ million):

<table>
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<th>2013/14</th>
<th>2014/15</th>
<th>2015/16</th>
<th>2016/17</th>
<th>2017/18</th>
<th>Total</th>
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<tr>
<td></td>
<td>+140</td>
<td>+425</td>
<td>+365</td>
<td>+330</td>
<td>+480</td>
<td>+1,840</td>
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</table>
What does the DRD provide?

**Imposition case:**
- RFCT/SC – guaranteed 50% relief irrespective of “tax history” of claimant
- PRT – guaranteed relief based on greater of the repayment the claimant would have had, or the repayment the defaulter would have had absent the default

**Non-imposition case:**
- RFCT/SC and PRT – guarantee of the relief that would have arisen to the claimant in the absence of law change reducing the scope of expenditure qualifying for relief
What does the DRD NOT provide?

- Non-imposition case: no guaranteed rate of CT relief
  - If the CT rate reduces in future, so that decommissioning losses result in the repayment of lower paid taxes, the DRD does not provide any top-up repayment
- No guaranteed rate of PRT relief
- No guarantee in respect of PRT interest
- Relief restricted to the extent “inappropriate arrangements” are entered into
Possible changes to decommissioning relief?

- Current decommissioning rules create a structural problem for late life asset transfers
  - Especially in respect of new entrants
  - But any buyer with limited tax capacity affected
- Corporate transactions a remedy, but not always possible
- DRD does not help in these circumstances
- Law change required to remove barrier?
  - Decommissioning tax credit?
  - Transfer of “tax history” with asset?
  - Carry back of decommissioning losses to predecessor (like PRT)?
Scottish Oil Club – Decommissioning Challenges

RICHARD HEARD
MANAGING DIRECTOR, STRATEGIC DECOM
A NEW VISION FOR DECOMMISSIONING

**Timing**
- Maximising Economic Recovery
- Timing for the Asset/Field?
- Timing for the Basin?

**Execution**
- What are my contracting options?
- How can I minimise cost?
- Can I collaborate?
- Do I know what I actually have?
- What do the regulations tell me?
- Are there options?
- What is the long-term liability?

**Scope**
A NEW VISION FOR DECOMMISSIONING

Timing

- Late-life planning:
  - Pre-CoP
  - Post-CoP
  - Basin-wide

Execution

- New business models:
  - Tax relief transfer
  - Long term liability
  - Collaboration

Scope

- Optimisation:
  - Risk-based approach
  - Standardisation

June
UKCS Opportunities

Iain Bartholomew
Subsurface Director
Siccar Point Energy

www.siccarpointenergy.co.uk
Opportunities

• 42 billion boe produced from the UKCS (64% oil)

• 14 – 24 billion boe remaining (33% - 53% of already produced)

• The remaining resources are:
  In producing fields and fields in development:
  – 4-5 – 10.5 billion boe (60 – 70% oil)

  In existing discoveries that are ‘stranded’:
  – 1.4 – 8.4 billion boe (∼60% oil)

  Yet to find:
  – 2 – 9 billion boe (∼60 – 65% oil)

Data sources DECC / O&G UK
Opportunities: fields on production and in development

4.5 – 10.5 billion boe remaining
(10% - 25% of produced to date)

- Big fields always get bigger
  - Clair: Core (~150 mmbbls) + Ridge (~575 mmbbls) + Other (>450 mmbbls)

- Heavy oil
  - Captain: ~280 mmbbls produced: >100 mmbbls remaining
  - Mariner: >2 billion bbls oil in place: 250-300 mmbbls currently planned to be recovered

- ‘Old’ gas
  - Cygnus: discovered in 1988, ~650 bcf, on stream 2016

- Technological advancements
  - Long horizontal drilling (4 km now ‘normal’)
  - Multi-stage ‘fracking’ (up to 8 per horizontal section)
  - Enhanced oil recovery (polymer)
Opportunities: stranded fields

1.4 – 8.4 billion boe remaining
(3% - 20% of produced to date)

- Gas basin (SNS and Irish Sea)
  - Gas spec: high CO2, N2; eg: Fizzy area (>500 bcf potential but 50% CO2)
  - Small discoveries; eg: Olympus and Sloop (~50 – 100 bcf each)

- CNS/NNS
  - HPHT; eg: Puffin (~110 mmboe)
  - Oil spec: high H2S
  - Small oil (gas problem)

- WoS
  - Extreme conditions (high costs); eg: Rosebank (~270 mmbbls + 70 bcf), Cambo (~120 mmboe)

- Technological breakthroughs
  - Subsea developments (Laggan Tormore)
  - Unmanned production buoy
  - CO2 re-injection technologies
Opportunities: exploration

2 – 9 billion boe yet-to-find

• Carboniferous
  – Under existing fields
  – Frontier areas
• Platform edge plays
  – Johan Sverdrup look-alikes?
• Fractured basement
  – Lancaster discovery WoS (>60 mmbbls)
• Sub-basalt plays West of Shetland
• Triassic in West of Britain areas

• Technological advancements
  – Seismic
  – Regional understanding
  – Drilling and development techniques
UK Decommissioning