Strategies for decommissioning and new commercial models

November 2017

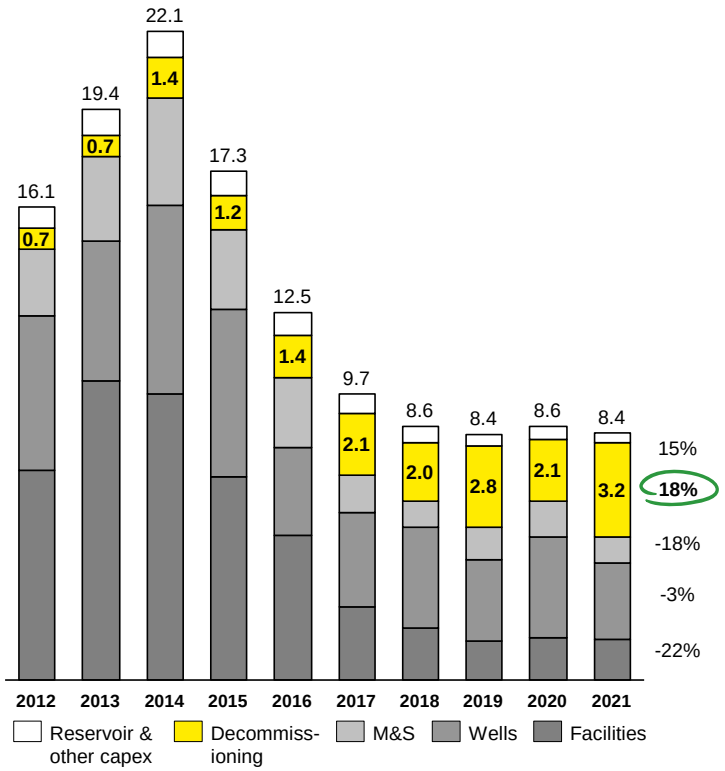
Building a better working world

Decommissioning – a challenge or an opportunity?

Decommissioning is projected to be the fastest growing capital spend area in UK upstream

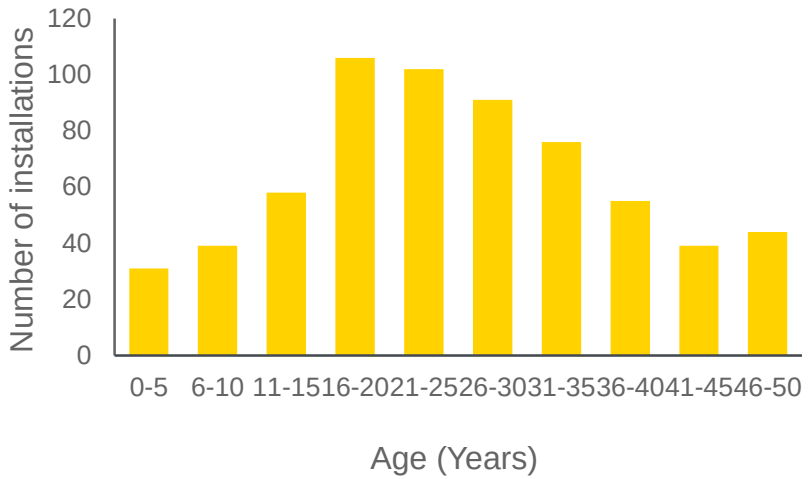
UK upstream Capex growth ($bn, 2012 – 2021F)

Source: Wood Mackenzie and EY research



Number of installations by age in the North Sea

Source: OSPAR



- Excluding subsea steel, there are 645 operational or closed installations in the North Sea
- The P&A challenge makes up approx. 50% of the decommissioning cost /decommissioning market

Several factors make decommissioning a complex challenge

Cost Uncertainty

- OGA recently estimated decommissioning cost for UKCS assets at £41-70bn, significantly above previous estimates.
- According to OGA figures, average cost estimates are increasing by approximately 14% per year.

Lack of returns for investors

- Investor perceptions of the profitability of the UKCS have been challenged (but are improving).
- Companies see negligible returns on decommissioning expenditure, in contrast to capital investment in E&P.

Reputational risks amplified by public interest

- O&G companies ‘enjoy’ heightened public interest and receive extensive media coverage.
- Attention is amplified by environmental aspects of decommissioning and media reporting that taxpayers are footing the bill.

Track record of significant cost and time overruns to date

- Cost and schedule overruns have been a feature of decommissioning.
- An OGA study found that cost overruns had been over 60% of original estimates.

Limited experience and lack of best practice

- There are significant technical challenges combined with few past projects to provide guidance on best practice.
- The North Sea has diverse ownership, and many smaller operators with limited experience now own many late life assets.

Oil prices add extra financial pressure to supply chain

- Lower oil prices have impacted OFS companies, driving consolidation and reduced supply.
- Increased financial stress impacts ability to invest and innovate around technical and commercial solutions.

Operators have had a consistent mind-set in relation to decommissioning

Exit if possible; delay if not; always minimise liability & flow-back risk

Minimise uncertainty
Plan, mitigate to provide more certainty

Minimise scope
Minimise scope but meet regulation

Delay as long as possible
for potential solutions to emerge

Minimise resources Outsource to focus on production

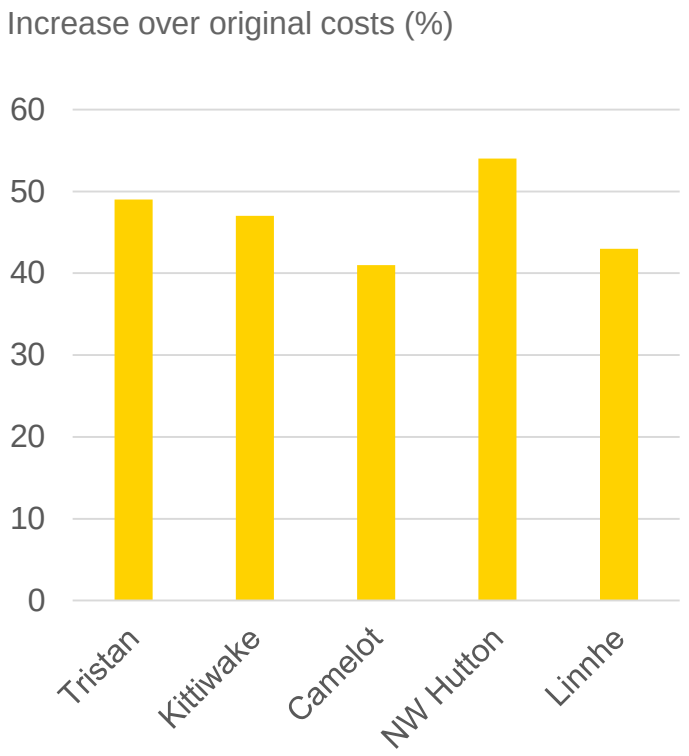
Minimise liability
Sell asset or reduce liability as far as possible

Minimise cost
Reduce execution spend

A cycle of stagnation has potentially significant impact

The Industry Challenge

Select North Sea Decommissioning Projects



Source: Company websites and media reports

A different approach is needed to protect value, and build confidence in taking action

Conventional Capital Projects

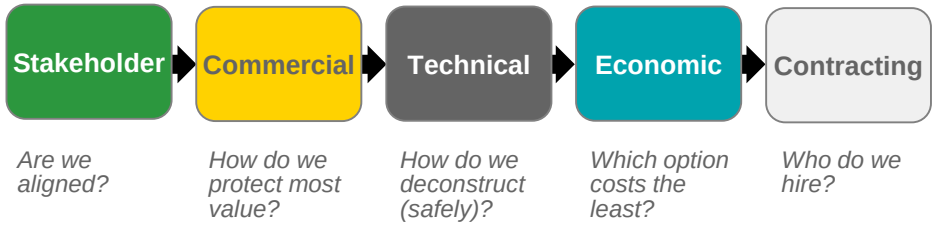
"Value Creation"

Creation of a profit centre

- Technical potential defines accessible value
- Economics then drive selection of concept option
- Stakeholders align around best concept
- Value upside can be significant (volumes and /or pricing above plan)

Decommissioning Projects

"Value Protection"

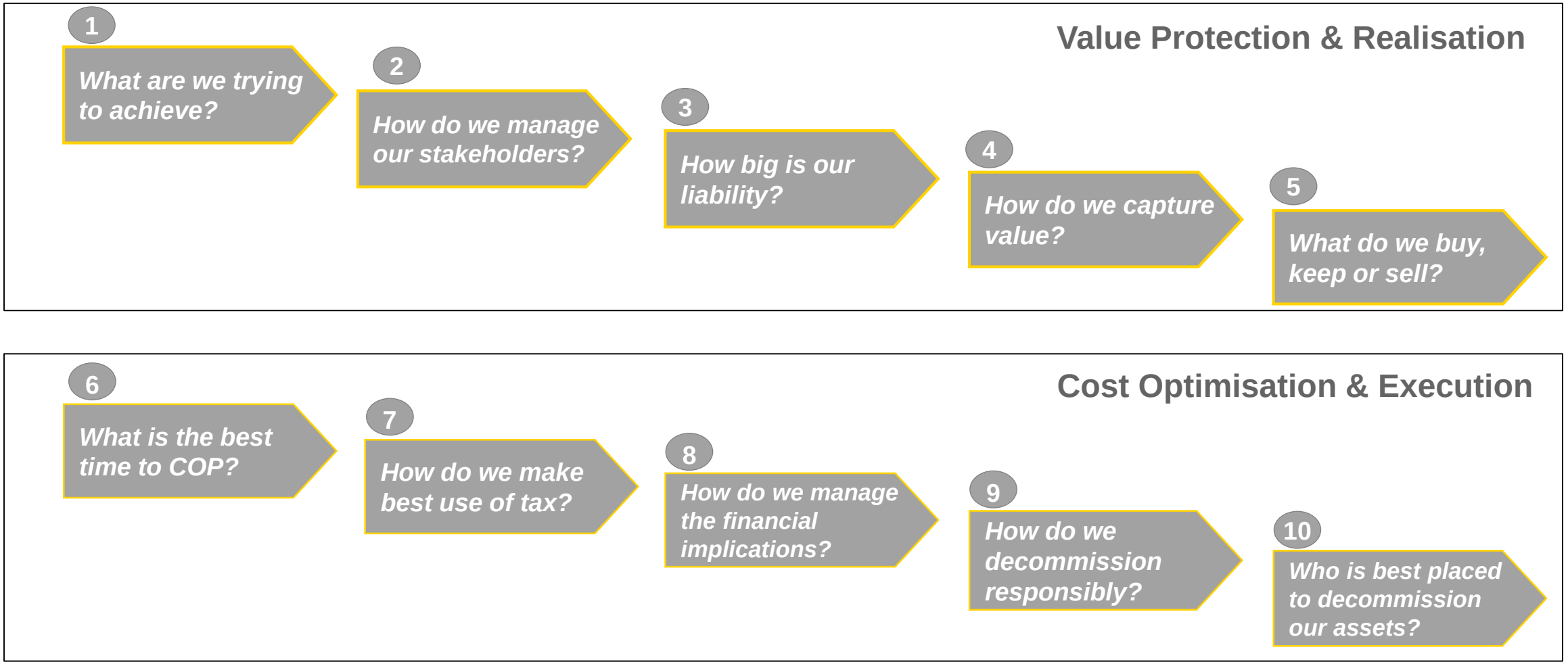


Removal of a cost centre

- Stakeholders and governance already firm
- Commercial construct defines accessible "value"
- Technical and economic choices are largely around costs
- Any value upside comes from delivering below planned costs

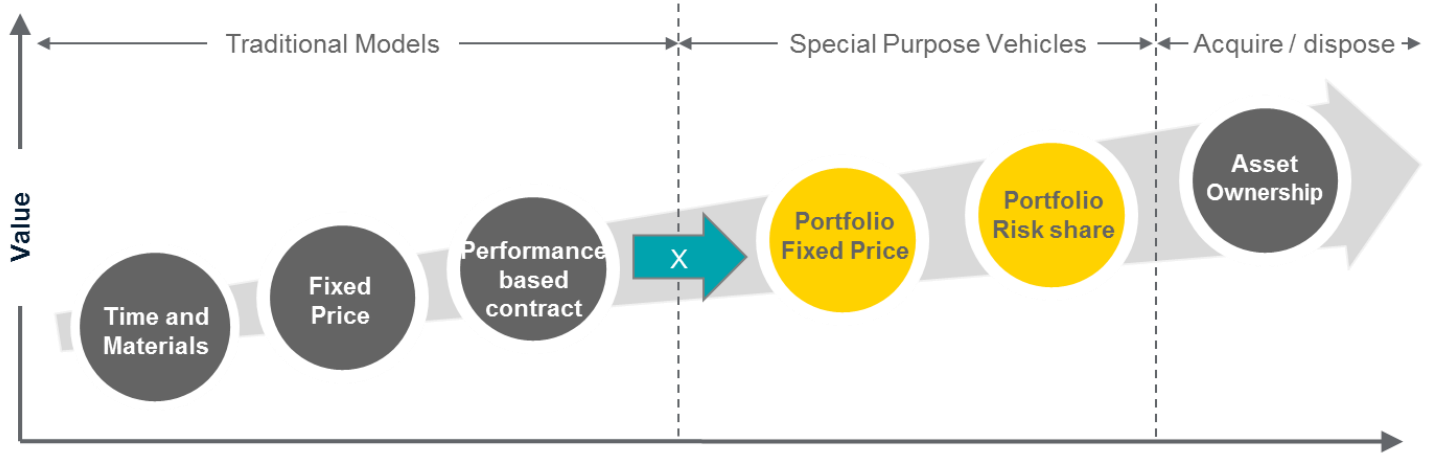
The commercial framework is the primary driver of value within decommissioning projects as this determines the potential economics and the share of risk/reward within the delivery model

Some questions to think about decommissioning



The commercial market is still immature for O&G decommissioning projects

Provision of decommissioning services is an emerging growth market, but so far it has been difficult for contractors to take on the level of risk sharing that owners want



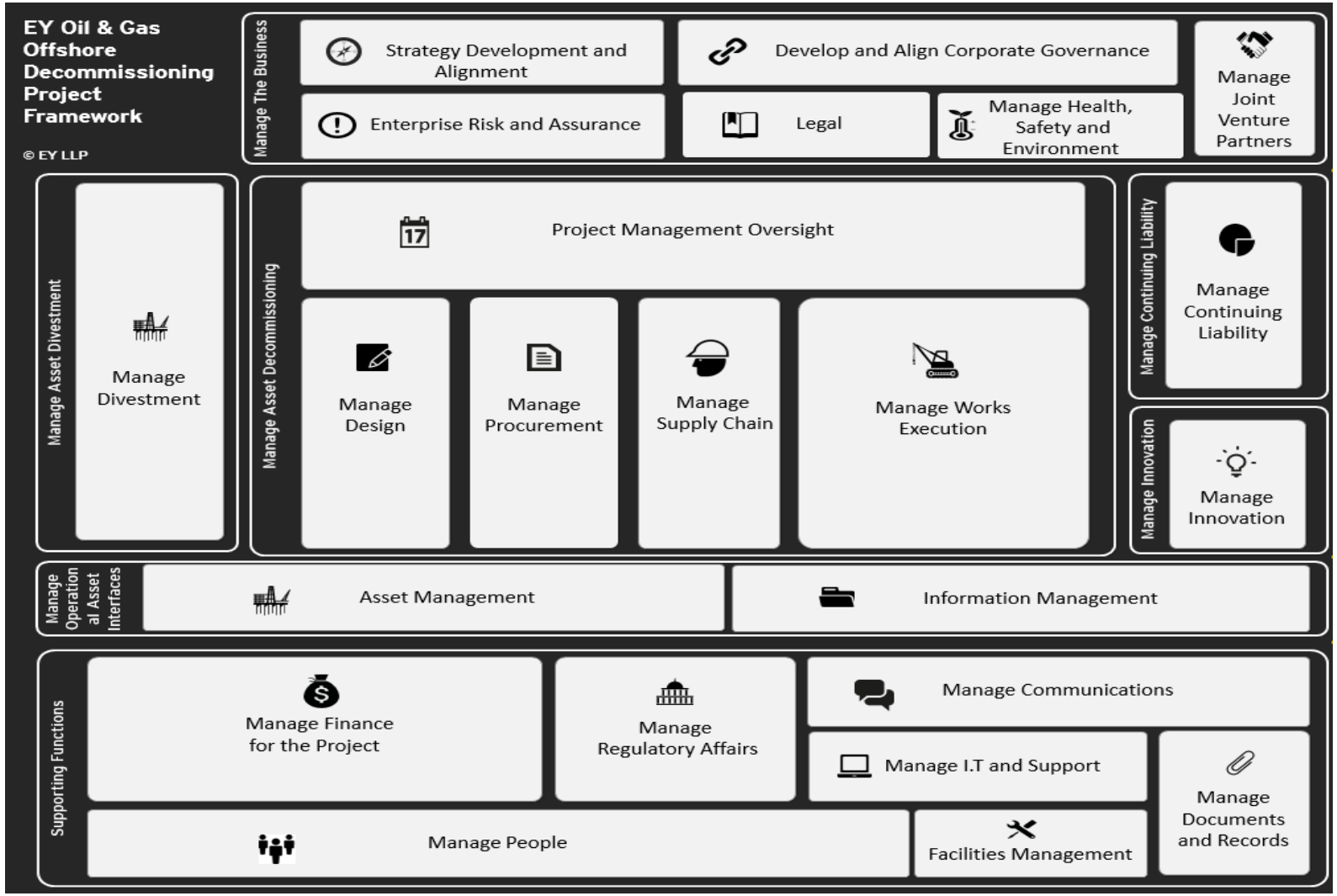
Transitioning towards SPV based models is held back by:

1. Lack of data on original asset design and current well conditions that mean cost uncertainties are high
2. Lack of future revenue that makes the impact of any cost overrun very acute
3. Limited decommissioning experience within the supply chain reduces appetite for risk
4. Balance sheet weakness of many supply chain partners to properly absorb risk, so key liabilities retained by operators
5. Lack of awareness of more advanced commercial models by operators

Operators can help to address this by:

- Increasing the quality and extent of data on asset condition to reduce contractor risk premium
- Grouping related assets into portfolios to offer contractors economies of scale (upside)
- Ensuring a fair distribution of upside and downside risk within the portfolio
- Ensuring operator and contractor incentives are equitable relative to the risk that is transferred

Key capabilities are needed for each commercial model



Manage The Business

- Project enterprise setup functions
- Strategic decision making
- Alignment to the parent enterprise and JV partners

Manage The Project

- Activities to manage the chosen delivery strategy across Divest / Owner Decommission / Outsource Decommission
- Managing Continuing Liability

Manage Physical & Informational Assets

- Manage existing physical and information assets
- Covering physical assets to be decommissioned and other connected facilities

Supporting Functions

- Setup and alignment with the parent enterprise of corporate support functions; Finance, IT, Personnel, communications
- Setup of regulatory support functions

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