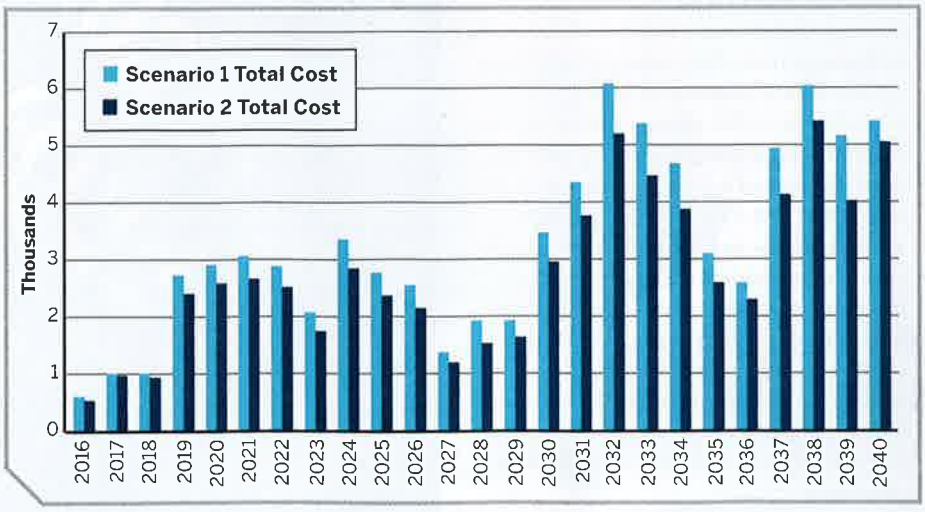
North Sea opportunity knocks

The UK North Sea is expected to dominate the decommissioning market from 2016-2040. How much it will cost depends on the success of vessels such as Allseas' *Pioneering Spirit*, says Douglas-Westwood's Ben Wilby.

Forecast North Sea Decommissioning spend, 2016-2040



Graph from Douglas-Westwod.

The oil price downturn has substantially impacted companies across the oil and gas sector. Often firms have been affected negatively, but there are many who stand to benefit from the downturn – particularly those with exposure to potential decommissioning work in the North Sea.

Large-scale decommissioning in the North Sea has been expected for a long time, yet, in recent years, activity has been minimal. The current climate has accelerated decommissioning timeframes and long-term drivers are unlikely to change soon.

For abandonment and decommissioning, it is not that oil prices are low, but how long they are forecasted to stay low that will drive large-scale decommissioning. Once projects are operational, operators take a long-term view of the market, as fields will be producing for a number of years. Therefore, when there is a sustained period of low prices, operators will assess operating costs and their impact on future projects, often making abandonment and decommissioning preferable.

This is especially true in the North Sea where much of the infrastructure is dated and production is in decline. Operators have to pay for costly

The *Pioneering Spirit* at D-quay at Daewoo Shipbuilding and Marine Engineering's Korean yard. Photo from Allseas.

***Pioneering Spirit* with the *Lorelay*, one of Allseas' first vessels.** Photo from Allseas.

maintenance and enhanced recovery techniques that simply do not make sense at low oil prices.

A recent example is the Athena field in the UK, utilizing a leased floating production, storage and offloading (FPSO) vessel. The field was considered non-commercial in 2015, when Brent was around US$50-60/bbl. Despite a contract renegotiation to lower the vessel's dayrate, when prices dropped to below $30/bbl in early 2016, the operator decided on early field abandonment. This situation is expected to become increasingly common over the next few years, particularly in the North Sea.

Douglas-Westwood's recently released North Sea Decommissioning Market Forecast 2016-2040 considers the potential market for decommissioning in the UK, Norway, Denmark and Germany. The costs for decommissioning have been forecast in two different scenarios.

Scenario 1 is a "business as usual" forecast and assumes that current methods for platform removal remain in use. Scenario 2 however, considers the potential impact that single lift vessels (SLVs), such as Allsea's *Pioneering Spirit*, could have on the removal of extra-large platforms, which are platforms over 10,000-tonne. It should be noted that scenario 2 is indicative of the cost savings SLVs could represent rather than our expectation of the market.

Over the period 2016–2040, Douglas-Westwood expects spend on decommissioning in the aforementioned countries to be worth $82 billion in scenario 1 and $70 billion in scenario 2 – demonstrating the savings that SLVs could represent.

The UK will see the largest proportion of this spend, accounting for $50 billion in scenario 1, and $44 billion in scenario 2. This is due to the large amount of installed infrastructure as well as the age of platforms, with many past their design life (typically 15-25 years). Norway will account for the majority of the rest of spend – $27 billion in scenario 1, and $23 billion in scenario 2.

Setting the standard

The Allseas vessel *Pioneering Spirit* is able to remove topsides up to 48,000-tonne and jackets up to 20,000-tonne in a single lift – making it ideal for some of the large platforms in the North Sea. It will be the first SLV in operation when it begins work, beginning with the Yme platform off Norway later this year. The entire platform, which weighs 12,400-tonne will be removed in a single lift. This will be followed by the removal of the Brent field topsides, which weigh over 20,000-tonne each. This project is expected to be key in demonstrating the capabilities of the vessel to other operators.

A large amount of preparation has gone into readying the topsides for removal, with additional steel installed to ensure that the topsides maintain structural integrity during the lift. As a result, we do not expect the vessel to be awarded any further contracts until this project has been successfully completed. Even then, it will require a high rate of reliability and a low, competitive dayrate to even be considered as an option for further decommissioning work.

Allseas is confident in the technology and is already planning to build another vessel with an even greater lift capacity. The vessel, currently known as *Amazing Grace*, is still in the planning phase, but could enter the fleet in the early part of the next decade. If this vessel is commissioned, Allseas is likely to corner much of the potential market for SLVs, as there are a limited number of platforms that are appropriate for the single lift approach.

Well decommissioning

Well plugging and abandonment (P&A) work will represent the majority of decommissioning expenditure. We forecast about $48 billion in spending – making up over half the total cost in both scenarios.

Expenditure will be split between surface and subsea wells. Surface wells represent 74% of the wells to be P&A'd, with a cost of $21 billion. Subsea wells, despite being only 26% of all wells, will see comparatively higher expenditure at $27 billion. This difference is a result of the additional number of days required on subsea wells as well as the specialized vessels and equipment that is unique to them.

The subsea market is expected to be a major opportunity for subsea P&A companies. If these firms can establish a strong reputation in the early round of decommissioning, there is likely to be sustained demand throughout the coming decades. Douglas-Westwood expects a total of 7800 wells to be removed by 2040 – almost 2000 of which, will be subsea. **OE**

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