

INSIGHT



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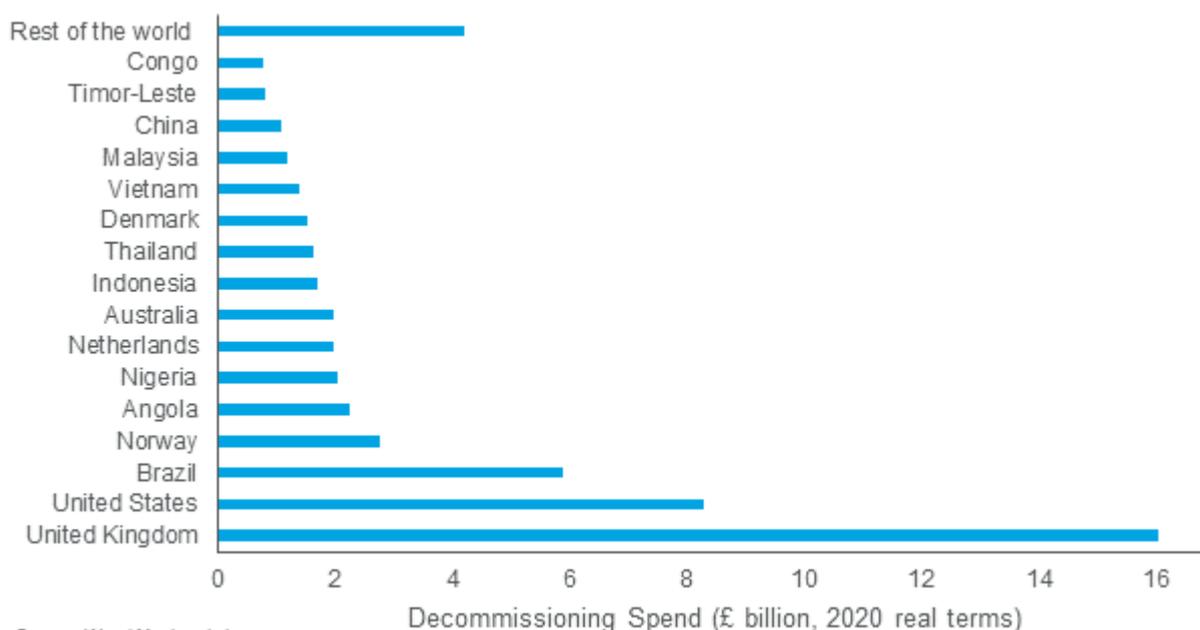
Decommissioning in the UK: the cash flow vs. cost savings operator dilemma



Executive summary

In the coming decade, an estimated £16 billion will be spent on offshore decommissioning in the UK. The large price tag shows the prize up for grabs if cost savings can be achieved. In this report, we combine the proprietary datasets and analysis of sister companies, Wood Mackenzie and PowerAdvocate, to focus on the cost of this capital-intensive activity and share our expertise on the savings opportunities that market data brings. By tracking market movements and benchmarking granular project cost details, material savings can be identified throughout the planning and execution of a decommissioning project.

Worldwide decommissioning spend



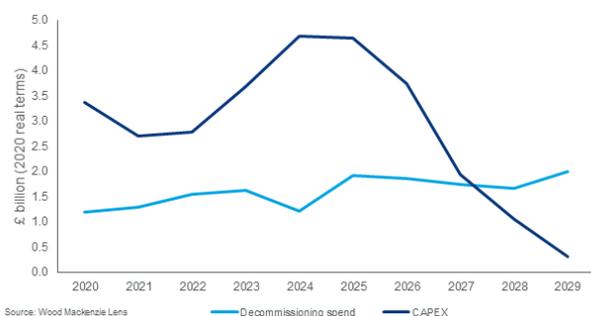
Large decommissioning spend is looming

Excluding pipelines, the base regulation in the North Sea requires removing an offshore structure in its entirety, down to the footings, unless a derogation to leave the structure partly in place is granted under OSPAR decision 98/3. One such derogation is for concrete-gravity based structures (CGBS) that weigh upwards of 100,000 tonnes. The outcome of Shell's requested derogation to leave its Brent field footings in place will provide guidance for dozens of platforms approaching decommissioning and, if granted, will significantly affect removal costs and project timelines.

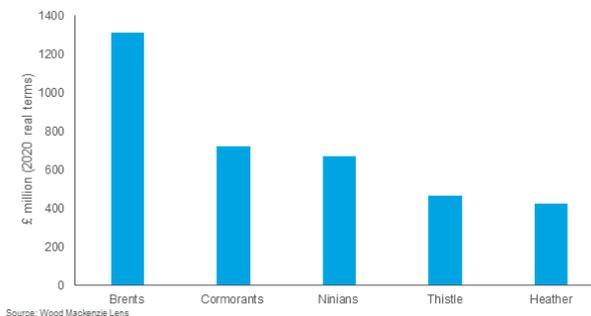
Due to its inherent lack of financial returns, decommissioning is often delayed as operators prioritise cash flow, even if producing at a loss, while regulators push for Maximising Economic Recovery (MER) principles. However, the next decade will be a turning point, as decommissioning spend is expected to exceed capital expenditure in the North Sea as more platforms wind down operations due to technical, safety, and cost factors. The larger the project, the more specific the equipment needed to perform decommissioning activities, requiring additional planning and insight into cost markets for items including heavy lift vessels, disposal options, and associated services.



UK decommissioning spend vs capex spend



Top 5 decommissioning projects by spend



An eventual rise in demand towards the end of the decade, as more fields are depleted, will tighten the supply of relevant vessels & services, effectively increasing costs and causing delays. To mitigate such supply chain issues, the industry is seeking efficiencies. The UK Oil and Gas Authority (OGA) announced a goal to reduce costs by 35% and, as of August 2020, had reached 19% savings in just two years. However, further savings are achievable when projects are planned effectively and collaboratively utilising granular dynamic data.

Cost management is often a challenge

While decommissioning projects vary in scope and size, there is a set of standard cost buckets for activities occurring between Cessation of Production (CoP) and Site Remediation. Utilising proprietary spend data from PowerAdvocate’s cleansed and anonymised fact base allows for additional granularity into costs for a typical decommissioning project. The highest portion of cost, as commonly seen across the industry, is Well Plugging & Abandoning (P&A) activities, accounting for 46% of the budget.

Title: Illustrative decommissioning project cost breakdown

Cost Model Categories	Spend Breakdown (Millions £) % of Spend	
Well P&A	123.9	46.0%
Topside Removal	34.2	12.7%
Post CoP Running Cost	33	12.2%
Substructure Removal	24.6	9.1%
Topside Prep	23	8.5%
Subsea Infrastructure	12.5	4.6%
Facilities & Pipeline Cleaning and Isolation	9.2	3.4%
Project Management	8.4	3.1%
Site Remediation	1.6	0.6%
Post-Decommissioning Monitoring	1.1	0.4%
Total	286.6	100.0%

Source: PowerAdvocate, October 2020

While costs incurred in each of these areas for different projects will be determined by derogations, safety considerations, and technical specs, each category faces its own unique supply and demand dynamics that fluctuate over time. As activities are spread out over years, savings opportunities depend on agile planning, granular market data, and execution. Since different suppliers - such as Heerema, Saipem and Petrofac – are often separated by scopes of work on the same project, it is up to the operator to bring all the pieces together and identify savings through a dynamic and proactive data-driven approach to planning and managing on-going decommissioning activities.



Likewise, operators need to pay close attention to various spend buckets. Outside of weather impacts, common areas of overruns include additional labour hours and engineering during topside preparation, discovery of hazardous materials or environmental challenges subsea, and additional heavy lift vessel trips during removal & disposal activities.

Material savings can be achieved using the right data

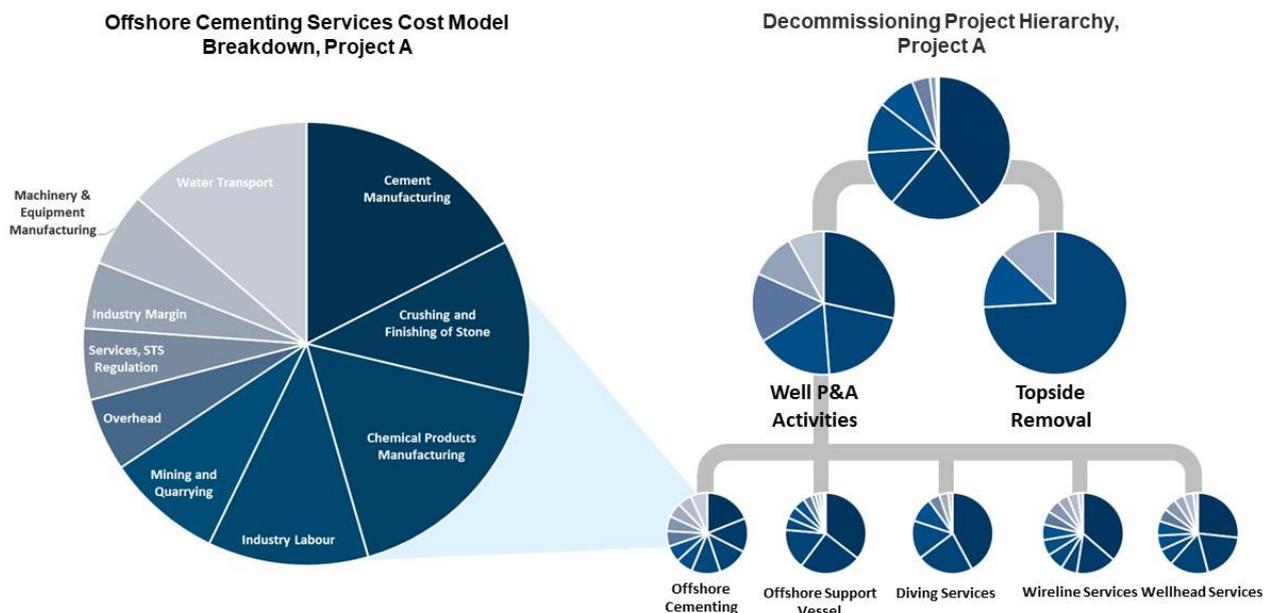
Decommissioning projects vary widely. Estimating costs for projects that can span upwards of 10 years from CoP to post-monitoring requires an agile view to pre-empt overruns. By analysing how the market is expected to move throughout the life of a project, operators can deploy a more dynamic and proactive approach to decommissioning cost planning and management. This provides benefits in two ways; through identifying and achieving cost savings for a live decommissioning project in the immediate term, and planning the timing and work breakdown structure (WBS) of a new decommissioning project with internal project intelligence and market data in the long term and well ahead of CoP.

Key decommissioning project considerations operators should monitor include supply chain planning, asset management, cross-project scheduling, allowed derogations, and lessons learned from other decom strategies.

Savings from long-term planning

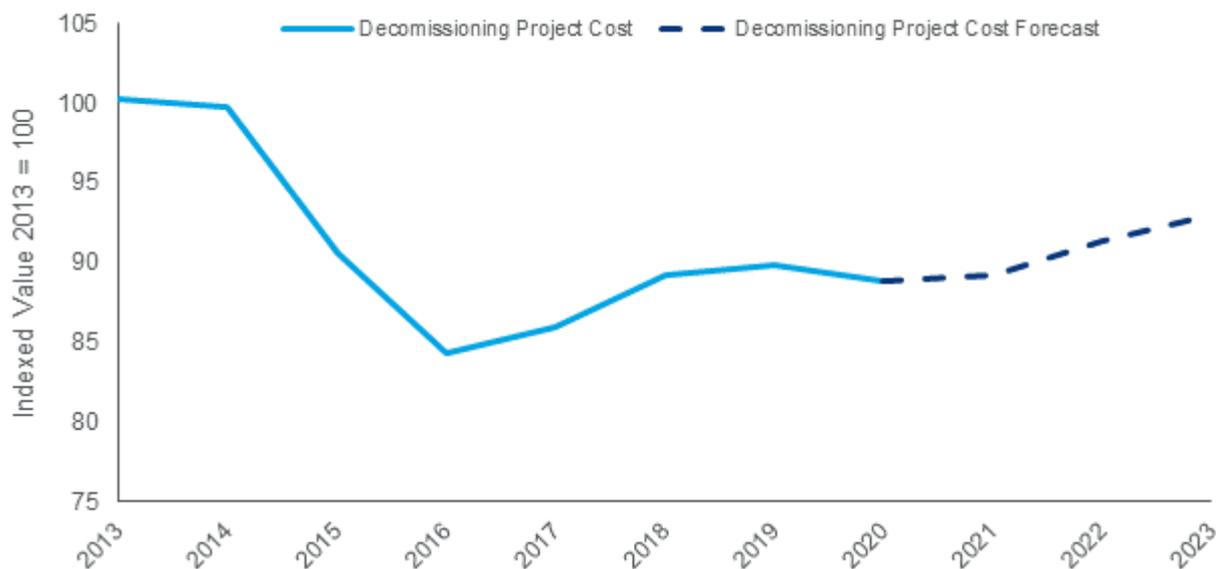
To find cost savings in such a large scope of work, data-oriented operators segment the project into granular cost categories which can be further separated between scopes of work. For Well P&A, which can account for 45% of project costs, individual scopes include offshore cementing services, support vessels, and wireline services amongst others. Each of these scopes of work can be modelled, based on their unique cost drivers comprised of material, equipment, labour, and supply and demand factors, to create highly specific market outlooks.

By breaking these activities down, savings can be found in the decommissioning supply chain. For example, within a Cementing Services Model there are a variety of cost drivers, each making up a portion of the total cost and tracked by market indices. When all models are organised into a spend-weighted hierarchy, a unique project view is formed, resulting in a singular "Project Should Cost Trend".



Source: PowerAdvocate, October 2020

Aggregate cost trend for project A



Source: PowerAdvocate, October 2020

Using Power Advocate's "Project Should Cost Trend" from the first CoP activities in 2013 through final site remediation in 2023, market peaks and dips across multiple levels are captured. Continuous updates to this tracking mechanism allow for a clearer picture on potential budget movements, particularly for items not yet contracted.



After demand for vessels fell in 2015, day rates plummeted, and project costs fell due to the significance of the support and heavy vessel activity within the project. By January 2016, Topside Removal & Disposal costs alone would have seen savings of £5 million from an initial £130 million budget set in 2013. Post-COVID-19 impacts have been relatively limited as industry prices and supply chains drastically scaled back costs following the 2015 oil price collapse, leaving most suppliers with less room to reduce prices despite the current global economic downturn. Cost declines in Well P&A activities along with other market services have kept overall project costs 10% below the original estimate by 2020, with nominal inflation projected through 2023.

Savings from Live Projects

Savings through bundling scopes of work can be achieved after work has commenced. A critical element is the ability to accurately map supplier spend and project spend data. By combining activities outside of decommissioning with planned decommissioning work, cost savings can be achieved. By thinking holistically across projects, savings in Well P&A have come from the ability to reduce the number of work hours, gain discounts on materials, and reduce vessel costs by bundling activities instead of performing each scope separately. On a broader scope, as more decommissioning is being performed, lessons learned and new technologies are driving cost reductions, particularly in the P&A space.

At the end of a project, materials that are not re-used are an asset or liability. As a part of the project that highly depends on market values at the time of execution, closely monitoring local and international options is important when structuring disposal schedules. As seen in the Brazilian market, scrap yards can be put under pressure with sudden increased demand, and if a local disposal option is not found, huge shipping costs can be incurred.

Managing costs through the duration of a decommissioning scope is a looming challenge for many operators. As the North Sea decommissioning supply chain matures and technical strategies are refined to the unique operating conditions, further savings to industry standard approaches are anticipated. However, internal and external spend analytics, market intelligence, and cost modelling tools tailored to specific projects can identify additional areas of opportunity, giving operators the information to plan cash flows and maximise cost savings.

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