



THE PRACTICE OF ENTREPRENEURSHIP

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INTRODUCTION

The process of decommissioning old and uneconomic assets has been described by many as a huge opportunity, one to which the oil and gas industry is expected to rise with its usual entrepreneurial spirit. Yet when you consider that the costs of decommissioning over the next 40 years could range from around £40 billion, currently projected by Oil & Gas UK (OGUK), to levels upwards of £100 billion (suggested by some industry commentators) you have to reflect on the value that both industry and society will derive from this activity.

Whilst the success of traditional entrepreneurial activities are usually measured in terms of performance and profit, the author would argue that the strategy for decommissioning must be set much more in the context of social entrepreneurship, where the positive return to society and the achievement of appropriate environmental solutions are considered as part of the overall success criteria.

Certainly, from a Wood Group perspective, the core values of both social and financial responsibility cause us to look on decommissioning differently. Instead of viewing this as an opportunity to increase revenue and enhance return we have adopted a far broader perspective, which fits with Wood Group's continued vision to play a key role in the stewardship of this industry.

As a result, decommissioning is not just about supporting our clients in the discharging of their licence obligations. It allows the industry to support both Government and society to secure the full potential of the resources within the United Kingdom Continental Shelf (UKCS) whilst providing employment opportunities, addressing environmental challenges and ultimately minimising the burden on the UK tax payer.

SOME CONTEXT

50 years ago the discovery of gas in the West Sole Field located in the Southern North Sea triggered a race to develop and exploit the basin's natural resources and with it an engineering and technological endeavour that would see some of the largest and complex manmade structures installed in the hazardous and unforgiving seas around the UK.

Since then in excess of £525 billion has been spent, resulting in recovery of over 45 billion barrels oil equivalent (boe) and the development of an asset portfolio that includes over 400 facilities, 10,000km of pipelines and 5,000 wells. Regrettably, when this infrastructure was designed and installed little consideration was given to the need for its removal at the end of their economic life.

These production facilities have had to weather many storms, not least of which are the economic instabilities characteristic of the oil & gas industry. However, whilst its cyclical nature and dramatic fluctuations have seen cost pressure and changes to short term strategic plans, the industry has always demonstrated resilience and an ability to bounce back.

That said, the recent drop in the oil price has come at a critical time for the North Sea with the long-term sustainability already in question as a result of reduced efficiency and spiralling costs. So, whilst there remain both reserves (estimated between 12 and 24 billion boe still recoverable) and opportunities in the North Sea, the context around which these may be exploited is continually changing.

The low oil price has only served to shine a spotlight on those assets, which are uneconomic and as a result potentially accelerated their decommissioning.

In February 2014 the eponymous Wood Review was published and outlined six sector strategies of exploration, asset

DECOMMISSIONING IN THE NORTH SEA

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stewardship, regional development, infrastructure, technology and decommissioning. The review called on the Government to establish a new arms-length regulator, the Oil & Gas Authority (OGA), to ensure implementation of the recommendations and introduced the concept of Maximising the Economic Recovery from the UKCS (MER UK).

As the economics of the basin have turned, the interrelation and mutual reliance between these strategies has become even more apparent. The need to protect our critical assets and infrastructure is clear, yet we must also plan for their decommissioning. In this regard, the Wood Review highlighted the need for a single forum to adopt a more strategic approach through greater collaboration.

Thus there exists a paradox of the need to ensure existing assets are utilised to maximise economic recovery whilst dealing with challenging market conditions and preparing and delivering cost effective decommissioning.

It is easy to look at decommissioning as a problem only for the oil industry to address and in particular for the operators and licence holders that have worked these fields. However, to suggest that anyone is shying away from their obligations could not be further from the truth. Instead the level of commitment to tackle these challenges is clear with significant resources expended in the definition and deployment of solutions.

The supply chain which has facilitated and enabled the exploration, development and production of the UKCS over the last 50 years is also preparing for the challenges ahead.



However the lack of decommissioning activity (<1% UKCS investment spend to date) and uncertainty around timing and continuity serve to make this an opportunity that is difficult to assess.

Confining responsibility to the industry alone neglects the major role the Government has in the successful and cost effective decommissioning of the North Sea not just as a regulator but also in the recognition that, through the provision of tax relief, the majority of the decommissioning cost will be borne by Government.

This is an issue that not only affects all segments of the industry and the Government but is one in which ultimately all parties hold a collective responsibility.

AN ENTREPRENEURIAL VISION OF THE FUTURE

Wood Group is not only proud to have played its part in the history of the UKCS but it can also arguably demonstrate an unrivalled track record in facility decommissioning with capability stretching back to the 1990's and covering iconic projects such as BP's North West Hutton and Miller through to the Shell Brent field today. Yet the past is not necessarily an indicator of the future and in any respect the changing context and macro environment necessitates a fundamental change in approach to decommissioning.

It is the author's belief that a pure entrepreneurial vision of the decommissioning opportunity is unlikely to deliver the most effective solution that satisfies each party and the wider stakeholder community. It can of course be argued that achieving balance between these groups is an idealistic

expectation but there must be merit in approaching the decommissioning challenge with a broader outlook.

Fundamental to this approach is a requirement to ensure the timing of any decommissioning activity supports maximised recovery, that the scope is appropriate and well defined, and that the method of execution is suitable, efficient and effective. All of this must be underpinned by the requirement to collaborate and share learnings far beyond what has been customary till now.

COLLABORATION AS A CORE PRINCIPLE

Wood Group is unwavering in its commitment to play its part, working with all parties to develop a future vision and framework for decommissioning. This is perhaps counter-intuitive to a traditional entrepreneurial perspective and some would question why an organisation with demonstrable experience and competitive advantage chooses to share with others.

The simple answer is that it's the 'right thing to do' and is underpinned by our values, which define who we are and what we do. More fundamentally is the recognition that, with a challenge such as decommissioning, no single organisation can hope to shape or deploy the most effective and efficient solution in isolation.

Those organisations (both operators and supply chain) that are willing to work together to explore and develop new solutions will need to take a different view on managing risk and liability and in doing so will unlock both potential and value. Initially these opportunities are likely to manifest themselves in regionalised or bundled opportunities rather than pan UKCS



plays but as a result offer potential to test and refine solutions and approaches.

Whilst those involved in these early projects will benefit from first mover advantage, the Government (as a major stakeholder) must ensure that the lessons learnt will be shared and made available to others. In essence this will be less about creating competitive advantage and much more about creating a level playing field for the benefit of all, shaping the market rather than waiting for it to happen.

THE IMPORTANCE OF TIMING

Although limited in number, there are already many lessons that can be learnt from completed decommissioning projects. Perhaps the most important is the need to start planning for asset retirement many years in advance of the anticipated date.

Even assets in early production stages will benefit from a foundation retirement plan and an operating model to balance medium and late life asset management challenges. There is also need to consider the regional, area and production opportunities that may extend life but influence preparation, abandonment and restoration obligations.

In this regard, Wood Group believes that the operational and decommissioning phases should not be seen as separate elements; instead the reality of their interdependence and the opportunity to enhance both sections through smart decision making should not be underestimated.

As an organisation we use the learnings from decommissioning of mature assets to update our capability and support the extension and operations of assets as they reach the late and ultra-late phases of their life. These learnings are also used to inform the concept selection and designs of new projects for our clients, both in the UKCS and across our international organisation.



EXTENDING LIFE

Ultimately the timing of decommissioning comes down to the economics of individual assets which may or may not be positively impacted through the ongoing strategies for production efficiency and cost reduction. Options for existing owners may be limited but new entrants and other players may still see opportunity in these mature assets.

Their transfer however can be hampered through the lack of capability and the thorny matter of decommissioning liabilities. If the goals of MER UK are to be realised then these barriers must be unlocked by Government and industry working together to ensure these strategic assets, indeed all assets, are in the right hands at the right time.

In respect to capability, Wood Group's duty holder solution enables and facilitates the transfer of assets between parties supporting new owners with ability and experience to maximise productive life and economic recovery. The recent award of the first pipeline operator contract in the North Sea has seen Wood Group extend this model from platforms to cover complete infrastructure so extending the possibilities to support MER UK.

Yet extending life is not just about maximising recovery. As part of ultra-late life management the interface between the operational and decommissioning phases can be further reinforced increasing time to plan and prepare for the decommissioning and ultimately removal.

THE SCOPE OF DECOMMISSIONING

For the North Sea, there is a strong regulatory framework in place that defines the scope we are addressing today. At its heart sits the OSPAR 98/3 decision. This is an output from the Oslo Paris Convention which has responsibility for protecting and conserving the North East Atlantic and its resources and in which regard has set the environmental vision around the disposal of disused offshore installations.

Yet as a global organisation we see wide variance in the approach and regulation associated with decommissioning activities. We have to accept that best practice is not confined to the UKCS, certainly not in all aspects, and we must be willing to challenge our current perceptions and customs.

Working together industry and Government must ensure the scope of decommissioning is fit-for-purpose and should support further research to ensure any challenge to scope is grounded in a robust evidence-base.

Yet we do not always need to challenge regulations; sometimes the real benefit comes from having clarity around what is expected in order to comply. Well Plug & Abandonment (P&A) accounts for more than 40% of projected costs bringing with it the additional challenge of liability in perpetuity.

Operators and owners of assets, conscious of this obligation and potential reputational damage from any future leak, are at risk of over engineering solutions and increasing cost. Yet the lack of long term data to identify the efficacy and integrity of

previous P&A activities makes the design of future campaigns challenging.

The regulator unsurprisingly looks to the licence holders to demonstrate they are using the correct methodology. Yet whilst the theory is sound, one has to ask will the original liability holder still be around if a problem develops in the future?

This is not simply a question of apportioning and holding parties accountable for the liability but instead could be key to unlocking a more appropriate and entrepreneurial approach to decommissioning.

This plays to a core challenge within the industry around the allocation of risk on the basis of the organisation most suited to bear it rather than perhaps those with the responsibility of carrying out the task.

EFFICIENT EXECUTION OF DECOMMISSIONING

A broad criticism, fairly levelled at our industry, is the lack of standardisation. Every platform in the UKCS is unique in some respect, yet that does not necessarily mandate a different plan for each. The simplification of the contracting, operating and business models associated with decommissioning must be seen as a priority.

In this regard, the author is pleased to have sponsored (as part of the Oil & Gas Industrial Strategy and with the support of Decom North Sea) the development of a late life - planning portal to deliver a framework for sharing of the learning to date and hopefully provide some direction and support to those undertaking decommissioning or even to consider the first steps in their approach.

Whilst it is unlikely that there will be one standard as a result of this approach, the sharing of knowledge is one of the first steps in driving cost efficiency and its successful delivery should drive further collaboration.

Technology and innovation will also play a significant role in the execution of these projects and we have already seen examples of new approaches such as the development of the Pioneering Spirit by Allseas. Arguably these are more closely related to true entrepreneurial vision. Yet, as impressive as the Pioneering Spirit is, it represents only a small component of the market. Just as important will be the development of downhole tools and capability to more effectively abandon [P&A] wells, which may result in even more significant overall savings.

Finally, it is important to reflect that we are not the only industry to deal with the decommissioning of redundant assets. Our pioneering approach to the last 50 years may prove an impediment as we seek to engineer the solutions to our current problems without reference to the outside world. There is desire to learn from sectors such as nuclear, as the correlation of risk and hazards between our respective industries are strong but equally important are sectors such as the salvage industry where the opportunities are seen far more simplistically and yet are no less challenging or hazardous.



SUMMARY

It may sound counterintuitive to an entrepreneurial approach to work collaboratively, look to minimise scope and defer activity. However that is to miss the bigger picture and the wider opportunity.

Wood Group sees decommissioning not as an industry in its own right or even as an opportunity in time. Instead it looks upon it as a challenge that must be overcome to sustain our industry, maximise economic recovery and mitigate the risk of its early demise.

Regardless of your own perspective and whether you still view decommissioning as a market opportunity or a wider societal challenge, if we think beyond the challenges that decommissioning presents we can perhaps imagine a new way of working.

The concept of MER UK and the introduction of a new regulator provide the foundation for a new approach and the co-creation of a fit-for-purpose solution to the decommissioning challenge. Industry must now rise to this task and, unencumbered by traditional methodology and fixedness, decommissioning can not only become a success story in its own right but it can also become the catalyst for future change in our industry.

Far from being limited to the confines of the UKCS the experience and knowledge gained over the coming years will underpin the success of other basins as they reach maturity and will ensure that, long after successful realisation of MER UK, the North Sea supply chain will continue to grow, provide employment and support the oil & gas industry across the globe.