# Commercial Models for Decommissioning

## Workshop Report
## Summer 2021

**Cross-Industry Learning**

NDA OGUK

# Introduction

**The nuclear, offshore oil and gas, and offshore wind decommissioning industries can seek value in learning from each other through cross-industry initiatives. While there are differing legislative, regulatory, and commercial environments there are also many similarities.**

Decommissioning of all historic civil nuclear assets is the sole responsibility of the Nuclear Decommissioning Authority (NDA). It was formed by the Energy Act 2004, and its purpose is to deliver the decommissioning and clean-up of the UK's civil nuclear legacy in a safe and cost-effective manner, and where possible to accelerate programmes of work that reduce hazard.

The NDA does not directly manage the UK's nuclear sites. It oversees the work through contracts with specially designed companies known as site licence companies. The NDA therefore determines the overall strategy for managing decommissioning according to budget and priority and has experience of managing the task through a number of different commercial models to deliver the mission.

Conversely, for offshore oil & gas assets the responsibility for ensuring that the requirements of the Petroleum Act 1998 are complied with rests with the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) but decommissioning of assets at the end of its economic life remains the responsibility (in perpetuity) of the original commercial development company. Today there is a diverse portfolio of over 30 separate operators active in the UK Continental Shelf, from Super Major oil companies to small independents. The emerging liabilities of offshore wind resemble those of oil & gas on the UK continental shelf and this relatively new industry has much to gain from learning from the successes and failures of earlier energy infrastructure deployment.

A collaborative, multi operator approach like the nuclear experience is more difficult to effect among fragmented offshore operators, with each asset operator determining its own plans and strategies.

*However, there are opportunities as the oil and gas industry emerges from a challenging period, impacted by the pandemic and price volatility, where the focus shifts towards emissions reduction and investment in the energy transition where collaboration across operators will be vital for success.*

Decommissioning assets can be a costly economic activity as well as energy intensive, which impacts carbon intensity, yet all operators, regulators and industry bodies recognise that efficiencies could be gained through aggregating the scope for decommissioning across a number of assets in a given geographic area, but there still remains only a limited number of examples where this has happened in the oil and gas industry.

These 3 industries participated in June 2021 in a collaborative workshop, the objective of which was to understand the lessons of the nuclear industry – how and the why it had arrived at the current collaboration model – and in addition to consider the application and benefits to the offshore industries. Operators, supply chain contractors and regulators took part.

This workshop was designed to showcase the different commercial models adopted by the nuclear sector and consider whether it is practical to adapt and apply them to the offshore energy sectors.

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# Sharing experience from the nuclear and offshore energy industry.

# 1 Cross-Industry Learning: Sharing Good Practice Across Industrial Sectors

**At the NDA, we've been working with the Oil & Gas Authority, the Environment Agency, the National Nuclear Laboratory, Defence and Renewables, to organise a series of workshops and seminars to stimulate cross-industry learning.**

This collaborative working was initiated in early 2018 when the nuclear decommissioning industry recognised that it was too inwardly focused on its own mission and lacked an outward leaning posture from a learning perspective. Initially, a number of shared common themes were identified between the NDA and the Oil & Gas Authority which were the topic of some early round table events and workshops. Over time, several additional themes of common interest have been identified from a wider decommissioning industry perspective. This report is one of a series of reports that shares learnings from one of these themes of common interest. The organised cross-industry engagements have been designed to bring together not just different industries, but also a cross-section of organisations from within each industry.

Workshops and seminars have comprised relatively small, hand-picked, invited-only participation, strongly facilitated and conducted under the Chatham House rule to encourage openness.

Throughout these events we have witnessed a continued drive and determination to share decommissioning lessons learned and good practice.

*Going forward we will continue to aid the discussion and identification of cross-industry themes of common interest, as well as encouraging collaborative projects.*

We believe that different industries have much in common when it comes to decommissioning, and that we all stand to benefit from cross-industry sharing of expertise and learning.

# 2 Approach, Agenda & Participants

## Approach

The meeting was sponsored by and advertised to OGUK members and was well attended – a benefit the online webinar format which also offered transparency and inclusion. It was designed to be an informative session learning from the nuclear and offshore energy sector experience with questions throughout each presentation.

## Agenda

1. Introduction to the workshop (OGUK)
2. Framing the oil & gas challenge (OGA)
3. Oil & gas supply chain principles (OGUK)
4. Nuclear experience as client – PPP (Sellafield Ltd)
5. Nuclear experience as operator – PPP (Sellafield Ltd)
6. Experience from Offshore Wind industry (ORE Catapult)
7. Summary of comments, thoughts, actions (OGUK)

## Participant Organisations

AGR
Ambipar
AMS Global
Astrimar Ltd
Atkins
Augean PLC
Baker Hughes
CDA
CW Energy
Dana Petroleum
Ebeni
EnQuest
Genesis Energies
GEODynamics
Harbour Energy
IPS Group
JX Nippon
KCA Deutag
Marine Space
McGuireWoods
Neptune E&P
Norton Rose Fulbright
NOV FluidControl
Nuclear Decommissioning Authority (NDA)
Oil & Gas Authority (OGA)
Oil & Gas UK (OGUK)
On Purpose Ltd
Opportunity North East
ORE Catapult
PD&MS Group
Peterson
Pinsent Masons
Pipetech Operations Limited
Premier Oil
Quanta EPC
Restrata
Sellafield Ltd
Shell
Sodexo
Spirit Energy
TAQA
Tetra Tech
Texo group
The Law Debenture Trust
Three60 Energy
Total Energies
Tradebe
Vysus Group
Wood
Worley
TAQA

# 3 Presentation Overviews

## Framing the oil & gas challenge

Whilst there has been year on year decommissioning cost savings, they are slowing, so greater emphasis is being given to step up in terms of Commercial transformation.

The new OGA Decommissioning strategy updated and published in May 2021 places emphasis on Commercial Transformation in decommissioning. Particularly around; Developing a Collaborative Culture; Data Transparency; and Decommissioning at Scale, with a focus primarily on well decommissioning before expanding to other areas of the decommissioning life-cycle.

Offshore assets are complex with multiple owners each with their own set of commercial drivers – a fragmented landscape which hasn't provided the stability and certainty needed for a cost competitive and efficient market.

The Offshore industry does have a history of collaboration and campaigning, but this has never become mainstream, and the OGA see real benefits from the potential of aggregating scopes of work and collaboration between operators and the supply chain.

Around 130 wells will be decommissioned each year in the UK over the next decade.

The current commercial model is for each operator to tender their requirements to the supply chain as individuals, and in a competitive market this makes collaboration more complex. The decommissioning of suspended exploration and appraisal wells could be an opportunity for success, with 216 wells spread across 19 operators – there is a clear opportunity here for multi-operator campaigns.

## The benefits of collaboration

OGUK published a position paper in May 2021 entitled Building Back Better: The Business Case for Multi-Operator Well Campaigns in a Diverse Basin[1]. Working with the Improving Partnerships Task Group under the Wells Task Force, one of the seven North Sea Transition Task Forces, the report demonstrates the business case, barriers and mitigations to well campaigning.

A group of operators in the east of Shetland region have also been working with the OGA to develop a programme through the lens of geographical proximity where they are looking at sub-sea infrastructure. Other ideas could be post-decommissioning monitoring and environmental surveys etc. From a value perspective, wells offer the best opportunity in terms of savings as well as imminent activity.

[1] https://oguk.org.uk/product/building-back-better-the-business-case-for-multi-operator-well-campaigns-in-a-diverse-basin/

## Oil & gas supply chain principles

OGUK have developed a set of Supply Chain Principles in order to articulate what good looks like when contracting with Operators. There are a series of 10 aspiration statements which cover the tendering process through to contracting, delivery, risk and reward. Conversely, nuclear industry procurement and evaluation processes are covered by the Public Contract Regulations. They have been designed to guarantee transparency and equality to all bidders which means that the processes are far more stringent, and which can also sometimes stifle contracting innovation.

**Supply Chain Principles:**

Risk and costs should be borne appropriately, be proportional to the work scope and not be forced on anyone; opportunity or good performance should benefit everyone, and performance-based contractual rewards should be investigated.

Contractual terms and conditions (length of contract & work scope) will seek to utilise industry standard contracts when appropriate and all parties will commit to mutuality of payment terms (including 'mutual SC payment terms'). These should reflect that the supplier has to invest for the future of the UK and make an adequate return on its investment in innovation and new technology.

All parties should ensure they have the competence and skill to deliver work being tendered and will not accept unsustainable overbidding as a means of driving price down.

Contract cancellations should not be without good reason or cause. If an operator or contractor must have the ability to terminate a contract the circumstance or risk should be outlined, explained and understood, not hidden.

Purchasers shall endeavour to optimise their Tendering and Audit requirements to ensure Supplier's resources, time and costs are not necessarily impacted or wasted.

Tender processes and evaluation should be based on value added rather than unit rates and be flexible to evaluate alternative offers as part of the bidding process.

An alternate bid (either technical or commercial) which an operator sees as a winning proposition should be selected for award on its merit. Current practice of sharing alternate solutions with other bidders to allow them to price against it should cease.

Operators and contractors should discourage the practise of "low ball" bidding – which invariably leads to multiple contract variations and effects re-negotiation in the early phase of the contract.

To support respective labour agreements in place across the workforce, operators should agree clear rate escalation mechanisms and move away from the practice of fixing labour rates for multiple years.

Where a supplier (or potential supplier) feels unfairly treated/taken advantage of, they should notify the Operator MD who will ensure speaking up is not held against them.

# 3 Presentation Overviews

## Nuclear Sector experience

Historically Sellafield Ltd has managed and delivered complex major projects by self-performing the early design works and engaging the supply chain in various individual Engineering, Procurement and Construction (EPC) type contracts on a project-by-project basis. The old approach resulted in delivery performance being well below expectations with significant in cost and schedule overruns.

## In with the new: Programme Project Partners (PPP)

PPP is an early adoption of Project 13 (P13), an industry-led response to older infrastructure delivery models that failed not just clients and their suppliers, but also the operators and users of our infrastructure systems and networks.

P13 seeks to develop a new business model – based on an enterprise, not on traditional transactional arrangements – to boost certainty and productivity in delivery, improve whole life outcomes in operation and support a more sustainable, innovative, highly skilled industry.

The £7bn Sellafield Programme and Project Partners (PPP) contract is a collaboration of four separate specialist service provider Lot contracts awarded in May 2019 to deliver Major Projects over the next 20 years:

1. **KBR** – Integration
2. **Doosan** – Process
3. **Morgan Sindall** – Infrastructure Construction
4. **Jacobs** – Design & Engineering
5. **Sellafield** acts as the 5th partner

Each contract partner integrates their area of expertise together with Sellafield Ltd to form Aligned Delivery Teams (ADTs), whilst oversight and support is provided by Sellafield as the Intelligent Client, (a term used to define the in-house capability within Sellafield which has responsibility for the ownership, management and delivery of the Framework).

The partnership provides access to expertise and resources to support the Sellafield Ltd purpose and deliver the business case benefits of; Business resilience, Skills, Sustainability, Supply Chain, predictable project performance, Value for money.

The changing approach is due to Sellafield Ltd going through significant mission change due to the end of reprocessing operations and a greater focus on remediation.

**The PPP Model principles are:**

- Profit for Performance – good profits based on successful project delivery and handover
- Long Term – 20-year duration moves away from short term decision making
- Lifecycle – takes projects from inception to delivery
- Sustainable Profits – long term sustainable profits for performance. Collaboration and no blame
- Culture – all parties collaborate within a single delivery team with shared incentives

## Benefits expectation and early signs

Benefits of the PPP model include a 10% saving over the duration of the programme and includes:

- Increased value for money for the UK taxpayer
- New opportunities for Sellafield Ltd and its people
- Accelerated high hazard reduction
- Enhanced employment opportunities for project personnel in West Cumbria and Warrington
- Improved predictability of project cost and schedule outturn
- Enhanced reputation for Sellafield Ltd and its employees
- Sellafield recognised as having areas of Project Excellence within the Infrastructure Project Authority (IPA), the Supply Chain and Government

Projects transitioned to PPP have already seen a schedule acceleration in production of the Outline Business Case (OBC). Other benefits to date have been more of the softer side of collaboration blending operator and construction experience and personnel. The contract is 2 years in, and 'ups and downs' are to be expected but early prognosis is positive and based on long-term relationships including within the Supply Chain.

The novelty of the new model gives expectations which may take a little time to settle down. Four individual partners were chosen to be individually best in class for each Lot and then introduced to each other which is a different dynamic than a consortium of Joint Venture (JV) approach where there are existing project-based relationships.

It will take time for them to collectively build individual and corporate trust – joint project responsibility and equitable sharing of profits encourages this.

Twenty years is ambitious, but it was felt that things couldn't continue on a piecemeal basis having to compete with other large scale public projects such as High-Speed 2. Ongoing there are performance, capability and capacity tests within the contract that continue to apply and whilst these are still based on the older model, it will not detract from the collaborative delivery approach.

## Offshore Wind Decommissioning

The UK market currently has 3 major manufacturers – GE, Siemens Gamesa and MHI Vestas. There are also around 10-11 major operators including Orsted, Equinor, Vattenfall etc., and it is expected that future markets will see more operators including specialisation in late-life operations and decommissioning capability, much like the development in oil & gas.

The main focus to date has been to develop the market through Government policy and regulation initiatives which have led to around 10GW currently deployed with 7 of the world's largest 10 installations. There is an aim for the UK to deliver a fourfold increase to 40GW within the next decade.

With an anticipated lifespan of 20-25 years, there has only been 1 decommissioning project to date, but there should be a significant escalation of activity from the late 2020s and an anticipated 20GW being taken down by 2040. Whilst it is understood that decommissioning is to be part of the lifecycle, the UK Government is very much focused on getting the installations installed as efficiently as possible.

## Writing on the wall

From a cost perspective, the offshore wind industry could be seen as having learnt from the oil & gas experience where a security was not initially required, but as fields developed with multiple partners, security was sought between them in most cases. From 2004, the government (OPRED) can call for security to be posted based on its own assessment of company risk. For Offshore wind, government has put a requirement for security from the start. This is now similar to oil & gas, whereby a security is required to be set aside for decommissioning and the expectation is that the lease owner bears all costs to return back to the original seabed state. Additionally, as with the oil & gas experience the situation could get more complex and fragmented as assets are sold on. There are already early signs that there will be a shortfall between assumed costs and actual.

A further issue to resolve is that whilst up to 85% components are recyclable, some aspects of decommissioning are complex to recover and reuse, for example umbilicals, and others such as blades which cannot be recycled currently and are sent to landfill. This aspect of the circular economy still needs to be resolved, but how and at what cost is still to be factored into the eventual bill.

# 4 Key Learning Highlights

## How should we compare our respective markets?

A high-level comparison of the ownership models across our respective industries is shown below:

- **Oil & Gas** – fragmented and complex shared private sector ownership with the timescales for decommissioning driven more by market and commercial considerations
- **Civil Nuclear** – public ownership under one Non-Departmental Public Body with timescales constrained by the ability of the public purse to finance projects whilst not compromising safety or regulatory obligations
- **Offshore wind** – currently less fragmented but oriented more towards developing along the same lines as the oil & gas experience

The difference between the market commercial models isn't characterised by Public v Private; it is better defined by the fact that all nuclear assets come under one ownership umbrella. This gives the opportunity of a unified approach to decommissioning multiple locations based on best athlete and efficiencies of scale.

Operator knowledge of accurate decommissioning costs has a commercial advantage in Merger & Acquisition activity. For example, if company buying asset has more knowledge on true cost of decommissioning and it is less than what current owner expects it could make for an attractive acquisition. Therefore, operators will protect decommissioning costs and protect knowledge.

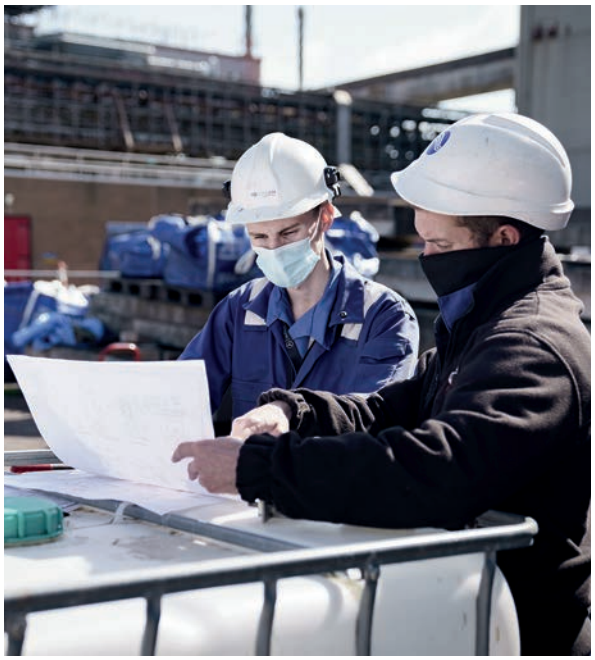
The sporadic nature of contract awards from multiple vendor one-off projects combined with the inevitable focus on costs, results in a diminished capacity to invest, innovate and develop.

# 4 Key Learning Highlights

## Nuclear: the learning from experience in previous commercial models

The old approach resulted in delivery performance being well below expectations with significant cost and schedule overruns. The root causes identified included:

- Lack of learning from one project to the next
- Fragmented procurement strategy, not cradle to grave
- Inappropriate risk transfer to the supply chain
- Large Sellafield Ltd resource overseeing supply chain delivery
- Adversarial relationships driven by contract incentives
- Inadequate definition of projects from programmes
- Limited socio-economic benefit to the local community
- Each Major Project having its own bespoke supply chain
- Stakeholder feedback – project delivery historically poor



## Pros and cons of Frameworks

Whilst the workshop didn't discuss the use and purpose of Frameworks within the Public Sector, there is sufficient difference between their deployment and that of the Private Sector to warrant a brief mention of the highlights as an additional point of learning or insight which could be considered by the oil & gas industry.

Public Sector Frameworks for the supply of goods and services typically have the following characteristics, all of which aim to uphold the principles of equality, transparency, proportionality and mutuality. It may be worth comparing these against oil & gas operator frameworks:

- Advertised through national open access public procurement portals e.g. OJEU, Contracts Finder etc. Any compliant company can bid
- Have start and end dates – typically 4 years
- Can be single source, but more usually have around 6-12 suppliers per Lot
- Once in place, no new suppliers may join until the framework is re-bid for a new term
- Transparent documented scoring methodology including weighting between the Quality response, Pricing and increasingly, Social Value commitments
- Some large frameworks are operated by independent public contract specialists who offer a regulation compliant procurement route for any public sector body
- Involves Lot specific mini competitions but most also allow for direct awards
- Have standardised terms and conditions set at framework level

## Conclusion – are we learning?

The oil & gas sector have demonstrated their willingness to learn from other industries. The OGA decommissioning strategy continues to adapt and develop as can be seen by having embraced the opportunities of the Energy Transition including consideration given to the reuse and repurpose of assets. Whilst the fragmented asset ownership and shared liabilities will continue to frustrate, the emphasis on commercial transformation and stimulating well campaigns in particular would seem to offer the best 'bang for buck', at least in cost reduction terms in the short to medium term.

Civil nuclear decommissioning and environmental remediation could be considered as the most mature of the 3 markets, albeit with protracted timescales as it deals with its own bucket of legacy complexities – an obvious candidate to learn from. Over the years it has demonstrated its ability to adapt by implementing various commercial models to balance risk, capacity and capability against the very visible backdrop and scrutiny of providing taxpayer value and social license to operate. The PPP model is the latest iteration borne from experience drawing on lessons learnt.

Both the nuclear and offshore oil & gas had early drivers of necessity and criticality to exploit resources for economic benefit. Little regard was given by these industries to the inevitable requirements for decommissioning. So it would seem to be a similar case for the current drive to deploy offshore wind installations in the dash for Net Zero. Whilst some 85% of the wind components can be recycled, a lot of the processing involves offshoring and it is still necessary to crack the issue of what to do with turbine blades in landfill.

The offshore wind industry has already identified a burgeoning cost gap between funds set aside for decommissioning and the eventual bill. There is also an acknowledgement that the industry is set to follow a similar trajectory to oil & gas with regards to complex asset ownership and liabilities.

It is important that we continue to collaborate across-industry to capture relevant learnings and ensure common issues and errors are not repeated.

# 5 Continuing to Share Good Practice Across Industrial Sectors

**The backdrop for collaborative working is fuelled by a desire to reduce decommissioning costs and improve the schedule of risk reduction.**

The UK government has challenged the nuclear sector to reduce the cost of decommissioning by 20% and the cost of oil and gas decommissioning by 35%.

*It is recognised that by working together we stand a better chance of delivering these savings.*

We will continue to facilitate cross-industry engagements and collaborative projects based on themes of common interest.

Shareable write-ups, post workshop webinars and other forms of dissemination have ensured the wider availability of learnings to those who could not be in the room, and this report adds to this body of material.

A back catalogue of reports can be found at **www.totaldecom.com/cross-industry-collaboration/**

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