Department for
Business, Energy
& Industrial Strategy

Strengthening the UK's offshore oil and gas decommissioning industry

Government Response to the Call for Evidence

December 2020

TOGETHER
FOR OUR
PLANET

Any enquiries regarding this publication should be sent to us at:
enquiries@beis.gov.uk callforevidence_decommissioninguk@beis.gov.uk

Contents

Glossary

AI	Artificial Intelligence
BEIS	Department for Business, Energy and Industrial Strategy
CCS	Carbon Capture and Storage
CCUS	Carbon Capture Utilisation and Storage
CoP	Cessation of Production
DIT	Department for International Trade
DP	Decommissioning Programmes
E&P	Exploration and Production
EEEGR	East of England Energy Group
FEED	Front End Engineering Design
GoM	Gulf of Mexico
HLVs	Heavy Lift Vehicles
HS2	High Speed 2
HSE	Health and Safety England
JVs	Joint Ventures
KPIs	Key Performance Indicators
LSA	Low Specific Activity
MER UK	Maximising Economic Recovery UK
MODU	Mobile Offshore Drilling Unit
NDA	Nuclear Decommissioning Authority
NDC	National Decommissioning Centre
NEBA	Net Environmental Benefit Analysis
NGOs	Non-Governmental Organisations
NORM	Naturally Occurring Radioactive Material
OGA	Oil and Gas Authority
OGTC	Oil and Gas Technology Centre

OGUK	Oil and Gas UK
OPRED	The Offshore Petroleum Regulator for Environment and Decommissioning
OSPAR	Oslo/Paris convention (for the Protection of the Marine Environment of the North-East Atlantic)
P&A	Plugging and Abandonment
R&D	Research and Development
ROV	Remote Operated Vehicles
SDI	Scottish Development International
SMEs	Small and Medium Enterprises
SNS	Southern North Sea
UKCS	United Kingdom Continental Shelf
WBS	Work Breakdown Structure

Executive Summary

The UK's oil and gas reserves are declining, and the UK Continental Shelf (UKCS) is a very mature basin. Yet, for the Government, maintaining secure and resilient supplies for both individuals and businesses remains important as oil and gas will play a significant role in an orderly energy transition to net zero. To support the energy transition, the government has committed to developing a transformational North Sea transition deal. In parallel to the new exploration and production projects that will maintain a security of supply, decommissioning of offshore oil and gas infrastructure on the UKCS will be increasingly prominent in the years ahead with decommissioning expenditure forecast to be around £1.5bn per year for the next ten years[1]. If the sector can decommission our offshore infrastructure in a safe, efficient and environmentally responsible manner, while also meeting the OGA's ambitious cost reduction targets, it will be well positioned to offer cost effective solutions to the global market, by one estimate worth around £80 billion in the next decade[2] and over £250 billion from 2022 onwards[3]. It is the Government's ambition for the UK to capitalise on the sizeable market opportunity available on our doorstep (within the UKCS and the wider North Sea) and use this advantage to become a global centre.

To support these ambitions, in March 2019, Government launched the Strengthening the UK's offshore oil and gas decommissioning industry Call for Evidence, to identify the potential opportunities that will arise from the development of a world-leading domestic decommissioning industry.

This call focused on issues that are crucial for both operators and the supply chain. The two central themes that the call for evidence asked questions on were:

- How could the UK decommissioning industry further improve its ability to serve the UK market, support the Maximising Economic Recovery (MER) UK Strategy and reduce the overall costs of decommissioning; and
- What could be done to encourage the domestic industry to export its decommissioning expertise abroad and position Scotland, together with the rest of the UK, as a world leading hub for decommissioning.

Since the Strengthening the UK's offshore oil and gas decommissioning industry Call for Evidence closed the coronavirus pandemic has badly impacted on the oil and gas sector, particularly the supply chain. Whilst there has been a significant impact on decommissioning activities on the UKCS during this period it remains clear that it will be a global growth opportunity for the UK supply chain for some years.

[1] 1 OGUK (2018), Decommissioning Insight, https://oilandgasuk.co.uk/wp-content/uploads/2019/11/OGUK-Decommissioning-Insight-2019.pdf

[2] Wood Mackenzie (2018), Upstream decommissioning – where's next and who pays? https://www.woodmac.com/reports/upstream-oil-and-gas-upstream-decommissioning-wheres-next-and-who-pays-22918

[3] Wood Mackenzie (2017), US$32 billion of decommissioning worldwide over the next five years: is the industry ready? https://www.woodmac.com/reports/upstream-oil-and-gas-us32-billion-of-decommissioning-worldwide-over-the-next-five-years-is-the-industry-ready-9599

Main Findings:

Responses to the call for evidence confirm that decommissioning of the UKCS is firmly on the agenda for the oil and gas industry. Whilst the UK oil and gas supply chain already has expertise and experience of decommissioning, to continue improving the proficiency of the decommissioning sector, it will require engagement amongst industry, regulators and Government.

One of the strongest messages from the responses was the need for a better understanding of the decommissioning pipeline. There was a clear view from the sector that this would allow industry to align their strategy and investment plans, and to drive forward innovation in technologies and business models. With knowledge of what projects there are to be won, timely additional investment in the UK decommissioning sector would contribute to the already recognised expertise that the UK's supply chain has.

Related to this, respondents promoted the need for a mechanism to develop benchmarking across the sector. Robust benchmarking could ensure that best practices can be reviewed and embedded within decommissioning businesses, supporting efficiency gains and reducing costs. Furthermore, respondents requested that any mechanism should be in a format that is comparable from project to project, for example against the industry recognised Work Breakdown Structure. Efforts like this, that can facilitate industry competition and improvements, will stimulate the sector.

Most respondents did comment that the UK has deficiencies in some of the physical infrastructure that could support the development of the decommissioning industry. They identified that there is a lack of British owned Heavy Lift Vessels and an absence of an ultra-deep-water port facility within the UK. In considering these gaps, there is concern that this could stunt the development of wider supply chain opportunities related to disposal activities. However, industry was also explicit in saying that Government and its regulators should carefully judge where they intervene in the decommissioning market, avoiding actions which introduce market distortions or inefficiency.

In terms of exporting decommissioning services, although it was reported that much of the supply chain is already exporting (over 60%), there is much more to do from within industry to address the challenge of exporting as a collective, which would increase the strength of the UK's proposition. This includes collective insight into the global decommissioning opportunities on more granular levels, to be able to target the right opportunities for the UK decommissioning sector. Additionally, the sector could benefit from the development of an export strategy to promote UK decommissioning expertise, targeting key markets and leveraging current international diplomatic strengths. An overriding message was that any export success will be underpinned by domestic expertise. Government, regulators and industry should make sure that the sector is: excelling in the UK market, competitive regionally (i.e. the North Sea which, after the UKCS, is next most lucrative market in the next 10 years) and becoming ready for targeted international export.

Next Steps:

This response document, in considering the sum of the evidence provided, puts forward appropriate, practical and feasible next steps (p. 34-35) that can support the development of the UK decommissioning sector and the Government's ambition that the UK becomes a global centre of expertise for decommissioning.

It is our intention that these next steps be taken forward by the North Sea Transition Task Forces, which are important mechanisms for driving innovation and improvements in support of MER UK and wider industry performance. A timeline for this is included within the section on next steps.

Action one: Regulators and sector trade associations to develop mechanisms to increase transparency of the pipeline for new decommissioning projects on the UKCS, as part of the Decommissioning Task Force.

Action two: Regulators and industry to develop mechanisms to share KPIs and benchmarking data across the sector to ensure best practices are embedded within decommissioning businesses with the objective of increasing efficiency and reducing costs.

Action three: The Decommissioning Task Force, Oil and Gas Technology Centre (OGTC) and National Decommissioning Centre (NDC) to develop a plan with regulators and industry to encourage the trialling, adoption and deployment of new technology and data solutions for decommissioning projects on the UKCS, especially where there is scope for cost reduction.

Action four: North Sea Transition Task Forces, Department of International Trade, and industry to develop mechanisms to improve market intelligence, including key export markets, businesses involved, regulatory barriers and size of the opportunity.

Action five: Government, regulators and export agencies to develop an export strategy to promote UK expertise, targeting key markets and leveraging current international diplomatic strengths, which could then potentially lead to a pilot project in a target market.

Overview of respondents:

There were a total of 31 responses to the call for evidence. 9 of these were received online via the Citizen Space site and 22 were submitted to a dedicated mailbox - callforevidence_decommissioninguk@beis.gov.uk.

To segregate the evidence the respondents have been classified into the following categories:

Type of Respondent	**Number of Responses**
Academia	1
Individual (member of the public)	1
Industry associations	8
Oil and gas operator	2
Port authority	2
Professional services company	1
Public entities (Government or Government agencies)	2

Supply chain firm	10
Technology centre	1
Trade unions	3
Total	31

The identification of evidence within this document does not mean the Department for Business, Energy and Industrial Strategy (BEIS) will necessarily take the idea forward. Many interesting ideas or recommendations were put forward and those that are deliverable will be explored by BEIS where further supporting evidence can be identified.

Some respondents raised comments that would be more appropriate for regulators or that would interest industry and their representative bodies; where appropriate, BEIS will share these.

Other respondents provided evidence that was deemed outside of scope of the call for evidence and not considered within the sum of the evidence; it is not reflected within this document.

Methodology:

The evidence received was assessed by BEIS.

The drafting of this Government response document was led by BEIS with the support of the Department for International Trade (DIT), HM Treasury and the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED), which sits within BEIS. Industry, government and regulators work together through the North Sea Transition Forum and the North Sea Transition Task Forces that separately focus on Decommissioning and the Supply Chain and Exports. They were crucial in this call for evidence, both through their own submission and through the leveraging of their membership. The OGA provided a platform for industry collaboration and capturing and sharing lessons learned and success stories. In light of the coronavirus pandemic we reviewed the findings in this response to ensure they were still relevant and concluded that they were.

Since not all respondents chose to respond to every question within the call for evidence, the summary of evidence is qualified in the following way:

- **Most** is used when referring to more than 50 per cent of respondents to a particular question.
- **Several** or **some** is used when referring to 20-50 per cent of respondents to a particular question.
- **A few** or **a small number** is used when referring to 0-20 per cent of respondents to a particular question.

Summary of evidence received

Question 1: What core strengths does the UK have in offshore decommissioning, where we might be able to build a competitive advantage?

Public entity comment:

The maturity of the UK Continental Shelf is a core strength with complex decommissioning projects already executed and a high number of fields/assets to be decommissioned over the next decade. This is driving domestic development of innovative solutions by supply chain companies.

Most respondents commented that the strength of the UK offshore decommissioning sector lies in its diversity of experience and the market opportunity.

- Several respondents noted that the UK has exposure to a wide variety of field types, infrastructure types, integrity levels, water depths and environmental conditions, and as such, the experience in the UK is relevant in virtually all other offshore regions.
- A public entity noted that many of the skills sets developed for exploration & production (E&P) are directly transferable to offshore decommissioning. A few respondents added that there are technical strengths across operations which could support decommissioning activities including well services, maintenance and integrity management, brownfield engineering, maritime and logistics.
- An industry association added that there is significant experience of developing complex decommissioning programmes and successful project management in execution of those programmes.
- Some respondents added that there is the critical mass demand required to develop capabilities at scale to drive both standardisation and efficiency.
- Several respondents commented that a strength of the UK offshore decommissioning sector is a collective understanding of and management of late life assets and preparation for decommissioning.
- An industry association added that this operational experience and evidence of cost reduction places the UK at a competitive advantage to develop potential export markets. The industry association also noted that the OGA is ideally placed to collate evidence of the cost reduction data to the betterment of the UK sector.

Industry Association comment:

In recent years, [the UK's] experience has extended to late-life asset management and a focus on optimising the decommissioning process, both of which contribute towards Maximising Economic Recovery (MER) in the UK.

Some respondents commented that a strength of the sector lies in the fact that the UK industry has a developed and robust regulatory environment including planning, approval, health and safety, environmental and quality assurance processes. They continued, noting that the regulations have progressed to produce structured and consistent processes.

- An industry association added that the good working relationship between regulators and industry has fostered a pragmatic and aligned approach to optimising decommissioning outcomes.
- An industry association noted that the UK's regulatory framework adds to the international reputation and thus strength of the sector.

A small number of respondents commented that there is strength developing around environmental surveying and environmental impact assessments.

- An industry association noted that with environmental management being a global issue, the UK is well qualified to build on this strength as it reaches overseas.

Public entity comment:

If the UK industry can demonstrate that it has the proven ability to decommission oil and gas infrastructure in a way that provides high protection for the environment, is low carbon and which maximises the value of resources, then it will be well placed as an exemplar to compete effectively in the multi-billion pound global market.

A small number of respondents commented that it is a market strength that mature industry trade bodies such as Decom North Sea and Oil & Gas UK (OGUK) have maintained a focus on learning and good practice guidance.

- An industry association added that the OGUK Comparative Assessment guidelines, the Work Breakdown Structure (WBS) and the Cost Estimation Guidelines provide a 'de facto' standard for activity in the UK and are now being adopted in other jurisdictions.
- Additionally, a small number of respondents commented that there are work forums present in the UK that allow collaboration between operators, the supply chain and regulators. They continued, noting that these forums assist with driving performance improvement and the cost reduction framework in line with MER UK.

A small number of respondents commented that research and development in new technology is also a strong aspect of the UK decommissioning sector. An industry association noted that the creation of the Oil & Gas Technology Centre (OGTC) and the National Decommissioning Centre (NDC) have assisted such innovation.

Industry association comment:

A collaborative environment, with ongoing work to improve collaboration between operators, and active work through the OGTC and others should develop routes for the private sector and our world-leading universities to tackle key decommissioning challenges.

- An industry association noted that academia further supports this with several oil and gas industry-specific courses, including a dedicated decommissioning MSc at the University of Aberdeen.

- An industry association added that the availability of 'seed' funding for new technology is also a UK strength.
- A public entity noted that over the last two years, the Scottish Government's Decommissioning Challenge Fund has received 63 expressions of interest and 34 full applications for support, resulting in 24 projects successfully receiving awards totalling £10.3 million. They continued, noting that this demonstrates the demand for assistance to fulfil the ambition of companies in Scotland to develop and deliver appropriate solutions for the sector.

Most respondents commented that the UK workforce was a strength, with an industry association noting that they have delivered efficiencies and innovation over the last 50 years, which is a major asset in building a competitive advantage for decommissioning.

- An industry association added that the UK workforce also already has considerable domestic and international experience.

A few respondents commented that Scotland has a very strong network of port and harbour infrastructure, adding that many have made significant investment to attract decommissioning activity.

Other specific areas of strength noted by a few respondents include:

- Project Management (with experience around cost optimisation, scheduling and risk management).
- Environmental and Technical/Engineering Studies.
- Well Plugging and Abandonment (P&A).
- Cleaning/Waste Management, for instance, asbestos, Naturally Occurring Radioactive Material (NORM) and Low Specific Activity (LSA) wastes.
- Topsides Preparation.
- Subsea Preparation/Removal, in particular with Remote Operated Vehicles (ROVs).

Question 2: Are there any gaps or areas of weakness in UK capability, and if so, is there a need to actively seek to address them?

Industry association comment:

A few industry associations commented that in considering gaps and weaknesses, Government and its regulators should carefully judge where they intervene in the decommissioning market, avoiding actions which introduce market distortions or inefficiency.

Some respondents commented that a weakness is the lack of a clear long-term schedule of decommissioning activity, with overall timing of decommissioning plans remaining uncertain and subject to deferral.

- Several respondents commented that this can create uncertainty in demand, possibly reducing operator, supply chain and regulator efficiency in achieving cost-efficient decommissioning. A few respondents added that it is a gap that the UK has no 'national plan' for decommissioning offshore oil and gas infrastructure.
- An industry association noted that for most supply chain companies, it is challenging to justify expanding UK capability by investing in tools, techniques and training when the timing of the return on investment is very uncertain. They continued, noting that hindering investment in this way, over the long-term, could create uncertainty in the UK's future capacity to be an exporter.
- An industry association added that the UK's complex offshore infrastructure means that decommissioning focused on single assets can be problematic, as interdependencies exist between assets. The industry association added that this complex environment has been recognised by the OGA already, but further steps to encourage collaboration and data sharing could generate substantive cost savings.

Most respondents commented that today, the absence of deep-water facilities to receive heavy-lift vessels (HLVs) and deep-draught vessels to offload directly onto the quayside, is a gap.

- Some respondents added that such a facility would provide additional competition to the market and could increase the opportunity for structures (topsides and jackets) to be landed in the UK and a surrounding disposal supply chain to be developed.
- An operator added that the absence of an ultra-deep-water port in the UK has the effect of requiring double handling for heavy lifts (from deep draft heavy lift vessels onto barges and then onto the quay).

Most respondents commented that UK companies do not currently provide many of the physical assets (e.g. vessels) associated with decommissioning.

- An industry association commented that the UK does not have any significant heavy lifting, transportation and removal capability. They added that removals activity makes up 13% of future UK decommissioning spend and is a segment that is not now accessible to UK companies. They continued, noting that UK players are now coming to the market, however the predominant rig capability resides outside the UK.

- A public entity commented that large fixed platforms have been or will be removed by foreign-owned HLVs and taken to foreign ports for dismantling, recycling and disposal as a result. This means valuable skills, experience, employment, circular economy opportunities and exportable expertise in these areas will fail to be realised.
- An industry association added that the removal of old assets require a great deal of detailed pre-planning and engineering, and as the vessels with which to perform the lift are foreign-owned it could be argued it is foreign companies that are building the track record in how to remove UK assets. They noted that without intervention this trend will continue and even accelerate.
- A public entity noted that whilst Barge-Transfer is technically feasible, it is not considered a viable commercial option due to increased risk, liabilities, insurance and cost of double handling. They added that barge transfer could increase the overall removal cost of a large decommissioning project by ~15%.

Industry association comment:

The scale of investment needed to create a specialised UK owned heavy lifting / decommissioning capability has not proved an attractive investment opportunity to-date, nor is there seen to be any market failing. Alternative opportunities may emerge using new technology to disrupt the market and provide competition to the heavy lifters.

A few respondents commented that a weakness is that the value that effective information management can bring to the sector is not widely understood and, as such, the value of data is not fully exploited.

Technology centre comment:

The use of data and digital technology across the entire UKCS would enable decommissioning to be planned and simulated under a "basin-wide" strategy. This holistic approach would represent a significant competitive strength and enable the UK to seize a larger global market share. Creating access to information on the infrastructure on the UKCS would enable the development of basin-wide decommissioning plans for multiple assets.

A few respondents commented that the UK workforce could be a weakness as labour costs are comparatively high versus other countries. A few respondents added that attention must be paid to attracting new talent to the industry so that the current knowledge and experience isn't lost. They continued, noting that it is critical to address the negative perceptions around the fossil fuel-producing nature of the industry.

- An industry association noted that in some job roles there are common skills across the energy sectors (i.e. offshore wind), so industry must capitalise and identify how common prior work can translate into the development of a multi-sector decommissioning workforce.

A small number of respondents commented that re-use or re-purposing of steel and other material/equipment from decommissioned assets is particularly limited and this hinders the development of the waste hierarchy, which places great value on re-use.

- A public entity noted that due to the lack of steel recycling facilities, the steel from decommissioned facilities is generally shipped overseas.

- A public entity added that to counter this, operators should provide detailed asset inventories well in advance of decommissioning project execution to enable materials and equipment to be identified for re-use and re-purposing to support circular economy initiatives.

Port authority comment:

Scottish Government and Zero Waste Scotland are actively pursuing the potential to increase the circular economy. In a circular economy, waste material and products become the raw material for industry, commerce and manufacturing. Effectively, waste is designed out of the system, and materials are continuously flowing through the supply chain and are retained by businesses and the economy.

Public entity comment:

Detailed asset inventories of the materials that the industry produces should be an integral part of all projects. These inventories should be made available to the supply chain enabling the sector to be clear about the volumes and value of the materials being decommissioned and promote the preference for reuse and repurposing over recycling and scrap, in order to derive greater value from the waste.

A small number of respondents commented that the offshore oil and gas industry does not design for decommissioning.

- A supply chain firm noted that not designing for decommissioning during the project results in unnecessary expenditure.

Supply chain comment:

Our vision is that every new project (whether that be for a greenfield development or significant brownfield modifications) should have decommissioning engineers in the team in the same way as operation and maintenance engineers are included in the project team.

Question 3: Are there any emerging technology areas that should be pursued that will support the development of a world-class domestic decommissioning industry and help UK-based companies win international business?

Public entity comment:

The Oil & Gas Technology Centre (OGTC), co funded by the Scottish and UK Governments as part of the Aberdeen City Deal, has co-invested £21m in 32 projects relating to decommissioning, with 20 of these involving companies based in Scotland. Out of these projects, 15 relate to well abandonment technology development.

Industry association comment:

The National Decommissioning Centre (NDC) is a new global research centre that combines academic excellence and industry expertise to support decommissioning activity. A partnership between the University of Aberdeen and OGTC, the NDC is the first of its kind in the world and demonstrates the UK's emphasis and intentions to become world leaders in decommissioning.

Several respondents commented that the Decommissioning Technology Roadmap has been published by the OGTC and identifies four key focus areas for technology development. This roadmap broadly promotes:

- Late life management: Optimising processes and moving to automation with extensive use of AI to generate cost savings.
- Reduction in operating expenditure post Cessation of Production (CoP): Building in processes to assist in site handover, and developing clean power and safer, remote monitoring.
- Innovative Removal: Pioneering techniques where the UK can build competitive advantage, across Topsides, Jackets and Subsea.
- Optimising P&A and pioneering new methodologies in this space.

Several respondents commented that well abandonment technologies, which represents nearly half of the cost of decommissioning, was an obvious target for UK companies and technology developers that could lead to increased exports in future years. Some respondents also noted that the related challenges in well P&A are similar across oil and gas provinces.

- An industry association added that significant progress has been made in well abandonment technologies and working practices over recent years.
- A public entity noted that this includes projects for a rig-less diagnostic system, wellbore clean-up, alternative barrier materials and data analytics for well conditions.
- A public entity added that the Scottish Government Decommissioning Challenge Fund has already provided support for five projects developing solutions for well P&A including development of: a tubular cutting tool; an innovative integrated, multi-functional subsea abandonment tool; a thermite based alternative well barrier; an integrated closed system for well bore cleaning and well abandonment; and a FEED

study for development of a barrier qualification rig to test novel/innovative barriers and plugs for well P&A.

Other developing technology applications which a few respondents noted include:

- Artificial intelligence and augmented reality.
- Better eco-science to enhance knowledge and technical understanding to select the right removal options for the ecosystem.
- Robotics, autonomous survey vehicles and supporting software.
- 5G communications to offshore enabling augmented reality and virtual assistants.
- High resolution surveys of installed subsea infrastructure, sufficient for preparing decommissioning programmes and formulating scopes of work, including if possible, to facilitate the ability to collaborate online in real-time.
- Non-traditional removal and lifting options beyond use of HLVs.

Industry association comment:

Renewed focus should be put into how much of the late life and decommissioning scope could be handled without a Mobile Offshore Drilling Unit. If the UK were to champion research into how we could move scope boundary and therefore push scope onto cheaper vessels, this could be a viable offer for UK businesses to export globally.

- Improved access solutions for visiting and executing work on unmanned and subsea facilities.
- Accelerated corrosion technology.
- Thermite and Bismuth Alloy well decommissioning.
- Automated piece small removal methods.
- Internet of Things / Digitalisation / Digital Platform / Virtual deep-water port.
- Robotics and automation in late life management.
- Automation in survey and inspection.
- Re-use and design for decommissioning.
- Cost-effective in-situ removal of oils/waxes/undesirable deposits from pipelines before they are abandoned or brought back to shore (i.e. ice pigging).

Operator comment:

Development of new techniques and use of Big Data may provide for more efficient execution and novel approaches. With the UK at an advantage in many areas already, further development of technologies and synthesis of expertise across the industry should help drive the domestic and export markets.

Question 4: What specific areas or capabilities of the decommissioning value chain have the greatest potential for export[4]?

Supply chain comment:

[International] markets are a mix of experienced and nascent, with significant regional variation in regulation, asset demographics and infrastructure. UK supply chain entrants to these markets would be well advised to avoid thinking all competencies, equipment and services can be transferable and easily rolled out.

Exportable capabilities can be divided into several categories, for example:

A small number of respondents noted specialist equipment as a category of exportable capabilities and included the following services:

- Subsea lifting equipment.
- Dismantling and hazardous waste management.
- SME specialist technologies and tools.
- Innovative cutting technologies.

Most respondents noted specialist services as another category of exportable capabilities and included:

- Decommissioning programme preparation and project management were areas that the UK could have success in exporting.
- Contracting strategy and contract management.
- P&A capability and expertise: platform and subsea; platform rig reactivation. A public entity respondent noted that companies have already delivered well P&A activity in international markets, including delivering projects in the Danish, Thai and Italian sectors.
- Brownfield engineering; integrity management.

Several respondents noted UK expertise as a category of exportable capabilities, including:

- Risk and safety management.
- Consultancy; engineering; regulatory; technical assessment experience.
- Business consultancy services; tax; legal; finance.
- Local SME technologies.

[4] An industry association noted that 'Exportable' capabilities are goods and services indigenous and unique to the UK that can be sold to or applied in an overseas market. 'Transferrable' capabilities are goods and services inherent to or learned-by a global company during its UK operations, that it can transfer to its other subsidiaries through its internal networks.

- Subsea and marine expertise; robotics; diver-less solutions.

Industry association comment:

The UK is recognised as a world leader in building subsea systems and development of subsea technology. This experience is directly relevant to offshore decommissioning. The UK subsea industry's expertise means we are well placed to conduct decommissioning activities effectively while the in-country knowledge and experience unlocks the potential to develop innovative and novel approaches. Again, these skills are specialist and have global application and are exportable.

A few respondents noted regulatory and governance expertise as an exportable capability, including:

- Cross-regulator knowledge sharing; and sharing of policy governance.
- In-country JVs based on contribution of knowledge and expertise.
- International supply chain expertise; import/export/customs/legislative compliance.
- Waste management (environmental auditing/assessment).

A few respondents noted exportable capabilities in knowledge and lessons learned, including:

- International corporate networks (transfer of UK learning).
- Fast international communication within supply chain regarding collaboration/learning.
- Certification / Verification.
- Training and education.

Industry association comment:

Having developed new thinking and methodologies around decommissioning, the UK is well-placed to deliver training and education. Several UK companies are already providing training around the world.

Question 5: What are the main export markets for the UK decommissioning industry and over what timeframe?

Industry association comment:

A measured, strategic approach to the development of UK decommissioning capability should be adopted if it is to successfully emerge as a 'decommissioning hub'. Specifically, the UK should be positioned to:

- achieve mastery of the domestic (UKCS) market
- achieve competitiveness in the regional (North Sea) market
- carefully target the international market where it has a competitive advantage.

Most respondents noted that the UK export markets for decommissioning-specific goods and services can be broadly separated into regional and international markets.

Most respondents added that the primary regional market is the North Sea and includes Denmark, Norway and the Netherlands.

- An industry association noted that Denmark has lot of similarities with the UKCS, mainly driven by water depth and hydrocarbon source.

Several respondents commented that the primary international export markets are USA (Gulf of Mexico), Canada, Brazil, Angola, Nigeria, Thailand, Malaysia, Indonesia, Australia, Brunei, Vietnam, India and China.

- A public entity noted that South-East Asia is considered to yield the nearest export opportunities at the present time

Industry association comment:

We need to be mindful that Asia is a tough market within which to operate and is extremely competitive. We therefore need to look to experience of exporting decommissioning skills from such regions as US Gulf of Mexico (GoM) to see what works and what fails.

A few respondents added that emerging markets in Asia, South America and Africa are considered as key target markets because unlike more established regions such as the GoM, these areas do not have an established supply chain and hence have fewer barriers to entry.

A few respondents commented that Rystad Energy, Wood Mackenzie and Boston Consulting Group have all published information on the potential size of these markets.

Question 6: What is your experience in international markets and what are the main challenges/barriers you have faced?

Industry association comment:

The majority of supply chain members surveyed (63%) [by an industry association] are already working on decommissioning projects outside the UK.

A few respondents commented that despite best intentions, there is a lack of quality data available to determine what needs to be decommissioned, by whom and when.

- An industry association noted that supply chain companies find it difficult to access the key decision makers within non-UK companies who are conducting decommissioning projects.

Several respondents commented that local conditions, even if properly understood, may limit UK export capability by providing either specific restrictions, or a challenging working environment.

- An industry association noted examples of specific restriction, including prescribed local content, strong unions, unpredictable cost burdens (e.g. unfamiliar contracting approaches, withholding revenues and local taxes), and restrictive national regulatory regimes.

Supply chain comment:

A key challenge has been the ability to comply with local content prescription when the supply chain is either underdeveloped, local or does not exist at all. Having the foresight to mitigate the risks associated with local content and refer to lessons learned is invaluable.

- A public entity commented that, based on experiences in Thailand, Malaysia, Indonesia and Brunei, a major inhibiting factor for work taking place is the lack of fiscal and regulatory direction.
- A public entity added that local regulators did not include sufficient guidelines in their concessions or Production Sharing Contracts, in relation to the liabilities and commitments necessary for decommissioning to take place.

Supply chain comment:

Often there is an assumption that if I have prequalified or executed work for a certain operator in another part of the world, then its axiomatic you can secure bidder status. The reverse is mostly the case and extensive resource allocation and funding is needed to process the bureaucratic paraphernalia.

- An industry association noted examples of the challenging working environment, including language and other cultural barriers, decision criteria, misalignment (e.g. local standards are different to UK requirements and corporate standards), political instability, low cost rather than total value approaches driving tender processes, availability of cheap local labour, and a low demand for higher technology solutions.

- An industry association added that Africa and Asia are emerging markets for decommissioning and are of interest but carry substantial business risk.

A small number of respondents stated that there were difficulties breaking into already established supply chain markets. They continued, noting that in the North American region, where there is an established supply chain, companies in the UK struggle to gain traction, underpinning the need to look at emerging, rather than established markets for export opportunities.

A few respondents commented that as in the UK, a lack of continuity in projects, or certainty of scope abroad has meant that it has been difficult for UK companies to justify mobilising staff and equipment to new regions.

Question 7: What are the main barriers to the UK becoming a global hub for decommissioning and what could be done to address these?

Some respondents commented that one of the primary barriers to the UK becoming a recognised global hub will be the willingness, or lack of, from industry to address the challenge as a collective.

- An industry association noted that to date, the UK has had a fragmented approach to decommissioning with many organisations and stakeholders clearly not aligned. The industry association added that not having a focal point that is dedicated to decommissioning and empowered, makes it confusing and complex for the UK to spearhead its capabilities into overseas markets at a political, operational and practical level.
- An industry association added that this includes the fact that there is no identified 'body' to market UK decommissioning capability or handle enquiries from external parties about UK expertise.
- An industry association noted that the formation of the OGA is a step in the right direction to bring alignment, but more needs to be done.

Supply chain comment:

The main barrier is the failing … to spread the gospel effectively around the globe. We have critical mass and we have success stories to tell but the aggregated capability is diluted by supply chain having to make the running on an individual company basis rather than a collective will. Much more could be done at a higher inter-country trade level to promote the UK leadership and create opportunities.

A small number of respondents commented that ambitions could be held back by incomplete mastery of the domestic UK market, including a lack of transparency around the domestic project portfolio timing, scope and benchmark information. They continued, noting that greater openness is required in sharing the timings of key decommissioning milestones, to allow the supply chain to respond more effectively to upcoming opportunities, and plan and invest accordingly.

- An industry association added that evaluation should be made of the efficacy of local hubs dedicated to and focused on the unique aspects of area specifics (for example the Southern North Sea (SNS) as a shallow water gas basin). They continued, noting that this might allow specialisation, helping the UK be a strong export hub for decommissioning.
- An industry association identified Asia Pacific as a region where assets are somewhat similar to those of the UK SNS (primarily driven by water depth). They continued, noting that a local hub in the SNS dealing with SNS issues would place the UK in a strong position to export the skills and businesses to that region.
- An industry association added that mastery could be enhanced by a focus on the recycling phase of decommissioning as opposed to other core elements.

A few respondents noted that market fluctuations can become a barrier as it delays decommissioning and the opportunity to create expertise could be lost due to piecemeal decommissioning.

- An industry association added that when oil prices are high, companies are investing in the basin and therefore decommissioning is delayed in favour of extended late-life production. The industry association continued, noting that when oil prices are low there are cash flow constraints which prevent decommissioning projects.

A small number of respondents commented that whilst respecting commercial sensitivities, the sharing of benchmark cost performance data more widely should be considered to help the market develop cost norms and drive performance improvements on a more transparent basis.

Industry association comment:

More should be done to provide additional information to the market on an open transparent and unrestricted basis. A competitive market benefits from the ready access to information on supply and demand.

A few respondents commented that collective insight into export potential is underdeveloped. They continued, noting that though there are some sources of market intelligence, such as one maintained by the Energy Industries Council (EIC), there is no single source of information on targeted international markets, in-country operator programmes, local supply chain capability and regulatory regimes.

- An industry association commented that there is an absence of a 'UK PLC' approach to gathering information on targeted international markets, in-country operator programmes, local supply chain capability, and regulatory regimes. The industry association added that this needs to be addressed in a coordinated manner, with effective gathering of market intelligence, and accountability when interfacing with international jurisdictions in assessing and responding to demand.
- A supply chain firm noted that the UK Government, following thorough assessment and due diligence, could help and finance decommissioning projects worldwide via UK Export Finance in order to promote UK businesses.
- A public entity commented that strong high-profile relationships need to be established and developed with overseas regulators and operators within the countries where opportunities exist. They continued, noting that building on these relationships, the objectives/measures for organisations such as Scottish Development International (SDI) and DIT could then be aligned to develop these relationships at operational levels to facilitate trade missions and learning journeys to and from Scotland/UK and enable partnerships and opportunities to be identified. The public entity commented that this could include a series of decommissioning seminars/conferences worldwide.
- The public entity added that in support of this, there is evidence that National Oil Companies and foreign regulators would appreciate working more closely with the OGA to understand how they are regulating and facilitating decommissioning in the North Sea, and how this could help replicate their success.

Operator comment:

Drawing on the UK's diplomatic and trading relationships to 'sell' the sector to the benefit of UK enterprise [would increase export opportunities] in key high-opportunity counties/regions.

A small number of respondents commented that a mind set of "this is what we do in North Sea" quite often doesn't go down well internationally. Approaches that fail or struggle tend to be dominated by engineering/ technical aspects of the service on offer. This can be interpreted as arrogant and demeaning to the local/regional capability.

- A public entity respondent noted that building a deeper and more empathetic understanding of the potential market's culture, business traits and characteristics i.e. 'how business is conducted around here' helps to overcome this. The public entity respondent added that it will take longer but is more likely to build a sustainable and longer-term prospect; the focus should be on the relationship rather than the transaction.

A few respondents commented that the impact of long-term liability of licensees (liability in perpetuity) on the UK decommissioning market should be reviewed to assess whether it is a barrier to innovation or otherwise restrains the market from developing efficient commercial decommissioning models.

A small number of respondents commented that an ageing workforce, which struggles to attract future generations, will not be able to meet either domestic needs or support the export potential.

A few respondents commented that European competition with strong dismantling yard and onshore supply chain capability is a significant barrier.

A small number of respondents commented that membership of OSPAR could result in new technology and cost-efficient industry precedents and techniques being challenged before implementation by governments who don't have financial stake in decommissioning.

A few respondents commented that there could be a perception in some parts of the world that UK/European techniques and regulation are "gold plated" and therefore too expensive to export, which could challenge export market development.

A small number of respondents commented that a perceived barrier to the UK becoming a global hub for decommissioning is the fact US Gulf of Mexico is an already established decommissioning market, where many of the skills, equipment, and practices originated. This means they are already in a strong position to export their offering globally to emerging areas.

- Although an industry association added that companies based in the Gulf of Mexico have struggled to break into the UKCS. This should be investigated further by Department for International Trade (DIT) to ensure the reasons are understood [and thus the same mistakes are avoided].

Question 8: What can be done to enable the UK industry to become more proficient in its domestic market and to enhance UK exports of decommissioning services?

Public entity comment:

Companies in Scotland and the UK have the skills and capabilities to develop a world-class decommissioning industry. As more projects are executed more experience will be gained and international companies will want to learn from that experience. But the industry needs (i) appropriate information, (ii) incentives and (iii) infrastructure to fully deliver optimised solutions.

A small number of respondents commented that a focus should be placed on driving synergies between all elements of the supply chain, maximising efficiencies and building a stronger end-to-end offer. They continued, noting that the UK already has a world class oil and gas supply chain though the decommissioning supply chain still retains characteristics of an 'add-on' and is relatively fragmented. A few respondents commented that a developed supply chain with 'turn-key' offerings from post-cessation of production through to dismantling and recycling will help drive efficiencies.

Several respondents commented that enabling more transparent benchmarking data could become a driver of enhance performance. They continued, noting that developing a mechanism to provide visibility on project costs, which can be reported in a format that is comparable from project to project. Some respondents commented that reporting against the industry recognised Work Breakdown Structure would facilitate this.

A few respondents commented that due consideration should be given to the opportunity for the UK demolition industry to undertake piece small operations[5] offshore. They continued, noting that the UK has great standards in demolition with a world leading Institute of Demolition Engineers and an industry federation, the National Federation of Demolition Contractors.

- A supply chain firm added that piece small demolition operations, using specialised demolition robotics and hydraulic excavators with shears, would be easily transferred around the world of offshore decommissioning and remove the perception that removal by crane vessel is the only method for removal of topsides.

A small number of respondents commented that in relation to growing the international market, variation in regulation can make direct transfer of capability challenging. They continued, noting that aligning regulations where possible, including the possibility/utility of overseas application of UK standards and regulations should be investigated by the DIT.

A small number of respondents commented that incentives could be considered to allow UK industry to compete against its continental rivals, whether that be:

- through some form of subsidy to make the ports more commercially viable for decommissioning; or

[5] Piece small operations mean that the structures are decommissioned offshore and shipped into shore via supply vessels for further processing segregation and waste management.

- subsidies to allow companies to invest and grow in this sector, including rate reductions on economic zones around ports to allow for purchase or lease of yardage, warehousing, office space, equipment and vessels.

A few respondents commented that increased support for SMEs could stimulate development and deployment of more cost reducing technologies, as much innovation comes from the SMEs.

More specific actions identified to enhance the exportability of UK capability and services can be divided into several categories and were identified by a small number of respondents. The categories and actions identified include:

Workforce

- Promote decommissioning as a viable career choice.
- Ensure that decommissioning features appropriately in academic, vocational and apprenticeship curricula across the UK.
- Incentivise students to enter industry; improve diversity in teams and industry.

Knowledge sharing

- Create a UK knowledge hub for international market intelligence and guidelines.
- Some respondents noted that market intelligence tools such as Oil and Gas Pathfinder should be upgraded or replaced, to provide a transparent framework giving visibility to the Supply Chain of upcoming projects.
- Government can have a role in creating efficiency by providing information that industry needs in a format that removes the huge amount of duplication.

Public entity comment:

Collecting [data on decommissioning] is time consuming and limited by the availability of information…BEIS and/or the OGA are custodians of the data held and should develop mechanisms to disseminate information in a user-friendly format accessible to industry.

- Incentivise cross-industry collaboration.
- Learn from outside the UK where better practices may exist elsewhere.
- Foster further collaboration between regulators, operators and supply chain.
- Maintain a high decommissioning profile at conferences (e.g. Offshore Europe).
- Ensure that institutions – such as the OGTC – are focussed on the gaps in decommissioning technology which have the largest impact on delivering increased efficiency.

Infrastructure

- Potential new entrants should carefully evaluate competitiveness of capital-intensive new vessel and port infrastructure options in the context of existing global competition.

International profile

- A single UK organisation dedicated to the purpose of decommissioning, governed by various regional stakeholders, could be a strong marker to the rest of the world that we are joined up and empowered.
- Strategic marketing with a united UK front to international markets is required, including areas of excellence in decommissioning; better marketing of technology; giving SMEs a stronger international voice.
- Participating-in the development of global standards and best practices, building upon the UK's safety and environmental credibility, will increase supply chain understanding of export market needs, and allow corresponding alignment of UK norms.
- A few respondents commented that it is important that the UK is presented as a 'thought leader' in the decommissioning space internationally, particularly through the UK's trade and diplomatic networks in [high-value priority countries].

Question 9: With regards to decommissioning, which interventions by the OGA have you found most valuable? What other actions might make an impact?

Industry association comment:

The OGA's call to reduce costs by 35% represents a challenge to industry and academia, which also has the potential to focus and accelerate the UK's development of decommissioning expertise.

A few respondents commented that each of the following were areas that the OGA had made a valuable impact:

- Area plans and hub strategy reviews have stimulated integration and collaboration.
- Stewardship surveys and resulting benchmarking analysis.
- Tripartite/collaborative leadership – with all regulators engaged & present.
- Connectivity with a wider joined-up Government approach.
- The OGA's cost focus has made the rest of Government more cost-conscious.
- The MER Forum has helped bring Government focus on industry needs.
- Overall encouragement and stimulation of collaborative working.
- Overall push for better data governance – stewardship data, analysis and feedback.
- The hosting and promotion of a contracting intelligence database (Pathfinder).
- Hosting of industry hackathons where they encourage the E&P community to participate and communicate more effectively with the market through the assistance of trade associations such as the East of England Energy Group (EEEGR).

A small number of respondents identified each of the following actions as other actions that the OGA could undertake, which might make an impact:

Industry association comment:

A more open approach to sharing project and benchmark data collated by OGA and more information on the status of current decommissioning projects should be considered. This might allow the market to respond yet more effectively to upcoming opportunities and help them to plan and invest accordingly.

- The OGA should consider providing greater transparency in relation to the timing of key decommissioning milestones, at asset level.
- Re-develop the Project Pathfinder website as a means of sharing project information for decommissioning (and other E&P projects). The OGA holds much better-quality information and should endeavour to provide it. A public entity respondent added that alternatively, reporting projects could become a requirement not a self-serve option.

- Providing greater transparency/sharing benchmarking more widely.
- Removing the tension between transparency and market price setting, and concerns on anti-competitiveness.
- Greater industry awareness of the regulatory and supervisory processes.
- Consider Net Environmental Benefit Analysis (NEBA) and decommissioning in-situ.
- Reaching out through Government to map technologies from other Government projects/industries that have not yet been adopted in oil and gas.
- Developing an effective centre of excellence knowledge hub to provide linkage to where to access current best-practices/technical-expertise.
- Promoting the cost reduction challenge not just with operators and supply chain, but to all parties who may contribute to cost (regulators, NGOs, local government, academia and others).
- To get design for decommissioning embedded into the mindset of how the offshore oil and gas industry operates. Help for this goal can be given by insisting that as part of the field development submission the operator must demonstrate the decommissioning plan.
- Interfacing with DIT & SDI on internationalisation strategy.
- Promoting commercially aligned, collaborative and incentivised contracting models and behaviours including consideration of value rather than only lowest cost. This could include reviewing the utility of Supply Chain Action Plans with a suggested focus on open contracting strategies.

Supply chain comment:

We have seen a steady erosion of the tender timeframes over the years. If OGA could ensure that the oil and gas operators provide Tier 1 contractors significantly greater tendering timescales, and that the Tier 1 contractors in turn allow the supply chain adequate and reasonable timeframes, this is bound to have a knock-on cost reduction in tenders submitted.

Question 10: Is there anything else you want to share with us on this topic?

An industry association commented that there are a variety of markets to which the UK can offer decommissioning related exports. The industry association added that the local market will differ from the regional market and the regional market will differ again from international markets; there is no 'one size fits all' approach when it comes to decommissioning. They noted that the UK must be able to offer a suite of goods and services to the local market.

- A small number of respondents added that achieving a competitive UK decommissioning market does not imply that the UK need be present to the same extent in all aspects of the value chain.

A trade union respondent commented that UK communities have existing capability to support future decommissioning with potential to develop hubs for certain aspects of the industrial process.

- The trade union respondent added that part of any national industrial strategy must develop coherent plans to support regional economies and provide high skilled employment and training opportunities. The potential to provide these communities with investment aimed at alleviating joblessness and creating good jobs must be examined and finance to embed economic activity supported.
- The trade union respondent noted that it is also important for decommissioning to be more directly linked to 'Just Transition' policies, in order to smooth the transfer of jobs and skills between the offshore oil and gas sector, which has lost over 180,000 jobs in the last four years and the growing offshore renewables sector, particularly offshore wind.

An industry association commented that it is critical that new technologies move quickly from the incubator stage, an area in which UK technology facilitators (e.g. OGTC) provide excellent support, into industrialisation. The industry association added that consideration should be given to further (e.g. tax, commercial training) support to bring innovation and new technology more quickly to market maturity.

- An industry association noted that a large fraction of innovation comes from SMEs, and routes should be identified to allow them to play a greater part in the decommissioning market.
- An industry association added that allowing decommissioning R&D to be written off at decommissioning rates of tax may encourage more innovation and technology development.

A few respondents commented that since the UK Government is the largest stakeholder in all decommissioning costs then benefits to the UK should be weighed and measured in all decommissioning contract awards.

- A supply chain firm added that since the UK is liable for decommissioning there should be a focus on unlocking opportunities for the local supply chain to retain business in the UK, and to retain costs and tax revenues within the UK.

- A public entity respondent noted that the significant cost to the public purse through Decommissioning Tax Relief should provide the onus for Government to ensure contract opportunities flow through the supply chain.
- A public entity respondent commented with the example of HS2. They noted that as part of its commitment to engaging SMEs, HS2 use CompeteFor to promote its indirect supply chain spend via tier 1 organisations using the service to publish their supply chain opportunities. The public entity added that a similar arrangement for decommissioning contracts would be extremely beneficial and open opportunities for alternative solutions to be put forward by the supply chain.
- An industry association commented that a possibility is to give the OGA additional powers to allow them to drive the schedules of the work scopes more directly given the percentage of the cost that will be provided by the Treasury. This would mean that they could keep a firmer hand on scheduling to ensure promised work gets actioned in a timely manner, allowing the supply chain to better prepare.
- An industry association added that further consideration could be to emulate the offshore wind market where the Government could establish UK content targets on decommissioning projects.

Trade union comment:

We believe that the time is right for the OGA to take meaningful steps to actively promote and prioritise jobs for domestic workers, in the decommissioning sector and across the UK's offshore energy sector.

A few respondents commented that the sector could look for comparative industries that have already established best practices. A professional services firm commented that the UK is already a global expert in nuclear decommissioning and waste management through the Nuclear Decommissioning Authority (NDA), and has a good track record of public sector-led regulatory oversight and management that supports the R&D activities that benefit for the UK.

- The professional services firm added that the NDA provides a holistic view of the status of country-wide decommissioning hazards in the nuclear industry and can share learnings into the increasing oil and gas decommissioning market to drive rapid and successful implementation of initiatives in the sector for BEIS also.

A public entity commented that analysis of economic impact projections within a Scottish Government Oil & Gas Decommissioning Skills Study estimate that between 9,500 and 12,000 jobs will be directly supported by decommissioning in Scotland over the period to 2025. The public entity added that ensuring the right skills within this workforce is extremely important to support ambitions to become an international centre of excellence for decommissioning.

- The public entity added that several current job roles and skills were identified as being in short supply with the most commonly highlighted being in project management, business development and experienced engineers. They noted that the risks of future shortages across a broad range of job roles and skills include environmental scientists, drilling supervisors, well engineers, subsea engineers, riggers, scaffolders and strategic project managers with a broad view across all aspects of decommissioning.

An industry association added that enabling the decommissioning industry in the UK may also enable other industries. The industry association added that there are obvious parallels with

other industries like, onshore well decommissioning, the decommissioning of vessels, Floating Production Storage and Offloading (FPSOs) and drill rigs, and the offshore wind industry. They noted that any decisions to enable the offshore decommissioning industry should remain aware of these industries and perhaps the economic benefits of those should be factored in.

An industry association commented that it is important that the UK decommissioning sector is able to incorporate lessons and make necessary improvements to ensure decommissioning is considered when new items are installed in the UKCS. The industry association added that frontier regions such as the West of Shetland and marginal developments in areas where there is already infrastructure will form most of the new infrastructure installed going forward. They noted that decommissioning and re-use of equipment should be considered for all new infrastructure incentivising marginal field development and reducing costs in decommissioning.

- The industry association added that the offshore wind industry now have to put in place a decommissioning programme at the Field Development stage. Submitting decommissioning programmes prior to installation, and then justifying change throughout field life could be a better approach. It will place emphasis on decommissioning at the front end and enable time to focus on technology and methodology improvements over the life of a field to improve cost effectiveness of its eventual decommissioning project.

- They noted that if focussed on, design for decommissioning could be a core UK strength and is exportable globally. There would be particular interest in frontier regions like the Faroe Islands, Guyana, Colombia, Senegal and Mauritania.

An industry association commented that decommissioning still only represents a small part of the overall E&P activity within the basin and whilst it is rightly valued, it should be seen in that broader context. The industry association noted that investment in new barrels could deliver an additional 8.4 billion barrels of oil and gas equivalent (boe) between 2019 and 2035, adding a generation of productive life to UKCS. During this period, it is anticipated that £175 - £215 billion will be spent on the UKCS with decommissioning comprising about 10% of the total expenditure.

- A supply chain firm commented that because the costs of decommissioning are not sufficiently large to make it priority in an oil and gas focussed environment, the industry needs a dedicated base. In competition with revenue generating activities it is likely to always come off second best. This creates uncertainty over consistent funding and employment which limits the ability of companies to develop novel, cost-effective approaches. The supply chain firm added that perhaps Aberdeen, as a centre of mass, is the wrong place and efforts should be made to relocate the decommissioning sector.

Several respondents commented that re-use or repurposing of oil and gas infrastructure for alternative means should remain a priority area. They noted that if the UK becomes innovative and informed on the potential re-use of assets, this could reduce the costs of decommissioning in the domestic market but also open doors to other exportable markets worldwide.

- An industry association added that it is important to recognise that the global market in relation to decommissioning is not unilaterally driven by the requirement for a 'clear seabed' whereas there are clear global policy drivers to reduce carbon emissions.

Next steps:

The next steps in this document put forward practical actions that can support the development of the UK decommissioning sector and the Government's ambition that the UK becomes a global centre of expertise for decommissioning. These proposals are based on the sum of the evidence provided.

The next steps are divided into two segments actions that can strengthen the UK decommissioning sector, thus increasing its international competitiveness, and actions to support the export of UK decommissioning services.

Next steps to strengthen the UK decommissioning sector:

Action one: As part of the Decommissioning Task Force, regulators and sector trade associations to develop mechanisms to increase transparency of the pipeline for new decommissioning projects on the UKCS.

- A better understanding of the decommissioning pipeline would allow supply chain to invest in new business models, equipment, skills, etc. knowing that projects are there to be won. Additional investment in the UK decommissioning sector would contribute to the already recognised expertise that the UK's supply chain has.
- Operators indicate that a developed supply chain, which has been investing in its capability, might evolve 'turn-key' offerings from post-cessation of production, through to dismantling and recycling, which will help drive efficiencies and exportable services.

Action two: As part of the Decommissioning Task Force, regulators and industry to develop mechanisms to share KPIs and benchmarking data across the sector to ensure best practices are embedded within decommissioning businesses with the objective of increasing efficiency and reducing costs.

- Improved benchmarking might allow the market to respond more effectively to upcoming opportunities and help them to plan and invest accordingly. For example, this could help identify key areas where expenditure reduction can be targeted, which is an outcome that could increase the attractiveness of the UK offering abroad.
- Any mechanism should promote a format that is comparable from project to project, for example against the industry recognised Work Breakdown Structure.

Action three: The Decommissioning Task Force, Oil and Gas Technology Centre (OGTC) and National Decommissioning Centre (NDC) to develop a plan with regulators and industry to encourage the trialling, adoption and deployment of new technology and data solutions for decommissioning projects on the UKCS, especially where there is scope for cost reduction.

- OGTC, as the centre piece of R&D excellence, alongside our universities and the NDC, can become an anchor for UK expertise in decommissioning and attract technology developers and inward investment, with the eventual outcome of high calibre decommissioning practitioners in the UK.

Next steps to support the export of UK decommissioning services:

Action four: MER UK Task Forces, Department for International Trade, and industry to develop mechanisms to improve market intelligence, including key export markets, businesses involved, regulatory barriers and size of the opportunity.

- There is a need to create collective insight into the global decommissioning opportunities to be able to target the right opportunities for the UK decommissioning sector.
- Currently there is no single source of information on targeted international markets, which combines in-country operator programmes, local supply chain capability and regulatory regimes (which is noted as a barrier).

Action five: Government, regulators and export agencies to develop an export strategy to promote UK expertise, targeting key markets and leveraging current international diplomatic strengths, which could then potentially lead to a pilot project in a target market.

- There is clear pathway for the UK decommissioning sector to follow to take advantage of the global decommissioning opportunities. The Government, regulators and industry should make sure that the sector is: excelling in the UK market; competitive regionally (i.e. the North Sea which, after the UKCS, is next most lucrative market in the next 10 years); and focused on targeted international opportunities.
- It should be noted that exporting internationally does not mean the UK supply chain should target every segment and every market opportunity and should instead target strategic opportunities for export.

Implementing the Next Steps:

The MER UK Task Forces are important mechanisms for delivering on strategies in support of MER UK and the wider industry, and should include, within their priorities, implementation plans for the Actions from this Call for Evidence.

The Decommissioning Task Force should aim to report their initial findings on how to implement Actions (1), (2) and (3) to the MER Steering Group within six months, with a further objective of reporting on progress six months later.

To implement Action (4) the Supply Chain and Exports Task Force should, within 6 months, produce business intelligence on global decommissioning opportunities. The business intelligence should consist of granular information about the key export markets, businesses involved (key contracting parties), regulatory barriers to entry, as well as the potential size of the opportunity.

To implement Action (5) the Department for International Trade should, within twelve months, develop an export strategy in conjunction with other relevant partners for the UK decommissioning sector, which includes inputs from Action (5). DIT should report on progress on the strategy to the Supply Chain and Exports Task Force.

This consultation is available from: www.gov.uk/government/consultations/strengthening-the-uks-offshore-oil-and-gas-decommissioning-industry-call-for-evidence

If you need a version of this document in a more accessible format, please email callforevidence_decommissioninguk@beis.gov.uk or enquiries@beis.gov.uk. Please tell us what format you need. It will help us if you say what assistive technology you use.