SUT
Society for Underwater Technology

DECOM North Sea

SUT/MASTS Workshop

Decom North Sea: Overview Of Decommissioning

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Today's Discussion

- State of play: Brief Update
- The Wood Review
- Challenges & Opportunities
- Decom North Sea Leadership
- Headline Lessons Learnt
- Conclusions

courtesy Peterson SBS / Veolia

Since 2010 -

The industry forum for decommissioning

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- Not-for-profit organisation privately funded
- c230 member companies from Denmark, Germany, Norway, The Netherlands, the UK and USA
- Membership across the whole sector:- operators (large & small), contractors, marine, subsea, onshore disposal, wells P&A, legal, environmental, specialist services, consultants etc.

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Strategic and Regional Partnerships:
Stimulating collaboration in decommissioning

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State of Play:
General situation in UK Continental Shelf

- £14.4 billion CAPEX in 2013 with forecast of £13 billion in 2014
- £39 billion of capital investment approved and under development

However:-

- Production in UKCS has fallen for 11 straight years (38% over the past 3 years)
- Concerns over unplanned shutdowns, reliability of equipment etc.
- Operating costs rising – produced water, energy consumption, asset integrity, etc.
- Production efficiency falling
- Some operating assets are more than 30 years old

Resulting in several assets at or near CoP & decommissioning

State of Play:
Regulations for Offshore Decommissioning

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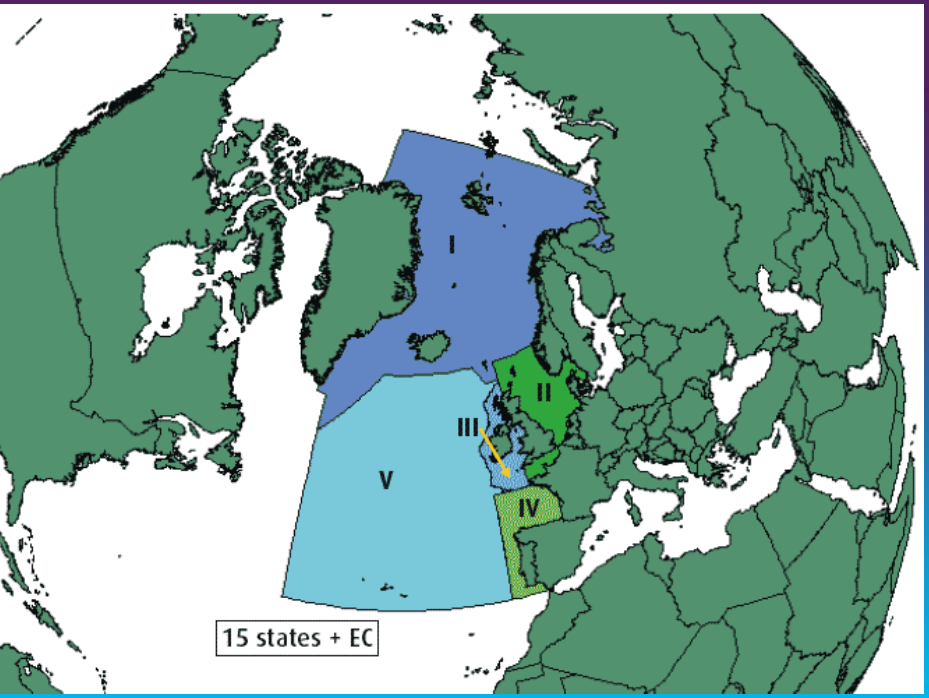

The Convention for the Protection of the Marine Environment of the north east Atlantic - *'OSPAR Convention'.*

Signed and ratified by all Contracting Parties to the original Oslo or Paris Conventions (Belgium, Denmark, the European Union, France, Germany, Iceland, Ireland, the Netherlands, Norway, Portugal, Spain, Sweden and the United Kingdom and Northern Ireland) and by Luxembourg and Switzerland.

State of Play:
What has been decommissioned so far?

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- 3 installations with large concrete substructures
- 1 with large steel jacket (> 10,000 tonnes)
- 15 other steel jackets
- 7 floating production systems
- 2 subsea production systems
- 10 other facilities (loading buoys, flares etc)
- 16 pipeline programmes

10% of installations decommissioned to date

State of Play:
Infrastructure still in place

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- 8 installations with large concrete substructures
- 32 with large steel jackets **(> 10,000 tonnes)**
- 244 other steel jackets
- 311 subsea production systems
- 30 floating production systems
- 3,300 pipelines – around 25,000 kms
- <5,000 wells
- <200 cuttings piles

Total expenditure until 2040 – c£40.6 billion

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The Wood Review:

A new shared strategy for "maximising economic recovery (of oil and gas) for the UK", with commitment from the government (HM Treasury and a new Regulator) and the oil and gas industry.

Creation of a new arm's length regulatory body to oversee and develop this programme of change and growth.

Greater collaboration and commitments by industry in areas such as development of regional hubs, sharing of infrastructure and reducing the complexity and delays in current legal and commercial processes

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The Wood Review:

4.6 Decommissioning Strategy Objectives:

- ***"Maximum economic extension of field life to ensure key assets are not decommissioned to the detriment of production hubs and infrastructure"***
- ***Manage the often conflicting interrelationship between:***
  - Extending economic production,
  - Asset integrity,
  - Retaining facilities to optimise decommissioning &
  - Preserving assets for future use

Key Comments:

- ***Focus on cost reduction in well P&A and offshore lifting***
- ***Lack of focus on macro cost reduction and innovation***
- ***No strategic decommissioning plan***
- ***Greater collaboration between suppliers***

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The Wood Review:

New Regulator Action A25:

- ***A new single decommissioning forum responsible for delivering significant decommissioning cost reduction, promoting innovation & great cooperation, jointly led by the new regulator and industry***
- ***Be more ambitious in what it seeks to achieve***
- ***Set a radical target to reduce cost***
- ***Work with the supply chain***

A26: Technology

A27: No premature decommissioning

A28: Late Life Business Models

A29: Game changing decommissioning concepts

Challenges & Opportunities
Typical oil & gas life cycle

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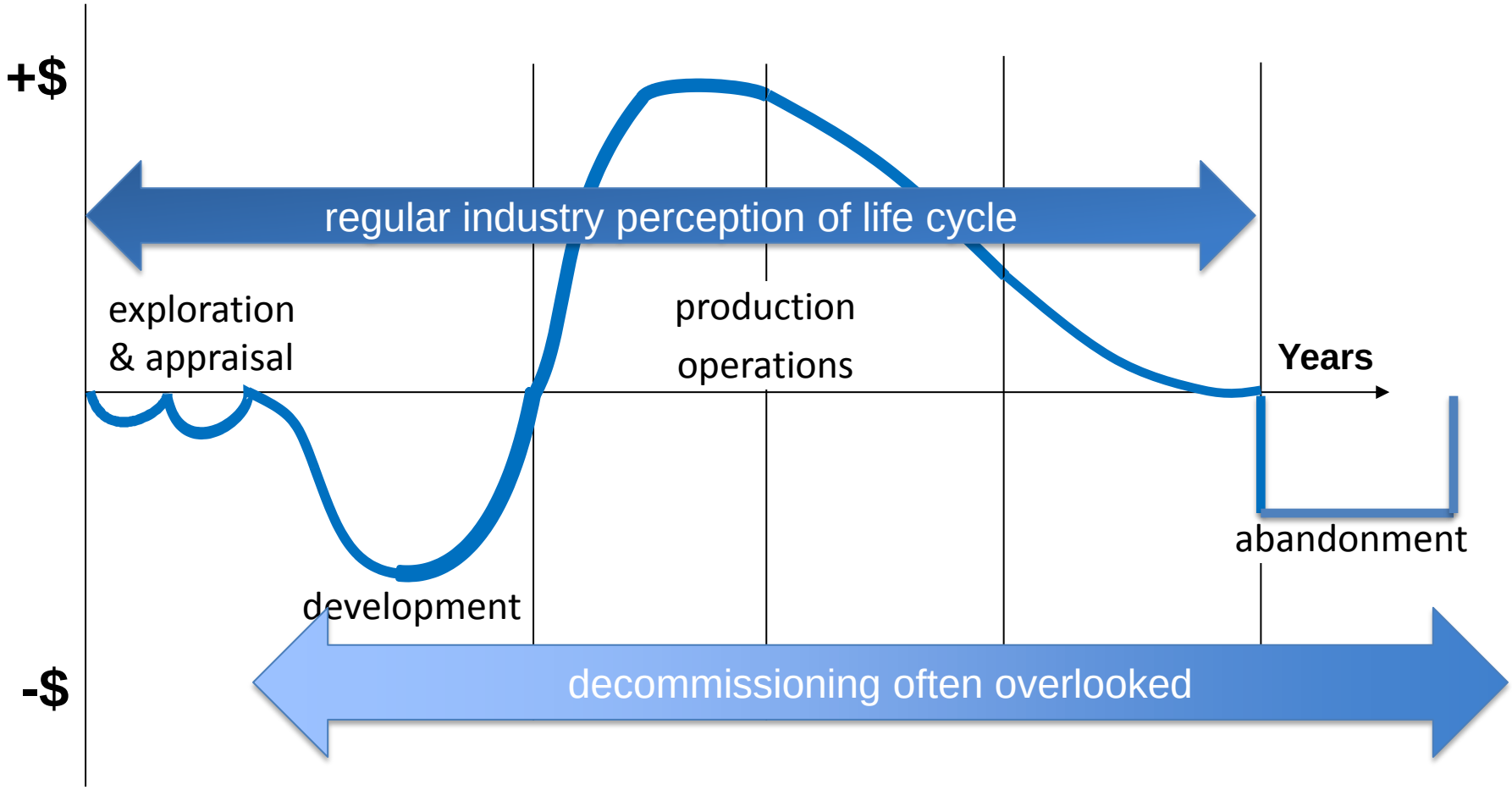

Steel Piled Jacket (SPJ) structures
CNR International – Murchison Platform

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- programme to DECC June 2013 – CoP in 2014
- topsides - 24,548 tonnes – 26 modules
- steel jacket - 24,640 tonnes (excl piles)
- water depth 156m – 150 km NE of Shetland
- 33 platform & subsea wells
- drill cuttings pile – degrade naturally in time
- export pipeline – remedial rock placement
- infield pipelines & branches - removed

Gravity Base Structures (GBS)
Shell Brent Field

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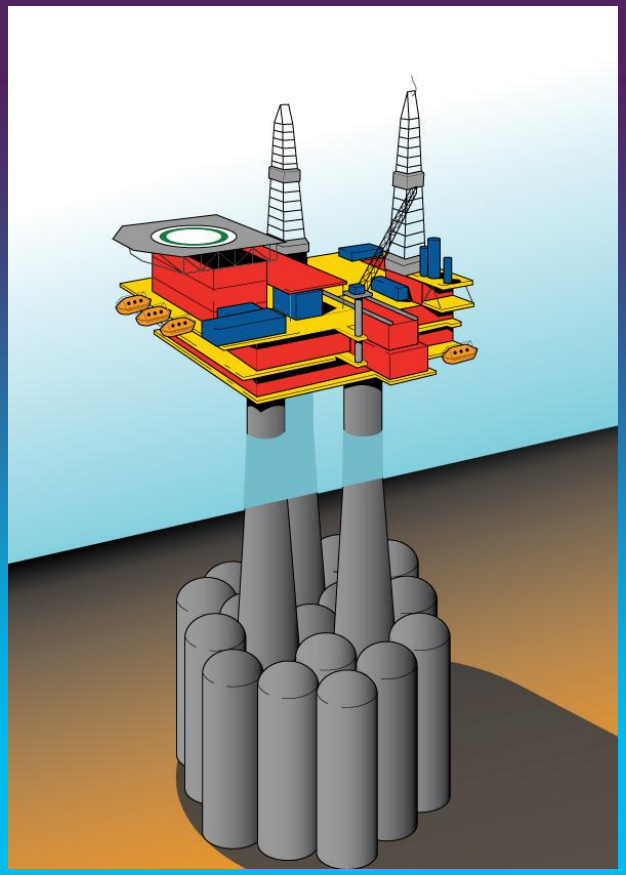

- production ceased December 2011
- contracts for topsides removal, transportation and onshore disposal recently awarded (removal 2015)
- GBS ~ 400,000 tonnes likely to remain in place
- P&A of wells underway – many years of work
- topsides preparation underway – years of work
- >300 studies - programme not yet submitted
- first project for Pieter Schelte

SNS steel piled jackets / platforms - ~400 installations

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- typically less than 1,500 tonnes jacket weight
- up to ~ 1,400 tonnes topsides weight
- many unmanned
  (i.e. no accommodation)
- mainly gas producers
- total removal expected


courtesy Veolia / Petersen SBS – Shell Inde

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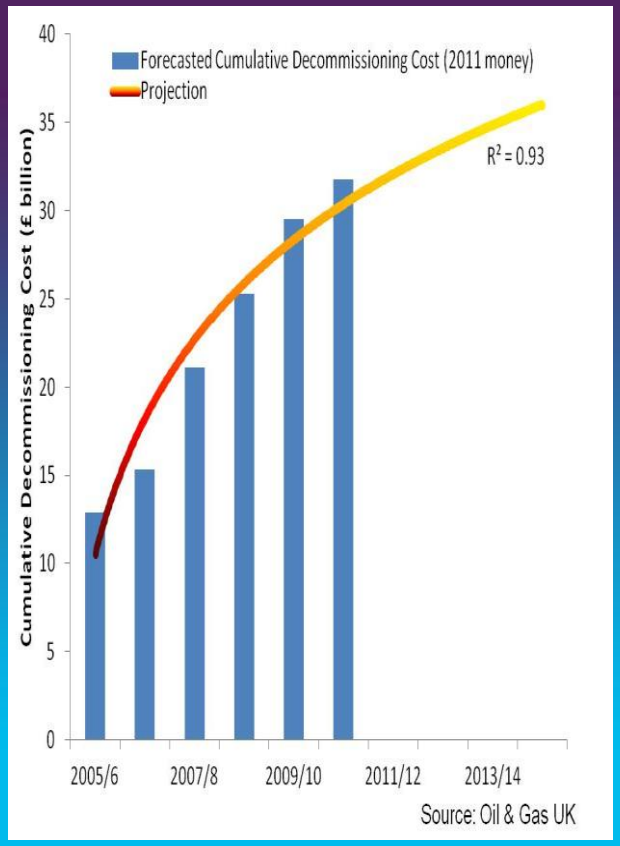
Subsea Infrastructure

- wells P&A
- manifolds
- flowlines
- umbilicals
- mid height arches
- protection covers
- mooring systems

Some Market Observations



- little thought of decommissioning at design and build stage, or through life of asset
- most operators preparing for first project
- forecast costs rising
- multiple drivers to defer
- limited experience – operators or contractors
- decommissioning projects unique and stand alone

Decommissioning Expenditure - UKCS

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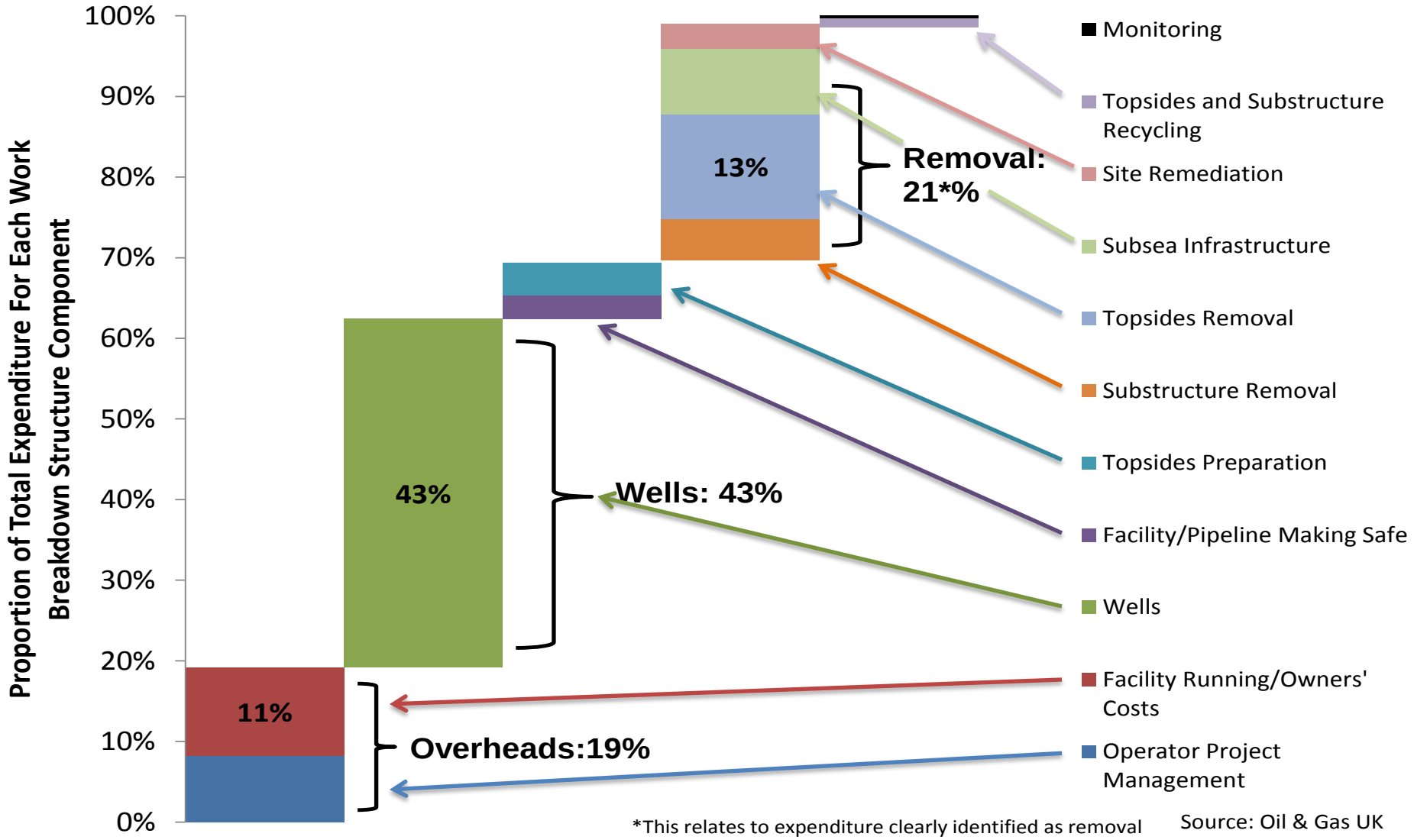

*This relates to expenditure clearly identified as removal

Source: Oil & Gas UK

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Decom North Sea Leadership

- Streamlined template for decom programme DECC approval
- Risk & compensation models for different phases and types of decommissioning
- Created Southern North Sea special interest group with EEEGR
- Working with operators on Earlier selection and engagement of contractors to stimulate innovation and alignment
- Reuse Project team to deliver methodology and guidance
- Meaningful Market Data from Operators
- Streamlined template for EIAs
- Collaborative multi-party approach to wells P&A (Accenture)
- Decommissioning Training Courses
- Lessons Learnt
- Supply chain mapping and capability assessment.
- Regular conferences, consultation events, learning journeys etc.

The Role of Decom North Sea:
Lessons Learned & Knowledge Exchange

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the concept :-

many operators and contactors are preparing for their first decommissioning programme, and expressing a willingness to work together :-

- opportunities to learn from previous projects and share experience
- adopt models, templates and guidelines already proven
- develop a system for knowledge capture and transfer
- promote awareness and use of knowledge transfer possibilities
- Cross sector learning: Nuclear, Pharma, Wrecks, Renewables

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Headline Lessons Leant

- People are key, engaging key skills in a market that is perceived to be “the end of the road”: don't lose the key skills and knowledge
- Well P&A: start early, cost and time often underestimated
- Can’t start early enough, engage widest stakeholder groups
- Integrate operations, production, late life, decommissioning
- Asset Integrity Management; what have we got, where is it, what condition?
- What can we learn from you?

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Conclusions

Decom North Sea is playing a vital role in the decommissioning of Oil & Gas Assets.

We facilitate, coordinate, mediate, promote and drive collaboration, removing barriers and encouraging the most efficient end of asset life solution development and delivery.

We nurture the skills that are the lifeblood of innovation

At our core is a drive to safely reduce decommissioning costs and reduce the liability for the Tax Payer.

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