How to Increase UK Share of Big Decom

Calum Slater (PoCF)
Dan Kempin (ALE)

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The Decom Market Segment with the Challenge

The Market Segment Size

- Larger UK offshore installations in Central/Northern North Sea
- 2017-2025, 31 platforms will be removed[1]
- Onshore decommissioning value estimated at £215M[1]
- Typical techniques used to remove installations are: Single Lift or Piece Large or Reverse Engineering => all requiring Ultra Heavy Lift Vessels (UHLVs)

Note 1- Source Decommissioning Report (O&G UK- Nov. 2017)

Note 2 – Source BEIS (2015)

	CNS	NNS and WoS	SNS and Irish Sea	Norwegian Continental Shelf	Danish Continental Shelf	Dutch Continental Shelf	Total
Number of platforms	19	12	67	14	17	77	206
Small steel	2	-	61	2	12	26 manned and 51 unmanned[11]	-
Large steel	17	8	6	11	5		
Gravity based structure	-	4	-	1	-	-	5

Market Overview: UK Ports Current Berth Depths

The Challenge to retaining Piece Large onshore decom projects in the UK = Accessibility

- Difficulty: no deep berth enabling direct access to quay
- Most UHLVs require minimum 24m depth at quay side
- No Port on East Coast of Scotland or UK can offer that depth
- Most projects sail away to neighbouring countries
- Use of barge to transition to quay costly

Note 1- List of ports and berth depths from Decom North Sea

Port	Berth(s) Depth	Port	Berth(s) Depth
Kishorn	7.5-13m (high tide)	Belfast	6.4-12.1m
Lerwick (Greenhead)	6-9m	Montrose NorSea	5.5-8m (below CD)
Lerwick Dales Voe	9.5-12.5m	Dundee	8.5m
Lyness & Golden Wharfs	5-9m (below CD)	Fife Council Area	4.7-5.7m
PoCF	9-14m	Rosyth	5-11.5m
Peterhead ASCO	12-14m	ABLE Seaton	9.5-11m
Peterhead NorSea	7.5-10m	Port of Blyth	6.7-10m
Montrose	5.5-8m (below CD)	Port of Tyne	8m – 13m

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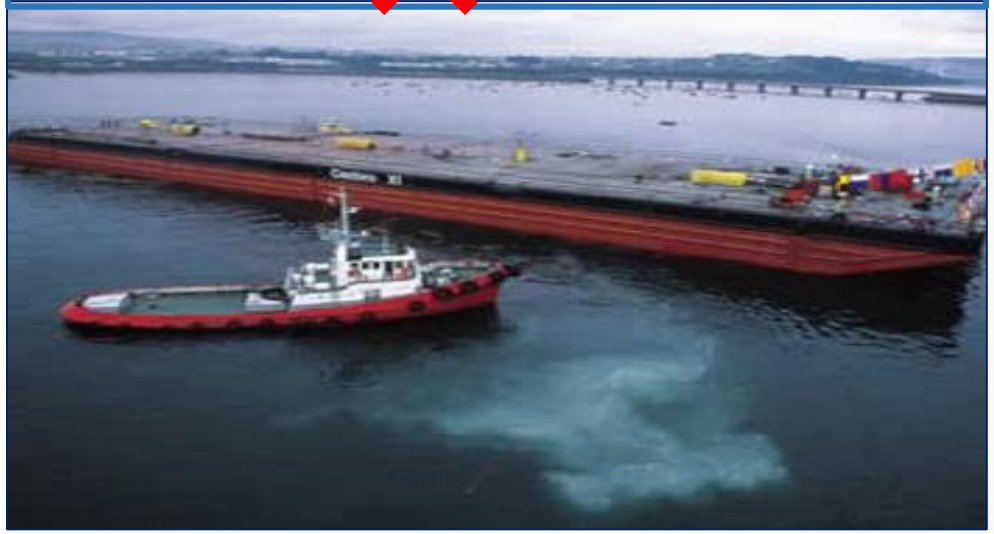
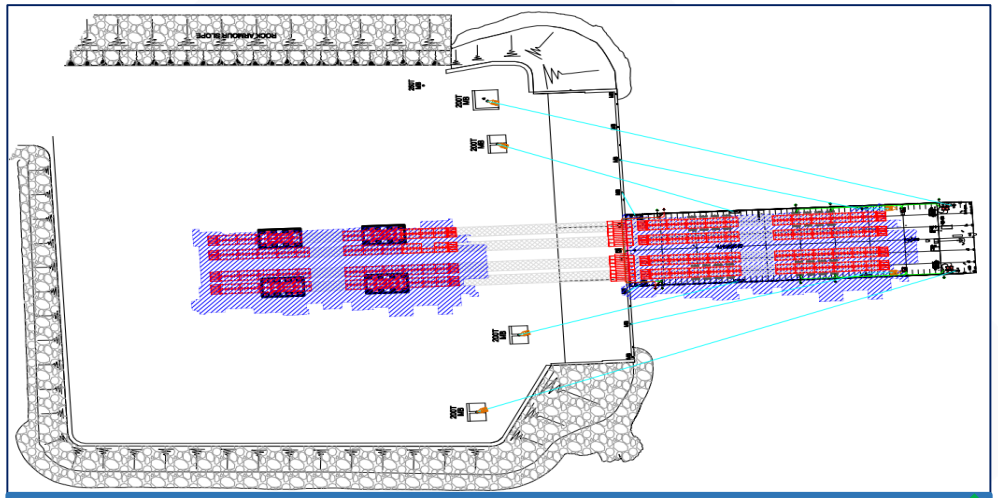
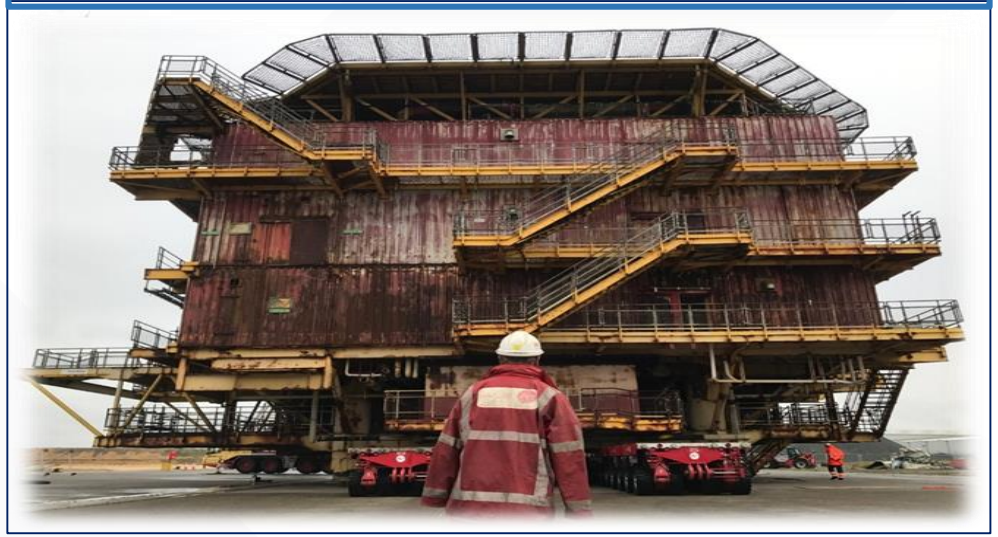
Example of Missed Opportunity - PoCF Case study: readiness challenged!

Quay Side Access ✗ – Lay down 45,000 sqm ✓





Quay Side Strength (structures up 12,000t) ✓



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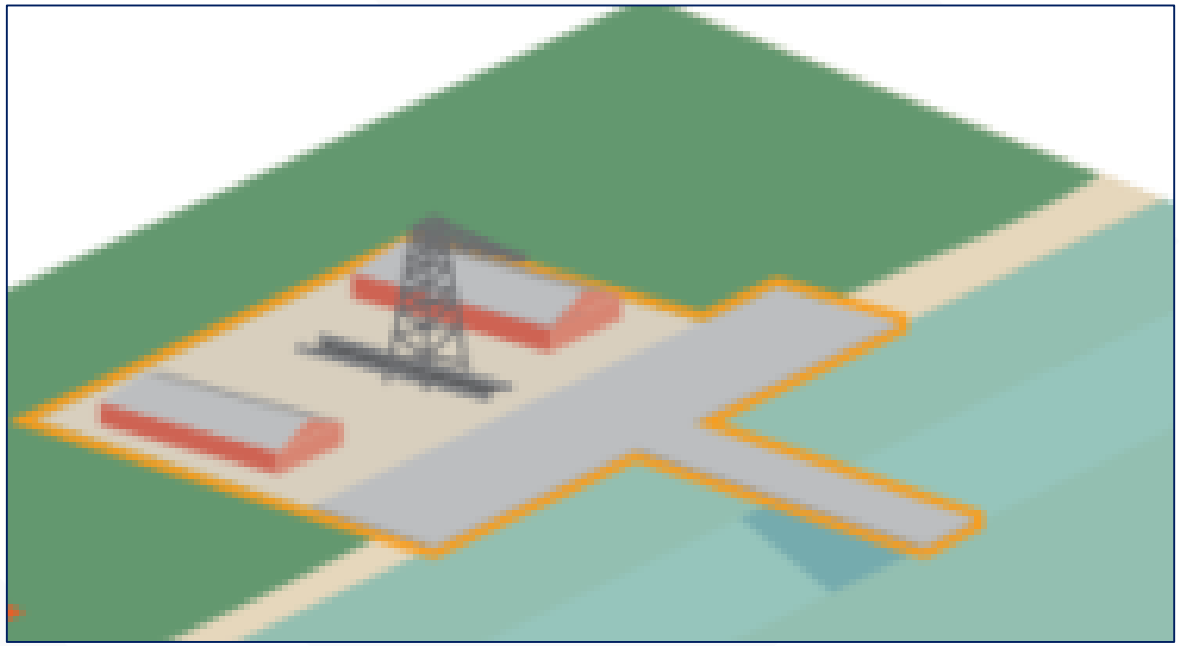
Two options that could be complementary & longstanding

1. The Ultra Deep Water Port (UDWP)

- Clear commitment from the Scottish and UK Governments to match offered funding
- Strategic development
- Feasibility study being carried out
- Cost to be estimated
- Delivery date not yet determined



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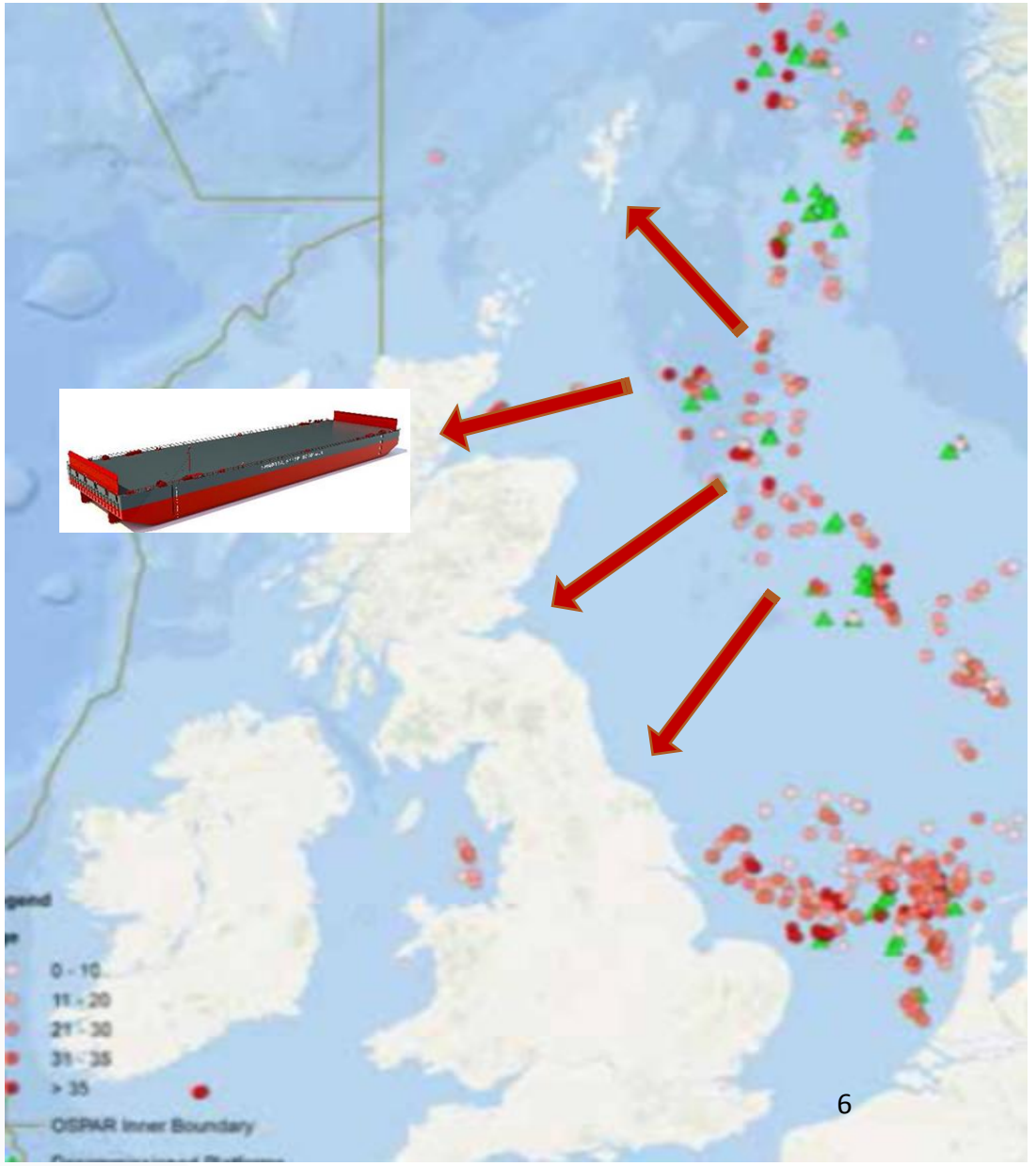
2. Transition Barge

- Intermediate solution and complementary to UDWP
- Tactical intervention to regain market share
- Deliverable within months
- Opens up access to all berths on UK East Coast:
  - All ports can compete on an equal footing!
  - Decom Projects have a wider choice and a more competitive market



How to Increase UK Market Share of Big Decom Now?

The Transition Barge

The Barge

- Ro-Ro with deck area of 5,600 m2 – 140m x 40m
- Inbuilt 100% ballasting contingency

The Grillage & Sea Fastening

- Modular
- Rapid assembly & reusable
- All cold works
- Structure to Grillage ‘Quick lock’
- Adapted to 300 – 400 class barges

The Benefits

- Improved UK commercial attractiveness through integrated ‘Bundle’ of barge & grillage - Cost reduction of typical ‘project grillage’ by 50%
- Increased yard accessibility & dynamic availability
- Multi use: decom & offshore wind
- Value for UK tax payers

How to Increase UK Market Share of Big Decom Now?

The Transition Barge

- If 100% utilisation, all 16 ports would have a share of activity every year for 8 years - excluding Subsea structures and windfarm related activity
- If 50% utilisation, still very viable work load for the barge and sizeable share of opportunities for all ports

Scenario Planning	Utilisation @ 100% UK win	Utilisation @ 50% UK win
Platforms (31) • 4 sections • 2 sections /barge load	• 124 structures • 62 barge loads	• 62 structures • 31 barge loads
Jackets (20-excl gravity based structures) • 2 sections • 2 sections /barge load	• 40 structures • 20 barge loads	• 20 structures • 10 barge loads
Total Structures/ Year	164 /8 year = 21/ year	82/8 year = 11/ year
Total Barge loads/ Year	82/ 8 year = 10/ year	41/8 year = 5/ year
Total Operational weeks @ 4 weeks per Operation	40 ops weeks/ year	20.5 ops week/ year

Note 1- Source for structures eligible for decommissioning from

“Decommissioning Report (O&G UK- Nov. 2017)”

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The Transition Barge

How this could work

- **Consortium** of ALE & ports wanting larger share of Big Decom Market
- **Barge** berthed in UK waters and shared by Consortium members
- **ALE** manages Hydrodeck with combined offering of ‘smart grillage’ and sea fastening
- **Home port** to be determined (location & sheltered waters)
- **Renewables:** Barge usage also an option
- **Commercial model:** rates for barge same for all Consortium members; modalities of use to be developed

Challenges

- Higher level of coordination and collaboration
- Funding model – e.g. cost of mob/demob from Home Port etc.
- Commercial – competitive port rates, long term commitment from barge supplier

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The Transition Barge: Next Steps

- Determine funding/investment needs (current est. £4M)
- Determine real up-take by Ports
- Assess UHLV contractors interest in UK Big Decom options
- Develop a fair funding contribution by Consortium members
- Approach Scottish Government agencies for interest in support with funding
- Create framework to agree use of barge
- Develop a commercial model that is fair to all

Summary- The Transition Barge

1. **Objective:**

Increase the UK's market share of Big Decom

2. **Strategy:**

Improve Port accessibility on UK East Coast

3. **Tactics:**

    a. Common strategic asset – transition barge

    b. Smart grillage & sea fastening

    c. Optimised port load-in methods

    d. Maximised yard load bearing capability

    e. Higher utilisation of decom. ports

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