

# *Leave it on the Seabed or not?*

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## Introduction

- OSPAR Convention
- UK legislation
- UK decommissioning activity
- Some cost estimates
- Leave in place or Remove requirements
- Future developments

## OSPAR

- Planned or unplanned disposal - OSPAR rules
- Oslo/Paris Convention for the Protection of the Marine Environment of the N E Atlantic
- 1995 - UK Govt approved disposal of the Brent Spar in a deep sea trench in the Atlantic
- Shell reversed its plans following Greenpeace campaign and the Spar was recycled as foundations for a quay in Norway
- OSPAR 98/3 agreed by the 15 member countries

## OSPAR Decision 98/3 requirements

- No dumping or leaving in place of installations in the marine environment
- Should be brought ashore for re-use, recycling or final disposal
- Possible exceptions for large concrete substructures, footings of jackets >10,000 tes, concrete anchor bases and damaged structures
- Catastrophes could be left in place
- No requirements for pipelines or wells

## UK - DECC decommissioning policy

- Secure energy supply objective means efficient management of UK oil and gas assets
- DECC ensures companies concerned can afford the work
  - 4 default cases (in 1996, 2002, 2005, 2008)
  - Their parents, co-venturers and rig lessors paid
- DECC ensures projects meet international rules and stakeholder expectations

## UK - Legislation

- Petroleum Act 1998 enables DECC to make companies liable for decommissioning – 1655 legal notices served in 2009
- 325 groups of companies sharing ownership or interests in UK installations and pipelines
- Joint and several liability for all companies concerned
- Liability maintained throughout field life; new owners get liability notices; notices may be withdrawn from sellers
- DECC can insist on financial security if concerned about ability to pay for decommissioning, e.g. if costs = > half net worth

## UK - Decommissioning Programmes

- Petroleum Act requires programme for installation or pipeline
- Must cover removal and disposal proposals, waste inventory, EIA, wells, cuttings, costs, schedule, site clearance, surveys.
- Other regulators and public consulted
- Programmes approved after all comments considered
- Decisions based on balance of impacts on safety, environment, other users of sea and economics

## UK - Already Decommissioned

- 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

\* OSPAR derogation cases

7% of installations decommissioned to date

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## UK – Infrastructure still in place

- 8 installations with large concrete substructures\*
- 31 with large steel jackets (> 10,000 tes)\*
- 214 other steel jackets
- 278 subsea production systems
- 21 floating production systems
- 3,300 pipelines – around 25,000 kms
- <5,000 wells
- <200 cuttings piles

\* Potential OSPAR derogation cases

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## UK Infrastructure + decommissioning cost

- 253 offshore installations            £15bn to £16 bn
  - 278 subsea production systems    £7 bn
  - 3300 pipelines                        £2bn to £7 bn
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- Total – between £24 bn and £30 bn

## OSPAR Derogations to date

- Ekofisk tank – concrete - Norway
- Frigg TP1 and CDP1 – concrete - UK
- Frigg TCP2 – concrete - Norway
- Frigg MCP01 – concrete - UK
- North West Hutton – steel footings - UK

## Cost estimates for leave in place v removal

Installations	Leave in Place	Removal	Unplanned event	Estimate year
Ekofisk tank	320	650		1998
Frigg TCP2	94	246		2003
TP1	50	360		2003
CDP1	43	206		2003
MCP01	82	516	570-890	2006
N W Hutton	163	195		2005
“ano”	300	390-420		2010

## OSPAR Recommendation 2006/5 – cuttings piles

- Recommendation setting thresholds for leakage to water column and persistence over time to identify any piles having significant pollution impact
- Authorities and Industry in Netherlands, Norway and UK examined drilling records and survey data
- No cuttings piles exceeding the thresholds
- Operators to confirm findings for individual piles when platforms are decommissioned
- Likely that most piles will be left to degrade naturally

## Other Leave in Place or Removal issues

- All subsea kit – wellheads, manifolds, control valves, umbilicals, etc to be removed
- Pipelines – must not be hazards, especially for trawlers
- Expected to be buried with ends cut and buried
- Expected to be cleaned
- Mattresses – base case is removal
- Anything left has to be monitored and problems rectified

## Issues for the future

- Re-use of oil and gas facilities for hydrocarbon gas storage, CO<sub>2</sub> sequestration, wind farms beginning but condition, specifications, location, timing, costs critical
- OSPAR Review of derogation categories in 2013
- Artificial reefs – London Convention Guidelines 2009
  - Preference for purpose built
  - Need to clean any re-used structures
  - Stakeholder objections
  - Lack of non-oil supporters
- Legacy issues – Fishermen’s Legacy Trust Company

- Thank you for listening
- Any questions?

