The Challenges of an Oil & Gas Circular Economy

SUT/MASTS Workshop, 2019

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fostering and funding innovation
Objective: Develop an Outline Business Case for a Decom/CE Innovation Network based around Port of Dundee:

- Identified O&G Decom/CE stakeholders
- Identified current CE examples, opportunities & projects.
- Identified possible re-use markets

Next steps
Secure funding to develop further.
The Problem (or Opportunity?)

- The North Sea is a mature market for Oil & Gas
- Approx. 12% of offshore assets have been decommissioned to date. (88 assets)
- Still to be decommissioned:
  - 600 installations
  - 45,000km of pipelines
  - 11,000 wells
  - 40,000 mattresses
  Many are decades old.
- Currently circa 20 active programs with a further 10 under consideration
The Problem (or Opportunity?)

- Latest estimated costs from OGA - £49 billion over next 20-25 years.
- Onshore activity likely to be only 1-2%

That’s still a £billion opportunity!

From: OGA report – UKCS Decommissioning 2019 cost estimate report
The Challenges to decom. (and especially CE)

- Vision 2035
- Growth of offshore renewables
- Operator attitude
- Legislation
- Establishing the re-use market & supply chain
Vision 2035

- Extend the life of UKCS by a generation.
- Maximise economic recovery of remaining Oil & Gas deposits.
- Double supply chain opportunities.
- Ensure security of domestic energy supply during energy transition.
- Decarbonise to net-zero by 2035.

i.e. delay decommissioning as long as possible...!
Growth of offshore renewables

- Ramp up in offshore renewable energy generation projects (wind, wave etc.)
- Some moves to re-purpose defunct O&G assets for renewables’ bases.
- Combining renewables and O&G could make some undeveloped O&G fields viable.
Operator Attitude

- A significant cost to the company with no value-add (i.e. no prize at the end)
- CE uneconomic (cheaper/easier to recycle)
- Liability concerns
- Short timescales to complete decom.
- Morally agree, but just too difficult.
Legislation

• All equipment/material is designated ‘waste’ on COP (Cessation of Production)
• Re-use, refurb, re-purpose etc. has to be justified to re-designate
• Meeting requirements with recycling so why go further?
• Liability?
Establishing the market

• Who would want this stuff?
• How do we connect with them?
• Timing?
• Availability?
• Logistics & Storage?
Solutions/next steps?

• Regulatory intervention required to incentivise/compel operators to consider CE.

• A comprehensive inventory of assets well before COP (to identify CE opportunities)

• Identification of market opportunities (in other industries?) for decom equipment & material.
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