Offshore Wind Decommissioning
UK offshore wind leasing framework

Leasing the seabed
- Within 12nm - land owner
- Within REZ - Energy Act 2004

The Crown Estate’s responsibilities
- England, Wales, Northern Ireland within 12nm - land owner
- England, Wales, Northern Ireland within REZ - Energy Act 2004

- Territorial Waters Limit
- UK Continental Shelf
- Renewable Energy Zone Limit
UK offshore wind development pipeline [Oct 2019]

Total capacity is up to 44.4 GW

- Operational: 8.4 GW
- Under construction: 3.4 GW
- Government support on offer: 5.0 GW
- Consented: 2.2 GW
- In planning: 6.0 GW
- Pre-planning: 2.9 GW
- Future rights (excl. Scot wind): 0.0 GW

SCOTLAND
ENGLAND AND WALES
FUTURE RIGHTS (ENGLAND AND WALES ONLY; INCLUDES 2017 EXTENSIONS AND ROUND 4)
What is currently on the seabed?

• 2225 offshore wind turbines – 9953 MW
• 200,000t of composites
• 1.3Mt steel for monopiles alone
• 100,000t of copper (export and array cables)
• 50,000t of polymers in the cables
• 60,000t of lead (export cables)
30 GW by 2030

- 5000 wind turbines
- 600,000t of composites
- 5 Mt of steel
- 300,000t of copper
Decommissioning timeline

Capacity reaching the end of its design life (GW)
Offshore Wind
Decommissioning costs

- Decommissioning cost range: £80-300k/MW
- Total decommissioning liability in real (2017) terms is forecast to be £1.82bn.
- Considering the uncertainties, a range of £1.28bn to £3.64bn is anticipated.
- Opportunities for cost reduction:
  - Vessel rates
  - Decommissioning methodology
  - Improved estimation accuracy
Benefits of recycling

Recycled steel vs virgin steel

• 74% energy saving
• 1.5 tonnes of iron ore
• 0.5 tonnes of coke
• 1.28 tonnes of solid waste
• Reduces air emissions by 86%
• Reduces water pollution by 76%

Recycled aluminium

• 95% energy saving
Oil & Gas Decommissioning costs

Oil & Gas 2019 “Like-for-like” Decommissioning Cost Estimate:

• Comparing the same inventory as listed in 2017, estimated costs have reduced by 17% to £49 billion.
• The reduction has been primarily driven by continued improvement in planning and execution practices.
• Reduced contingency associated with improved estimation accuracy

Source: Oil & Gas Authority