Why CODA?

There is more than AU $50 billion of necessary decommissioning work to be done on Australia’s offshore oil and gas infrastructure, over half of which needs to be started within the next ten years.

Collaborative action is critical for developing Australia’s capability and capacity to deliver technology and services locally and export to an enormous Asia Pacific market.
Centre of Decommissioning Australia (CODA)

Background

› Built on the success of NDRI (research collaboration) — established to address broad decommissioning strategy. Governance funded and run by NERA.

› Initially established collaboratively between NERA and seven operators (BHP, Chevron, Cooper, Esso, Santos, Vermillion and Woodside) to:
  • Pursue a 35 per cent reduction in decommissioning costs in Australia
  • Identify or establish optimal recycling and reuse pathways for offshore infrastructure
  • Maximise opportunities for the local workforce, service and technology companies;
  • Support a domestic decommissioning industry that can service needs across the Asia Pacific region.

First Project — Australia’s Offshore Decommissioning Liability Study

Estimate Australia’s total offshore decom liability and opportunities for cost saving

› Key outputs: Executive summary document (publicly accessible), database (categorised by type, cost and timeline) and reports

› Foundation for articulating forward work program


How CODA’s objective of driving a 35 per cent reduction in Australia’s decommissioning costs can be achieved.
**Australia’s Offshore Decommissioning Liability Study**

An estimated US $40.5 billion (AU $50 billion) offshore decommissioning workload over the next 50 years, with over half of this work forecast to commence by 2030 and 73 per cent by 2040.

### Offshore oil and gas asset stock

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wells split across platform wells</td>
<td>1,008</td>
<td>(59%), subsea development wells (30%) and subsea exploration and appraisal wells (11%)</td>
</tr>
<tr>
<td>Fixed facilities</td>
<td>57</td>
<td>(inclusive of 237,000 tonnes of topsides and 518,000 tonnes of substructures)</td>
</tr>
<tr>
<td>Infield flowlines</td>
<td>205</td>
<td>(1,700 km overall excluding jumpers and spools)</td>
</tr>
<tr>
<td>Static umbilicals</td>
<td>130</td>
<td>(approximately 1,500km overall excluding flying leads)</td>
</tr>
<tr>
<td>Floating facilities</td>
<td>11</td>
<td>(7 FPSOs, 2 FSOs, 1 FLNG and 1 semi-submersible)</td>
</tr>
<tr>
<td>Export and inter-field pipelines</td>
<td>82</td>
<td>(with an overall installed offshore length of 4,960km)</td>
</tr>
<tr>
<td>Subsea structures</td>
<td>535</td>
<td>(e.g. manifolds, PLEMS, etc) to be lifted, excluding trees;</td>
</tr>
<tr>
<td>Flexible risers and dynamic umbilicals</td>
<td>126</td>
<td>associated with floating facilities, which will be laid on the seabed following removal of the associated facility.</td>
</tr>
</tbody>
</table>
Total Liability — Australian offshore oil and gas decommissioning liability by asset typology

$40.5bn USD → $50bn AUD
Decommissioning Liability Study

Australian offshore oil and gas decommissioning liability timeline

- Percentages are cumulative liability over time
- Based on timing of first decommissioning spend, sourced from IHS Markit, or advised by funding operator
Decommissioning Liability Study

Australian offshore oil and gas decommissioning liability timeline, by basin
Decommissioning Liability Study

Quantified opportunities for cost reduction

<table>
<thead>
<tr>
<th>Baseline</th>
<th>Export &amp; Inter-Field Pipelines In-Situ</th>
<th>Wells P&amp;A working group - equiv. drill to limit concept - new technology</th>
<th>Re-float and tow jacket substructures &gt;3,000 tonnes</th>
<th>100% Local Disposal Path</th>
<th>Campaign Opportunities</th>
<th>Concrete Gravity Based Structures In-Situ</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-15%</td>
<td>-10%</td>
<td>-4%</td>
<td>-4%</td>
<td>-3%</td>
<td>-0.5%</td>
</tr>
</tbody>
</table>
Decommissioning Liability Study

Quantified opportunities for cost reduction — multi operator facility campaign

USD$267m saving (62%)
Asia Pacific (APAC) decommissioning workload

More than 1,000 platforms in APAC are already operating beyond their 25-year design life.

Three hundred and eighty fields are set to cease production by 2030 and the region's total decommissioning workload could exceed AU $133 billion (US $100 billion).

<table>
<thead>
<tr>
<th>APAC offshore oil and gas asset stock</th>
<th>APAC platforms operating beyond design life</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2,600</strong> Platforms</td>
<td><strong>2,567</strong> Platforms</td>
</tr>
<tr>
<td><strong>35,000</strong> Wells</td>
<td><strong>1,037</strong> Wells</td>
</tr>
<tr>
<td><strong>7.5 million</strong> tonnes of steel</td>
<td><strong>809</strong> Platforms</td>
</tr>
<tr>
<td><strong>55,000 km</strong> of pipelines</td>
<td><strong>469</strong> Platforms</td>
</tr>
</tbody>
</table>

**Source:** Wood Mackenzie (2018). *Decommissioning Asia Pacific on a budget*
CODA can enable Australia to seize its decommissioning opportunity to create new industries, jobs and economic growth

Leverage decades of world-leading Australian expertise and capacity in O&G, mining and advanced technology sectors to accelerate the growth of decommissioning and emerging energy industries.

Commencing with offshore O&G, Australia’s decommissioning capability can be diversified to service huge onshore O&G markets and emerging offshore industries, such as offshore wind and CCS.

Develop domestic decommissioning capability and capacity to complete work locally and export technology and services throughout the Asia Pacific region.

Build a globally competitive decommissioning sector that delivers significant jobs and economic growth for Australia, supporting high-skill employment and regional development.
CODA has recently awarded three foundation projects, due for delivery in early 2022:

**Current Joint Industry and NERA Funded Projects**

- Technology pathways report + roadmap
- Global best practice report
- Recycling pathways report
Future activities

Governance
• Supervisory committee appointed.
• Undertake consultation workshops with operators and service sector representatives to understand next initiatives.
• Call for membership of a supply chain advisory group.
• Establish a membership model to continue building the Australian decommissioning community of practice within CODA.

Projects
• Subject to output of workshops, develop a rolling 10-year look ahead report that will provide clarity on proposed decommissioning activities across the coming decade.
Establishing robust governance to connect and activate the different streams of CODA

**CODA BOARD**
- Not-for-profit, Independent

**Supply chain advisory**
- Workshops
- Projects

**Operator Best practice**
- Workshops
- Projects

**Supervisory Committee**
- 2 + 2 + 2
- High level knowledge exchange
- Strategy and Reporting

**NDRI**
- Focus on environmental gaps in knowledge
- Initial focus research
- Potential for focus on end user application
How you can help

CODA has been established with funding and participation from NERA and operators, including members of the WA Premier’s LNG Jobs Taskforce

Identification of the initial projects and their subsequent funding was by the member operators and NERA (BHP, Chevron, Cooper, Esso, Santos, Vermillion and Woodside)

These same partners are providing funding to undertake the three projects recently awarded

To reach its full potential and deliver the benefits for the industry and the economy, CODA will require ongoing funding to cover both overheads and initiatives:

• This funding could come from a combination of government, operators and service sector membership
• Members can then continue to provide input to the direction to CODA

To keep up to date, sign up to the CODA Connect newsletter at https://www.nera.org.au/CODA-sign-up
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