Economics of Floating Wind for Green Hydrogen

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Massive Long-Term Anticipation for Green H₂

• Massive per-kg cost decreases by 2030
• Green H₂ will scale to nearly half of all production between 2030 and 2050

Source: Boston Strategies International analysis. Some base data from Rystad, IRENA, USDOE, BNEF, et al.
Viability of Floating Wind for Green H₂

- Massive LCOE cost decreases by 2050
- Financial viability depends on ability to scale and subsidies

Power Outlook for Green H₂ Production

Floating Offshore Wind - Comparative Costs

Tapping the Market Potential

**Illustrative Potential**

Fixed and Floating Wind Potential for Green H₂

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<tr>
<th>Year</th>
<th>Fixed MW</th>
<th>Floating MW</th>
<th>Fixed Farms</th>
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**Project Economic Levers**

- Refinement of CapEx and OpEx projections vs. solar, hydro, nuclear, etc. and by design type, including cost and end-to-end CO₂ footprint
- Standardization
- Local value added
- Availability of specialized vessels (installation, maintenance)
- Availability of materials (e.g., rare earths)
- Lifecycle cost (including decommissioning)

Source: Analysis by David Steven Jacoby

Relative to fixed offshore

Source: Boston Strategies International modeling of energy sources for green hydrogen production by wind vs. other sources, offshore vs. onshore, floating vs. fixed, etc. Relies on base data from DNV, Rystad, IRENA, USDCE, BNEF, NREL, CNBC, et al.
The Role of Analytics in Lowering LCOE

REVchain™ Process

1. Process Governance
   Aligning Stakeholders Around Project Planning and Execution

2. Baselines & Targets
   Defining Value Chain Boundary and Carbon Footprint
   - Lifecycle cost (incl. decommissioning)
   - End-to-end CO2 footprint

3. Technology Evaluation
   Deciding on Technologies and Applications
   - Refinement of CapEx and OpEx projections vs. solar, hydro, nuclear, etc. and by design type

4. Commercial & Channel Choices
   Targeting Channels & Business Models to Maximize Competitive Advantage
   - Standardization

5. Partnering
   Onboarding Supply Chain Partners
   - Local value added
   - Availability of specialized vessels (installation, maintenance)
   - Availability of materials (e.g., rare earths)

6. Implementation
   Production at Scale

Floating Wind Project Economic Levers

Source: David Steven Jacoby's analysis using REVchain™ framework

Boston University Institute for Sustainable Energy
DRAFT

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