

Blue Economy CRC: An Overview

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**BLUE
ECONOMY**
COOPERATIVE RESEARCH CENTRE



Australian Government
Department of Industry, Science,
Energy and Resources

Business
Cooperative Research
Centres Program

Delivering Innovation in Sustainable Seafood
& Renewable Energy Production for a Marine Nation

www.blueeconomycrc.com.au

The Blue Economy CRC

Perform world class, collaborative, industry focused research and training that underpins the growth of the Blue Economy through increased offshore sustainable aquaculture and renewable energy production.



43 Partners – 10 countries – 10 years – 5 programs



Research Programs (RPs)

- RP1: Offshore Engineering and Technology
- RP2: Seafood and Marine Products
- RP3: Offshore Renewable Energy Systems
- RP4: Environment and Ecosystems
- RP5: Sustainable Offshore Developments

SHORT TERM

MEDIUM TERM

LONG TERM



Delivering offshore engineering solutions

- » Design of improved and novel offshore production systems, moorings, & support vessels
- » Development of autonomous marine systems
- » Biofouling reduction & reuse



- » Multi-use platforms
- » Validation, & prototyping
- » Codes of practice



- » Evaluating performance (sea trials)
- » Demonstrations and applying of actual systems

Delivering seafood and marine products

- » Seaweeds, salmon, oysters & by-products: Products, policy and social licence
- » Maintain and enhance production
- » Species selection & production assessment



- » Monitor, manage & mitigate risk
- » Integration & closed system aquaculture
- » Tropical aquaculture production



Delivering offshore renewable energy systems

- » Offshore electricity & hydrogen market opportunities & demand



- » Energy system model integration ORES design & assessment
- » DC Microgrids



- » Phased demonstration
- » Offshore electricity



- » Phased demonstration
- » Offshore electricity & hydrogen production



Delivering sustainable ecosystems & environments

- » Marine spatial planning & site selection
- » MetOcean prototyping
- » Risk & opportunity - hazard analysis
- » Sediment footprint & Biosecurity



- » Decision criteria & assessment tools
- » Life cycle & integrated assessments
- » Biosecurity
- » Adaptive Management



Delivering sustainable offshore developments

- » Policy & regulation mapping
- » Environmental management accounting
- » Economic options
- » First Nations & Cultural values
- » Ethics, values & Social licence



- » Policy and regulatory scenarios
- » Environmental management accounting
- » Supply chain analysis and Non-Market valuations
- » Integrity systems: certification and assessment
- » Blue economy reporting



DELIVERING TO THE BLUE ECONOMY

Blue Economy Zones

Autonomous data collection systems

Portal & data Infrastructure

Offshore production systems: energy and aquaculture

Integrated Multi-Trophic Aquaculture

Guidelines for certification & standards

Projects: A Snapshot



Source: *Blue Economy CRC Annual Report 2022-23* (BE CRC October 2023)

Projects – Across the Research Programs

- **The Blue Economy CRC Hydrogen Microgrid.**
<https://blueeconomycrc.com.au/hydrogen-microgrid-demonstration-project/>
- **Marine Spatial Planning**
<https://blueeconomycrc.com.au/marine-spatial-planning/>
- **Novel Offshore Fish Pen Design: Phase 1**
<https://blueeconomycrc.com.au/project/novel-offshore-fish-pen-design-phase-1-conceptual-development/>
- **MoorPower - Scaled Demonstrator**
<https://blueeconomycrc.com.au/project/moorpower-scaled-demonstrator/>
- **Experimental Platform For Aquaculture Production**
<https://blueeconomycrc.com.au/project/experimental-platform-for-aquaculture-production/>

Offshore Wind Energy in Australia



- Mapped Australian offshore wind resource
- Analysed the generation profile of offshore wind
- Profiled the workforce required to develop, construct and manage offshore wind
- > 2000 GW realistically accessible
- > 300 GW needed to generate hydrogen for 20 Mt/yr export to Japan
- for comparison the NEM peaks at about 30 GW

Briggs, C., M. Hemer, P. Howard, R. Langdon, P. Marsh, S. Teske and D. Carrascosa (2021). Offshore Wind Energy in Australia: Blue Economy Cooperative Research Centre, Launceston, TAS. 92p.

Pre-conditions for the development of Offshore Wind Energy in Australia



- Proposal lead: Marcus Haward (UTAS)
- This project will identify best practices in policy and regulatory processes applicable to offshore wind development and assist stakeholders in understanding and navigating existing assessment and approval pathways for offshore wind projects in Australia.
- We will identify key elements of social acceptability for offshore wind developments and assist industry in addressing an integrated integrity system approach to offshore wind projects.
- The project will identify supply chain systems for the development of offshore wind industry and provide strategic direction.



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Further information about the CRC Program is available at www.business.gov.au.



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Thank you!

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