

ACOWE Annual Report 2025



Contents

1. Executive Summary	3
2. About ACOWE	4
3. Governance & Partner Institutions	5
4. Research Overview & Highlights	6
5. Engagement & Outreach	10
6. Priorities for the Coming Year	11

ACOWE acknowledge Aboriginal and Torres Strait Islander people as the Traditional Owners of the unceded lands on which we work, learn and live. We pay respect to Elders past, present and future, and acknowledge the importance of Indigenous knowledge in the Academy.

We acknowledge and thank the six partnering universities and stakeholders for their ongoing support in advancing Australia's offshore wind industry.

1. Executive Summary

Launched in July 2024, the Australian Centre for Offshore Wind Energy (ACOWE) is a national, interdisciplinary partnership to enable sustainable offshore wind development in Australia. In its inaugural year (2025), ACOWE focused on establishing strong governance, mapping national research capabilities, and expanding its reach through strategic engagement.

Key research highlights include launching the ACOWE seed funding program and releasing a major interdisciplinary report—Improving decision-making in relation to offshore wind—produced by 40 interdisciplinary researchers in partnership with the Australian Marine Conservation Society and the Biodiversity Council. ACOWE also hosted its first Technical Symposium in September 2025 in collaboration with the Gippsland New Energy Conference, attracting over 120 participants and showcasing Australian offshore wind research strengths. These research initiatives are now translating into tangible outcomes, including successful competitive grant under the ACOWE banner, such as two National Industry PhD projects. The Centre further supported workforce development by offering internships in logistics, media and metocean engineering. The Centre's profile continued to grow through national media coverage and invited public appearance, including keynote invitations at major offshore wind conferences.



2. About ACOWE

2.1 Mission, Vision & Values



Our Mission:

ACOWE will deliver evidence-based solutions and a new, skilled workforce to enable sustainable offshore wind development for the benefit of Australia.



Our Vision:

ACOWE will be the foremost research and training pathway for offshore wind energy and contribute positively to the decarbonisation of Australia.



Our Values:

ACOWE will ensure that Australian offshore wind development is pursued in an equitable, inclusive, socially, culturally and environmentally responsible manner.

2.2 Strategic Priorities



**Community
and Cultural
Heritage**



**Marine
Environment**



**Ocean
Engineering**



Logistics

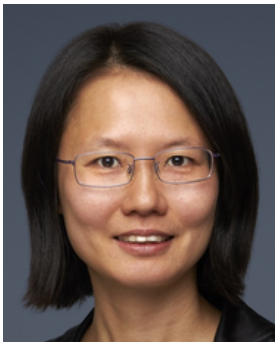


**Workforce
Pipeline**

3. Governance & Partner Institutions

ACOWE was launched in July 2024 through a Memorandum of Understanding between six Australian universities, supported by internal cash and in-kind contributions. Led by the University of Melbourne, the Centre operates in partnership with Deakin University, Federation University, the University of Newcastle, the University of Western Australia, and the University of Wollongong—all strategically positioned within Australia's six declared offshore wind zones.

The Centre is governed by a Steering Committee chaired by the Centre Director, with representatives from each partner university providing strategic oversight and ensuring strong alignment across the partnership. The operation of ACOWE was supported by a part-time project manager and media intern respectively.



A/Prof Shiaohuey Chow
ACOWE Director,
Geotechnical Engineer,
University of Melbourne



Prof Daniel Ierodiaconou
Marine Ecologist,
Deakin University



Prof Andrew O'Loughlin
Professor of
Management,
Federation University



Prof Christophe Gaudin
Director, Oceans
Institute, University of
Western Australia



Prof Ivan Marusic
Pro Vice Chancellor
(Research
Infrastructure),
University of Melbourne



Prof Anna Giacomini
Director, Research Centre
for Geotechnical Science &
Engineering, University of
Newcastle



Prof Ty Christopher
Director, Energy Futures
Network, University of
Wollongong

The Steering Committee meets monthly to guide ACOWE's strategic direction, oversee progress, and strengthen collaboration across institutions. In addition, ACOWE held its inaugural Annual Strategic Planning Workshop to define key goals, priorities, and an action plan for the year ahead.

4. Research Overview & Highlights

4.1 Research Overview

In 2025, ACOWE concentrated on mapping research capability and raising its profile through the following activities:



Mapping of national research capabilities through a series of coordinated workshops across partner institutions.



Launch of the ACOWE Seed Funding Program, awarding **three pilot projects** in collaboration with university, government, and industry partners.



Release of a major interdisciplinary report: Improving decision making in relation to offshore wind – priority knowledge and decision support needs, produced by **40+ researchers** in partnership with the Australian Marine Conservation Society and the Biodiversity Council.



Submission of competitive grant and tender applications under the ACOWE banner, including two successful National Industry PhD projects.



Organisation of the inaugural ACOWE Technical Symposium (Sept 2025) with the Gippsland New Energy Conference, showcasing national offshore wind research capability to **120+ participants**.

Selected research highlights are presented in the next section.

4.2 Research Highlights

4.2.1 Seed Projects

In 2025, ACOWE supported three SEED projects to tackle immediate offshore wind challenges and opportunities in Australia. Together, these projects delivered new insights into climate resilience, environmental impacts, and strategic infrastructure planning for future offshore wind development.



Project 1: Strategic Multi-Use Port Infrastructure: Enhancing Australia's Offshore Wind and Maritime Capabilities for a Sustainable Future Outlook

Project Lead: Felix Kin Peng Hui (University of Melbourne)

Co-investigators: Matthew Pepper (University of Wollongong) and Richard McAllister (Bardex Corporation)

This project consolidated evidence, regional analysis and stakeholder engagement to inform strategic development of multi-use port infrastructure that can support offshore wind alongside existing maritime activities and decommissioning. The principal findings and technical assessments are being finalised in a forthcoming peer-reviewed paper that includes analysis of interviews and workshops with key stakeholders, and a draft phased roadmap with policy recommendations. This upcoming paper will be available as working document to guide near-term decision-making and further grant development. The project also delivered tangible capacity-building outcomes through a postgraduate PhD researcher and an NTNU research intern (who contributed providing an international perspective and has since returned to a promising maritime career in Europe). Joint grant opportunities with partner universities (Wollongong and Melbourne) and industry partner (Bardex) are being actively explored to fund pilot projects and further development of the roadmap.



Project 2: Data-Driven Framework for Sustainable Offshore Wind Development

Project Lead: Kourosh Khoshelham (University of Melbourne)

Co-investigators: Daniel Ierodiaconou (Deakin University), Branimir Radun (Oikon), Marko Radanovic (University of Melbourne), and expert researchers Peter Urban (Ghent University) and Alexandre C. G. Schimel (Deep).

This project aimed to develop a data-driven framework to improve understanding of the environmental implications of offshore wind development. By integrating marine habitat mapping, spatial analysis, and machine learning, the team is generating evidence to support more sustainable and informed decision-making. The team also achieved first place at the GeoHab 2025 Machine Learning Competition, demonstrating the strength of its analytical approach and the potential of advanced data techniques to enhance marine environmental assessments.

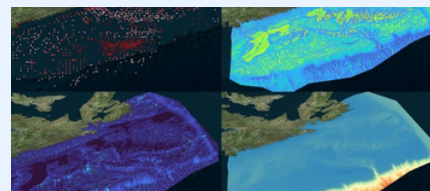


Figure 1. Collage screenshot of a Kaggle dataset used for Machine Learning competition in GeoHab 2025



Figure 2. Hybrid Project Design Workshop held on May 6, 2025



Project 3: Downscaled High-Resolution National Assessment of Offshore Wind and Wave Climate Projections

Project Lead: Alberto Meucci (University of Melbourne)

Co-investigators: Guisela Grossmann Matheson (University of Melbourne), Chun-Hsu Su (Bureau of Meteorology), Bryan H. (CSIRO), Vanessa Hernaman (CSIRO), Daniel Machado (Iberdrola Australia), Ali Tamizi (BMT), and Ian R. Young (University of Melbourne)

This project produced a high-resolution national assessment of past, present, and future offshore wind conditions across Australia's declared offshore wind zones. Using Australia's advanced BARPA-CORDEX and BARRA-R2 datasets, the research provided valuable information on long-term planning, infrastructure resilience, and investor confidence. Project outcomes include a journal article (Meucci et al., 2026)¹ and a follow-up project on metocean extremes and offshore wind resilience sliver with an RWTH Aachen University Visiting Researcher.

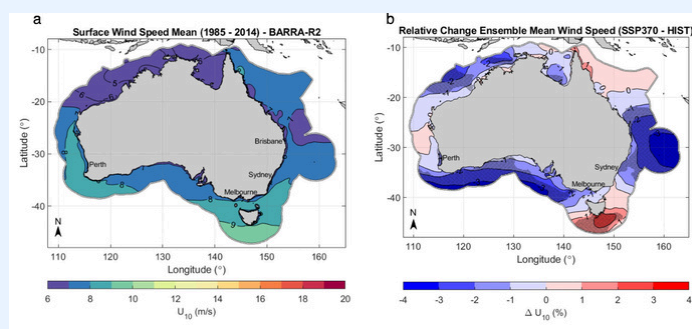


Figure 3. (a) Offshore 10-meter surface wind speed averaged over the historical period 1985–2014. (b) Projected relative change (%) for 2035–2064 (SSP3-7.0) via a 7-model ensemble, masked to the Australian EEZ (17.5 km resolution) (Meucci et al., 2026)

1. Meucci, A., Grossmann-Matheson, G., Su, C.-H., Hally, B., Hernaman, V., Machado, D. A., Tamizi, A., & Young, I. R. (2026). Resilience of offshore wind resources in Australia under climate change using CMIP6 CORDEX projections. *Energy and Climate Change*, 7, 100236. <https://doi.org/10.1016/j.egycc.2026.100236>

4.2.2 Publications

ACOWE is proud to have collaborated with experts from the [Australian Marine Conservation Society \(AMCS\)](#) and the [Biodiversity Council \(BS\)](#) to release a new report on providing strategic recommendations for the sustainable development of the offshore wind industry.

In Australia, the development of offshore wind has to be supported by independent, science-based research, inclusive engagement, and strong governance to ensure offshore wind delivers positive outcomes for both the people and marine life. Produced by 40 interdisciplinary researchers, this report identifies key environmental, social, economic, and cultural knowledge gaps that is needed to support better decision-making across the sector.



Scan for full report



ACOWE supported its [first journal paper](#) in 2025, led by Michelle Voyer and a team of 15 social, cultural, and political scientists from across Australia. The paper, "Fair winds: Foregrounding equity within the emerging Australian offshore wind industry," examines how principles of equity can be embedded into the early development of Australia's offshore wind sector. Using the Blue Economy Equity Model, the authors analyze governance challenges and highlight the importance of social research in addressing barriers and leveraging opportunities for change.

Voyer et al., (2025). Fair winds: Foregrounding equity within the emerging Australian offshore wind industry. *Energy Research & Social Science*, 127. <https://doi.org/10.1016/j.erss.2025.104284>

4.2.3 Grant Applications

Two teams of ACOWE researchers were awarded [National Industry PhD projects](#) in December 2025, reflecting strong collaboration between research institutions and industry partners, contributing to national capability in marine science and geotechnical engineering.



Project 1: Optimizing Sponge Production Techniques for Environmental Restoration and Commercial Aquaculture

Investigators: Daniel Ierodiaconou (Deakin University) and David Francis (Deakin University) in partnership with SeaGen Aquaculture

This project focuses on developing improved methods for cultivating marine sponges to support both ecological restoration and commercial aquaculture.



Project 2: Advancing Problematic Soil Characterization from Cone Penetration Testing Using Artificial Intelligence

Investigators: Negin Yousefpour (University of Melbourne), Shiaohuey Chow (University of Melbourne), in partnership with Geotesta

This project applies artificial intelligence to better understand challenging soil types, reducing construction risks, and supporting renewable energy projects in offshore and remote areas.

These successful projects highlight the growing impact of ACOWE-supported researchers and the value of industry-aligned doctoral training in addressing environmental and infrastructure challenges.

4.2.3 ACOWE Technical Symposium

ACOWE hosted over 120 participants at the inaugural ACOWE Technical Symposium, held in Gippsland from 10–11 September 2025, alongside the 4th Gippsland New Energy Conference.

The main program on 11 September at Federation University's Gippsland campus was opened by Professor Duncan Bentley (Vice Chancellor, Federation University) and Professor Mark Cassidy (Deputy Vice Chancellor (Research), University of Melbourne). The day featured five keynotes and fifteen presentations across Marine Environment, Logistics, Offshore Engineering, and Metocean & Hydrodynamics, concluding with a panel on 'Synthesis Research & Development Needs to Enable Offshore Wind in Australia'.

Professor Daniel Ierodiaconou, Deakin University closed the Symposium with four key reflections from across the day:

1. Supply chains that leverage global manufacturing, logistics, specialised vessels, ports and skilled labour are fundamental in supporting the offshore wind sector.
2. Local knowledge and content matters, supporting community engagement and economic reliance and jobs of the future.
3. Australia's carbonate seabed presents unique challenges, making research essential to guide engineering design and mitigate installation risks
4. Long-term datasets are essential for establishing environmental baselines and understanding cumulative impacts.



Figure 4. Highlights from the ACOWE Technical Symposium, featuring expert presentations, moderated discussions, and broad attendee involvement during the program

5. Engagement & Outreach

Stakeholder Engagement

- Sustained engagement with government and regulatory stakeholders, contributing expert input to offshore wind policy, regulation, and funding opportunities.
- Strengthen formal and informal partnership with major offshore wind developers and industry partners including MOU, NDA, and seed project support.

International Outreach

- Advanced strategic partnerships across APAC offshore wind sector, including collaborative grant applications with Japanese and Korean offshore wind research institutions.
- Hosted international researcher exchanges to strengthen capability development and knowledge transfer for offshore wind in Australia.

Communications and Visibility

- Released two ACOWE newsletters (subscriber count: 295).
- Expanded LinkedIn presence to 1,239 followers (110% growth since May 30, 2025) and achieved 67,000 impressions

Invited Public Appearances

- Panel contribution by ACOWE Director A/Prof Shiaohuey Chow at Melbourne Innovation Week (3 Sept 2025).
- Podcast appearance by Prof Daniel Ierodiaconou (Deakin University) for the Global Wind Energy Council (14 Aug 2025).
- Keynote address by A/Prof Chow at the Offshore WindTECH Summit during the Australian Wind Energy 2025 Conference (17 July 2025).
- Moderation of a panel by A/Prof Chow at the CEDA Climate and Energy Summit 2025 (1 May 2025).

Media Engagement

- Achieved 68 media mentions with an estimated 23.7M audience reach (Meltwater, 2025).

“

ACOWE was featured in **Renew Economy “Share the wealth: Plan to make offshore wind data a public treasure”** (6 June 2025), where ACOWE Director Shiaohuey Chow outlined the need for coordinated national approaches to offshore wind data:

“The first part is we have to recognise that this requires coordination among all the key stakeholders... I’m talking about government, regulators, offshore wind developers, researchers, and community. The second part is we need a robust governance framework. The third one is a standardised data collection protocol and method for nationwide monitoring and evaluation. Because different developers, different consultants, contractors will have different formats.

“Lastly, we require a national data-sharing infrastructure to enable open access to data.”

This coverage reinforced ACOWE’s role as a leading independent voice on offshore wind development and governance in Australia.

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6. Priorities for the Coming Year

Looking ahead to 2026, ACOWE will continue to strengthen its governance and actively pursue co-investment and external funding to support long-term operations. The Centre will continue building national capability through seed-funded projects, global collaboration, and targeted outreach, including webinars and the next ACOWE Technical Symposium.

While Australia's emerging offshore wind sector faces uncertainty—driven by delays to the first Gippsland seabed auction to August 2026 and the withdrawal of several developers amid global industry challenges—ACOWE remains committed to providing trusted expertise and leadership. Global setbacks, including stalled offshore wind projects in the United States, highlight the need to build resilient domestic capability. With ongoing government initiatives to support sector development, ACOWE will continue to play a proactive role in enabling a robust, evidence-driven offshore wind industry that contributes to Australia's net-zero ambitions.

