

“Scaling Connectivity for a Prosperous Blue Pacific”

Strengthening Ocean Energy Readiness in the Pacific: The Pacific Renewable Ocean Energy Readiness Programme (PROERP)

Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE), United Nations Industrial Development Organization (UNIDO) and SIDS DOCK

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Alignment to Framework for Energy Security and Resilience in the Pacific

1. PROERP directly advances implementation of the **Framework for Energy Security and Resilience in the Pacific (FESRIP)** through practical programmes that strengthen ocean energy planning, investment readiness and system integration.
 - i. **Priority 6.2.A – Energy Policy, Planning and Capacity Development:**
PROERP Programme 1 supports regulatory gap assessments, marine spatial planning integration and grid-interconnection frameworks enabling governments to incorporate ocean renewable energy technologies into national energy planning systems.
 - ii. **Priority 6.2.B – Energy Sector Finance and Cooperation:**
PROERP Programme 2 and 5 prepare feasibility studies and investment pipelines for floating solar, SWAC, wave, tidal, off shore wind, marine biofuel and other ocean technologies, supporting fund mobilisation
 - iii. **Priority 6.2.C – Sustainable Electric Power Development:**
PROERP Programme 3 and 4 strengthen technical readiness through engineering standards, certification systems and pilot deployment of ocean technologies supporting reliable integration of renewables into island electricity systems.
 - iv. **Priority 6.2.E – Energy Efficiency and System Optimisation:**
Grid integration planning, hybrid microgrid optimisation and seawater air-conditioning (SWAC) technologies improve electricity efficiency, reduce diesel consumption and lower operating costs for Pacific utilities.

Contribution to SDGs, NDCs and National Goals

2. **SDG7, SDG9 and SDG13:** PROERP expands renewable electricity supply through floating solar, wave, tidal, OTEC, SWAC and other ocean technologies while strengthening grid integration standards that improve reliability and reduce dependence on imported fossil fuels, and contributing to blue-green productive uses, climate-adaptive energy systems and GHG emission reduction
3. **Contribute to the implementation of COP30 outcomes:** Implement the “Ocean Renewable Energy Breakthrough” as part of the “Plan to Accelerate Ocean-based Climate Solutions”, which calls for SIDS-SIDS platforms and programs to promote the renewable ocean energy uptake in SIDS.
4. **Supporting NDC Implementation:** PROERP Programme 1, 4 and 5 support policy frameworks, demonstration projects and investment preparation necessary for Pacific countries to translate renewable energy commitments under their NDCs into operational ocean energy infrastructure.
5. **Supporting National Energy Policies:** Regulatory advisory services, marine spatial planning guidance and feasibility studies help governments integrate emerging ocean technologies into national energy strategies and investment pipelines.
6. **Supporting Scaling and Regional Prosperity:** The programme establishes a regional investment pipeline for renewable ocean energy technologies, supporting grid modernisation, clean energy markets and economic opportunities across Pacific Island economies.

Background and Rationale

7. **PRETMM 5 (2023)** considered innovative technologies to accelerate the region’s blue-green economic diversification efforts and directed SPC/PCREEE, UNIDO and SIDS DOCK to develop a renewable ocean readiness programme, which aims to mitigate barriers and brings latest technology innovations to the Pacific. The programme will include cooperation with the Global Ocean Energy Alliance (GLOEA) and other centers of the Global Network of Regional Sustainable Energy Centers (GN-SEC), including CCREEE, ECREEE, SACREEE and CEREEAC.
8. **Structural Energy Constraints in Pacific Power Systems:** Pacific Island electricity systems remain **small, geographically dispersed, impacted by climate change and heavily dependent on imported diesel**, exposing countries to fuel price volatility and limiting energy system resilience and the integration of grid-connected power systems.
9. **Ocean Energy Potential but Limited Deployment Readiness:** The **PROERP Baseline Needs Assessment** confirms the Pacific region possesses significant ocean energy potential, but deployment remains constrained by regulatory gaps, limited grid hosting capacity, incomplete marine governance frameworks and weak investment preparation systems.
10. **Lack of SIDS-SIDS and Triangular Cooperation:** The Assessment identified the early-stage nature of many renewable ocean energy technologies, combined with the absence of structured international platforms for knowledge exchange, technology transfer and financial cooperation between the Global North and SIDS, as a major bottleneck to full commercialisation and scale-up.
11. **Accelerating the Pacific Energy Transition:** Recognising these challenges, the **5th PRETMM (2023)** called for accelerated decarbonisation and strengthened regional cooperation to advance emerging ocean energy technologies.
12. **Ministerial Direction Required to Unlock Implementation:** PROERP responds by establishing a regional readiness platform to convert renewable ocean energy potential into **bankable projects and operational energy infrastructure**.

Progress to Date

13. **Regional analytical foundation established:** Following the **5th PRETMM (2023)**, PCREEE and UNIDO initiated development of PROERP to strengthen ocean energy readiness across Pacific Island Countries.
14. **Baseline Needs Assessment completed:** The **PROERP BNA** assessed readiness across PICs using seven (7) readiness dimensions including policy frameworks, grid integration capacity, institutional capability and investment readiness.
15. **Evidence confirms readiness barriers:** The assessment confirmed that most Pacific countries remain at **Foundational to Emerging readiness levels**, with deployment constrained primarily by regulatory, technical and investment barriers.
16. **Technology and economic viability analysis undertaken:** The PROERP Project Document has been prepared establishing **five programme areas** addressing policy readiness, knowledge systems, technical standards, technology demonstrations and investment preparation.
17. **Regional programme design prepared:** PROERP findings were presented at regional consultations including the **Pacific Islands Ocean Conference (PIOC 2025)** and the **Pacific Senior Energy Officials Meeting (2025)** supporting stakeholder validation.
18. **International collaboration strengthened:** PROERP findings were presented at international conference such as the **1st International Academic Summit on the GX Model in Island Regions, Japan (2026)** to strengthened collaboration with institutions supporting ocean energy innovation.

Key Issues and Gaps

19. **Technical – Infrastructure and Grid Readiness:** The BNA identified no Pacific country currently operates under a mature ocean-energy regulatory architecture and grid hosting capacity remains limited in many systems to absorb any new ocean energy penetrations.

20. **Financial – Limited Investment Preparation Capacity:** Petroleum still accounts for approximately **72% of electricity generation** across PICs while ocean energy investment pipelines remain limited even with land based renewable energy, while ocean is yet to explore.
21. **Institutional – Fragmented Governance and Regulatory Frameworks:** Marine governance, seabed leasing arrangements and permitting pathways for ocean energy deployment remain limited with existing ocean and marine governance focussed on fishing, tourism and shipping sector.
22. **Capacity – Delivery and Implementation Constraints:** The **2025 Senior Energy Officials Meeting** noted that renewable energy project implementation has not kept pace with financial commitments, highlighting persistent capacity gaps in project development and renewable integration.

Proposed Actions and Way Forward

23. Ministers are invited to:
24. **Endorse the Pacific Renewable Ocean Energy Readiness Programme (PROERP)** as a regional platform implemented through five programme areas:
 - i. **Programme Area 1 - Policy and Regulation:** strengthening regulatory frameworks and permitting pathways.
 - ii. **Programme Area 2 - Knowledge Management and Awareness:** developing regional ocean resource data and information database systems.
 - iii. **Programme Area 3 - Qualification and Quality Infrastructure:** establishing engineering standards for grids, certified ocean energy curriculum and workforce ocean training.
 - iv. **Programme Area 4 - Technology Demonstration:** deploying ocean energy technology such as floating solar, wave, tidal, OTEC, offshore wind and SWAC pilots.
 - v. **Programme Area 5 - Investment and Market Development:** preparing bankable ocean energy projects.
25. **Direct SPC/PCREEE, UNIDO and SIDS DOCK** to conduct resource mobilisation effort and roll out the PROERP in its Third Operational Phase: 2026-2030.

Budget and Resource Requirements

26. The PROERP has an estimated **overall budget of USD 17 million that will leverage around USD 133 millions** of grants, concessional finance and private-sector investment through blended finance and risk mitigation instruments, **resulting in a total indicative financing envelope of USD 150 million**
27. Financing will be mobilised through **climate finance facilities, development banks, bilateral partners, UNIDO support and national co-financing**, aligned with FESRIP renewable energy investment priorities.

Leadership and Coordination

28. The PROERP will be led by the **PCREEE** providing overall programme leadership, coordination and implementation across participating Pacific Island Countries and Territories.
 - i. **International Backstopping:** will be provided by UNIDO, SIDS DOCK and other international partners.
 - ii. **Strategic Governance:** **PRETMM** will be provide strategic direction for the PICs while **Pacific Energy Advisory Group (PEAG)** provide regional governance.
 - iii. **Programme Management and Coordination:** **PROERP Regional Coordination Unit** within PCREEE will manage the delivery and monitoring of the PROERP programme

- iv. **Technical Coordination Mechanisms: Programme Technical Working Groups and Regional Ocean Energy Expert Pool (Consultants) provide** expertise support to the PROERP Regional Coordination Unit.
- v. **National Implementation Arrangements:** National Focal Points to identify national priorities and coordinate country engagement, supported by PCREEE-assigned National Coordinators.

Implementation and Monitoring

- 29. **Delivery Framework:** PROERP will be implemented through five programme areas—Policy and Regulation; Knowledge Management and Awareness; Qualification and Quality Infrastructure; Demonstration of Technology and Business Models; and Investment, Entrepreneurship and Innovation.
- 30. **Programme Coordination:** PCREEE will coordinate programme delivery through the PROERP Regional Programme Coordination Unit.
- 31. **Country Implementation:** Participating countries will engage through National Focal Point within their responsible energy ministries, supported by PROERP National Coordinators facilitating programme delivery and communication.
- 32. **Monitoring Approach:** Progress will be monitored through various data sources to assess strengthening of regulatory frameworks, technical standards, renewable energy deployment, and investment-ready projects.
- 33. **Programme Reporting:** The Regional Programme Coordination Unit will consolidate monitoring information and prepare progress reports for participating governments and development partners.

Call to Action

- 34. The meeting is invited to:
 - i. **Note** the opportunities and challenges associated with ocean energy development in Pacific Island Countries and Territories.
 - ii. **Recognise** the importance of strengthening readiness and enabling systems for renewable ocean energy deployment in support of regional energy security and climate objectives.
 - iii. **Endorse** the Pacific Renewable Ocean Energy Readiness Programme (PROERP) as a regional implementation platform under the Framework for Energy Security and Resilience in the Pacific (FESRIP) to accelerate renewable ocean energy deployment across Pacific Island Countries and Territories.
 - iv. **Mandate** PCREEE, UNIDO and SIDS DOCK to fundraise and to commence rolling out the implementation of the PROERP during the PCREEE's Third Operational Phase (2026_2030).
 - v. **Encourage** SIDS-SIDS and triangular cooperation on renewable ocean energy solutions through the GN-SEC, GLOEA and the new Global Programme on Climate-Resilient Renewable Energy Systems (G-RES).
 - vi. **Encourage** development partners, climate finance institutions and regional organisations to align financing and technical assistance with PROERP implementation, supporting mobilisation of the indicative USD 150 million programme envelope.