# Terms of Reference for the Project Management of the Southern Cook Islands Renewable Energy Programme

## About this document

This document specifies the terms of reference for Project Management services to manage the delivery of solar photovoltaic-based mini-grid systems on four islands in the Southern Group of the Cook Islands, and renewable energy related projects on the islands of Aitutaki and Rarotonga.

Project Management (PM) is to be contracted to the Cook Islands Government (CIG) and will be part of the Project Management Unit (PMU) to deliver the projects.

## The PMU will manage all aspects of the procurement, contracting, construction and commissioning of systems and projects in the southern Cook Islands under the oversight of the Project Steering Group, with practical commissioning to be completed by end 2017.

## Goals and Outcomes

The Government of the Cook Islands is committed to the implementation of renewable energy projects that will make progress towards the Cook Islands’ 2015 target of 50% of its islands to utilise renewable electricity by 2015 and 100% by 2020.

The PMU established under this assignment will be responsible for managing the procurement, contracting, delivery, installation, supervision, monitoring, surveillance, and quality assurance of the renewable energy projects in the southern islands of the Cook Islands. The PMU will be overseen by the Project Steering Group (PSG). These projects include two phases and are as follows:

1. PV/diesel hybrid mini-grid systems on the islands of Mitiaro, Mauke, Mangaia and Atiu.
2. Renewable energy implementation in Rarotonga and Aitutaki.

The above projects are to be constructed and commissioned by the end of 2017.

The installations in Phase 1 are to complete mini-grid systems with batteries, inverters, diesel backup, PV modules and arrays; distribution, cabling and household metering systems and associated infrastructure; civil engineering (clearing of land, preparation and completion of foundations, and building infrastructure to house batteries, inverters, and diesel generators).

The details of Phase 2 (projects for Aitutaki and Rarotonga) are yet to be confirmed but will be during the implementation timeline. Further feasibility examinations early in the project leading to project design on the two islands will be completed. This is in recognition of the difference in the context of Rarotonga and Aitutaki in comparison to the rest of the islands in the southern group and the Cook Islands as a whole.

There has been a lot of preparatory technical work progressed or completed for the Phase 1 islands and any further detailed design or specifications for this phase will be part of this assignment.

The scope of the projects to be delivered by the PMU are described in detail below.

**Project Description**

The table below sets out the following projects that will be implemented by the PMU

|  |  |  |
| --- | --- | --- |
| **Workstream** | **Component** | **Expected CAPITAL costs (NZDm)** |
| Phase 1 | Mitiaro, Mauke, Mangaia and Atiu | $7.2m |
| Phase 2 | Aitutaki and Rarotonga | $10m |
| Phase 1 | PEC Product | $4.0m |
| Phase 2 | Upscaling/grid stabilisation (Green Climate Fund) | $4.5m |
| **TOTAL** |  | **$25.7** |

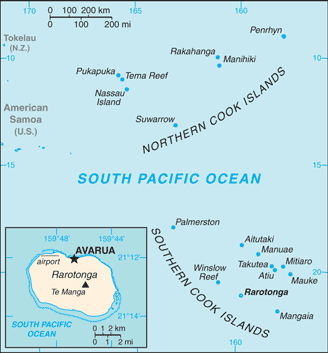
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| --- | --- | --- |
| **Workstream** | **Component** | **Expected OPERATIONAL costs (NZDm)** |
| Phase 1 & 2 | Entura Support | $1.33m |
| Phase 1 & 2 | Institutational Strengthening | $2.9m |
| **TOTAL** |  | **4.23** |

Brief descriptions of each site and location, and the renewable energy systems and projects proposed for Phase 1, are provided in Appendix One - together with a summary of existing technical design data.

A map follows showing the locations of the islands that make up the Cook Islands.

**Map of the Cook Islands**

*(from CIA World Factbook)*



**Role of Project Management**

The role of Project Management will be to:

1. Ensure the development and implementation of a Strategic Procurement and Project Plan that spans the entire project scope and duration with this being devised in Phase 1 and Phase 2.
2. Lead, the Project Management Unit which is accountable to the Project Steering Group (PSG). Project Management will also be asked to report to the Project Steering Group on specific details on the projects when required.
3. Work together with Entura and specialists engaged by Entura to progress the implementation of the Strategic Procurement and Project Plan under the auspices of the Project Management Unit.
4. Manage the procurement of contractors to implement the above renewable energy projects.
5. In addition, identify and possibly sub-contract civil construction, building works, and electricity distribution providers to support the PV specialists and to enable a complete body of works to be constructed on time, to quality standards and to budget.
6. Identify, possibly contract, and manage, shipping and freight services to support the Contractor(s), and to allow rapid delivery of the projects in both Phase 1 and 2.
7. Develop tender documents, Construction Contracts and facilitate the execution of the above renewable energy projects with the support of Entura. Manage, supervise, and oversee the Construction Contract(s).
8. Report and provide secretariat support to the Project Steering Group (PSG) that will comprise CIGOV, NZMFAT and Asian Development Bank representatives.
9. Provide, on an as-needed basis, further project and procurement management advice and support to the CIGOV to assist with delivery of other renewable energy projects in the sector.

In the achievement of the above objectives, the PM will be supported by a number of other parties. These other parties include:

* Entura
* Design and Monitoring, Surveillance, and Quality Assurance (MSQA) expertise. This specialist group will be appointed by the CIGOV.
* Financial Specialist (MFEM)

The PM will be also supported by representatives of the power utilities in Rarotonga - Te Aponga Uira (TAU), the Renewable Energy Development Division (REDD) in the Office of the Cook Islands Prime Minister (OPM), and other stakeholders in the Cook Islands Government, as necessary. In the case of TAU and REDD, it is anticipated that staff from within these groups will be incorporated into, and will support with their local knowledge and expertise, the operation of the PMU.

Throughout the project, the PM will consult and liaise with all stakeholders.

The broad contractual arrangements anticipated for this project are shown in Figure 1. This structure is indicative only, and the successful respondent to this Request For Quotation (RFQ) will be asked to develop a final Strategic Project and Procurement Plan as an initial output that will confirm these structures.

Figure 2 shows the governance arrangements for this project. The PM will be responsible for reporting to a governance group called the Project Steering Group (PSG).

Figure - Indicative Contractual and Relationship Structures

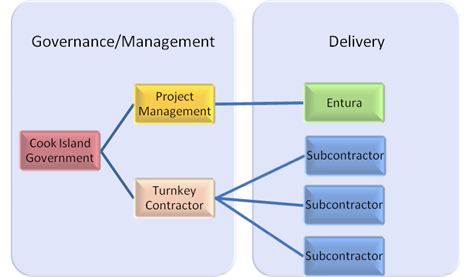
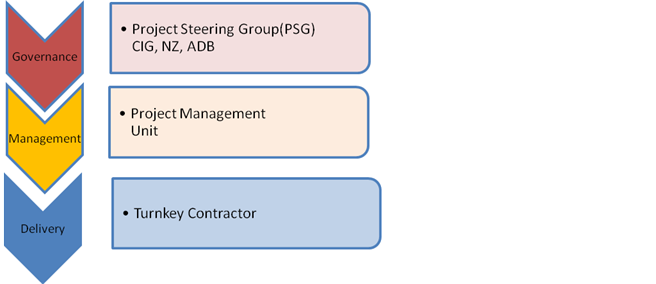


Figure - Partnership and Governance Structures



Sub Contractors

Stakeholder

Group

Sub-contractors

Sub-contractors

Stakeholder

Group

**Programme Timeframes**

The southern group renewable energy systems and the Rarotonga and Aitutaki renewable energy projects commissioned by December 2017.

The final timetable will be determined largely by the Inception Report and Strategic Project and Procurement Plan that will be completed as the first output.

## Outputs

The indicative outputs are summarised in the table below. These are subject to change.

|  |  |  |
| --- | --- | --- |
| **No.** | **Output** | **Input/Tasks** |
| 1a | Draft Stategic and Procurement Plan | Draft Strategic and Procurement Plan following Inception Mission and under the direction of the PSG |
| 1b | Final Strategic and Procurement Plan | Finalised following input and feedback from PSG, PMU, Entura and other key stakeholders |
| 2 | Implementation and Contract Terms of Reference | Based on agreed Strategic and Procurement Plan, development of Terms of Reference for program implementation |
| Final Implementation Contract will take into account the recommendations and directions outlined in the Strategic and Procurement Plan |
| 3 | Procurement of Contractor(s) for Implementation | Based on the agreed Procurement Plan, tenders to be called in accordance with the CIGOV procurement procedures |
| 4 | Implementation of project within agreed time and budgets | Act as coordinator/facilitator to the PMU and PSG, giving directions to the Contractor(s) on behalf of the PSG |
| 5 | Progress Report | Preparation of weekly, fortnightly and monthly reports to the PMU and PSG |

## Methodology

**Strategic Project and Procurement Plan:**

The objective of the Strategic Project and Procurement Plan is to provide a robust, transparent and effective guidance and process enabling procurement of implementation services and management of the project through to successful commissioning, on time and to budget.

The PM will be required to describe their work plan and how they expect to achieve the required outcomes of this project. A reasonably detailed plan is requested, as CIGOV and its partners need to be assured that the PM is fully aware of the complexities of installing renewable energy systems in these islands, and have contingency plans in place.

The PM will work with Entura and the PMU under the oversight and direction of the PSG.

The development of this Plan is the first output under this assignment. This is because the subsequent steps, processes, procedures, and mechanisms to deliver this assignment will be in part formed by the findings and conclusions drawn from the Plan.

The Plan should outline a detailed Project and Procurement Strategy which will address issues such as:

* Detailed procurement and implementation timelines
* Assessment of industry capacity (especially solar PV industry) to deliver in timeframes outlined, numerous complex projects and systems in parallel.
* An initial scan, assessment, and costing of sea freight options and other logistics and consideration that will impact on successful delivery of this project.
* Overall project key performance indicators, health and safety, environmental and social safeguards.
* Identification of risk factors that have potential to delay implementation and mitigation options.
* The optimum contract/work package arrangements, e.g. one work package for all projects or several work packages for smaller groups of islands.
* Tender methodologies, i.e. closed versus open, within Cook Islands Government procurement rules.
* Project Communications Protocols
* Compliance with Cook Islands government regulations.
* Institutional Strengthening plans

The Strategic Project and Procurement Plan will be updated as required on an on-going basis.

**Assisting with logistics**

The PM will consider, as part of the Strategic Project and Procurement Plan, how logistics support can be provided to the Contractor(s). This could include securing freight and ship-to-shore services.

**Implementation Contract Terms of Reference**

Implementation contract Terms of Reference are to be prepared, following approval of the Strategic Project and Procurement Plan and establishment of the PMU. These are to include contract documents prepared in conjunction with the Cook Islands Goverment, Entura and ADB Contracts Team.

The documents will include for each work package:

* General conditions of contract.
* Special conditions of contract. (Note that Cook Islands Government and ADB may provide some special terms and conditions)
* Technical and performance requirements for detailed design, materials and equipment and construction. (the CIGOV will provide pre-prepared design documents and tender specifications in relation to Phase 1).
* Timelines.

The contract documentation is to set out all technical and non-technical expectations, along with evaluation and audit criteria.

In addition, the terms of reference will include:

* Relevant technical reports
* Evaluation criteria that will be used in the assessment of tenders received.

**Existing design information / technical specifications**

The Cook Islands Government together with its partners have already prepared feasibility studies, designs, and technical tender specifications for the renewable energy systems that are applicable to Phase 1. These tender specifications will be used in the procurement and tendering process, as managed by the PMU.

The existing designs and technical specifications are based on an approach of providing functional performance specifications that then allow Contractors to propose their own detailed design layouts and equipment models, provided the designs and equipment meet the specified performance, durability, guarantee performance output, maintenance and compliance requirements specified in the tender documentation.

The designs provided as part of this assignment will therefore be regarded by the PM and potential Contractors as example designs, and final designs proposed by Contractors and tenders will be required to show modelling demonstrating similar performance. Note: land availability on all islands is severely limited, so designs will need to take into account the specific land envelope secured by Cook Islands Government for the purposes of this programme.

**Procurement of Contractor(s)**

In accordance with the process set out in the Strategic Project and Procurement Plan, requests for tenders (RFT) will be issued for each work package. Tenders will be received by an evaluation panel, the composition of which will be set out the Procurement Plan. Appointment of Contractors will be led by the Cook Islands Government, following a selection and approval process agreed to by the Project Steering Group.

**Civil engineering, foundations, building work, and electricity distribution and metering**

Under the Strategic Project and Procurement Plan, the PM will consider options to use either in-house or external providers of civil engineering expertise, building works, electricity distribution network upgrading, and household metering and cabeling. These contractors would work as part of implementation team, in parallel with and alongside PV-specialist firms who would focus primarily on the PV/diesel/battery infrastructure.

Other specialist contractor roles are also to be investigated when the projects for Phase 2 (Aitutaki and Rarotonga) are confirmed.

Other technical specialists shall be appointed by the PM from either “in-house” resources or by subcontract as and where required. Specialties may include civil and building works, and logistics and shipping.

Cook Islands Government reserves to right to appoint sub-contractor(s) from its approved Register of Trades/Services.

**Reporting**

The PM will prepare frequent progress reports and submit to the Project Steering Group for information, review, verification, and where necessary, decision making. The reports will summarise overall progress against the timelines and milestones in the Strategic Project and Procurement Plan and will comply with Cook Islands Activity Management System (Te Tarai Vaka). Any non-achievement of the timelines and milestones will be identified together with the causes of the delays and proposed corrective action.

**Monthly**

Monthly reports will include the information required for PSG meetings plus:

* A strategic overview of the programme to date and projected for the following three months including any issues that may result in delay or otherwise affect outcomes.
* A financial statement for the quarter.
* Major expenditure expected in the following quarter.

Monthly reports are to be presented in person by the PM to the PSG in Rarotonga.

## Governance and Management

This section describes the relationships and communication channels that will govern, manage and support the implementation of the above programmes. Given the success of the implementation of the northern group, ‘Te Huira Natura ki te Tokerau’ and the Rarotonga, ‘Te Mana o te Ra’ programmes, the Cook Islands Government would like to continue the partnership with New Zealand and the Asian Development Bank to govern and direct this project.

**Governance**

A Project Steering Group (PSG) will provide overall responsibility for governance. The membership of the PSG will comprise Cook Islands, New Zealand and Asian Development Bank representatives.

The PSG will have responsibility for governance and direction. A detailed Terms of Reference for the PSG is included in Appendix 2, for reference.

**Operational**

The PM will have primary responsibility for operational delivery. Key stakeholders will need to be actively engaged to support the delivery of the Programme, to ensure that the desired outcomes are achieved, and that the resultant energy infrastructure and sector support is seamlessly integrated into the existing networks and sustainably maintained. As the leader of the Project Management Unit, the PM will work very closely with the rest of the Project Management Unit.

# Appendix 1: Additional and Available Information/Technical Specifications

This appendix contains outline information on the project sites, locations, and lists the Technical Specifications that are available.

# Appendix 2: Terms of Reference for the Project Steering Group (PSG)

# Appendix 3: Terms of Reference for the Project Owner Engineer (Entura)

After Commencement of Services, the Consultant will work with the Client to review existing documentation and planning, and will prepare an inception report. Where that inception report identifies issues with the Terms of Reference, as included below, such that these Terms of Reference may not be expected to best achieve the Client’s aims and objectives for the project, the Consultant will negotiate with the Client for adjustments and / or clarifications to be made to the Terms of Reference. In particular, the Consultant notes that some compromise will likely be required between competing objectives of 100% renewable power; quality and reliability of supply; and budgetary constraints. Any changes to the Terms of Reference must be agreed by both parties.

**LOAN 46453-002 COO: Renewable Energy Sector Project - 1 Project owner’s engineer**

**TERMS OF REFERENCE**

1.a) **Solar Photovoltaic Power Engineer and Team Leader** (international, 9.5 person-months, intermittent). The expert should have post graduate degree in engineering or other relevant field, and at least 15 years of experience in solar photovoltaic engineering with the design, specification and installation of grid connected solar photovoltaic system, and in power electric engineering with the design, specification, and implementation of middle and low voltage systems. Familiarity with ADB’s procurement, disbursements, and project monitoring requirements is highly preferable. The activities to be undertaken will include but not limited to the following:

1. Review existing documents and data relating to Phase 1 (Mauke, Mangaia, Mitiaro, Atiu) and Phase 2 (Aitutaki, and Rarotonga) subprojects.
2. Prepare tender documents for turnkey contracts for all phase 1 and phase 2 subprojects and submit to the PMU for approval, and assist the PMU for bid documents evaluation and contract negotiation.[[1]](#footnote-1)
3. Assist the PMU to conduct holistic engineering design (to be submitted by turnkey contractors) review for all subprojects which includes validating technical specification and performance, and reviewing geotechnical assessment, electrical interfaces, materials, control interfacing, foundation design, and whole of lifecycle waste management. Assist the PMU to guide and instruct the turnkey contractors for corrective actions or design and drawings revision where necessary.
4. Assist the PMU to review control and construction documents (to be prepared by turnkey contractors) for all subprojects to verify compliance with design specification, applicable code and standard, and contracts. Assist the PMU to guide and instruct the turnkey contractors for corrective actions or design and draw revision where necessary.
5. Assist the PMU in construction supervision which includes cost oversight including variation order, bill of quantity check, and invoice check processing.
6. Develop initial pre-commissioning, test-run, and final acceptance procedure and submit to the PMU for approval. Jointly conduct pre-commissioning, test run, and final acceptance to verify compliance with functional guarantee of equipment and the designed performance of all subprojects.
7. Develop (a) common technical standard for solar photovoltaic mini-grid system, and (b) operation and maintenance (O&M) strategy including supporting scheme to the outer islands. Assist the PMU to review and approve O&M training program and O&M procedure manual (to be submitted by turnkey contractors) and to assess completeness of the O&M training program for invoice processing.
8. Develop project performance monitoring system incorporating phase 1 and phase 2 subprojects’ implementation progress, contract award and disbursement, project performance management system, and compliance with loan covenants to comprehensively monitor subprojects performances and identify eminent and potential bottlenecks for implementation. These data and findings in the performance monitoring system are migrated into quarterly progress report and project completion report to be submitted to ADB.
9. Undertake factory acceptance testing (5 days pre-estimate) for selected turnkey supplier (single international supplier assumed) and confirm production standards are met in line with the performance monitoring system.
10. Guide and assist the PMU to prepare quarterly progress report and project completion report in ADB formats.
11. In cooperation with other international and national experts, develop project management capacity enhancement training module in project preparation, procurement, disbursement, monitoring and administration, and evaluation upon completion. Lead to conduct capacity enhancement training for staffs in the PMU and the other relevant agencies.

1.b) **Procurement specialist** (international, 0.5 person-months, intermittent). The expert has substantial experience in project management and procurement, including recent experience working with the ADB’s on procurement for similar projects. The expert has extensive understanding of the ADB’s procurement policy and documentation requirements. The activities to be undertaken will include but not limited to the following:

1. Provide support and specialist advice to the Team Leader and Project Manager to simplify compliance with ADB procurement requirements.
2. Provide review of tender documents, and liaison with ADB procurement staff on matters of procurement policy and procedure as may be required.

2. a) **Solar Photovoltaic Power Engineer** (international, 4 person-months, intermittent). The expert should have post graduate degree in engineering or other relevant field; and at least 8 years of experience in solar photovoltaic engineering with the design, specification and installation of grid-connected solar photovoltaic system, and in power electric engineering with the design, specification, and implementation of middle and low voltage systems. The expert provides assistance to all activities of the team leader. The activities to be undertaken will include but not limited to the following:

1. Review existing documents and data relating to Phase 1 (Mauke, Mangaia, Mitiaro and Atiu) and Phase 2 (Aitutaki, and Rarotonga) subprojects.
2. Conduct field survey for potential project sites on Phase 2 subprojects islands. Conduct rapid geological and topological assessment, and reassess solar resource assessment to finalize site selection.
3. Develop system configuration designs for all Phase 2 subprojects; prepare detailed capital and O&M cost estimates; and procurement packaging plan.
4. Prepare feasibility study reports for three non-core subprojects and submit to the PMU for approval. In cooperation with the other experts, assist PMU to prepare due diligence reports for three non-core subprojects incorporating technical, financial and economic, and safeguard feasibility assessments for ADB approval.
5. In cooperation with team leader, develop project management capacity enhancement training module in project preparation including site selection, system configuration design, costing, and grid synchronization and protection. Assist team leader to conduct capacity enhancement training in project preparation for staff in the PMU and the other relevant agencies.

2. b) **Integration Specialist** (international, 3 person-months, intermittent). The expert should have post graduate degree in engineering or other relevant field; and at least 8 years of experience in grid integration of intermittent generators. Experience includes integration of solar photovoltaic systems with battery storage and diesel gen-sets; grid stability analysis and implementation and operation of control systems for energy management on projects of a similar nature. The expert will specifically target solutions for key challenges of stable operation of high penetration renewable power systems. The activities to be undertaken will include but not limited to the following:

1. Review existing documents and data relating to Phase 1 (Mauke, Mangaia, Mitiaro and Atiu) and (Aitutaki, and Rarotonga) subprojects.
2. Conduct field survey for potential project sites on Phase 2 subprojects islands.
3. Assess the existing transmission and distribution system, and grid codes. Conduct grid synchronization analysis, load profile analysis to assess Atiu and Phase 2 subprojects’ impacts upon grid stability, protection, and control and monitoring.
4. Develop system configuration designs in conjunction with the Solar Photovoltaic Power Engineer for Atiu and Phase 2 subprojects, and specify necessary output fluctuation control measures.
5. Work with other experts to prepare feasibility study reports for Atiu and Phase 2 subprojects and submit to the PMU for approval. In cooperation with the other experts, assist PMU to prepare due diligence reports for these subprojects incorporating technical, financial and economic, and safeguard feasibility assessments for ADB approval.
6. In cooperation with team leader, develop project management capacity enhancement training module in project preparation including system configuration design, costing, and grid synchronization and protection. Assist team leader to conduct capacity enhancement training in project preparation for staff in the PMU and the other relevant agencies.

3. **Energy Economist** (international, 3 person-months, intermittent). The expert should have postgraduate degree in economics, finance or other relevant field, and at least 8 years of experience in master planning and policy analysis in energy sector including renewable energy development. Experience in the master planning model development in load forecasting, least-cost option analysis, economic dispatching, economic analysis and investment planning is highly preferable. The activities to be undertaken will include but not limited to the following:

1. Review CIRECIP and the other relevant documents and data, and identify gaps and issues in implementing CIRECIP up to 2020.
2. Develop electricity load demand and supply simulation. Simulate several electricity load demand growth and optimal load supply scenarios in terms of stable power supply, load management with 100% renewable energy penetration into the grid, universal and reliable electricity access, and demand side energy efficiency for planning period up to 2020 to meet target.
3. Update indicative capital and O&M cost requirements and its fund sources in CIRECIP up to 2020. Assess possible private sector participation in implementing CIRECIP, identify gaps and provide recommendations for private sector participation.
4. Draft CIRECIP updates including energy efficiency implementation plan in full consultation with major stakeholders and submit to the project steering committee.
5. Perform the economic analysis for the Atiu and Phase 2 subprojects, guided by ADB’s *Guidelines for the Economic Analysis of Projects* (1997) specifically including (a) electricity demand analysis, (b) least-cost and equalizing discount rate analysis, (c) economic viability analysis, and (d) risk analysis.
6. Incorporate into the economic analysis an economic quantification of environmental impact following ADB’s *Economic Valuation of Environmental Impacts: A Workbook* (1996), and *Environmental Assessment Guidelines* (2003).
7. Assist solar photovoltaic engineer in the preparation of feasibility study report and due diligence report for the tAtiu and phase 2 subprojects.
8. In cooperation with team leader, develop project management capacity enhancement training module in project economic analysis. Lead to conduct capacity enhancement training in project economic analysis for staffs in the PMU and other relevant agencies.
9. In cooperation with solar photovoltaic engineer, develop capacity enhancement training in energy sector master planning, and lead to conduct training for staff in REDD, PMU, and the other relevant agencies.

4. **Environment Specialist** (international, 3.75 person-months, intermittent). The expert should have post graduate degree in environment or relevant field, and at least 10 years of experience in environmental assessment and monitoring for project funded by ADB, preferably in the Pacific region. The activities to be undertaken will include but not limited to the following:

1. Assist the PMU to monitor the environment management plan (EMP) and report to ADB every 6 months for three core subprojects (Mangaia, Mitiaro, and Mauke). Guide and assist the PMU for any corrective actions for EMP implementation and revisions for three core subprojects.
2. Prepare the environment impact assessment (EIA) report, and review the feasibility study, and other relevant reports that were prepared by local institutes for the Atiu and phase 2 subprojects (Aitutaki, and Rarotonga).
3. Evaluate environmental impacts of the three non-core subprojects proposed, and recommend environmentally-friendly options for the design and construction, which emphasizes on (a) biodiversity conservation, (b) public health and safety, (c) physical cultural resources, (d) pollution prevention and abatement, and ensure those aspects are documented and incorporated in the EIA reports.
4. Assist team leader in the preparation of due diligence report for Atiu and phase 2 subprojects.
5. Prepare comprehensive EMP in conjunction with PMU for three non-core subprojects that meets the ADB requirements. Ensure environmental baseline indictors and performance targets are to be incorporated in the EMP.
6. Prepare initial environmental examination (IEE) for Atiu and phase 2 subprojects and obtain approval of the PMU to submit to ADB.
7. In cooperation with solar photovoltaic engineer, prepare environmental safeguard part in due diligence report for Atiu and phase 2 subprojects.
8. In cooperation with team leader, develop project management capacity enhancement training module in environmental safeguard. Lead to conduct capacity enhancement training in environmental safeguard for staff in the PMU and the other relevant agencies.

5. **Social Safeguards Specialist** (international, 3 person-months, intermittent).The experts should have post graduate degree in social science or relevant field, and at least 10 years working experience. The expert will undertake the following activities:

1. Take the overall responsibility of resettlement and social safeguards during the design, implementation, and monitoring of the project, in accordance with the ADB's Safeguard Policy Statement (SPS) and relevant laws of the Cook Islands.
2. Develop and implement stakeholder consultation and communication programs to ensure the full awareness and participation of affected communities and stakeholders.
3. Assist in establishing and implementing the project’s grievance redress mechanism.
4. Liaise with relevant government and local authorities for their participation in and oversight of census and detailed measurement survey and negotiation with landowners/affected persons (APs) for purposes of acquisition and compensation of land for the project.
5. Assist the PMU to update land acquisition/resettlement plan (RP) and monitor implementation of the RP for Phase 1 subproject (Mangaia, Mauke, Mitiaro and Atiu). Guide and assist the PMU for any corrective actions for land acquisition and resettlement plans’ implementation and revisions for Phase 1 subprojects.
6. Visit the proposed project site and assess the land acquisition and resettlement impacts of the subprojects (Atiu, Aitutaki, and Rarotonga) and prepare RP in accordance with the project’s resettlement framework (RF) and ADB’s *Safeguard Policy Statement* (2009).
7. Assist the PMU and undertake the following tasks in coordination with relevant agencies and stakeholders for preparing/updating and implementing RPs: (a) collect/update APs’ baseline information such as annual household income, size of land holding, source of income, education status through questionnaire survey; (b) identify poverty households, female-headed households, and disabled households among APs through questionnaire survey and focused-group discussion, and identify type of livelihood supports which have been already extended or will be extended to them by the local government; (c) undertake detailed measurement survey and prepare an entitlement matrix; (d) undertake meaningful consultation with all affected households to assess the level of their support to the project, compensation rate, and identify issues, if any; (d) monitor the status of land acquisition process; and (e) prepare land acquisition implementation plan.
8. Assist the PMU to monitor and ensure the vulnerable household’s and the women’s participation in consultation activities; provision of gender awareness to target groups; encouraging the vulnerable household and the women participation in Project related contracts; and collection of the vulnerable household and the gender related data for monitoring and evaluation purposes.
9. In cooperation with solar photovoltaic engineer, prepare social safeguard parts in due diligence report for non-core subproject for ADB approval.
10. Facilitate disclosure of the RP to affected communities, including providing a summary of its contents to APs in local language on eligibility, entitlement, grievance mechanism, timeline of land acquisition, and compensation payment.
11. Prepare semi-annual monitoring reports on land acquisition/resettlement and social safeguards.
12. Coordinate with other specialists and provide safeguard inputs to overall project reports, including quarterly progress reports.
13. In cooperation with team leader, develop project management capacity enhancement training module in social safeguard. Lead to conduct capacity enhancement training in social safeguard for staffs in the PMU and the other relevant agencies.

6. **Financial Specialist** (international, 2 person-months, intermittent). The experts should have post graduate degree in finance or relevant field, and at least 7 year working experience. The expert will undertake the following activities.

1. Carry-out financial analysis of Atiu, Rarotonga and Aitutakisubprojects, and prepare preliminary projected financial statements (balance sheet, income statement, and statement of cash flows) for the next 10 years. In cooperation with the team leader, prepare financial analysis and management in due diligence reports
2. Review project audit report and corporate audit report (TAU, REDD) and assess financial soundness of all the subprojects and TAU, and REDD. Guide and assist the PMU to monitor the financial management capabilities and internal control of TAU, and REDD based upon financial management assessment under the PPTA.
3. Guide and assist the PMU to prepare project audit report and corporate audit report in accordance with the requirements of ADB.
4. In cooperation with the team leader, develop project management capacity enhancement training module in financial analysis and management. Lead to conduct capacity enhancement training in financial analysis and management for staff in the PMU and other relevant agencies.
5. In cooperation with energy economist, conduct tariff and subsidy analysis to ensure sound financial performance of all the core and non-core subprojects and provide recommendations for necessary improvement in tariff level and structure.

7. **Project Management Specialist** (international-local hire, 9.5 person-months, intermittent). The experts should have at least 5 years working experience, with strong familiarity in international procurement and disbursement procedures. In addition, the expert should have at least 5 years of experience in managing various projects in Cook Islands, and should preferably be recruited locally. The expert will assist both team leader and international solar photovoltaic power engineer in performing all tasks, particularly the following activities:

1. Prepare tender documents for commercial parts of turnkey contracts for all subprojects and submit to the PMU for approval, and assist the PMU for bid documents evaluation and contract negotiation in cooperation with the team leader.
2. Assess project administration capacity including business process and working procedure inside the PMU to identify strength and weakness in project management, and provide recommendation for further improvement in overall project management.
3. Act as local liaison, including:
   1. facilitate logistics of the team
   2. identify and collect existing data, reports and documentation to fulfil data requests of the team
   3. manage work schedule in conjunction with Team Leader and PMU
   4. advise turnkey contractors of local operational requirements and logistics
   5. identify and manage opportunities for capacity building and knowledge transfer
4. Guide and assist the PMU to process invoice and prepare withdrawal application in accordance with ADB requirements.
5. Visit the project sites; collect the updated information; and guide and assist the Project Monitoring Specialist to prepare quarterly progress report and project completion report in ADB formats.
6. Guide and assist the PMU for bid advertisement, evaluation, contract negotiation, and contract award in cooperation with the team leader.

8. **Project Monitoring Specialist** (international-local hire, 9.5 person-months, intermittent). The experts should have at least 5 years working experience in managing and monitoring various projects in Cook Islands, and should preferably be recruited locally. The expert will assist both international environment and social safeguard specialists in performing all tasks, particularly on the following activities:

1. Assist the Environment Specialist in preparing the environment impact assessment (EIA) report, and in reviewing the feasibility study, and other relevant reports that were prepared by local institutes for the t subprojects Atiu, Aitutaki, and Rarotonga.
2. Assist the Environment Specialist to evaluate environmental impacts of the three subprojects proposed, and recommend environmentally-friendly options for the design and construction, which emphasizes on (a) biodiversity conservation, (b) public health and safety, (c) physical cultural resources, (d) pollution prevention and abatement, and ensure those aspects are documented and incorporated in the EIA reports.
3. Assist Environment Specialist to prepare comprehensive EMP for three subprojects that meets the ADB requirements.
4. Assist the PMU to monitor the environment management plan (EMP) and report to ADB every 6 months for all subprojects. Guide and assist the PMU for any corrective actions for EMP implementation and revisions.
5. Visit the proposed project sites and assess the land acquisition and resettlement impacts of the three subprojects Atiu, Aitutaki, and Rarotonga, and prepare RP in accordance with the project’s resettlement framework (RF) and ADB’s *Safeguard Policy Statement* (2009).
6. Visit the project sites; collect the updated information; and assist both environment and social safeguards specialists to prepare semi-annual monitoring reports on land acquisition/resettlement, social safeguards and environment.
7. Coordinate with other specialists and provide both environment and social safeguard inputs to overall project reports, including quarterly progress reports.
8. Prepare quarterly reporting in consultation with the PMU.

**Counterpart staff**

The Client shall nominate the key liaison staff within the Project Management Unit (PMU) at the Effective Date. Availability and contact details of the entire staff of the PMU shall be supplied as soon as practical following this date. The Consultant has assumed that the PMU is to take responsibility for approving outputs of the Consultant in this project, and for formal interface (including submission of documentation) to the ADB on project progress.

**Location of performance for tasks**

Appendix B specifies the estimated time in the home office and field office for each of the key experts. Broadly, work will be undertaken from the home office, noting that two of the key experts have their home office in Rarotonga and will be able to provide local liaison with the PMU and on-site management and monitoring as required. Specific tasks will be undertaken in the field (either on Rarotonga or site locations) to include:

* Completion of the inception report and review with PMU
* Site visits
* Finalisation of feasibility, design and tender, and review with PMU
* Intermittent supervisory activities, inspections, commissioning tests
* Social and environmental monitoring.

1. [↑](#footnote-ref-1)