

Project Administration Manual

Project Number: 46453
October 2017

Cook Islands: Renewable Energy Sector Project
(including Additional Financing I and II)

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Project Administration Manual Purpose and Process

The project administration manual (PAM) describes the essential administrative and management requirements to implement the project on time, within budget, and in accordance with government and Asian Development Bank (ADB) policies and procedures. The PAM includes references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the PAM.

The Ministry of Finance and Economic Management (MFEM), Te Aponga Uira (TAU), and Renewable Energy Development Division (REDD) are wholly responsible for the implementation of ADB-financed projects, as agreed jointly between the borrower and ADB, and in accordance with government and ADB's policies and procedures. ADB staff is responsible to support implementation including compliance by MFEM, TAU, and REDD of their obligations and responsibilities for project implementation, in accordance with ADB's policies and procedures.

At Loan and Grant Negotiations, the borrower and ADB agreed to the PAM and ensured consistency with the Loan and Grant agreements. Such agreement is reflected in the minutes of the Loan and Grant Negotiations. In the event of any discrepancy or contradiction between the PAM and the Loan, project, and Grant Agreements, the provisions of the Loan, project, and Grant Agreement shall prevail.

After ADB Board approval of the project's report and recommendation of the President (RRP), changes in implementation arrangements are subject to agreement and approval pursuant to relevant government and ADB administrative procedures (including the Project Administration Instructions) and upon such approval, they will be subsequently incorporated in the PAM.

Abbreviations

ADB	–	Asian Development Bank
BESS	–	battery energy storage system
CIRECIP	–	Cook Islands Renewable Energy Chart Implementation Plan
EMP	–	environment management plan
EU	–	European Union
GDP	–	gross domestic product
GEF	–	Global Environment Facility
IAC	–	island administration committees
IEE	–	initial environmental examination
MFEM	–	Ministry of Finance and Economic Management
O&M	–	operation and maintenance
OCR	–	ordinary capital resources
OEC	–	Office of the Energy Commissioner
PIU	–	project implementation unit
PMU	–	project management unit
POE	–	project owner's engineer
PSC	–	project steering committee
PV		photovoltaic
REDD	–	Renewable Energy Development Division
SPS	–	Safeguard Policy Statement
TAU	–	Te Aponga Uira (Rarotonga Power Authority)

I. PROJECT DESCRIPTION

1. The project will provide (i) a loan from Asian Development Bank's (ADB) ordinary capital resources (OCR), (ii) a grant from the European Union (EU), (iii) a grant from the Global Environment Facility (GEF), and (iv) a grant from the Green Climate Fund (GCF). It will support the construction of up to five solar photovoltaic (PV) power plants in the Cook Islands southern group, provide institutional strengthening to the Office of the Energy Commissioner (OEC) and the Renewable Energy Development Division (REDD), as well as provide project management support to the power utilities, Te Aponga Uira (TAU) and REDD, to implement Phase 1 and Phase 2 subprojects.

2. The first additional financing from GEF will allow installation of a battery energy storage system (BESS) with a preliminary capacity of 1.0 megawatt (MW) and 4.0 megawatt hour (MWh), which will provide load shifting¹ to offset renewable generation at the existing 1.0 MW solar PV facility at the Rarotonga Airport. The second additional financing will be used to install additional three units of BESS with a total preliminary capacity of 3.0 MW and 12.0 MWh, which will provide (i) load shifting to offset renewable generation at the planned 6.0 MW solar PV facilities in Rarotonga, and (ii) grid-stabilization² to manage the impact of fluctuations in generation on the grid, so as to permit more renewable energy generation to be integrated while maintaining power quality and system reliability.

A. Impact and Outcome

3. The impact of the project will be increased energy security in an environmentally sustainable manner. The outcome will be an increased access to a higher share of electricity generated by renewable energy sources.

B. Outputs

4. The project will have three outputs:

- (i) **Solar Photovoltaic Power System Development.** The project will construct up to five solar PV power plants with a total installed capacity of about 2.0 megawatt peak coupled with advanced secondary battery energy storage installation, and rehabilitate the existing distribution network for Phase 1 subprojects. The project will feature four Phase 1 subprojects on Atiu,³ Mangaia, Mauke, and Mitiaro; and one Phase 2 subproject on Aitutaki.
- (ii) **Institutional Strengthening and Project Management Support.** The project will provide institutional strengthening to OEC and REDD for (a) developing the energy efficiency policy implementation plan including an energy audit and monitoring scheme to enhance demand side energy efficiency management

¹ Load shifting is where (renewable) energy is stored for relatively long periods, for use when generation is not available. Typically, in the case of solar PV systems, this relates the daily cycle of charging during daylight and discharging overnight. Many grid stabilization systems also store energy, however, these may store energy from milliseconds to a few minutes, whereas load shifting is optimized for storing energy for several hours (or even days).

² Measures typically start with a control system for managing the scheduling and operation of subsystems and power flows, and can add a range of technologies such as high power batteries, flywheels (synchronous converters, diesel uninterruptable power supplies), and resistors / load banks to reduce reliance on diesel generators.

³ On October 22 (add year), ADB cleared the Atiu feasibility study report and confirmed that the subproject selection criteria in Section C of the project administration manual (PAM) and ADB's guidelines are fully complied with. Atiu, therefore, has been officially included in Phase 1 since then.

practices for targeted major electricity consumer groups; (b) developing capacity for renewable energy technology assessment and appropriate off-take tariff setting for power purchase agreements for private sector funded projects; and (c) updating the Cook Islands Renewable Energy Chart Implementation Plan (CIRECIP)⁴ through refining electricity load demand up to 2020, renewable technology choice, and least cost investment plan. The consultants to be engaged under this component will be the project owner's engineers (POE) who will also provide project management support for REDD and TAU to help implement Phase 1 and Phase 2 subprojects in the southern group islands.

- (iii) **Installation of BESS at a Solar PV Array.** The project's first additional financing will install a 1.0 MW and 4.0 MWh BESS to the existing solar PV array at the Rarotonga Airport. It will help utilize load shifting and curtailment to provide firm output and will allow 2.0 MW of additional solar PV installation. The second additional financing will be used to install three units of BESS with a total preliminary capacity of 3.0 MW and 12.0 MWh, which will provide (i) load shifting to offset renewable generation at the planned 6.0 MW solar PV facilities in Rarotonga, and (ii) grid-stabilization⁵ to manage the impact of fluctuations in generation on the grid, so as to permit more renewable energy generation to be integrated while maintaining power quality and system reliability.

C. Subproject Eligibility Criteria

5. The project will be implemented as a sector loan under ADB's Operations Manual Section D3 – Sector Lending.⁶ The sector lending approach allows the Government of Cook Islands to take the lead in identifying, prioritizing, appraising, designing, and implementing subprojects. The implementing agencies for the project will propose on behalf of the government solar PV power plant systems for Aitutaki (Phase 2 subproject) for approval by ADB. The approval of Phase 2 subproject will be based on satisfactory technical, economic, social, and environmental assessments compliance with eligibility criteria agreed on between the government and ADB.

6. Four Phase 1 subprojects for solar PV power plant systems in Atiu, Mangaia, Mauke, and Mitiaro have been prepared and met the eligibility criteria. The Initial Phase 2 subproject feasibility study report has been prepared for Aitutaki. Finalization of due diligence for technical feasibility, economic and financial analysis, and environmental and social safeguards have prepared during project implementation.

7. **Selection Criteria.** The selection of Phase 2 subprojects will be guided by CIRECIP.⁷ Stakeholder consultations will be undertaken to investigate eligibility of Phase 2 subprojects for financing under the project according to the criteria. These include:

- (i) **Access to renewable energy.** Subprojects shall confirm contribution to CIRECIP implementation and must be in line with the government priority. Choice of renewable technology is solar PV power and/or its associated grid

⁴ Government of Cook Islands. 2012. *Cook Islands Renewable Energy Chart Implementation Plan*. Rarotonga.

⁵ Measures typically start with a control system for managing the scheduling and operation of subsystems and power flows, and can add a range of technologies such as high power batteries, flywheels (synchronous converters, diesel uninterruptable power supplies), and resistors / load banks to reduce reliance on diesel generators.

⁶ Available at <http://www.adb.org/documents/operations-manual>.

⁷ See footnote 1.

stabilization facilities such as secondary battery to control frequency and voltage fluctuation.

- (ii) **Technical viability.** Subproject shall demonstrate technical viability with solar irradiation resource assessment, electricity yield forecasting, electricity load demand forecasting, geological and topological assessment, capital and operation and maintenance costs estimates, layout design, and grid integration simulation.
- (iii) **Economic efficiency.** The subprojects must be economically viable and shall have demonstrated an economic internal rate of return (EIRR) equal to or greater than 9%, or with EIRR of not less than 6% for subprojects with significant unquantifiable benefits. An economic analysis shall be conducted in accordance with ADB's Guidelines for the Economic Analysis of Projects (1997, as amended from time to time). Each subproject will be assessed for its contribution to: (a) savings in diesel use and associated costs including freight, (b) savings in transmission losses, and (c) savings in reduced CO₂ emissions.
- (iv) **Financial viability.** The financial rate of return shall be greater than weighted average cost of capital, and must be robust under various adverse conditions; and the subproject investment cost, operation and maintenance cost, and cash inflows must be clearly presented and reasonable. The electricity tariff to be applied shall be set based upon levelized cost of electricity in principal and applicable laws and regulations to ensure financial sustainability of the subproject.
- (v) **Environmental Impact.** Subproject environmental selection criteria will exclude subprojects that are likely to cause major environmental impacts (environmental category A), according to ADB's Safeguard Policy Statement (SPS, 2009).⁸ Environmental screening will be conducted for all subprojects. In selecting subproject sites, the following environmental criteria will be used for the first level of screening. If the site does not meet any of the criteria, then the subproject will not be approved as part of the project. Subprojects approved for funding under the project must not: (a) be classified as category A in accordance with ADB's SPS; (b) result in significant loss of, or damage to, natural environments, such as forests, reefs, mangroves, or other sensitive areas; (c) have a permanent negative effect on a known or endangered species; or (d) cause permanent damage to irreplaceable cultural relics and archaeological sites.
- (vi) **Land acquisition and resettlement.** No subproject that requires land acquisition with significant resettlement impact, according to ADB's SPS, will be eligible for funding under the project. The inclusion of a candidate subproject for project financing is contingent on compliance with agreed eligibility criteria. To minimize land acquisition and its impacts, the criteria are as follows: (a) the subproject is designed to minimize land acquisition including reduction of geometric standards where needed to avoid significant impacts, (b) the inclusion of the subproject has broader community support, (c) the proposed works minimize the displacement of residential structures or other permanent structures, (d) there is negotiated agreement with affected owners and communities for acquisition of land, and (e)

⁸ Available at: <http://www.adb.org/Documents/Policies/Safeguards/Safeguard-Policy-Statement-June2009.pdf>.

there is no other significant a diverse environmental or social impact.

- (vii) **Counterpart funds.** The Ministry of Finance and Economic Management (MFEM) will confirm that funds and resources necessary for the installation, operation, and maintenance of each subproject are provided on time.

8. The ADB loan will also finance the costs of the consulting services to assist TAU and/or REDD for preparation of Phase 2 and additional financing subprojects, preparation of bidding documents, assistance during the bidding process, project supervision, and commissioning of Phase 1 and Phase 2 subprojects.

D. Subproject Selection Procedure

9. For Phase 2 subprojects, the POE will conduct stakeholder consultations in cooperation with TAU and/or REDD, report the results, and propose subprojects for appraisal to TAU and/or REDD. OEC will endorse candidate subprojects for appraisal.

10. After the endorsement of candidate Phase 2 subprojects, the POE, in cooperation with TAU and/or REDD, will undertake the required appraisal to justify subproject eligibility. Appraisal will involve collecting and analyzing baseline data to assess feasibility and expected impact using methods and tools established for the sample subprojects. Each Phase 2 subproject appraisal will cover (i) a technical feasibility study, (ii) an economic analysis in accordance with ADB's Guidelines on the Economic Analysis of Projects, (iii) a financial analysis, (iv) a social and poverty analysis in accordance with the method and procedure used in the sample subproject feasibility study, (v) an initial environmental examination (IEE) and environmental management plan in accordance with the environmental assessment and review framework (EARF, included in the linked documents), and (vi) resettlement plan in accordance with land acquisition and resettlement framework (included in the linked documents). Each component of the assessment will confirm acceptable ratings against the criteria, or recommend further works to complete the assessment.

11. OEC will review the appraisal report and endorse the subproject that meets all the eligibility criteria. The subproject appraisal report endorsed by the OEC will then be submitted to MFEM for final endorsement before submitting to ADB for approval. ADB will review the appraisal report and, if necessary, may request additional materials and studies to justify the subproject. ADB's formal approval for Phase 2 subprojects must be obtained before the tender document preparation for any subproject, and its inclusion for financing under the project. Upon receiving ADB approval, the POE will commence tender document preparation.

12. OEC and MFEM will be responsible for obtaining approval of the higher authorities of government for inclusion of any subproject in the national budget and for ensuring that counterpart funds are available.

II. IMPLEMENTATION PLANS

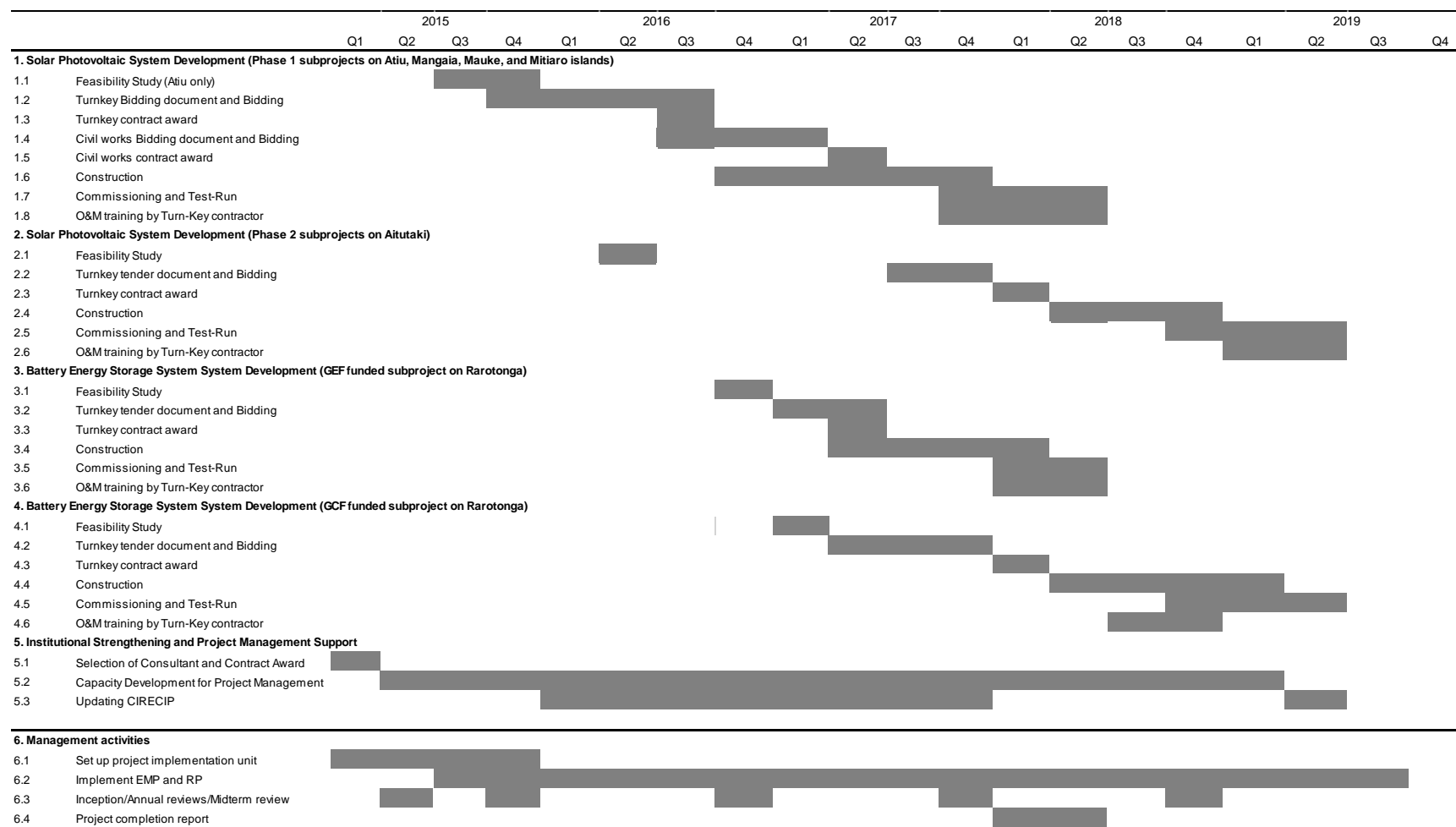
13. The project was approved in November 2014 and became effective in February 2015. The original project implementation period was 36 months, but has been extended for another 24 months, making the estimated project completion by June 2019. The financial project closing date will be in December 2019. The first additional financing was approved in August 2016 and became effective in November 2016. The original project's milestones of readiness activities and overall project implementation schedule are as follows:

A. Project Readiness Activities

INDICATIVE ACTIVITIES	2014										2015		Who is responsible
	3	4	5	6	7	8	9	10	11	12	1	2	
Establish project implementation arrangements	✓	✓											MFEM, OEC, REDD, TAU
Advance contracting actions		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	MFEM, REDD
Loan negotiations			✓										ADB, MFEM, REDD, TAU
ADB Board consideration									✓				ADB
Loan signing										✓			ADB, MFEM, REDD, TAU
Government legal opinion provided										✓	✓	✓	MFEM, REDD, TAU
Loan effectiveness												✓	ADB, MFEM, REDD, TAU

ADB = Asian Development Bank, MFEM = Ministry of Finance and Economic Management, OEC = Office of the Energy Commissioner, REDD = Renewable Energy Development Division, TAU = Te Aponga Uira.

B. Overall Project Implementation Plan



CIRECIP=Cook Islands Renewable Energy Chart Implementation Plan, EMP: Environment Monitoring Plan, RP: Resettlement Plan

III. PROJECT MANAGEMENT ARRANGEMENTS

14. The key organizations involved in the project include (i) MFEM who will represent the Cook Islands as the Borrower and is the executing agency; (ii) the Office of the Prime Minister, OEC, REDD, TAU, ADB, EU, and New Zealand government (observer) who will form part of the project steering committee (PSC); and (iii) TAU and REDD who will be involved in the day-to-day implementation of the project. The project management unit (PMU) hosted by REDD was established and is comprised of the appointed staff from REDD and TAU. ADB will monitor all project implementation activities. Details of the implementation organizations' key roles and responsibilities are indicated in the table below:

A. Project Implementation Organizations–Roles and Responsibilities

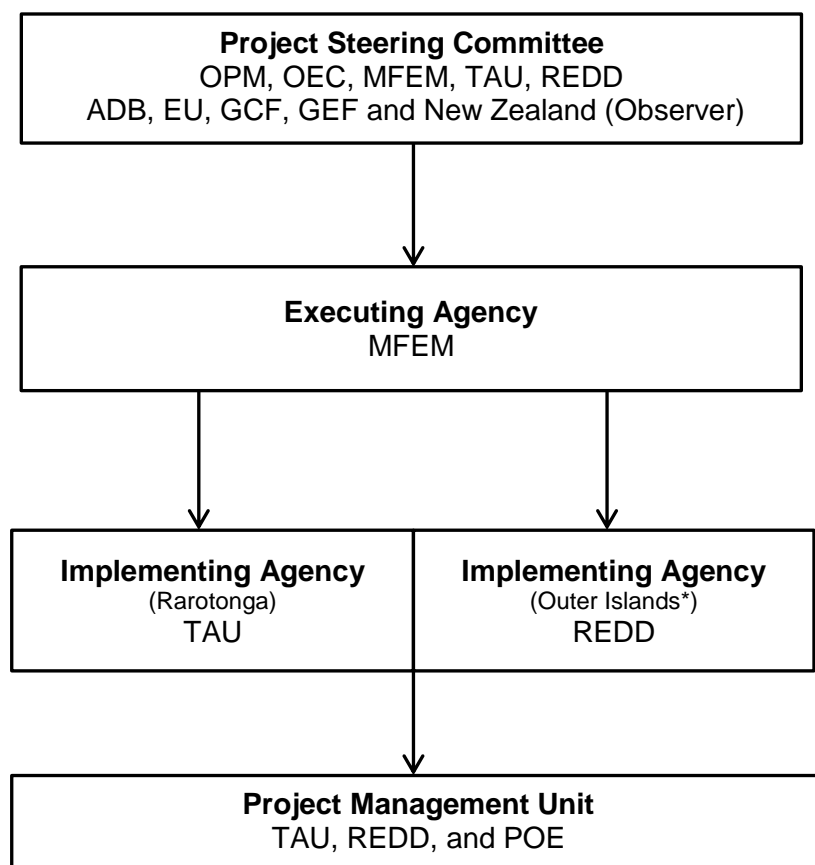
Project Implementation Organizations	Management Roles and Responsibilities
<ul style="list-style-type: none"> Ministry of Finance and Economic Management (MFEM) 	<ul style="list-style-type: none"> ➤ Borrower, Recipient and Executing Agency ➤ Overall responsibility for project implementation ➤ Supervise and endorse procurement and consultant selection ➤ Submit withdrawal application to ADB ➤ Submit required annual audit reports and financial statements to ADB ➤ Coordinate appropriate government representation for loan/grant negotiations, loan/grant signing, and loan/grant effectiveness
<ul style="list-style-type: none"> Project steering committee (PSC) 	<ul style="list-style-type: none"> ➤ PSC will include representatives of: Office of the Prime Minister, Chief of Staff (Chair); MFEM, Finance Secretary (member); TAU CEO (member); REDD Director (member); OEC (member); ADB (member), EU (member); New Zealand (observer) ➤ Oversee implementation of the project and its consistency with CIRECIP ➤ Monitor project progress and cooperatively resolve issues hindering progress ➤ Guide the executing and implementing agencies
<ul style="list-style-type: none"> Te Aponga Uira (TAU) Renewable Energy Development Division (REDD) 	<ul style="list-style-type: none"> ➤ Implementing agencies ➤ TAU to implement project outputs for BESS in Rarotonga funded by GCF and GEF ➤ REDD to implement project outputs for Mangaia, Mauke, Mitiaro, Aitutaki, and Atiu ➤ Establish a Project Management Unit which will be responsible for day to day implementation of the projects ➤ Prepare overall implementation plan and annual budgets ➤ Select, engage, and supervise project owner's engineers ➤ Ensure timely bidding and award of turnkey contracts ➤ Safeguards monitoring ➤ Monitoring and evaluation of project performance in accordance with project design and monitoring framework ➤ Review of withdrawal applications before submission to executing agency
<ul style="list-style-type: none"> Asian Development Bank (ADB) 	<ul style="list-style-type: none"> ➤ Project financier for concessional loan, and administration of EU, GCF and GEF grants ➤ Conduct regular project reviews ➤ Monitor and support project implementation and compliance with ADB's policies and procedures in relation to technical,

Project Implementation Organizations	Management Roles and Responsibilities
	economic, financial, procurement, safeguards, governance, and anticorruption policies and procedures ➤ Overall coordination and advisory support
<ul style="list-style-type: none"> European Union (EU), Global Environment Fund (GEF), and Green Climate Fund (GCF) 	<ul style="list-style-type: none"> ➤ Project financier ➤ May participate in joint project reviews ➤ Participate in monitoring and support of project implementation

B. Key Persons Involved in Implementation

Executing Agency	
Ministry of Finance and Economic Management	Mr. Garth Henderson Financial Secretary PO Box 120, Avarua, Rarotonga Tel: +682 22878 Fax: +682 23877 E-mail address: garth.henderson@cookislands.gov.ck
Implementing Agencies	
Te Aponga Uira	Mr. Apii Timoti Chief Executive Officer Tel: +682 20054 Fax: +682 21944 E-mail address: atimoti@electricity.co.ck
Renewable Energy Development Division Office of the Prime Minister	Mr. Tangi Tereapii Director Tel: +682 25494 ext. 808 Fax: +682 20856 E-mail address: tangi.tereapii@cookislands.gov.ck
ADB	
Transport, Energy and Natural Resources Division Pacific Department	Mr. Olly Norojono Director Tel: +63 2 632 4444 Fax: +63 2 636 2446 E-mail address: onorojono@adb.org
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C. Project Organization Structure



ADB = Asian Development Bank, EU = European Union, GCF = Green Climate Fund, GEF = Global Environment Facility, MFEM = Ministry of Finance and Economic Management, OPM = Office of Prime Minister, OEC = Office of Energy Commissioner, POE = project owners' engineer, REDD = Renewable Energy Development Division, TAU = Te Aponga Uira.

* Aitutaki, Atiu, Mangaia, Mauke, and Mitiaro.

IV. COSTS AND FINANCING

15. The project is estimated to cost \$43.65 million (Table 1).

Table 1: Revised Investment Plan
(US\$ million)

Item	Current Amount ^a	Additional Financing ^b	Total
A. Base Cost^c			
1. Solar photovoltaic module procurement	3.50	-	3.50
2. Solar photovoltaic power system development	14.83	-	14.83
3. Battery energy system development	4.13	12.00	16.13
4. Institutional strengthening and project management support	1.81	-	1.81
5. Land acquisition	1.42	-	1.42
6. Tax and duties	2.22	1.80	4.02
Subtotal (A)	27.91	13.80	41.71
B. Contingencies^d	1.05	-	1.05
C. Financing Charges During Implementation	0.64	-	0.64
D. Administration Charges^e	0.25	-	0.25
Total (A+B)	29.85	13.80	43.65

^a Refers to the current amount. Includes taxes and duties through exemption and land acquisition costs of \$3.64 million to be financed from government resources.

^b Includes additional taxes and duties through exemption of \$1.80 million to be financed from government resources. Any cost overrun and cash shortfall will be borne by the Government of the Cook Islands.

^c In mid-2017 prices.

^d For the current project, physical contingencies estimated at 3.8% of base cost. Price contingency is computed using international inflation rates: 2.3% in 2014, 1.0% in 2015, and 1.4% in 2016 onwards.

^e This amount includes ADB's administration fee and bank charges to the extent that these items are not covered by the interest and investment income earned on this grant, or any additional grant from the European Union.

Source: Asian Development Bank estimates.

Table 2: Revised Financing Plan
(US\$ million)

Source	Current ^a		Additional Financing		Total	
	Amount	Share of Total (%)	Amount	Share of Total (%)	Amount	Share of Total (%)
Asian Development Bank						
Ordinary capital resources (loan)	11.19	37.49	-	-	11.19	25.63
European Union (grant) ^b	7.26	24.32	-	-	7.26	16.63
Global Environment Facility (grant) ^c	4.26	14.27	-	-	4.26	9.77
Green Climate Fund (grant) ^d	-	-	12.00	86.96	12.00	27.49
Government of Cook Islands ^e	7.14	23.92	1.80	13.04	8.94	20.48
Total	29.85	100.00	13.80	100.00	43.65	100.00

Numbers may not sum precisely and percentages may not total 100% because of rounding.

^a Refers to the current amount.

^b Administered by the Asian Development Bank. This amount includes ADB's administration fee and bank charges to the extent that these items are not covered by the interest and investment income earned on this grant, or any additional grant from the European Union (exchange rate as of 8 April 2014).

^c Administered by the Asian Development Bank. The government will provide the grant proceeds to Te Aponga Uira (TAU) through a subsidiary grant. The terms will be subject to ADB's approval.

^d Administered by the Asian Development Bank. This amount excludes ADB's administration fee and bank charges to the extent that these items are not covered by the interest and investment income earned on this grant, or any additional grant from the Green Climate Fund (GCF). The Funded Activity Agreement between ADB and GCF is expected to be signed after ADB President approval of the proposed administration of the grant from GCF.

^e Includes additional taxes and duties of \$1.80 million to be financed from government resources.

Source: Asian Development Bank estimates.

16. The loan will be used for the procurement of equipment and materials, civil works, services, related transportation, insurance, installation costs, project management unit, and interest and commitment charges on the loan during construction for Phase 2 subprojects on Aitutaki and Rarotonga. The loan will also be used to finance consulting services and contingencies. The loan and the EU grant will be used for the procurement of equipment and materials, civil works, related transportation, insurance, and installation costs for Phase 1 subprojects on Atiu, Mangaia, Mauke, and Mitiaro. The GEF grant will be used for the procurement of equipment and materials, civil works, related transportation, insurance, and installation costs for the installation of BESS. The GCF grant will be used for the procurement of equipment and materials, civil works, related transportation, insurance, and installation costs for the installation of three additional units of BESS. The Government of Cook Islands will finance land acquisition, taxes and duties, and solar PV module procurement.

A. Detailed Cost Estimates by Expenditure Category

Item	NZ\$ million			US \$ million			% of Total
	Foreign Exchange	Local Currency	Total Cost	Foreign Exchange	Local Currency	Total Cost	
A. Investment Costs ^a							
1 Solar photovoltaic module procurement	4.06	0.00	4.06	3.50	0.00	3.50	8.02%
2 Turn Key Contract-Solar photovoltaic system development	17.20	0.00	17.20	14.83	0.00	14.83	33.97%
3 Turn Key Contract for Battery Energy Storage System (BESS) system development (GCF)	4.79	0.00	4.79	4.13	0.00	4.13	9.46%
4 Turn Key Contract for Battery Energy Storage System (BESS) system development (GCF)	0.00	0.00	0.00	12.00	0.00	12.00	27.49%
5 Consulting Services- Institutional Strengthening and Project Management Supprt	2.14	0.00	2.14	1.81	0.00	1.81	4.16%
6 Land Acquisition	0.00	1.65	1.65	0.00	1.42	1.42	3.25%
7 Tax and Duties	0.00	4.66	4.66	0.00	4.02	4.02	9.21%
Subtotal (A)	28.19	6.31	34.50	36.27	5.44	41.71	95.56%
B. Contingencies ^b							
1 Physical	0.96	0.00	0.96	0.83	0.00	0.83	1.90%
2 Price	0.26	0.00	0.26	0.23	0.00	0.23	0.52%
Subtotal (B)	1.22	0.00	1.22	1.05	0.00	1.05	2.42%
C. Financing Charges During Implementation ^c							
1 Interest During Implementation	0.64	0.00	0.64	0.55	0.00	0.55	1.27%
2 Commitment Charges	0.10	0.00	0.10	0.09	0.00	0.09	0.20%
Subtotal (C)	0.74	0.00	0.74	0.64	0.00	0.64	1.47%
D. Administration Charges ^d	0.29	0.00	0.29	0.25	0.00	0.25	0.57%
Total Project Cost (A+B+C+D)	30.45	6.31	36.76	38.22	5.44	43.65	100.00%

Note: Numbers may not sum precisely because of rounding.

^a In 2017 prices.

^b Physical contingencies computed at 5.0% of base cost. Price contingencies are based on estimated international inflation rates during construction.

^c Includes interest and commitment charges. Interest during construction for ADB loan has been computed at the 3-year NZ\$ swap rate plus a spread of 0.5%. Commitment charges for an ADB loan are 0.15% per year to be charged on the undisbursed loan amount.

^d It comprises ADB's administration fee, audit costs, and bank charges, to the extent that these items are not covered by the interest and investment income earned on this grant, or any additional grant from the European Commission and the Green Climate Fund.

Source: Asian Development Bank estimates.

B. Allocation and Withdrawal of Loan and Grant Proceeds**TABLE 1**

ALLOCATION AND WITHDRAWAL OF LOAN PROCEEDS			
Number	Item	Total Amount Allocated for ADB Financing Category (NZ\$)	Basis for Withdrawal from the Loan Account
1	Turnkey Contract – Solar PV System Development (Phase 2)**	9,164,000	100% of total expenditure claimed*
2	Consulting Services – Institutional Strengthening and Project Management	1,962,000	100% of total expenditure claimed*
3	Interest and Commitment Charge	742,000	100% of amounts due
4	Unallocated	1,112,000	
Total		12,980,000	

* Exclusive of taxes and duties imposed within the territory of the Borrower.

** The portion of this item relating to the solar photovoltaic power system development for the Phase 2 subproject on Rarotonga is subject to the condition for withdrawal described in paragraph 6 of Schedule 3.

TABLE 2

ALLOCATION AND WITHDRAWAL OF GRANT PROCEEDS			
Number	Item	Total Amount Allocated for EU Grant Proceeds Category (\$)	Basis for Withdrawal from the Grant Account
1	Turnkey Contract – Solar PV System Development (Phase 1)	7,010,000	100 % of total expenditure claimed*
2	Unallocated**	250,000	
Total		7,260,000	

* Exclusive of taxes and duties imposed within the territory of the Recipient.

** Includes the ADB's administrative fee, audit costs and bank charges, to the extent that these items are not covered by the interest and investment income earned on the grant, or any additional grant from the EU.

TABLE 3

ALLOCATION AND WITHDRAWAL OF GRANT PROCEEDS			
Number	Item	Total Amount Allocated for GEF Grant Proceeds Category (US\$)	Basis for Withdrawal from the Grant Account
1	Turnkey Contract – Battery Energy Storage System and Consulting Services	4,264,654	100.00% of total expenditure claimed*
Total		4,264,654	

* Exclusive of taxes and duties imposed within the territory of the Recipient.

TABLE 4

ALLOCATION AND WITHDRAWAL OF GRANT PROCEEDS			
Number	Item	Total Amount Allocated for GCF Grant Proceeds Category (US\$)	Basis for Withdrawal from the Grant Account
1	Turnkey Contract – Battery Energy Storage System*	12,000,000	100.00% of total expenditure claimed
Total		12,000,000	

* Subject to the disbursement condition in paragraph 4 of Schedule 2.

C. Detailed Cost Estimates by Financier

(US\$ million)											
Item	ADB	%	EC d	%	GEF	%	GCF e	%	Government	%	Total
A. Investment Costs a											
1 Solar PV module procurement	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	3.50	100.00%	3.50
2 Turnkey Contract-Solar PV System Development	7.82	52.72%	7.01	47.28%	0.00	0.00%	0.00	0.00%	0.00	0.00%	14.83
3 Turn Key Contract for Battery Energy Storage System (BESS) system development (GEF)	0.00	0.00%	0.00	0.00%	4.13	100.00%	0.00	0.00%	0.00	0.00%	4.13
4 Turn Key Contract for Battery Energy Storage System (BESS) system development (GCF)	0.00	0.00%	0.00	0.00%	0.00	0.00%	12.00	100.00%	0.00	0.00%	12.00
5 Consulting Services- Institutional Strengthening and Project Management Support	1.81	100.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	1.81
6 Land Acquisition	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	1.42	100.00%	1.42
7 Tax and Duties	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	4.02	100.00%	4.02
Subtotal (A)	9.63	23.09%	7.01	16.81%	4.13	9.90%	12.00	28.77%	8.94	21.43%	41.71
B. Contingencies b	0.92	87.01%	0.00	0.00%	0.14	12.99%	0.00	0.00%	0.00	0.00%	1.05
C. Financing Charges During Implementation c	0.64	100.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.64
D. Administration Charges	0.00	0.00%	0.25	100.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.25
Total Project Cost (A+B+C+D)	11.19	25.64%	7.26	16.62%	4.26	9.77%	12.00	27.49%	8.94	20.48%	43.65

Note: Numbers may not sum precisely because of rounding.

a In mid 2016 prices. Turnkey contract-solar PV system development is expected to be parallel financed by ADB and EC funds. Environment and social monitoring, and audit cost is inclusive in solar PV module procurement funded by the government.

b Physical contingencies computed at 5.0% of base cost. Price contingencies are based on estimated international inflation rates during construction.

c Includes interest and commitment charges. Interest during construction for ADB loan has been computed at the 3-year NZ\$ swap rate plus a spread of 0.5%. Commitment charges for an ADB loan are 0.15% per year to be charged on the undisbursed loan amount.

d Administered by the Asian Development Bank. It comprises ADB's administration fee, audit costs, and bank charges, to the extent that these items are not covered by the interest and investment income earned on this grant, or any additional grant from the European Commission.

e Administered by the Asian Development Bank. It comprises ADB's administration fee, audit costs, and bank charges, to the extent that these items are not covered by the interest and investment income earned on this grant, or any additional grant from the Green Climate Fund.

Source: Asian Development Bank estimates.

D. Detailed Cost Estimates by Outputs/Components

Item	US\$ million				
	Phase 1 Subprojects	%	Phase 2 Subprojects	%	Total Cost
A. Investment Costs ^a					
1. Solar PV module procurement	1.28	36.46%	2.22	63.54%	3.50
2. Turnkey contract-Solar PV system development	12.41	83.72%	2.41	16.28%	14.83
3. Turn Key Contract for Battery Energy Storage System (BESS) system development (GEF)	0.00	0.00%	4.13	100.00%	4.13
4. Turn Key Contract for Battery Energy Storage System (BESS) system development (GCF)	0.00	0.00%	12.00	100.00%	12.00
5. Consulting Services- Institutional Strengthening and Project Management Supprt	1.52	83.72%	0.30	16.28%	1.81
6. Land Acquisition	0.62	43.48%	0.80	56.52%	1.42
7. Tax and Duties	0.70	17.41%	3.32	82.59%	4.02
Subtotal (A)	16.53	39.62%	25.18	60.38%	41.71
B. Contingencies ^b					
1. Physical	0.32	38.66%	0.51	61.34%	0.83
2. Price	0.10	43.48%	0.13	56.52%	0.23
Subtotal (B)	0.42	39.70%	0.64	60.30%	1.05
C. Financing Charges During Implementation ^c					
1. Interest During Implementation	0.24	43.48%	0.31	56.52%	0.55
2. Commitment Charges	0.04	43.48%	0.05	56.52%	0.09
Subtotal (C)	0.28	43.48%	0.36	56.52%	0.64
D. Administration Charges ^d	0.25	100.00%	0.00	0.00%	0.25
Total Project Cost (A+B+C+D)	17.47	40.02%	26.18	59.98%	43.65

Note: Numbers may not sum precisely because of rounding.

^a In 2017 prices.

^b Physical contingencies computed at 5.0% of base cost. Price contingencies are based on estimated domestic and international inflation rates during construction.

^c Includes interest and commitment charges. Interest during construction for ADB loan has been computed at the 3-year NZ\$ swap rate plus a spread of 0.4%. Commitment charges for an ADB loan are 0.15% per year to be charged on the undisbursed loan amount.

^d It comprises ADB's administration fee, audit costs, and bank charges, to the extent that these items are not covered by the interest and investment income earned on this grant, or any additional grant from the European Commission and the Green Climate Fund.

Source: Asian Development Bank estimates.

E. Detailed Cost Estimates by Year

(US\$ million)							
Item	Total	2015	2016	2017	2018	2019	
A. Investment Costs							
1 Solar PV module procurement	3.50	1.40	2.10	0.00	0.00	0.00	
2 Turnkey contract-Solar PV System Development	14.83	0	2.41	4.31	8.11	0.00	
3 Turn Key Contract for Battery Energy Storage System (BESS) system development (GEF)	4.13	0.00	1.65	2.48	0.00	0.00	
4 Turn Key Contract for Battery Energy Storage System (BESS) system development (GCF)	12.00	0.00	0.00	0.00	0.00	12.00	
5 Consulting Services- Institutional Strengthening and Project Management Supprt	1.81	0.50	0.75	0.29	0.14	0.14	
6 Land Acquisition	1.42	0.71	0.71	0.00	0.00	0.00	
7 Tax and Duties	4.02	0.07	0.50	0.64	1.01	1.80	
Subtotal a	41.71	2.68	8.12	7.72	9.26	13.94	
B. Contingencies b	1.05	0.12	0.37	0.52	0.04	0.00	
C. Financing Charges During Implementation c	0.64	0.02	0.07	0.29	0.25	0.00	
D. Administration Charges d	0.25	0.00	0.09	0.16	0.00	0.00	
Total Project Cost (A+B+C+D)	43.65	2.82	8.65	8.69	9.55	13.94	
% of Total Project Cost	100.00%	6.45%	19.81%	19.91%	21.89%	31.93%	

Note: Numbers may not sum precisely because of rounding.

^a In 2017 prices.

^b Physical contingencies computed at 5.0% of base cost. Price contingencies are based on estimated international inflation rates during construction.

^c Includes interest and commitment charges. Interest during construction for ADB loan has been computed at the 3-year NZ\$ swap rate plus a spread of 0.5%.

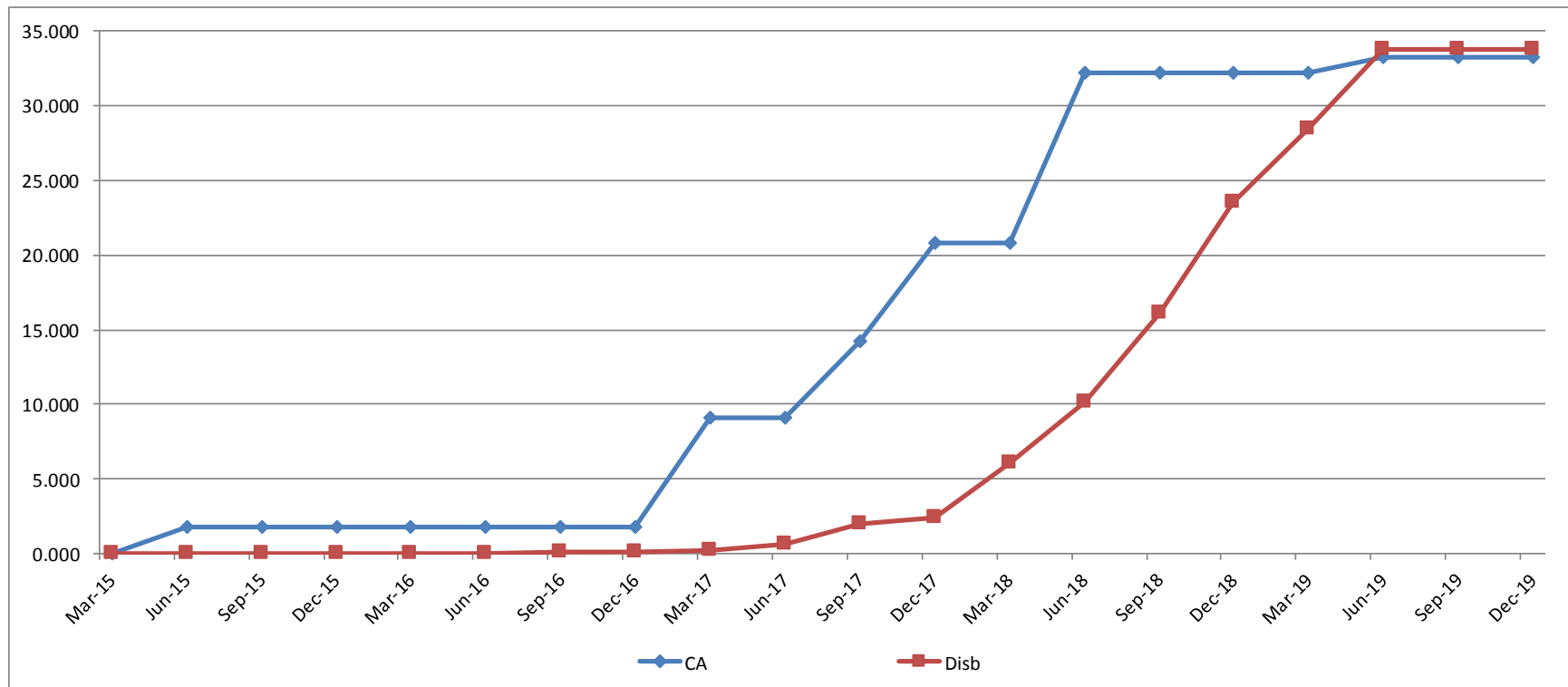
Commitment charges for an ADB loan are 0.15% per year to be charged on the undisbursed loan amount.

^d It comprises ADB's administration fee, audit costs, and bank charges, to the extent that these items are not covered by the interest and investment income earned on this grant, or any additional grant from the European Commission and the Green Climate Fund.

Source: Asian Development Bank estimates.

F. Contract Award and Disbursement S-curve

	Mar-15	Jun-15	Sep-15	Dec-15	Mar-16	Jun-16	Sep-16	Dec-16	Mar-17	Jun-17	Sep-17	Dec-17	Mar-18	Jun-18	Sep-18	Dec-18	Mar-19	Jun-19	Sep-19	Dec-19
CA	0.000	1.814	1.814	1.814	1.814	1.814	1.814	1.814	9.142	9.142	14.228	20.770	20.770	32.170	32.170	32.170	32.170	33.225	33.225	33.225
Disb	0.000	0.000	0.000	0.000	0.000	0.000	0.138	0.138	0.192	0.592	2.031	2.386	6.047	10.185	16.150	23.572	28.489	33.729	33.729	33.729



*Difference is for interest and commitment charge during construction for which no contracts are awarded.

V. FINANCIAL MANAGEMENT

A. Financial Management Assessment

17. MFEM is the central agency in the Cook Islands government responsible for advising the government on financial and economic issues. It is divided into four divisions: (i) revenue management, (ii) development coordination, (iii) treasury, and (iv) statistics. The development coordination division is governed by the Cook Islands Official Development Assistance Policy 2015, which strengthens governance and management of aid effectiveness, strengthens partnerships in the coordination and delivery of development assistance, and ensures accountability of development assistance. MFEM has implemented previous ADB assistance successfully, recently through the Avatiu Port Development Project, and the ongoing Economic Recovery Support Program. Technical Assistance for Public Finance Management and Public Sector Performance Review was successfully completed in August 2012.

18. The government continues to meet the principles of responsible fiscal management set out in the MFEM Act to promote sound public financial management through the budget process. The government is proactive in remaining within ceilings for net debt to gross domestic product (GDP, 35%) and debt servicing to revenue (5%). In this regard, the financial risk in lending to the government is assessed as moderate.

19. TAU is a government-owned power authority responsible for generation, distribution, and retailing of electricity on the main island of Rarotonga. Its operation is governed by the Te Aponga Uira O Tumu-Te-Varovaro Act 1991, Te Aponga Uira O Tumu-Te-Varovaro Amendment Act 1999, and the Cook Islands Investment Corporation Act 1992. Its legislation constitutes it as a state-owned enterprise, and its objective is to provide reliable and economical energy, and to operate facilities efficiently and profitably. The prime functions of TAU are the generation, distribution, and retailing of electricity on the island of Rarotonga. TAU's financial performance has been solid from 2014 to 2016, and with no notable incident occurring over that period. In 2014, its operating ratio was around 82.0%, the return on net fixed assets was 17%, the current ratio was 5.3%, and the debt to equity ratio was 12%. In comparison, TAU's 2016 financial performance with an operating ratio at 64.0%, the return on net fixed assets at 21%, the current ratio at 5.3%, and debt to equity ratio of 10%, the financial risk of on-lending to TAU as a state-owned entity may still be assessed as moderate but with significant improvements. Projections of TAU's financial performance, based on audited financial statements, are included in the financial analysis appendix.

20. An assessment of TAU's financial management was conducted when the current project was processed, and has not been updated in accordance with ADB's Technical Guidance Note on Financial Management Assessment.⁹ TAU has a sound accounting system following the New Zealand Generally Accepted Accounting Practice (NZ GAAP). TAU converted its accounting standards from NZGAAP to the New Zealand International Financial Reporting Standards. TAU has six qualified and experienced staff in its finance department. There have been no major accountability issues over the past 2 years.

21. REDD, under the Office of the Prime Minister, is an implementing agency solely responsible for the implementation of CIRECIP. REDD is also the implementing agency for the renewable energy project in the northern group islands funded by the Government of New Zealand. It will be the implementing agency for the subprojects on Mangaia, Mauke, Mitiaro, Atiu, and Aitutaki. REDD is also found capable of recording all transactions and balances,

⁹ ADB. 2015. *Technical Guidance Note on Financial Management Assessment*. Manila.

support the preparation of regular and reliable financial statements, safeguard the entity's assets, and is subject to an annual audit.

22. During project implementation, REDD will be supported by the PMU manager and POE, including a financial specialist. The specialist's terms of reference includes (i) assisting the PMU in preparing project financial statements and audit reports, and corporate audit reports as required by ADB; (ii) conducting tariff analysis to ensure financial sustainability of Phase 1 and Phase 2 subprojects, and make recommendations; (iii) reviewing project audit reports to ensure financial soundness of all subprojects; and (iv) developing capacity in financial analysis and management within REDD and TAU. The overall financial management risk for REDD, together with the institutional support, is assessed as moderate.

23. Power assets in the outer islands are maintained by the island administration committees (IACs), who are governed by the Island Government Act 2013. The Island Government Act provides clear processes for IAC financial management. The National Government provides annual budget allocations to IACs based on approved plans that are to be reported and monitored to ensure accountability. While an estimate of the tariff was used for the purposes of demonstrating financial viability of Phase 1 subprojects and BESS to be financed by additional financing, the IACs will need to ensure a suitable tariff is introduced upon completion of the project. To ensure sufficient cost recovery, the project provides a covenant to ensure that electricity tariffs are adjusted to maintain financial sustainability of the project.

B. Disbursement

24. The loan proceeds, EU grant, GEF grant, and GCF grant will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2015, as amended from time to time),¹⁰ and detailed arrangements agreed upon between the executing agency and ADB. Online training for project staff on disbursement policies and procedures is available at: http://wpqr4.adb.org/disbursement_elearning. Project staff are encouraged to avail of this training to help ensure efficient disbursement and fiduciary control.

25. Only reimbursement and direct payment procedures will be used under the project. The POE will be responsible for preparing disbursement projections. MFEM will maintain project accounts. The PMU manager and POE will coordinate with MFEM to arrange allocation of counterpart funds for individual subprojects. The PMU manager and POE will be responsible for collecting supporting documents, preparing withdrawal applications, and submitting these to MFEM. MFEM will be responsible for screening withdrawal applications and submission to ADB.

26. Before the submission of the first withdrawal application, MFEM should submit to ADB sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the borrower, together with the authenticated specimen signatures of each authorized person. The minimum value per withdrawal application in accordance with the *Loan Disbursement Handbook* (2015, as amended from time to time). Individual payments below this amount should be paid by the EA/IAs and subsequently claimed to ADB through reimbursement, unless otherwise accepted by ADB.

C. Accounting

27. MFEM will maintain, or cause to be maintained, separate books and records by funding source for all expenditures incurred on the project following accrual-based accounting following

¹⁰ Available at: http://www.adb.org/Documents/Handbooks/Loan_Disbursement/loan-disbursement-final.pdf.

NZ GAAP or equivalent. MFEM will prepare project financial statements in accordance with the government's accounting laws and regulations which are consistent with international accounting principles and practices.

D. Auditing and Public Disclosure

28. MFEM will cause the detailed project financial statements to be audited in accordance with NZ GAAP or equivalent by an independent auditor acceptable to ADB. Separate financial statements will be maintained for subprojects implemented by REDD and TAU. The audited project financial statements together with the auditors' opinion will be submitted in the English language to ADB within six months of the end of the fiscal year by MFEM.

29. MFEM will also cause the entity-level financial statements of TAU to be audited in accordance with NZ GAAP or equivalent, by an independent auditor acceptable to ADB. The audited entity-level financial statements, together with the auditors' report and management letter, will be submitted in the English language to ADB within one month after their approval by the competent authority. Since effectiveness of the project, ADB received and reviewed the latest (2015/2016) audited entity financial statement of TAU. Auditing process has been delayed due to the conversion of accounting standards from the New Zealand Generally Accepted Accounting Practice to the New Zealand International Financial Reporting Standards.

30. The annual audit report for the project accounts will include an audit management letter and audit opinions which cover (i) whether the project financial statements present a true and fair view or are presented fairly, in all material respects, in accordance with the applicable financial reporting framework; (ii) whether loan and grant proceeds were used only for the purposes of the project or not; and (iii) the level of compliance for each financial covenant contained in the legal agreements for the project.

31. Compliance with financial reporting and auditing requirements will be monitored by review missions and during normal program supervision, and followed up regularly with all concerned, including the external auditor.

32. The government, MFEM, REDD, and TAU have been made aware of ADB's policy on delayed submission, and the requirements for satisfactory and acceptable quality of the audited project financial statements.¹¹ ADB reserves the right to require a change in the auditor, in a manner consistent with the constitution of the borrower; or for additional support to be provided to the auditor, if the audits required are not conducted in a manner satisfactory to ADB; or if the audits are substantially delayed. ADB reserves the right to verify the project's financial accounts to confirm that the share of ADB's financing is used in accordance with ADB's policies and procedures.

¹¹ ADB Policy on delayed submission of audited project financial statements:

- When audited project financial statements are not received by the due date, ADB will write to the executing agency advising that (i) the audit documents are overdue; and (ii) if they are not received within the next six months, requests for new contract awards and disbursement such as processing of new reimbursement, and issuance of new commitment letters will not be processed.
- When audited project financial statements have not been received within 6 months after the due date, ADB will withhold processing of requests for new contract awards and disbursement such as processing of new reimbursement, and issuance of new commitment letters. ADB will (i) inform the executing agency of ADB's actions; and (ii) advise that the loan may be suspended if the audit documents are not received within the next six months.
- When audited project financial statements have not been received within 12 months after the due date, ADB may suspend the loan.

33. Public disclosure of the project financial statements, including the audit report on the project financial statements, will be guided by ADB's Public Communications Policy (2011). After review, ADB will disclose the project financial statements for the project and the opinion of the auditors on the financial statements within 14 days of confirmation of their acceptability by posting them on ADB's website. The Audit Management Letter will not be disclosed.

VI. PROCUREMENT AND CONSULTING SERVICES

A. Advance Contracting

34. All advance contracting will be undertaken in conformity with ADB's Procurement Guidelines (2015, as amended from time to time)¹² and ADB's Guidelines on the Use of Consultants (2015, as amended from time to time).¹³ The borrower, MFEM, TAU, and REDD have been advised that approval of advance contracting does not commit ADB to finance the project.

B. Procurement of Goods, Works and Consulting Services

35. All procurement of goods and works will be undertaken in accordance with ADB's Procurement Guidelines.

36. To ensure competitive bidding, international competitive bidding contract packages will be adopted. International competitive bidding with single-stage one-envelope bidding procedure will be used for all turnkey contracts, which will include engineering design, solar PV equipment, secondary battery, and transmission and distribution lines, as well as their transportation to the identified project sites, installation, commissioning, and O&M knowledge transfer program. ADB's prior review procedures will be followed. National competitive bidding procedure will be used for a civil works contract for Phase 1.

37. The borrower agreed to include the relevant sections of ADB's Anticorruption Policy (1998) in all bidding and contractual documents. Procurement eligibility for activities under the EU grant shall be extended to include the countries and territories eligible under the EU rules and regulations for the project.¹⁴

38. Before the start of any procurement, ADB and the government will review the public procurement laws of the government to ensure consistency with ADB's Procurement Guidelines.

39. An 18-month procurement plan, indicating threshold and review procedures, goods, works, and consulting service contract packages and national competitive bidding guidelines, is in Section C.

40. All consultants will be recruited according to ADB's Guidelines on the Use of Consultants.¹⁵ The terms of reference for all consulting services are detailed in Section D.

¹² Available at: <http://www.adb.org/Documents/Guidelines/Procurement/Guidelines-Procurement.pdf>.

¹³ Available at: <http://www.adb.org/Documents/Guidelines/Consulting/Guidelines-Consultants.pdf>.

¹⁴ Defined in Annex IV of the Partnership Agreement ACP-EU signed in Cotonou on 23 June 2000 as last revised in Ouagadougou, on 22 June 2010.

¹⁵ Checklists for actions required to contract consultants by method available in the e-Handbook on Project Implementation at: <http://www.adb.org/documents/handbooks/project-implementation/>.

41. Institutional strengthening and project management support component is comprised of an estimated 60 person-months (28 international, 32 national) of consulting services to (i) facilitate project management and implementation for TAU and REDD, and (ii) strengthen the institutional capacity of OEC and REDD. Consulting firms will be engaged using the quality- and cost-based selection (QCBS) method with a standard quality: cost ratio of 90:10. Higher quality ratio is essential as the project entails not only comprehensive institutional and project management support, but specific technical complexity.

C. Procurement Plan

Basic Data

Project Name: Renewable Energy Sector Project	
Country: Cook Islands	Executing Agency: MFEM
Project Amount: \$43.65million	Loan/Grant Number: L3193/G0415/G0493
Date of First Procurement Plan: April 2017	Date of this Procurement Plan: Oct 2017

1. Process Thresholds, Review and 18-month Procurement Plan

42. Except as ADB may otherwise agree, the following thresholds shall apply to procurement of goods and works.

Procurement of Good and Works

Method	Threshold
International Competitive Bidding for Works	Above \$3,000,000
International Competitive Bidding for Goods	Above \$1,000,000
Shopping for Works	Below or equal to \$300,000
Shopping for Goods	Below or equal to \$300,000

2. ADB Prior and Post Review

43. Except as ADB may otherwise agree, the following prior or post review requirements apply to the various procurement and consultant recruitment methods used for the project.

Procurement Method	Prior or Post	Comments
Procurement of Goods and Works		
International Competitive Bidding Works	Prior	
International Competitive Bidding Goods	Prior	
Shopping for Works	Prior	
Shopping for Goods	Prior	
Recruitment of Consulting Firms		
Quality- and Cost-Based Selection	Prior	

3. Goods and Works Contracts Estimated to Cost More than \$1 Million

General Description	Estimated Contract Value (US\$ million)	Estimated Contract Value (NZ\$ million)	Actual Contract Value (US\$ million)	Actual Contract Value (NZ\$ million)	Procurement Method	Advertisement Date	Comments	Contract Status
Turnkey Contract (Phase 1)	7.33	8.50	6.70	7.78	ICB	Q1 2016	Atiu, Mauke, Mangaia, and Mitiaro	Awarded
Turnkey Contract (Phase 2-1)	2.41	2.80			ICB	Q4 2017	Aitutaki	-
Civil Works (Phase 1)	3.02	3.50	3.21	3.72	NCB	Q4 2016	Atiu, Mauke, Mangaia, and Mitiaro	Awarded as contract variation for turnkey contract (Phase 1)
Power Distribution Rehabilitation Contract	2.07	2.40	3.39	3.93	ICB	Q3 2016	Mauke and Mitiaro	Awarded
Battery Energy Storage System (GEF-BESS)	4.13	4.79	4.00	4.64	TBD	Q4 2016	Rarotonga	Awarded
Battery Energy Storage System (GCF-BESS)	12.00	13.92			ICB	Q4 2017	Rarotonga	-
Sub-Total	30.96	35.91	17.30	20.06				

GCF = Green Climate Fund, ICB = international competitive bidding, N/A = not applicable, Q= quarter, TBD = to be disclosed.

4. Consulting Services Contracts Estimated to Cost More than \$100,000

44. The following table lists consulting services contracts for which procurement activity is either ongoing or expected to commence within the next 18 months. MFEM has requested ADB in selecting the POE who will assist MFEM, TAU, and REDD during procurement of the turnkey contracts.

General Description	Contract Value (million)	Contract Value (NZ\$ million)	Recruitment Method	Advertisement Date	International or National Assignment	Comments
Institutional strengthening and project management support	1.38	1.60	QCBS (90:10)	Q2 2014	International	Project owner's engineers (Awarded March 2015)

						to Entura)
2 individual consultants under the Project Management Unit	0.43	0.5	Individual	Q2 2015	International	Project Manager and Finance Specialist
Sub-Total	1.81	2.10				

Q = quarter, QCBS = quality- and cost-based selection.

D. Consultant's Terms of Reference

45. The consultant's terms of reference are included in Appendix 1 of this Project Administration Manual.

VII. SAFEGUARDS

46. The project (both Phase 1 and BESS to be financed by GCF and GEF) has been classified as category B for environment following ADB's SPS. An EARF has been prepared for Phase 2 subprojects, and an IEE has been prepared for Phase 1 subprojects and updated for the BESS to be financed by both GCF and GEF. The main environmental impacts will be during site preparation, which will include the cutting of about 141 trees and clearing of vegetative cover from the proposed sites and surrounding areas to prevent shading. There will be impacts from noise and dust due to transportation of plant and materials as well as operation of construction machinery. These impacts will be short-term (approximately one week for the smaller plant and up to a month for the larger plant). Operational impact includes maintenance of the plant and management of used batteries. It is proposed, as a special condition in the technical specifications, that safe handling in installation, operations, and disposal of used batteries will be taken care of by suppliers. The solar PV power system will not have any significant long-term adverse environmental impacts.

47. During implementation, MFEM, TAU, and REDD, with support from the environmental expert under the institutional strengthening and project management support component, will either update or prepare a new IEE for Phase 2 subprojects, and develop and update the IEE and the EMP based on the detailed designs for Phase 1 and Phase 2 subprojects, as well as BESS to be financed by additional financing. ADB will clear the updated documents. The EMPs from the updated assessments will be integrated into the bid and contract documents. During project implementation, the environment expert will enhance the capacity of MFEM, TAU, and REDD in safeguards implementation and monitoring.

48. The project (Phase 1) has been classified as Category B for involuntary resettlement with the BESS under additional financing classified as Category C following the SPS. The project is not expected to involve physical displacement, but will require a total of 7.4 ha of land for Phase 1 subprojects. The BESS subprojects, however, is to be housed in containers positioned on the site located on government-owned land at the Rarotonga airport on the northwest coast of Rarotonga. Therefore, it will not require any land acquisition. A resettlement plan has been prepared for the three Phase 1 subprojects. A resettlement framework has been prepared for the project providing guidelines for involuntary resettlement safeguard implementation for Phase 2 subprojects. The resettlement plan will be updated after the detailed design and compensation will be provided to affected persons before the start of civil works in respective sites.

49. The project (both Phase 1 and BESS to be financed by GCF and GEF) has been classified as Category C for Indigenous Peoples following the SPS. The population in the project area comprises the mainstream population of Cook Islands. The project is not expected to impact any distinct and vulnerable group of indigenous peoples as defined under the SPS.

46. Pursuant to the SPS, ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix 5 of the SPS.

VIII. GENDER AND SOCIAL DIMENSIONS

50. The project will be implemented on the following six sites: (i) Rarotonga through TAU; and (ii) Mangaia, Mauke, Mitiaro, Aitutaki, and Atiu through REDD. There is an estimated 4,130 households and a population of 15,000 people in the six project sites. Rarotonga Island is the most populated with 3,009 households, and Mauke is the least populated with about 90 households. From the 2011 census, about 99% of households in the project sites are connected to the main grid, while the remaining households use solar panels, generators, and wind turbines.

51. According to the 2012 Pacific Regional Millennium Development Goals tracking report by the Pacific Islands Forum Secretariat, poverty is not an issue for the Cook Islands. However, there is an issue over income inequality between Rarotonga and outer islands. A high per capita GDP is a result of expatriate residents and a tourist-based economy in Rarotonga. However, it conceals the subsistence lifestyle of the Pa Enua population, where development is lagging. GDP per capita is estimated at about \$10,000, and Cook Islanders have access to New Zealand's job market and welfare system. There is also good access to education and health services, safe drinking water, and improved sanitation.

52. During the project preparatory technical assistance, consultations were held with women community groups, landowners, island officials, and representatives from key stakeholders of organizations including REDD, OEC, Cook Islands Investment Corporation, and TAU. The social safeguards specialist, one of the POE, will ensure ongoing consultations with these stakeholders during project implementation, and develop a stakeholder consultation, participation, and communication plan. These stakeholders will provide inputs to the PMU on implementation activities through these consultations. The PMU will also monitor and ensure the participation of poor households and women in consultation activities and project-related contract packages; gender awareness of target groups; and collection of poor household and gender related data for monitoring and evaluation purposes.

53. The current project is classified having "no gender elements." However, due to the strict requirement of GCF, ADB prepared the gender assessment and the gender action plan (GAP) for the three units of BESSs to be funded by GCF. It shall re-classify the overall project including the proposed second additional financing as having "some gender elements."

54. The overall project's GAP will be implemented and lead by the PMU with the assistance from a social specialist with relevant gender-related experience. The specialist will be responsible for incorporating the gender mainstreaming measures into project planning and implementation. The PMU will report the progress of GAP activities in its quarterly progress reports on overall project activities to ADB and the government.

GENDER ACTION PLAN

Components and Outputs	Performance Targets and Activities	Primary Responsibility
Output 1. Battery storage put into operation by Te Aponga Uira¹.		
Construction of battery storage at 2 locations on Raratonga	<ul style="list-style-type: none"> During design and implementation, community consultation and participation activities will include at least 50% women involvement, and consultations will be scheduled at a time when women can easily attend. 	PMU
	<ul style="list-style-type: none"> Encourage employment of women in support activities (administration, clerical, clearing of vegetation, tree lopping) during design and construction phase (at least 30%) and provide institutional support such as separate sanitary facilities for women. Contractors appointed for construction will be informed of the required facilities before bidding. 	PMU and Contractor
	<ul style="list-style-type: none"> Women's wages will be paid directly to them. 	Contractor
	<ul style="list-style-type: none"> Construction workers and community members will be provided orientation/information on HIV/AIDS and STD issues and concerns. 	Contractor
	<ul style="list-style-type: none"> Contractors will provide separate rest rooms for women and child-care facilities, if required. 	Contractor
	<ul style="list-style-type: none"> Contractors will be required to pay equal wages to men and women for work of equal value. 	Contractor
	<ul style="list-style-type: none"> Contractors will be required to provide safety gears and protective equipment where applicable to keep both men and women workers safe on the job. 	Contractor
	<ul style="list-style-type: none"> Contractors will be required to implement adequate working time arrangements for both men and women workers. 	Contractor
Output 2. Capacity building program undertaken for the implementing agency		
Capacity development activities through the project implementation consultants for Cook Islands.	<ul style="list-style-type: none"> Provide gender awareness training to PMU/project staff. 	Social Specialist
	<ul style="list-style-type: none"> Enhance capacity to TAU to include gender perspective into its operations through gender awareness training for its management: at least 50% of TAU management staff receives gender awareness training by 2018. 	Social Specialist
	<ul style="list-style-type: none"> Implement technical training program for TAU staff, including on-the-job training during construction and operation as well as course work accreditation (including target 20% women participation) by December 2020. 	Social Specialist
	<ul style="list-style-type: none"> Provide orientation/training of civil work contractors' staff and workers on HIV/AIDS/STD concerns and prevention interventions. 	Social Specialist
	<ul style="list-style-type: none"> Disaggregate project performance indicators by gender to track progress of performance indicators in DMF, along with proposed activities in the GAP. 	Social Specialist
	<ul style="list-style-type: none"> Report the progress of GAP activities in regular quarterly progress reports. 	PIU
	<ul style="list-style-type: none"> Include a Social Specialist who will assess, consult, train and help manage the implementation of GAP. 	PIU
	<ul style="list-style-type: none"> Include at least one woman member in the grievance redress mechanism. 	PIU
	<ul style="list-style-type: none"> Conduct procurement and financial management training for PIU 	ADB through

	staff (minimum 20% women) and TAU management by September 2018	its existing Technical Assistance
Implementation Arrangements: The Project's GAP will be implemented by the PIU with the assistance from a social development/gender specialist. The specialist will be responsible for incorporating the GAP into project planning and program, including awareness workshops and establishment of gender-disaggregated indicators for project performance and monitoring. The PIU will include reporting on progress of GAP activities in quarterly progress reports to ADB and the Government.		

ADB = Asian Development Bank, DMF = design and monitoring framework, GAP = gender action plan, PIU = project implementation unit, PMU = Project Management Unit, TAU = Te Aponga Uira.

1. Te Aponga Uira is the national state-owned power utility

IX. PERFORMANCE MONITORING, EVALUATION, REPORTING AND COMMUNICATION

A. Project Design and Monitoring Framework

REVISED DESIGN AND MONITORING FRAMEWORK

Impact the Project is Aligned with: Current project Increased energy security Overall project Unchanged			
Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
Outcome Current project Increased access to a higher share of electricity generated from renewable energy sources Overall project Unchanged	Current project By the end of 2022: Four islands in the southern group fully convert energy system from diesel fuel to renewable energy sources (2012 baseline: 0%) Overall project By the end of 2022: About 6.0 MW of additional solar PV without negatively affecting the grid. This will result in additional fuel savings and carbon dioxide reduction of about 1.5 million liters and of about 6,370 tons per annum	Government statistics Project completion report	Risk Implementation is delayed due to delays in Phase 2 subproject preparation, land acquisition, and procurement.
Outputs Output 1 Current project Solar PV power system development for four Phase 1 and for one Phase 2 and one BESS subprojects developed	1a. Current project By end of June 2019: Solar PV power system of Phase 1 subprojects (with 1.24 MW of installed capacity) connected to the existing power grid on Atiu Mangaia, Mauke, and Mitiaro islands (2012 baseline: 0%) By end of June 2019: Solar PV power system of Phase 2 subproject 0.75 MW connected to the existing	1a. Project progress reports Project completion report	Risks Support, performance, and coordination at REDD and TAU are weak and inadequate. Implementation is delayed due to delays in Phase 2 subproject preparation, land acquisition, and procurement.

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
<p>Overall project</p> <p>Installation of additional 3 units of BESSs with a preliminary capacity of 3.0 MW and 12.0 MWh</p>	<p>power grid on Aitutaki island (2012 baseline: 0%)</p> <p>Overall project</p> <p>By end of June 2019: About 6.0 MW of additional solar PV without negatively affecting the grid. This will result in additional fuel savings and carbon dioxide reduction of about 1.5 million liters and of about 6,370 tons per annum</p>		
<p>Output 2</p> <p>Current project</p> <p>Institutional strengthening and project management support</p>	<p>2a.</p> <p>Current project</p> <p>By end of 2019: Energy efficiency policy implementation plan is developed (2012 baseline: 0%)</p> <p>Capacity of OEC and REDD (10 staff in total) for renewable energy technology assessments and tariff setting in private-sector-funded projects developed (2012 baseline: 0%)</p> <p>The updated CIRECIP, which incorporates load demand update, viable renewable technology choice, and least-cost investment plan, developed (2012 baseline: 0%)</p> <p>Project management support for REDD and TAU to implement Phase 1 and Phase 2 subprojects (6 in total) completed (2012 baseline: 0%)</p>	<p>2a.</p> <p>Project progress reports</p> <p>Project completion report</p>	
<p>Overall project</p> <p>Unchanged</p>	<p>Overall project</p> <p>By the end of June 2019: Unchanged</p>		

Key Activities with Milestones

1. Four Phase 1 subprojects in Atiu, Mangaia, Mauke, and Mitiaro

- 1.1 Bidding for single turnkey contract completed (by Q1 2016) (completed)
- 1.2 Turnkey contract awarded (by Q3 2016) (completed)
- 1.3 Start of civil works and installation (by Q3 2017) (completed)
- 1.4 Systems commissioning, including test run (by Q2 2018) (changed)
- 1.5 O&M training by turnkey contractor completed (by Q2 2018) (changed)

2. One Phase 2 subproject in Aitutaki

- 2.1 Feasibility studies completed (by Q4 2016) (completed)
- 2.2 Bidding for one turnkey contract completed (by Q4 2017) (changed)
- 2.3 Turnkey contract awarded (by Q1 2018) (changed)
- 2.4 Start of civil works and installation (by Q4 2018) (changed)
- 2.5 Systems commissioning, including test run (by Q2 2019) (changed)
- 2.6 O&M training by turnkey contractor completed (by Q2 2019) (changed)

3. One Phase 2 Battery Energy Storage System in Rarotonga

- 3.1 Feasibility studies completed (by Q1 2016) (completed)
- 3.2 Bidding for one turnkey contract completed (by Q4 2016) (completed)
- 3.3 Turnkey contract awarded (by Q2 2017) (completed)
- 3.4 Start of civil works and installation (by Q4 2017) (changed)
- 3.5 Systems commissioning, including test run (by Q1 2018) (changed)
- 3.6 O&M training by turnkey contractor completed (by Q2 2018) (changed)

4. Three Phase 2 Battery Energy Storage System in Rarotonga

- 4.1 Feasibility studies completed (by Q1 2017) (completed)
- 4.2 Bidding for two turnkey contracts completed (by Q4 2017) (new)
- 4.3 Turnkey contracts awarded (by Q2 2018) (new)
- 4.4 Start of civil works and installation (by Q3 2018) (new)
- 4.5 Systems commissioning, including test run (by Q1 2019) (new)
- 4.6 O&M training by turnkey contractor completed (by Q2 2019) (new)

5. Institutional strengthening and project management support

- 5.1 Selection of consultants and award of contracts (by Q1 2015) (completed)
- 5.2 Project management support completed (by Q3 2019) (changed)
- 5.3 Update of the CIRECIP completed (Q2 2019) (changed)
- 5.4 Implementation of the environmental and social safeguard actions (2015–2019) (changed)

Inputs ADB: OCR Loan European Union: Grant Government of the Cook Islands: Global Environment Facility: Grant Green Climate Fund: Grant	NZ\$12.98 million (equivalent to \$11.19 million) (current) NZ\$ 0.00 million (additional) NZ\$12.98 million (overall) €5.30 million (equivalent to \$7.26 million) (current) €0.00 million (additional) €5.30 million (equivalent to \$7.26 million) (overall) \$7.14 million (current) \$1.80 million (additional) \$8.94 million (overall) \$4.26million (current) \$0.00 million (additional) \$4.26 million (overall) \$0.00 million (current) \$12.00 million (additional) \$12.00 million (overall)
Assumptions for Partner Financing Current project The government continues to prioritize implementing the CIRECIP. Tariffs are adequate for system O&M. REDD and TAU have sufficient capacity to implement and maintain the project. The government adopts policy actions recommended under the institutional strengthening and project management component. Overall project Unchanged	

ADB = Asian Development Bank, CIRECIP = Cook Islands Renewable Energy Chart Implementation Plan, kW = kilowatt, MW = megawatt, OEC = Office of the Energy Commissioner, O&M = operation and maintenance, OCR = ordinary capital resources, Q = quarter, REDD = Renewable Energy Development Division, TAU = Te Aponga Uira.
Notes:

1. "Current project" refers to the original project.
 2. "Overall project" refers to the original project and proposed additional financing.
- Source: Asian Development Bank.

B. Monitoring

55. Project performance monitoring. The POE will establish a project performance and monitoring system within 6 months of project effectiveness. ADB and the government will agree on a set of indicators for monitoring and evaluating the project's performance in achieving its goals and objections. These indicators may be refined and monitored during project implementation. The indicators will include data for monitoring economic development, reduction in transmission losses, and increase in solar power generation, decrease in diesel power generation, environmental impact, social impact, and institutional development. The PMU manager and POE will monitor and evaluate the indicators according to the agreed framework and determine the efficiency and effectiveness of the project. The baseline data at outcome and

output levels will be updated and reported through quarterly reports and after each ADB review mission. These quarterly reports will be the bases of updating the ADB's project reporting system. Beneficiaries will be involved in project monitoring and evaluation.

56. **Compliance monitoring.** In addition to the standard assurances, compliance with the specific assurances will be monitored. Implementation of covenants will be (i) summarized in the EA's quarterly progress reports, (ii) discussed during PSC meetings, and (iii) reviewed during biannual project review missions.

57. **Safeguards monitoring (Resettlement).** MFEM, TAU, and REDD, with support from the PMU manager and POE, will monitor all activities associated with land acquisition and resettlement. The monitoring will include reporting on progress of activities in the implementation of the RP with particular focus on public consultations, land acquisition, payment of compensation, and level of satisfaction among affected persons. MFEM, in cooperation with TAU and REDD, will prepare and submit semi-annual monitoring reports to ADB. The resettlement framework and resettlement plan provide detailed arrangements for monitoring and reporting.

58. The PMU manager and the safeguard specialist of the POE will assist MFEM, TAU, and REDD in monitoring safeguard activities and preparation, and review and disclose safeguard monitoring reports. The checklist for safeguard supervision and the outline of safeguard monitoring report on resettlement for ADB missions, and MFEM, TAU, and REDD, respectively, are provided below.

[illegible]

Suggested Contents of Resettlement Monitoring Report

Heading/Section	Contents
Introduction	Brief background on the project/subproject and progress status The project's category and planning documents (original, updated or new plans) on resettlement impacts Institutional arrangements and budget allocation for resettlement/social management Arrangement for monitoring
Monitoring Activities	Methodology for monitoring (whether checklists prepared, etc.) Period the monitoring covers Main activities: site visits, consultations, surveys, etc.
Monitoring Results and Actions Required	Progress and performance in implementation of the resettlement plan and other programs (how these were implemented, what are the outputs, etc.) Results on consultations, disclosure, and grievance redress (whether these have been effective) Whether the implementation comply with the approved resettlement plan (e.g., whether compensation rates were at replacement cost, etc.) Results on outcome (whether affected persons were able to restore livelihoods) Compliance on monitoring and disclosure (whether reports have been submitted and posted on website) Whether any issues and corrective measures were identified to achieve the resettlement plan objective. If yes, actions with target dates and responsible agency/person Follow-up item/plan for next report
Summary and Conclusions	Summary of main findings Main issues identified and corrective actions noted A table on follow-up action which can be updated each period to track completion of actions required
Attachments	Monitoring checklist (based on items identified in the resettlement plan) Photographs Additional information as required

59. **Safeguards monitoring (Environment).** The EA, with support from the PMU manager and POE, will monitor the contractor(s) and check compliance with the approved site-specific environmental management plan and any other contract requirements on a regular basis. The quarterly monitoring reports will cover a summary of the contractor's monthly reports, details of monitoring data collected and analysis of monitoring results, recommended mitigation measures, environmental training conducted, and environmental regulatory violations. The EA will prepare the report on a quarterly basis and submit to ADB. The following checklist can be used for safeguard supervision monitoring. The following table sets out the suggested contents for an environmental monitoring report.

<div> <div>PARD Safeguards Implementation Checklist: Environment</div> </div>																																									
Date: _____																																									
PROJECT INFORMATION																																									
Loan/Grant No.:		Project Name:																																							
Approval Date:			Closing Date:				Cumulative Progress (%):																																		
Project Team Leader(s):						Implementing Agency																																			
<div>1) Categorization</div> <div> <div>(Original)</div> <div>A</div> <div></div> <div>B</div> <div></div> <div>C</div> <div></div> <div>FI</div> <div></div> </div> <div> <div>(additional financing, if any)</div> <div>A</div> <div></div> <div>B</div> <div></div> <div>C</div> <div></div> <div>FI</div> <div></div> </div> <div>(Please complete the following sections if the project has been categorized as A, B or FI)</div>																																									
<div>2) Planning</div> <div> <div>Documents:</div> <div>EARF</div> <div></div> <div>IEE/EIA</div> <div></div> <div>No. of IEE/EIA</div> <div></div> <div>EMP</div> <div></div> </div> <div> <div>IEE/EIA Disclosed and Posted on ADB Website:</div> <div>Yes</div> <div></div> <div>No</div> <div></div> <div>If no, actions?</div> <div></div> </div> <div> <div>EMP Finalized or Updated after Detailed Design:</div> <div>Yes</div> <div></div> <div>No</div> <div></div> <div>If no, actions?</div> <div></div> </div> <div> <div>CEMP submitted, reviewed and approved:</div> <div>Yes</div> <div></div> <div>No</div> <div></div> <div>If no, actions?</div> <div></div> </div> <div>(Attach a list of subprojects and status if necessary.)</div>																																									
<div>3) Institutional Setup</div> <div> <div>PIU/PMU Environment Staff Assigned:</div> <div>Yes</div> <div></div> <div>No</div> <div></div> <div>If no, actions?</div> <div></div> </div> <div> <div>If yes, Name:</div> <div></div> <div>Since:</div> <div></div> <div>/</div> <div></div> <div>(month)</div> <div>(year)</div> </div> <div> <div>Environmental Specialist/Consultant Mobilized:</div> <div>Yes</div> <div></div> <div>No</div> <div></div> <div>If no, actions?</div> <div></div> </div> <div> <div>If yes, National Specialist's Name:</div> <div></div> <div>Since:</div> <div></div> <div>/</div> <div></div> <div>(month)</div> <div>(year)</div> </div> <div> <div>If yes, International Specialist's Name:</div> <div></div> <div>Since:</div> <div></div> <div>/</div> <div></div> <div>(month)</div> <div>(year)</div> </div> <div> <div>Participation of Gov. Environment Agency/Division:</div> <div>Yes</div> <div></div> <div>No</div> <div></div> <div>If no, actions?</div> <div></div> </div> <div> <div>If yes, Name:</div> <div></div> <div>Since:</div> <div></div> <div>/</div> <div></div> <div>(month)</div> <div>(year)</div> </div> <div> <div>Grievance Redress Mechanism Established:</div> <div>Yes</div> <div></div> <div>No</div> <div></div> <div>If no, why?</div> <div></div> </div> <div> <div>Allocation of Government Budget:</div> <div>Yes</div> <div></div> <div>No</div> <div></div> <div>If no, actions?</div> <div></div> </div> <div> <div>If yes, amount\$:</div> <div></div> </div>																																									
<div>4) Monitoring and Reports</div> <div> <div>Internal Monitoring System Established:</div> <div>Yes</div> <div></div> <div>No</div> <div></div> <div>If no, actions?</div> <div></div> </div> <div> <div>Compliance monitoring incorp. into Q Progress Reports:</div> <div>Yes</div> <div></div> <div>No</div> <div></div> <div>If no, actions?</div> <div></div> </div> <div> <div>External Monitor Engaged (if needed):</div> <div>Yes</div> <div></div> <div>No</div> <div></div> <div>If no, actions?</div> <div></div> </div> <div> <div>If yes, Name:</div> <div></div> <div>Since:</div> <div></div> <div>/</div> <div></div> <div>(month)</div> <div>(year)</div> </div> <div> <div>Monitoring Report Submitted to ADB:</div> <div>Yes</div> <div></div> <div>No</div> <div></div> <div>If no, actions?</div> <div></div> </div> <div> <div>If Yes, provide information below</div> </div> <table border="1"> <thead> <tr> <th></th> <th>Baseline Report</th> <th>Report 1</th> <th>Report 2</th> <th>Report 3</th> <th>Report 4</th> </tr> </thead> <tbody> <tr> <td>Submission Date (m/yr)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ADB Review Date (m/yr)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Web-posting Date (m/yr)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Name of ADB Reviewer</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>											Baseline Report	Report 1	Report 2	Report 3	Report 4	Submission Date (m/yr)						ADB Review Date (m/yr)						Web-posting Date (m/yr)						Name of ADB Reviewer							
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Name of ADB Reviewer																																									
<div>5) Field Review with Participation of Safeguard Specialist/Officer/Staff Consultant</div> <div> <div>Yes</div> <div></div> <div>No</div> <div></div> <div>If no, actions?</div> <div></div> </div> <div> <div>If Yes, provide information below</div> </div> <table border="1"> <thead> <tr> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>Mission Date (m/yr)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Type of mission:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Participants (safeguard specialist/officer/staff consultants)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>																		Mission Date (m/yr)								Type of mission:								Participants (safeguard specialist/officer/staff consultants)							
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6) Compliance with Loan Covenants			
List of key covenants in loan and project agreement			
Item #	Covenant	Compliance rating*	Describe status of compliance
*Note: Yes ; No; Not yet due			
Overall safeguard rating (e-Operation):			
S = Satisfactory; PS = Partly Satisfactory; US = Unsatisfactory			
7) Status of Implementation of EMP Activities (Please provide a cross reference if it is already covered under Section 6 above)			
	Items	Yes/No	Describe Implementation Status
8) Major Issues or Complaints (Cumulative)			
	Item	Description	
1	Issue		
	Proposed Action(s)		
	Follow-up Issues/Actions		
	Final Resolution of Issue		
2	Issue		
	Proposed Action(s)		
	Follow-up Issues/Actions		
	Final Resolution of Issue		
*Add rows as needed.			
Prepared by:			
Date:		Confirmed by: Team Leader: Date:	Confirmed by: Safeguard Specialist/Officer: Date:
To: Sector Director/Country Director cc: Project Team Leader; PARD Safeguard Specialist			
IEE = initial environmental examination; EIA = environmental impact assessment; EMP = environmental management plan; FI = financial intermediary; MTR = mid-term review; PCR = project completion review; PIU/PMU = project implementation/management unit; TL = team leader; EARF = environmental assessment and review framework; SS = safeguard specialist			

Suggested Outline of Monitoring Report (Environment)

Heading/Section	Contents
Introduction	Brief background on the project and subproject Institutional arrangements for project management and environmental management
Monitoring Activities	Who participated in the monitoring Methodology for monitoring (whether checklists were prepared, etc.) When the monitoring was undertaken and what period it covers Summary of other monitoring undertaken in the period (i.e., from contractor's monthly reports and if any survey/sample monitoring were undertaken) Main activities: observations/inspections, consultations, interviews with contractor staff, etc.
Works in Progress	Details of the works being undertaken (with photographs) Include whether any environmental training/awareness has been provided to contractor staff in the period (what, by whom, etc.)
Monitoring Results and Actions Required	Whether works and measures comply with the approved EMP/CEMP Should follow sequence of items identified in EMP/CEMP and verify that all mitigations measures noted are being implemented Corrective actions cited (date to be resolved and person responsible on contractor team and verification by IA/PMU)
Summary and Conclusions	Summary of main findings Main issues identified and corrective actions noted Can include summary table which can be updated each period to track completion of actions required
Attachments	Monitoring checklist (based on items identified in the EMP/CEMP) refer to annex 1 Additional photographs Additional information as required

60. ADB and MFEM will conduct twice annual reviews throughout the implementation of the project as well as a midterm project review. The review will monitor (i) project output quality, (ii) implementation arrangements, (iii) implementation progress, and (iv) disbursements. Within 6 months of physical completion of the project, MFEM will submit a project completion report to ADB.¹⁶

C. Reporting

61. The MFEM in cooperation with TAU and REDD will provide ADB with (i) quarterly progress reports (covering safeguards) in a format consistent with ADB's project performance reporting system; (ii) semi-annual safeguards monitoring reports; (iii) consolidated annual reports including (a) progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions, (c) updated procurement plan, and (d) updated implementation plan for the next 12 months; and (iv) a project completion report within 3 months of physical completion of the project. To ensure projects continue to be both viable and sustainable, project accounts and the EA audited financial statements, together with the associated auditor's report, should be adequately reviewed.

¹⁶ Project completion report format is available at: <http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar>.

62. The quarterly progress report should also incorporate data on financial progress of the project which includes the expenditure and receipts data incurred during that quarter, cumulative during the fiscal year, and cumulative since project commencement. It should be submitted to ADB within 30 days after the end of each quarter.

D. Stakeholder Communication Strategy

63. The Stakeholder Communications Strategy is described in Table 7. ADB, MFEM, REDD, and TAU will disclose all relevant project information. At the minimum, this includes all information regarding the bidding process, bidders, contract awards, use of funds disbursed under the project, environment and social safeguard monitoring, and physical progress.

Table 7: Stakeholder Communication Strategy

Information	Means of Communication	Responsibility	Audience	Frequency
Report and Recommendation of the President (RRP) with links to relevant documents	ADB Website	ADB	ADB, Government of Cook Islands, Cook Islands civil society and individuals	Once
Project information during design and construction phase	stakeholder consultations and public notice board	MFEM, REDD TAU	Project beneficiaries including the women and the poor households	Regular intervals during design and construction phase
EMP monitoring report	ADB Website	ADB	Affected people and other interested stakeholders	Semi-annual
Information on RP activities	Stakeholder consultation and public notice board	MFEM, REDD TAU	Affected people and other interested stakeholders	All the time
RP monitoring report	ADB Website	ADB	Affected people and other interested stakeholders	Semi-annual
Project Performance Reports and Project Information Documents	ADB Website	ADB	ADB, Government of the Cook Islands, Civil Society and individuals	Quarterly
Quarterly progress reports	ADB Website	ADB	ADB, Government of the Cook Islands, Civil Society and individuals	Quarterly
Project Completion Report	ADB Website	ADB	ADB, Government of the Cook Islands, Civil Society and individuals	Once

Source: Asian Development Bank.

ADB = Asian Development Bank, MFEM = Ministry of Finance and Economic Management, REDD = Renewable Energy Development Division, TAU = Te Aponga Uira, EMP = environmental management plan, RP = resettlement plan.

X. ANTICORRUPTION POLICY

64. ADB and EU reserve the right to investigate, directly or through agents, any violations of the Anticorruption Policy relating to the project.¹⁷ All contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of MFEM, TAU, REDD, and all project contractors, suppliers, consultants and other service providers. Individuals/entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the project.¹⁸

65. To support these efforts, relevant provisions are included in the loan and grant agreements and the bidding documents for the project. For the project, MFEM will undertake anticorruption actions, including (i) causing TAU and REDD to review and endorse the procurement process of goods and services and the engagement of the POE; and (ii) having full time officials from TAU and REDD review bidding, construction, and operations, as well as conduct periodic inspection of the contractors' activities related to fund withdrawals and settlements.

XI. ACCOUNTABILITY MECHANISM

66. People who are, or may in the future be, adversely affected by the project may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice, and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make a good faith effort to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still dissatisfied, should they approach the Accountability Mechanism.¹⁹

XII. RECORD OF PAM CHANGES

67. All revisions/updates during course of implementation should be retained in this Section to provide a chronological history of changes to implemented arrangements recorded in the PAM.

Date Changed	Section Changed	Changes made
Fact-Finding Mission: 22 April 2016	• I. Project Outputs	• Addition of Output 3: Installation of BESS at a Solar PV Array
	• III. Project Management Arrangements	• Addition of GEF in the project implementation organizations, and responsibilities
	• IV. Project Investment Plan	• Inclusion of the Turnkey contract for BESS development
	• IV. Project Financing Plan	• Inclusion of the Global Environment Facility grant of \$4.26 million
	• IV. Allocation and withdrawal of loan and grant proceeds	• Revision of existing allocations for the OCR loan and EU grant, and addition of the GEF grant

¹⁷ Available at: <http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf>.

¹⁸ ADB's Integrity Office web site is available at: <http://www.adb.org/integrity/unit.asp>.

¹⁹ For further information see: <http://www.adb.org/Accountability-Mechanism/default.asp>.

Date Changed	Section Changed	Changes made
		allocations
	<ul style="list-style-type: none"> IV. Detailed cost estimates and contract award and disbursement s-curve 	<ul style="list-style-type: none"> Inclusion of the GEF grant allocations
	<ul style="list-style-type: none"> VI. Procurement Plan 	<ul style="list-style-type: none"> Revision of Phase 1 turnkey package to also include Atiu and inclusion of the BESS package
	<ul style="list-style-type: none"> IX. Revised Design and Monitoring Framework 	<ul style="list-style-type: none"> Addition of Output 3: Installation of BESS at a Solar PV Array and the GEF grant
Fact-Finding Mission: 28 April 2017	<ul style="list-style-type: none"> I. Project Outputs 	<ul style="list-style-type: none"> Addition of the installation of the three additional BESSs in Rarotonga
	<ul style="list-style-type: none"> III. Project Management Arrangements 	<ul style="list-style-type: none"> Addition of GCF in the project implementation organizations, and responsibilities
	<ul style="list-style-type: none"> IV. Project Investment Plan 	<ul style="list-style-type: none"> Inclusion of the second additional financing amount from GCF for the three additional BESSs in Rarotonga
	<ul style="list-style-type: none"> IV. Project Financing Plan 	<ul style="list-style-type: none"> Inclusion of the GCF grant of \$12.0 million
	<ul style="list-style-type: none"> IV. Allocation and withdrawal of grant proceeds 	<ul style="list-style-type: none"> Additional allocation and withdrawal f proceeds table for the GCF grant.
	<ul style="list-style-type: none"> IV. Detailed cost estimates and contract award and disbursement s-curve 	<ul style="list-style-type: none"> Inclusion of the GCF grant allocations
	<ul style="list-style-type: none"> VI. Procurement Plan 	<ul style="list-style-type: none"> Additional package for the three additional BESSs in Rarotonga
	<ul style="list-style-type: none"> VIII. Gender and Social Dimensions 	<ul style="list-style-type: none"> Reclassification of the project from having “no gender elements” to “some gender elements” Inclusion of a Gender Action Plan
	<ul style="list-style-type: none"> IX. Revised Design and Monitoring Framework 	<ul style="list-style-type: none"> Addition of the three additional BESSs in Rarotonga to be funded by the GCF grant

DRAFT TERMS OF REFERENCE

1. **Solar Photovoltaic (PV) Power Engineer and Team Leader** (international, 10 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 PV engineering with the design, specification and installation of grid connected solar PV 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:

- (i) Review existing documents and data relating to Phase 1 (Mauke, Mangaia, Mitiaro, Atiu) and Phase 2 (Aitutaki, and Rarotonga) subprojects.
- (ii) 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.
- (iii) 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.
- (iv) 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.
- (v) Assist the PMU in construction supervision which includes cost oversight including variation order, bill of quantity check, and invoice check processing.
- (vi) 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.
- (vii) Develop (a) common technical standard for solar PV 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.
- (viii) 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.
- (ix) 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.

- (x) Guide and assist the PMU to prepare quarterly progress report and project completion report in ADB formats.
- (xi) 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.
- (xii) Assist the PMU to prepare the tender documents for PEC procurement of solar panels
- (xiii) In conjunction with REDD, identify proposed scope of grid rehabilitation upgrade, street lighting and house safety checks. (Safety CHECKs for the households will be in conjunction with the Electrical Inspector from ICI)
- (xiv) Develop procurement packaging for grid rehabilitation upgrade, street lighting and house safety checks
- (xv) Scope requirements and options for use of GEF funds and include in inception report
- (xvi) Detailed GEF scoping, feasibility study, procurement (Conduct scoping study to determine a viable network location, function and battery technology; Conduct feasibility study according to Phase 2 selection criteria, and seek ADB approval; prepare bidding documents, and BER), in conjunction with the battery specialist
- (xvii) Assist the PMU to answer questions on PEC procurement, and to undertake the BER
- (xviii) PEC contract negotiations
- (xix) Prepare separate civil works tender, assist with BER, and negotiations

1.b) **Procurement specialist** (international, 0.46 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:

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

1. c) **Distribution specialist**

- (i) Review grid rehabilitation requirements based on data provided by REDD and specify works required and procurement packages
- (ii) Visit Mauke and Mitiaro to confirm scope of works for distribution upgrade, street lighting, and house safety checks (See comments above on household safety checks)
- (iii) Provide detailed scoping

1. d) **Battery specialist**

- (i) Detailed GEF scoping, feasibility study, procurement (Conduct scoping study to determine a viable network location, function and battery technology; Conduct feasibility study according to Phase 2 selection criteria, and seek

ADB approval; prepare bidding documents, and BER), in conjunction with the Team Leader

1. e) **Civil specialist**

- (i) Prepare scope for land preparation at 4 sites

2. a) **Solar PV 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 PV engineering with the design, specification and installation of grid-connected solar PV 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:

- (i) Review existing documents and data relating to Phase 1 (Mauke, Mangaia, Mitiaro and Atiu) and Phase 2 (Aitutaki, and Rarotonga) subprojects.
- (ii) 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.
- (iii) Develop system configuration designs for all Phase 2 subprojects; prepare detailed capital and O&M cost estimates; and procurement packaging plan.
- (iv) Prepare feasibility study reports for the Atiu and phase 2 subprojects (Aitutaki, and Rarotonga) and submit to the PMU for approval. In cooperation with the other experts, assist PMU to prepare due diligence reports for the Atiu and phase 2 subprojects (Aitutaki, and Rarotonga) incorporating technical, financial and economic, and safeguard feasibility assessments for ADB approval.
- (v) 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.
- (vi) In conjunction with team leader and integration specialist, update system designs for phase 1 subprojects to address changes in load estimates, need to incorporate changes to diesel generation; no allowance for system degradation; no grid connection or system stability

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 PV 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:

- (i) Review existing documents and data relating to Phase 1 (Mauke, Mangaia, Mitiaro and Atiu) and (Aitutaki, and Rarotonga) subprojects.
- (ii) Conduct field survey for potential project sites on Phase 2 subprojects islands.

- (iii) 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.
- (iv) Develop system configuration designs in conjunction with the Solar PV Power Engineer for Atiu and Phase 2 subprojects, and specify necessary output fluctuation control measures.
- (v) 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.
- (vi) 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.
- (vii) In conjunction with team leader and Solar PV Power Eng , update system designs for phase 1 subprojects to address changes in load estimates, need to incorporate changes to diesel generation; no allowance for system degradation; no grid connection or system stability
- (viii) Review tenders for grid rehabilitation works
- (ix) Assist battery specialist with integration aspects of GEF scope

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:

- (i) Review CIRECIP and the other relevant documents and data, and identify gaps and issues in implementing CIRECIP up to 2020.
- (ii) 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.
- (iii) 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.
- (iv) Draft CIRECIP updates including energy efficiency implementation plan in full consultation with major stakeholders and submit to the project steering committee.
- (v) 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.
- (vi) 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).

- (vii) Assist solar PV engineer in the preparation of feasibility study report and due diligence report for the Atiu and phase 2 subprojects.
- (viii) 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.
- (ix) In cooperation with solar PV 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:

- (i) Assist the PMU to monitor the environment management plan (EMP) and report to ADB every 6 months for phase 1 subprojects at Mangaia, Mitiaro, and Mauke. Guide and assist the PMU for any corrective actions for EMP implementation and revisions for these phase 1 subprojects.
- (ii) 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).
- (iii) Evaluate environmental impacts of the Atiu and phase 2 subprojects (Aitutaki, and Rarotonga) 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.
- (iv) Assist team leader in the preparation of due diligence report for Atiu and phase 2 subprojects.
- (v) Prepare comprehensive EMP in conjunction with PMU for phase 1 projects at Mangaia, Mitiaro, and Mauke subprojects that meets the ADB requirements. Ensure environmental baseline indicators and performance targets are to be incorporated in the EMP.
- (vi) Prepare initial environmental examination (IEE) for Atiu and phase 2 subprojects and obtain approval of the PMU to submit to ADB.
- (vii) In cooperation with solar PV engineer, prepare environmental safeguard part in due diligence report for Atiu and phase 2 subprojects.
- (viii) 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.
- (ix) Prepare documentation required to comply with National laws and regulations (Cook Islands Environment Act 2003) including Environmental Services Declaration (ESD) and EIA for Phase 1 sub projects.
- (x) Undertake baseline flora and fauna assessments for all sub projects to address changes relative to preparatory stage.
- (xi) Prepare ESD and EIA (if required), for distribution upgrade on Mauke and Mitiaro including baseline environmental assessments.

- (xii) Due to site movements (including additional sites, such as power stations at Mangaia and substations at Mauke), additional site visits were required to ascertain status and interview landowners

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:

- (i) 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.
- (ii) Develop and implement stakeholder consultation and communication programs to ensure the full awareness and participation of affected communities and stakeholders.
- (iii) Assist in establishing and implementing the project's grievance redress mechanism.
- (iv) 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.
- (v) 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.
- (vi) Visit the proposed project site and assess the land acquisition and resettlement impacts of the Atiu and phase 2 subprojects (Aitutaki, and Rarotonga) and prepare RP in accordance with the project's resettlement framework (RF) and ADB's *Safeguard Policy Statement* (2009).
- (vii) 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.
- (viii) 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.

- (ix) In cooperation with solar PV engineer, prepare social safeguard parts in due diligence report for the Atiu and phase 2 subprojects (Aitutaki, and Rarotonga) for ADB approval.
- (x) 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.
- (xi) Prepare semi-annual monitoring reports on land acquisition/resettlement and social safeguards.
- (xii) Coordinate with other specialists and provide safeguard inputs to overall project reports, including quarterly progress reports.
- (xiii) 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.

- (i) Carry-out financial analysis of Atiu and phase 2 subprojects (Aitutaki, and Rarotonga), 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
- (ii) 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.
- (iii) Guide and assist the PMU to prepare project audit report and corporate audit report in accordance with the requirements of ADB.
- (iv) 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.
- (v) In cooperation with energy economist, conduct tariff and subsidy analysis to ensure sound financial performance of all 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 PV power engineer in performing all tasks, particularly the following activities:

- (i) 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.

- (ii) 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.
- (iii) Act as local liaison, including:
 - a. facilitate logistics of the team
 - b. identify and collect existing data, reports and documentation to fulfil data requests of the team
 - c. manage work schedule in conjunction with Team Leader and PMU
 - d. advise turnkey contractors of local operational requirements and logistics
 - e. identify and manage opportunities for capacity building and knowledge transfer
- (iv) Guide and assist the PMU to process invoice and prepare withdrawal application in accordance with ADB requirements.
- (v) 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.
- (vi) Guide and assist the PMU for bid advertisement, evaluation, contract negotiation, and contract award in cooperation with the team leader.
- (x) Preparation of PEC tender for PV panels
- (xi) GEF procurement
- (xii) Assist the PMU to answer questions on PEC procurement, and to undertake the BER
- (xiii) PEC contract negotiations (In conjunction with REDD)
- (xiv) Prepare separate civil works tender, assist with BER, and negotiations

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:

- (i) 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.
- (ii) 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.
- (iii) Assist Environment Specialist to prepare comprehensive EMP for three subprojects that meets the ADB requirements.
- (iv) 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.
- (v) Visit the proposed project sites and assess the land acquisition and resettlement impacts of the Atiu and phase 2 subprojects (Aitutaki, and

- Rarotonga), and prepare RP in accordance with the project's resettlement framework (RF) and ADB's *Safeguard Policy Statement* (2009).
- (vi) 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.
 - (vii) Coordinate with other specialists and provide both environment and social safeguard inputs to overall project reports, including quarterly progress reports.
 - (viii) Prepare quarterly reporting in consultation with the PMU.
 - (ix) Review progress with landowner agreements
 - (x) Assist the environmental specialist to undertake baseline flora and fauna assessments for all sub projects to address changes relative to the preparatory stage.
 - (xi) Assist Social Specialist to undertake additional site visits which were required to ascertain status and interview landowners
 - (xii) Assist the Environmental Specialist to prepare ESD and EIA (if required), for distribution upgrade on Mauke and Mitiaro including baseline environmental assessments.