

# Project Administration Manual

Project Number: 49450-015  
Grant No. XXXX  
October 2019

Tuvalu: Increasing Access to Renewable Energy  
Project

## ABBREVIATIONS

ADB	–	Asian Development Bank
BESS	–	battery energy storage system
CO <sub>2</sub> e	–	carbon dioxide equivalent
CSC	–	construction supervision consultant
DCC	–	development coordination committee
EA	–	executing agency
GAP	–	gender action plan
GHG	–	greenhouse gas
GWh	–	gigawatt-hour
IA	–	implementing agency
km	–	kilometer
kW	–	kilowatt
kWh	–	kilowatt-hour
MLGA		Ministry of Local Government and Agriculture
MOF	–	Ministry of Finance
MPWIE	–	Ministry of Public Works, Infrastructure and Environment
MTET	–	Ministry of Transport, Energy and Tourism
MW	–	megawatt
MWh	–	megawatt-hour
MWp	–	megawatt peak
O&M	–	operation and maintenance
PAM	–	project administration manual
PMU	–	project management unit
TEC	–	Tuvalu Electricity Corporation

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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 the policies and procedures of the government and Asian Development Bank (ADB). The PAM should include references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the PAM.

The Ministry of Finance (MOF), as executing agency, and the Tuvalu Electricity Corporation (TEC), as implementing agency, through and with oversight from the Ministry of Transport, Energy and Tourism (MTET), are wholly responsible for the implementation of this ADB-financed project, as agreed jointly between the recipient and ADB, and in accordance with the policies and procedures of the government and ADB. ADB staff is responsible to support implementation including compliance by MOF and TEC through the oversight of MTET of their obligations and responsibilities for project implementation in accordance with ADB's policies and procedures.

At grant negotiations, the recipient and ADB shall agree to the PAM and ensure consistency with the grant and project agreements. Such agreements shall be reflected in the minutes of grant negotiations. In the event of any discrepancy or contradiction between the PAM and the agreements, the provisions of the grant agreements 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.



## I. PROJECT DESCRIPTION

1. **Project Rationale.** Tuvalu has a total land area of 26 square km (km<sup>2</sup>) and an Exclusive Economic Zone of 900,000 km<sup>2</sup>. It is composed of nine atolls and islands, of which Funafuti is the most populated. The country is extremely remote from all markets and most resources. Like many other small Pacific islands, Tuvalu's electricity production relies heavily on imported diesel fuel, transported over long distances across the ocean and subject to climate-change related supply disruptions. As of September 2017, over 72% of electricity in Tuvalu was diesel generated. This heightened climate change and energy security concerns, caused high per capita greenhouse gas (GHG) emissions<sup>1</sup> and limited electricity consumption due to high electricity costs, despite the heavy government subsidies. Tuvalu has approximately 16% renewable energy generation with 98% of households having access to electricity. Electricity generation accounts for 61% of GHG emissions in the country's energy sector.<sup>2</sup> The focus of the Government of Tuvalu is to increase the renewable energy penetration on the outer islands to 100%, to be followed by Funafuti. Approximately 7–10% of gross domestic product (GDP) is spent on imported fuel (depending on oil prices), making energy the costliest sector of the Tuvalu economy.

2. The project will help the Government of Tuvalu transform the Funafuti power system from a manual diesel-based power system into a modern automated high renewable energy-based power system; improve the quality, reliability, and climate resilience of service, reduce reliance on fossil fuels for power generation, and reduce the cost of generation. The project will decrease the cost of supply by partially replacing diesel power with solar power. The project is expected to displace 6.7 million liters of diesel fuel over the project lifetime and avoid 17,800 tons of carbon dioxide equivalent (CO<sub>2</sub>e) GHG emissions over its lifetime. Modern control systems and climate-resilient designs will be incorporated. The project will contribute to achieving Tuvalu's 2009 *National Energy Policy* target of 100% renewable energy for power generation by 2020 (revised to 2025). The policy is also detailed in *Enetise Tutumau 2012–2020 Master Plan for Renewable Electricity and Energy Efficiency in Tuvalu* and in *Te Kaniva 2012* (Climate Change Policy) and is supported by *Te Kakeega III: National Strategy for Sustainable Development 2016–2020*.

3. **Impact, Outcome and Outputs.** The impact of the project is aligned with utilization of renewable energy increased and greenhouse gas emissions in the power subsector in Tuvalu reduced (Intended Nationally Determined Contributions, 2015). Its outcome is increased generation and utilization of reliable and clean energy from renewable energy in Tuvalu. The project has three outputs: (i) solar photovoltaic system installed on three outer islands; (ii) solar photovoltaic and battery energy storage system installed on Funafuti; and (iii) Institutional capacity for inclusive renewable energy project development and implementation enhanced.

4. The project outputs, which will all incorporate gender mainstreaming, are described in detail below:

5. **Output 1: Solar photovoltaic system installed on three outer islands.** Installation of climate-resilient ground-mounted solar photovoltaic system on three outer islands to achieve >90% renewable energy contribution. The output includes: (i) at least 44.8 kWp solar photovoltaic capacity for Nukulaelae; (ii) at least 78.4 kWp solar photovoltaic capacity for Nukufetau; (iii) at least 100.8 kWp solar photovoltaic capacity for Nui; and (iv) associated modern control systems.

6. **Output 2: Solar photovoltaic and battery energy storage system installed on Funafuti:** The output will enable Funafuti to reach 32% renewable energy penetration and

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<sup>1</sup> Tuvalu registers in the upper half of Pacific Island countries, ranked above Tonga, Samoa, Fiji, Kiribati, Vanuatu, Papua New Guinea and the Solomon Islands.

<sup>2</sup> Government of Tuvalu. 2015. *Intended Nationally Determined Contributions* (Communicated to the UNFCCC, 2015).

includes: (i) at least an additional 500 kW rooftop solar photovoltaic; and (ii) at least 1 MW / 2 MWh BESS commissioned and operational; and (iii) associated modern control systems.

7. **Output 3: Institutional capacity for inclusive renewable energy project development and implementation enhanced:** The output includes consulting services support for project management and for construction supervision comprehensive institutional capacity building in project design, construction, operations and maintenance, as well as in financial management, environmental and social safeguards, gender, tariff-setting, governance and community engagement:.

## II. IMPLEMENTATION PLANS

### A. Project Readiness Activities

Indicative Activities	Month							Responsible Agency
	June 2019	July 2019	Aug 2019	Sept 2019	Oct 2019	Nov 2019	Dec 2019	
Advance contracting actions	x	x	x	x	x	x		TEC, ADB
ADB review meeting				x				ADB
Grant negotiations					x			EA, ADB
ADB approval						x		ADB
Government approval					x			EA
Grant effectiveness							x	EA, ADB

ADB = Asian Development Bank, EA = executing agency, TEC = Tuvalu Electricity Corporation.  
Source: ADB estimates.

## B. Overall Project Implementation Plan

Activities	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022
Award turnkey contract and mobilization										
Submission of designs										
Design review										
Final design										
Place orders for PV and BESS										
Manufacturing of equipment										
Site preparation works										
Implementation of gender action plan; tariff review, public awareness campaign, community engagement,										
Transportation to site										
Island 1:										
Construction										
Commissioning										
Island 2:										
Construction										
Commissioning										
Island 3:										
Construction										
Commissioning										
Initial O&M period										
Transportation to site										
Installation of PV										
BESS										
Commissioning										
Initial O&M period										
Training workshops, conferences, seminars										
Handover of manuals										

-indicative/intermittent.

BESS=battery energy storage system, O&M=operation and maintenance, PV=photovoltaic, TEC=Tuvalu Electricity Corporation.

### III. PROJECT MANAGEMENT ARRANGEMENTS

#### A. Project Implementation Organizations: Roles and Responsibilities

Project Implementation Organizations	Management Roles and Responsibilities
Executing Agency (Ministry of Finance)	<ul style="list-style-type: none"> <li>• Overall delivery of the project and reporting to Government</li> <li>• Ensure compliance with grant agreement covenants</li> <li>• Coordinate with TEC the preparation of withdrawal applications and submit to ADB</li> <li>• Maintain separate project accounts, have all project accounts audited annually and send to ADB</li> <li>• Ensure the compilation and presentation of all reporting requirements under the project</li> </ul>
Implementing Agency (Tuvalu Electricity Corporation / Ministry of Transport, Energy and Tourism)	<ul style="list-style-type: none"> <li>• Responsible for the overall implementation of the project</li> <li>• Ensure compliance with the provisions of the Grant and Project Agreements and government policies and guidelines</li> <li>• Responsible for procurement and services for the project</li> <li>• Issue contract change orders as appropriate</li> <li>• Establish and implement the project monitoring and evaluation framework</li> <li>• In coordination with MOF and assisted by the PMU, will maintain separate project accounts and records by funding source for all expenditures incurred on the project.</li> </ul>
Government of Tuvalu Task Force	<ul style="list-style-type: none"> <li>• Comprising of the CEOs of MOF, MLGA, MTET, MPWIE, GM of TEC and Directors of Departments of Energy, and Environment</li> <li>• Chaired by CEO of MTET</li> <li>• Responsible for providing Government oversight of project and reporting to DCC and Cabinet</li> </ul>
Project Management Unit With the assistance and support from the construction supervision consultant (CSC)	<ul style="list-style-type: none"> <li>• Responsible for oversight of the implementation of the project, under the direction of the IA, to ensure compliance of contractors with contracts, specifications and management plans.</li> <li>• Prepare reports and supporting information for the EA, IA and Task Force as required</li> <li>• Ensure readiness of all project sites for contractor including surveyed and staked out sites, any required permits in place and secured lease agreements (if required)</li> </ul>
ADB	<ul style="list-style-type: none"> <li>• Monitor and review overall implementation of project in consultation with EA and IA including project implementation schedule; actions required for summary poverty reduction and social strategy; gender action plan; environmental management plan; project expenditure progress with procurement and disbursement; compliance with grant covenants and likelihood of attaining project outputs and outcome.</li> <li>• Consultant recruitment will be delegated by the EA/IA to ADB following an agreed Matrix of Responsibilities</li> </ul>

ADB = Asian Development Bank, CEOs = chief executive officers, DCC = Development Coordination Committee, EA = executing agency, IA = implementing agency, GM = General Manager, MLGA = Ministry of Local Government and Agriculture, MOF = Ministry of Finance, MPWIE = Ministry of Public Works, Infrastructure and Environment, MTET = Ministry of Transport, Energy and Tourism, TEC = Tuvalu Electricity Corporation.

Source: ADB.

**B. Key Persons Involved in Implementation****Executing Agency**

Ministry of Finance (MOF)

Officer's Name: Karlos Lee Moresi  
Position: CEO  
Telephone: +688 20231  
Email address: <moresi.k.l@gmx.com>

**Implementing Agency**

Tuvalu Electricity Corporation (TEC) will be the implementing agency through and with oversight from the Ministry of Transport, Energy and Tourism (MTET).

Officer's Name: Mafalu Lotolua  
Position: General Manager  
Telephone: +688 20352/20358  
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**ADB**

Energy Division,  
Pacific Department

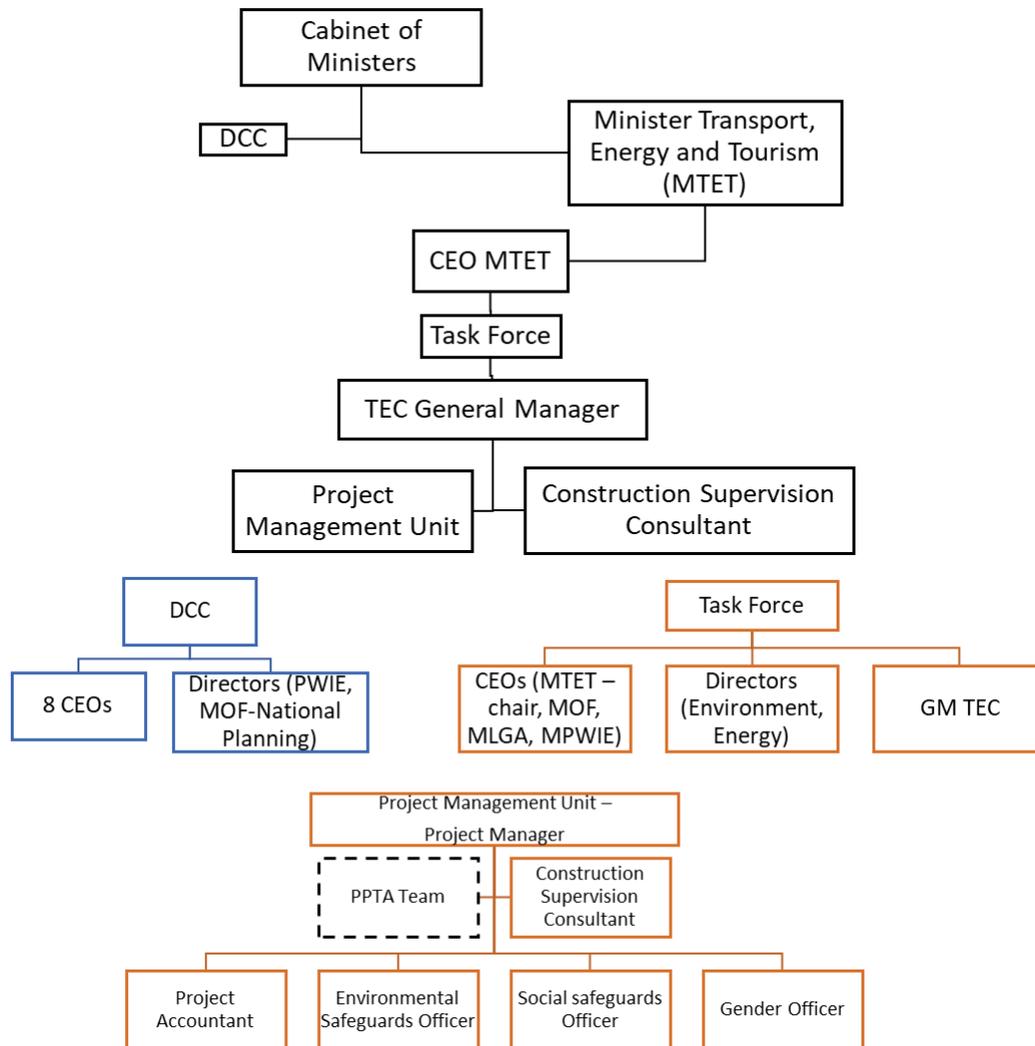
Staff Name: Olly Norojono  
Position: Director  
Telephone No.: +63 2 8632 4444  
Email address: onorojono@adb.org

**Mission Leader**

Staff Name: Cinderella Cisneros Tiangco  
Position: Senior Energy Specialist  
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### C. Project Organization Structure

**Figure 1: Project Organizational Structure**



CEO = Chief Executive Officer/Secretary, DCC = Development Coordination Committee, GM = general manager, MLGA = Ministry of Local Government and Agriculture, MOF = Ministry of Finance, MPWIE = Ministry of Public Works, Infrastructure and Environment, MTET = Ministry of Transport, Energy and Tourism. PPTA = project preparatory technical assistance, TEC = Tuvalu Electricity Corporation.  
Source: Tuvalu Electricity Corporation.

## IV. COSTS AND FINANCING

8. The Government of Tuvalu has requested a grant of \$6 million from ADB's Special Funds Resources. The government will finance taxes and duties of about \$0.33 million through exemption and about \$0.15 million in contingencies. The government will make the proceeds of the grant available to TEC under a subsidiary grant agreement upon terms and conditions acceptable to ADB.

9. The project will be financed by ADF grant and Government of Tuvalu counterpart financing. Counterpart will include an exemption from Customs Duty and Tuvalu Consumption Tax (TCT) on imports of project equipment and materials.

10. **Indicative Project Scope and Financing Plan.** Tables 1 and 2, respectively, show the project scope cost estimates and financing plan considering the available ADB and government financing totaling \$6.48 million and the potentially available land or rooftop for the photovoltaic and BESS installations on Funafuti.

**Table 1: Indicative Cost Estimates**

Item	Amount <sup>a</sup> \$ million	Share of Total (%)
Output 1: Solar PV on Outer Islands	1.52	23.4
Nui	0.48	
Nukufetau	0.47	
Nukulaelae	0.57	
Output 2: Solar PV and BESS on Funafuti	3.57	55.1
Solar PV	1.06	
BESS	2.51	
Output 3: Capacity Building and Consulting Services Support	0.58	9.0
Project Management Unit support	0.18	
Construction Supervision Consultant	0.30	
Capacity Building Program	0.10	
Contingencies	0.81	12.5
<b>Total</b>	<b>6.48</b>	<b>100%</b>

BESS = battery energy storage system, PV = photovoltaic.

<sup>a</sup> Includes taxes and duties of \$0.33 million. The government will finance taxes and duties of \$0.33 million through exemption

Source: ADB estimates.

**Table 2: Indicative Financing Plan**

Source	Amount (\$ million)	Share of Total (%)
ADB: Special Funds Resources (ADF Grant)	6.00	92.59
Government	0.48	7.41
<b>Total</b>	<b>6.48</b>	<b>100.00</b>

ADB = Asian Development Bank, ADF = Asian Development Fund.

Source: ADB estimates.

#### A. Key Assumptions

11. The following key assumptions underpin the cost estimates and financing plan:
- (i) Price contingencies are based on expected inflation over the implementation period
  - (ii) The expected cumulative inflation over the implementation period are as follows:

**Table 3: Escalation Rates for Price Contingency Calculation**

Item	2019	2020	2021
Foreign rate of price inflation	1.5%	1.5%	1.6%
Domestic rate of price inflation	2.8%	2.8%	2.8%

Sources: ADB. 2018. *International Cost Escalation Factors 2017–2021*. Manila; and ADB. 2018. *Domestic Cost Escalation Factors 2017–2021*. Manila.

**B. Detailed Cost Estimates by Expenditure Category**

	\$ million			% of Total Base Cost
	Foreign Currency	Local Currency	Total Cost	
<b>A. Investment Costs</b>				
<b>Output 1: Outer Islands Solar PV</b>				
1. Nukulaelae	0.53	0.00	0.53	9%
2. Nukufetau	0.44	0.00	0.43	8%
3. Nui	0.45	0.00	0.45	8%
<b>Output 2: Funafuti Solar PV (including BESS)</b>	3.34	0.00	3.34	59%
<b>Output 3: Project Management and Capacity Building</b>	0.44	0.14	0.58	11%
Taxes and Duties	0.0	0.33	0.33	6%
<b>Total Base Cost (A)</b>	<b>5.20</b>	<b>0.48</b>	<b>5.67</b>	<b>100%</b>
<b>B. Contingencies</b>				
1. Physical	0.52	0.05	0.57	10%
2. Price	0.22	0.02	0.24	4%
<b>Subtotal (B)</b>	<b>0.74</b>	<b>0.07</b>	<b>0.81</b>	<b>14%</b>
<b>Total Project Cost (A+B)</b>	<b>5.93</b>	<b>0.54</b>	<b>6.48</b>	<b>114%</b>

BESS = battery energy storage system, PV = photovoltaic.

Source: ADB estimates.

**C. Allocation and Withdrawal of Grant Proceeds**

<b>Category</b>		<b>ADB-ADF Financing</b>	
<b>No.</b>	<b>Item</b>	<b>Total amount allocated for ADB financing (\$ million)</b>	<b>Percentages for withdrawal from the Grant Account</b>
1	Turnkey (solar PV and BESS), consulting services, project management, and capacity development**	6,000,000	100% of total expenditure claimed*
<b>Total</b>		<b>6,000,000</b>	

ADB = Asian Development Bank, ADF = Asian Development Fund, BESS = battery energy storage system, PV = photovoltaic.

\* Excluding taxes and duties imposed within the territory of the recipient.

\*\*No disbursements shall be made until the subsidiary grant agreement acceptable to ADB has been signed and made effective according to its terms.  
Source: ADB.

**D. Detailed Cost Estimates by Financier**

Item	ADB Grant		Government of Tuvalu		Total Cost	
	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category
<b>A. Investment Costs</b>						
<b>Output 1: Outer Islands Solar PV</b>						
1. Nukulaelae	0.53	100%	0.00	0%	0.53	100%
2. Nukufetau	0.43	100%	0.00	0%	0.44	100%
3. Nui	0.45	100%	0.00	0%	0.45	100%
<b>Output 2: Funafuti Solar PV (including BESS)</b>	3.34	100%	0.00	0%	3.34	100%
<b>Output 3: Project Management and Capacity Building</b>	0.58	100%	0.00	0%	0.58	100%
Taxes and Duties	0.00	0%	0.33	100%	0.33	100%
<b>Total Base Costs (A)</b>	<b>5.34</b>	<b>94%</b>	<b>0.33</b>	<b>6%</b>	<b>5.67</b>	<b>100%</b>
<b>B. Contingencies</b>						
1. Physical	0.46	82%	0.11	18%	0.57	100%
2. Price	0.19	82%	0.04	18%	0.24	100%
<b>Subtotal (B)</b>	<b>0.66</b>	<b>82%</b>	<b>0.15</b>	<b>18%</b>	<b>0.81</b>	<b>100%</b>
<b>Total Project Cost (A+B)</b>	<b>6.00</b>	<b>82%</b>	<b>0.48</b>	<b>18%</b>	<b>6.48</b>	<b>100%</b>

BEES = battery energy storage system, PV = photovoltaic.

Source: Asian Development Bank estimates.

## E. Detailed Cost Estimates by Outputs

(\$ million)							
Item	Total Amount	Output 1: Outer Island Solar		Output 2: Funafuti Solar		Output 3: Project Management and Capacity Building	
		Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category
<b>A. Investment Costs</b>							
<b>Output 1: Outer Islands Solar PV</b>							
1. Nukulaelae	0.57	0.57	100%	0.00	0%	0.00	0%
2. Nukufetau	0.47	0.47	100%	0.00	0%	0.00	0%
3. Nui	0.48	0.48	100%	0.00	0%	0.00	0%
<b>Output 2: Funafuti Solar PV (including BESS)</b>	3.58	0.00	0%	3.58	100%	0.00	0%
<b>Output 3: Project Management and Capacity Building</b>	0.58	0.00	0%	0.00	0%	0.58	10%
<b>Total Base Cost (A)</b>	<b>5.67</b>	<b>1.52</b>	<b>27%</b>	<b>3.58</b>	<b>63%</b>	<b>0.58</b>	<b>10%</b>
<b>B. Contingencies</b>							
1. Physical	0.57	0.15	27%	0.36	63%	0.06	10%
2. Price	0.24	0.06	27%	0.15	63%	0.02	10%
<b>Subtotal (B)</b>	<b>0.81</b>	<b>0.22</b>	<b>27%</b>	<b>0.51</b>	<b>63%</b>	<b>0.08</b>	<b>10%</b>
<b>Total Project Cost (A+B)</b>	<b>6.48</b>	<b>1.73</b>	<b>27%</b>	<b>4.09</b>	<b>63%</b>	<b>0.66</b>	<b>10%</b>

BESS = battery storage system, PV = photovoltaic.

Source: Asian Development Bank estimates.

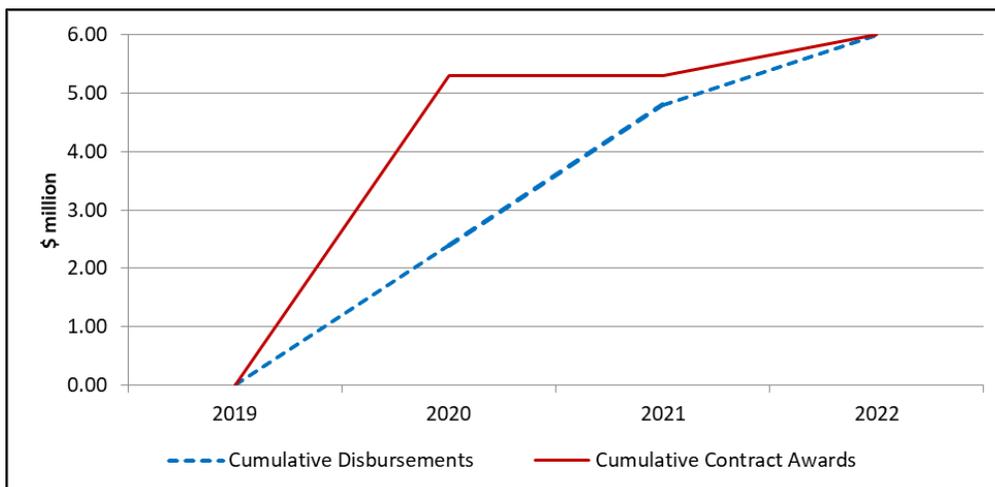
## F. Detailed Cost Estimates by Year

	Total \$ million	2020	2021	2022	2023
<b>A. Investment Costs</b>					
<b>Output 1: Outer Island Solar PV</b>					
1. Nukulaelae	0.53	0.21	0.21	0.11	0.00
2. Nukufetau	0.43	0.18	0.18	0.09	0.00
3. Nui	0.45	0.18	0.18	0.09	0.00
<b>Output 2: Funafuti Solar PV (including BESS)</b>	<b>3.34</b>	<b>1.34</b>	<b>1.34</b>	<b>0.67</b>	<b>0.00</b>
<b>Output 3: Project Management &amp; Capacity Building</b>	<b>0.58</b>	<b>0.23</b>	<b>0.23</b>	<b>0.12</b>	<b>0.00</b>
Taxes and Duties	0.33	0.13	0.13	0.07	0.00
<b>Total Base Cost (A)</b>	<b>5.67</b>	<b>2.27</b>	<b>2.27</b>	<b>1.13</b>	<b>0.00</b>
<b>B. Contingencies</b>					
1. Physical	0.57	0.23	0.23	0.11	0.00
2. Price	0.24	0.06	0.10	0.07	0.00
<b>Subtotal (B)</b>	<b>0.81</b>	<b>0.29</b>	<b>0.33</b>	<b>0.19</b>	<b>0.00</b>
<b>Total Project Cost (A+B)</b>	<b>6.48</b>	<b>2.56</b>	<b>2.60</b>	<b>1.32</b>	<b>0.00</b>

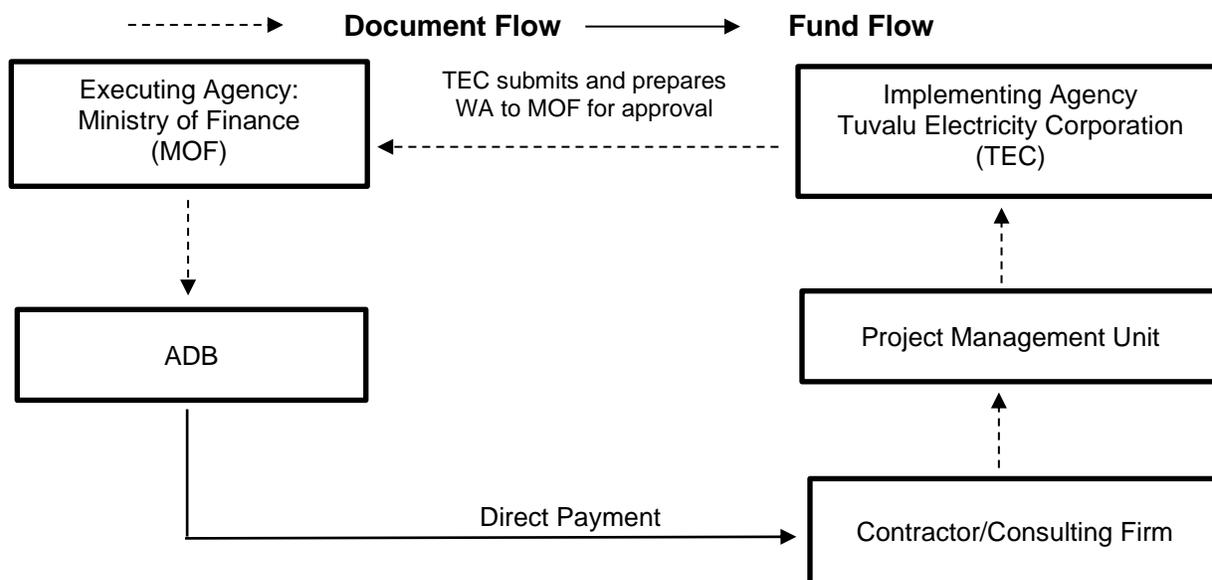
BEES = battery energy storage system, PV = photovoltaic.

Source: Asian Development Bank estimate.

**G. Contract and Disbursement S-Curve**



**H. Fund Flow Diagram**



ADB = Asia Development Bank, WA = withdrawal application.  
Source: ADB.

## V. FINANCIAL MANAGEMENT

### A. Financial Management Assessment

12. A financial management assessment (FMA) was carried out in TEC according to ADB's *Financial Management and Analysis of Projects (The Guidelines) (2005)*<sup>3</sup> and found to be adequate to ensure that grant funds are utilized for intended purposes.

13. Public finance legislative frameworks in Tuvalu are judged to be reasonably sound with Parliamentary control and oversight through the Constitution including the creation of the post of Auditor General (AG) who is required to present audited financial statements of the government and public entities to Parliament. Public financial management (PFM) in Tuvalu is legislated under Part IX of the Constitution where the Minister of Finance is responsible for management of public finance and preparation of expenditure estimates and statements of anticipated revenue. Under the Constitution, the government and public entities are required to submit their financial statements to the AG within six months of the end of the financial year and the AG is required to submit audited financial statements of the government and public entities to Parliament within nine months of the end of the financial year.

14. The Public Expenditure and Financial Accountability (PEFA) assessment concluded that Tuvalu had an established legal and regulatory framework setting out budgeting, expenditure and accountability structures with oversight by Parliament. The conclusions are as follows: **(i) Budget credibility.** The budget formulation process is satisfactory with a meaningful classification system and clear budget calendar. However, there have been instances of the lack of expenditure restraint and overuse of supplementary budgets. The budget is the mechanism for controlling expenditure and estimating income and implementing the budget as planned is important in delivering the government's policy objectives; **(ii) Comprehensiveness and transparency.** PEFA noted that the budget classification used is consistent with IMF Government Finance Statistics (GFS) and is comprehensive and informative although greater dissemination of information to the public is encouraged; **(iii) Multi-year budgeting to be improved.** The Medium Term Fiscal Framework (MTFF) provides estimates of future budget aggregates although it requires improvement; **(iv) Predictability and control in execution of the budget.** Release of budget through the warrant system is effective and so is the payroll. However, revenue collection and procurement need improvement; **(v) Accounting, recording and reporting.** Reconciliation delays in bank and vote ledgers and in submission of the government financial statements for audit within the statutory period of six months; and **(vi) External scrutiny and audit.** AG's audit report has been on time and the Public Accounts Committee (PAC) plays an active role in scrutiny. Lack of internal audit a weakness.<sup>4</sup> In addition, a number of AG's recommendations remain outstanding

15. The financial management assessment (FMA) was carried out for TEC.<sup>5</sup> The FMA was undertaken as follows: (i) ADB's Financial Management Assessment Questionnaire (FMAQ) was administered to elicit information and responses; (ii) the responses and information were analyzed, and potential risks identified; and (iii) identified ways of mitigating any risks.

<sup>3</sup> In accordance with ADB. 2005. *Financial Management and Analysis of Projects*. Manila; and ADB. 2009. *Financial Due Diligence A Methodology Note*. Manila.

<sup>4</sup> Internal audit department established in 2017 after the PEFA review.

<sup>5</sup> In accordance with ADB. 2005. *Financial Management and Analysis of Projects*. Manila; and ADB. 2009. *Financial Due Diligence A Methodology Note*. Manila.

16. PMU will (i) carry out all project implementation activities and will be responsible for the project implementation; and (ii) submit a quarterly progress report to facilitate the monitoring of the physical progress of the project.

### A.1 Summary of Financial Management Assessment of TEC

17. Key findings of the financial management assessment undertaken for the TEC are as described in Table 4:

**Table 4: Summary of Financial Management Assessment of TEC**

Particulars	Conclusion
A. Funds Flow Arrangement	Funds flow arrangements are reliable, predictable and secure. TEC have enough capability to smoothly work under the proposed investment program.
B. Staffing	TEC delegates to the PMU to conduct all project relevant activities. PMU and TEC have financial staff to manage projects according to ADB financial management procedures.
C. Accounting Policies and Procedures	The TEC's accounting policy is based on IFRS
D. Internal and External Audits	There is no internal audit function at TEC, but there is an internal audit division within the MOF. TEC was externally audited by AG although the audit is outsourced to KPMG from Fiji. TEC has been issued with an unqualified opinion.
E. Reporting and Monitoring	Financial statements are prepared for the entity in accordance with IFRS and provisions under the Tuvalu Electricity Corporation Act of 1990.
F. Information systems	At TEC, the financial management system is computerized, which suits well with the project requirements and procedures.

AG = auditor general, IFRS =International Financial Reporting Standards, KPMG = international auditing firm, TEC = Tuvalu Electricity Corporation.

Source: ADB estimates.

### A.2 Financial Management Internal Control and Risk Assessment

18. The results of the financial management, internal control and risk assessment, and the financial management action plan are summarized in Tables 5 and 6. Financial management risks shall need to be considered and updated throughout the life of the investment program. Risk mitigation measures shall also be updated accordingly.

**Table 5: Financial Management Internal Control and Risk and Financial Management Action Plan**

Risk Type	Risk Assessment Rating	Risk Description	Mitigation Measures
A. Inherent Risk (the susceptibility of the project financial management system to factors arising from the environment in which it operates, such as country rules and regulations and entity working environment (assuming absence of any counter checks or internal controls)).			
1. Country-specific Risks	Moderate	PEFA report identifies risks associated with scale such as segregation of duties, FMIS implementation, regular reconciliations to facilitate good internal control and lack of internal audit as key challenges to improve PFM.	Subsequent to the PEFA, GoT has established an internal audit unit, which needs further capacity building and staff. TWOG accounts have been disclaimed by AG due to several reasons but AG has noted improvements with time. Most of these reasons relate to adjustments to convert cash basis TWOG statements to accrual basis at the year end.
2. Entity-specific Risks	High	TEC has no prior experience with ADB	ADB has established an in-country PMU currently only handling maritime

Risk Type	Risk Assessment Rating	Risk Description	Mitigation Measures
			sector projects. This PMU could also handle the proposed energy project
3. Project-specific Risks	Low	Relatively straightforward turnkey project with single contractor	
Overall Inherent Risk	Moderate		
B. Control Risk (the risk that the project's accounting and internal control framework are inadequate to ensure project funds are used economically and efficiently and for the purpose intended, and that the use of funds is properly reported).			
1. Implementing Entity	Low	In-country PMU established for ongoing ADB project and World Bank project and has an established PMU which is well versed in ADB procedures.	
2. Funds Flow	Low	The majority of funds will not flow to EA/IA/PMU but be directly paid to contractor by ADB.	
3. Staffing	Low	No experienced staff at TEC on ADB procedures but available within existing PMU	
4. Accounting Policies and Procedures	High	Entity financials according to IFRS although impairment losses recognized in contravention to IFRS.	Needs correction with agreement of the AG.
5. Internal Audit	High	No internal audit unit	Unit to be set up or contracted out
6. External Audit	High	Financial statements audited in a timely manner and unqualified opinion issued despite incorrect treatment of grant assets which were deemed impaired and written off.	Financial statements to be re-stated with reason given by TEC and approved by AG
7. Reporting and Monitoring	Moderate	Monthly, quarterly and annual reporting done on time. However, auditor's management letter has identified areas where reconciliations for outer island receipts are not done in a timely manner.	All accounts must be reconciled regularly.
8. Information systems	Moderate	Integrated Q5 Quantum system with FAR and separate interface with Ace payroll system.	Fixed assets and inventory are recorded off-system on spreadsheets and journalized quarterly which is time consuming and error prone.
Overall Control Risk	Moderate		

\* H = High (likely to occur, will have high impact if occurs), S=substantial (unlikely to occur, will have high impact if occurs); M = Moderate (likely to occur will have low impact if occurs), L = Low or Negligible (unlikely to occur, will have low impact if occurs).

**Table 6: Financial Management Action Plan**

<b>Risk Type</b>	<b>Risk Assessment</b>	<b>Risk Description</b>	<b>Mitigation Measures</b>	<b>Timing</b>
1. Entity specific risk	H	TEC has not been an implementing agency for an ADB project	In-country PMU already established for maritime sector projects. The proposed project documentation also to be managed by PMU	On completion of grant negotiations  Responsibility: MOF/TEC
2. Accounting policies and procedures	H	Entity financials prepared according to IFRS. However, investments in solar PV treated as an impaired loss and fully written off in contravention to IFRS	TEC to re-state its financial statements with this accounting treatment corrected and have discussions with auditor as well	Prior to grant disbursement  Responsibility: TEC
3. Internal Audit	H	No separate unit or person in charge of internal audit	Set up or contract out the internal audit function	Prior to grant disbursement  Responsibility: TEC/MOF
4. External audit	H	Audits conducted in accordance with ISA and on-time, but material accounting treatment deficiency in regard to impairment not identified and corrected	Project will be audited separately by an auditor acceptable to ADB and GoT similar to other ADB projects in-country	Prior to grant disbursement  Responsibility: TEC/MOF
5. Information systems	M	Fixed assets and inventory are recorded off-system on spreadsheets and journalized quarterly which is time consuming and error prone	System modules for fixed assets and inventory need to be purchased	Within first year of project implementation  Responsibility: TEC
6. Reporting & Monitoring	M	Monthly, quarterly and annual reporting done on time. However, auditor's management letter has identified areas where reconciliations are not done in a timely manner	All accounts must be reconciled regularly.	Within first year of project implementation  Responsibility: TEC

ADB = Asian Development Bank, GoT = Government of Tuvalu, MOF = Ministry of Finance, TEC = Tuvalu Electricity Company.

19. Actions required to be taken by TEC are as follows:

- (i) TEC specialists as well as financial staff must undergo training on ADB financial management and disbursement procedures to further strengthen capacity;
- (ii) TEC/PMU should maintain separate accounts for each of the projects in the outer islands under the investment program and have such accounts audited annually, in accordance with appropriate auditing standards consistently applied by independent auditors whose qualifications, experience, and terms of reference are acceptable to ADB;
- (iii) TEC is required to ensure that the IFRS accounting treatment for grant funded renewable energy assets adopted, which is capitalizing and depreciating the

- relevant asset and creation of a grant account and amortizing to profit and loss over the useful life of the asset;
- (iv) In the past TEC has considered renewable energy assets financed through grants as impaired assets and written them off fully to profit. This contravenes with IFRS and TEC financial statements need to be re-stated;
  - (v) Contract out the internal audit function.

## **B. Disbursement**

20. The grant proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2017, as amended from time to time), and detailed arrangements agreed upon between the government and ADB. Online training for project staff on disbursement policies and procedures is available at: [http://wpqr4.adb.org/disbursement\\_elearning](http://wpqr4.adb.org/disbursement_elearning). Project staff are encouraged to avail of this training to help ensure efficient disbursement and fiduciary control.

21. To facilitate cash flow during project implementation, MOF, the executing agency, will approve withdrawal applications coming from the PMU and submit them to ADB for direct payment and/or reimbursement for all goods, works and consultancy services of the project. Disbursements of grant funds under the project will procure goods, works, and related services.

22. Before submission of the first withdrawal application, the executing agency should submit to ADB sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the executing agency, together with the authenticated specimen signatures of each authorized person. The minimum value per withdrawal application is in accordance with the Loan Disbursement Handbook. Individual payments below this amount should be paid by the EA/IA and subsequently claimed to ADB through reimbursement, unless otherwise accepted by ADB. The recipient should ensure sufficient category and contract balances before requesting disbursements. Use of ADB's Client Portal for Disbursements (CPD) system is encouraged for submission of withdrawal applications to ADB.

23. All disbursements under government financing will be carried out in accordance with regulations of the government and ADB.

## **C. Accounting**

24. The TEC/PMU, in coordination with MOF and assisted by the PMU, will maintain separate project accounts and records by funding source for all expenditures incurred on the project. Project accounts will follow international accounting principles and practices of International Financial Reporting Standards (IFRS) under TEC, and International Public Sector Accounting Standards (IPSAS) under MOF, and adhere to sound financial management requirements during the implementation of the proposed project. The TEC/PMU will maintain separate project records and accounts adequate to identify the: (i) goods and services financed from grant proceeds; (ii) financing resources received; (iii) expenditures incurred on the components of each project component; and (iv) counterpart and cofinancer funds received and expended, including taxes and duties exempted.

25. **Accounting treatment of grant funded solar photovoltaic assets.** EU and MFAT have financed solar photovoltaic in the outer islands in 2015 through bi-lateral grants to the Government of Tuvalu. In the same year, TEC financial statements wrote off in full these assets on the grounds that they were impaired, supposedly under the provisions of IAS 36: Impairment of Assets. IAS 36 permits assets to be recognized as impaired and written off to their recoverable amount (sale

or in use) if certain conditions are present such as obsolescence or physical damage to the asset, current or future changes in the manner the asset is used and worse than expected performance of the asset. None of these criteria were present and yet the assets were considered fully impaired and written off. The extent of the impairment in 2015 was A\$20.7 million and is very significant given that TEC's total assets were A\$4 million. As a result of this treatment, TEC's assets are understated and its Balance Sheet greatly weakened.

26. The correct treatment is in accordance with IAS 20: Accounting for Government Grants where the donated assets should be capitalized and depreciated over their useful life and at the same time the grant/deferred revenue amortized over the useful life of the asset, to profit.

27. The Financial Management Action Plan is proposing that this accounting entry is reversed and TEC's financial statements re-stated prior to grant disbursement.

#### **D. Auditing and Public Disclosure**

28. TEC/PMU will prepare separate project financial statements to be audited in accordance with International Standards on Auditing and in accordance with the government's audit regulations by an auditor acceptable to ADB. The PMU will assist TEC in compiling both audited project statements for submission to ADB. In addition, TEC shall also provide its annual financial statements prepared in accordance with financing reporting standards acceptable to ADB.

29. The audited accounts, certified copies of such audited project accounts and the report of the auditors relating thereto (including the auditors' separate opinions on the use of the grant proceeds and compliance with the financial covenants of the financing agreements and the grant agreement), will be submitted by the PMU assisted by the PMC in English language to ADB in any event not later than 6 months after the end of each related fiscal year (year ending June 30).

30. The PMU/TEC will provide ADB all information concerning project auditing as requested, in accordance with ADB's policies and procedures. 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.

31. The government, MOF, TEC, and PMU 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.<sup>6</sup> 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

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<sup>6</sup> 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 grants 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 grants.

confirm that the share of ADB's financing is used in accordance with ADB's policies and procedures.

32. **Internal Audit.** TEC does not have an internal auditor which has been flagged as high risk in the FM risk assessment. The mitigation measure that the Financial Management Action Plan is proposing is to contract out the function since skills are not available in-country. However, the EA, MOF, has recently established an internal audit unit which is currently receiving capacity building assistance from the EU and has received assistance in the past on the creation of the unit as well. It is recommended that TEC is prioritized as one of the SoE's to receive internal audit support from this central unit, which should be by way of an approved internal audit program which is implemented.

33. **Customer Arrears.** TEC has significant arrears due from its customers and given the difficulty in collection is embarking on a roll out of prepaid meters. Once the prepaid meters are installed, TEC should have in place a policy on recovery of past dues from residential customers. One such policy that has been successful in the Pacific is for half of the customer payment to go towards settlement of arrears and the other half for purchasing power. The policy must be in place prior to grant disbursement and implementation of the policy monitored during project implementation.

34. Government account arrears to be settled before the end of the first year of project implementation.

35. Public disclosure of the project financial statements, including the audit report on the project financial statements, will be guided by ADB's Access to Information Policy, 2018. 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 ADB's 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

36. All advance contracting will be undertaken in conformity with ADB Procurement (2015, as amended from time to time) and ADB's Guidelines on the Use of Consultants (2013, as amended from time to time). The issuance of invitations to bid under advance contracting will be subject to ADB approval. The borrower, the Ministry of Finance(Executing Agency) and Tuvalu Electricity Corporation (TEC) (Implementing Agency), have been advised that approval of advance contracting does not commit ADB to finance the project.

37. **Advance contracting.** Advanced contracting is proposed for the recruitment of consultants under the project and the single ICB contract for the supply of solar panels to the outer islands (Nui, Nukufetau, and Nukulaelae) and Funafuti, and photovoltaic and battery energy storage system (BESS) on Funafuti.

### B. Procurement of Goods, Works, and Consulting Services

38. All procurement of goods and works will be undertaken in accordance with ADB's Procurement Guidelines (2015, as amended from time to time).

39. International competitive bidding procedures will be used for the main procurement

package under the project which has an estimated value in excess of \$3 million.

40. Tuvalu is developing a comprehensive and modern public procurement system. Its progress constrained in some respects due to a lack of procurement capacity and expertise which impacts the practical implementation of the legislation and the ability to process complex procurement activities. ADB has been directly supporting the government of Tuvalu in the development of its revised procurement legislation and associated capacity development activities. TEC, as the implementing agency, does not have sufficient capacity or experience to undertake procurement of a project this size and complexity and the procurement risk is initially assessed as high. The following measures are being implemented on this project to mitigate the observed risks, which result in the residual risk being reduced to moderate/low:

- (i) ADB will directly support the engagement of the construction supervision consultant and the five individual consultants, through joint recruitment procedures acceptable to TEC, as further outlined in paragraph 39 below;
- (ii) The engaged ADB TA consultant will support TEC in the recruitment (tendering and evaluation) of the single goods and works package to be procured under the project. Additionally, the package will in accordance with ADB's standard bidding document or the procurement of plant and will be subject to prior review by ADB at key stages of the process;
- (iii) A market sounding exercise will be undertaken to assess interest in the provision of the goods and works required under the project, in order to ensure that the packaging of the project maximizes the possibility of project success; and
- (iv) The terms of reference for the Construction Supervision Consultant include a requirement to support TEC in any procurement related activities under the project

41. All consultants, will be recruited according to ADB's Guidelines on the Use of Consultants (2013, as amended from time). The terms of reference for all consulting services are detailed in Section D.

42. An estimated 60 person-months inputs from 4 national individual experts are required for the project management unit. In addition, an international firm will be engaged on a time-based contract for a minimum of 12 person-months international and 12 person months national inputs to undertake construction supervision activities on the project, as well as other related responsibilities

43. During the fact-finding mission in March 2019, the government requested ADB support to jointly recruit all consulting services packages required under the project. A delegation matrix outlining the responsibilities of government and ADB for consultant selection has been provided by the recipient. ADB will support the recruitment process including the advertisement, tender, and evaluation stages. Government will remain responsible for negotiating and signing the consulting services contracts.

44. An 18-month procurement plan indicating threshold and review procedures, goods, works, and consulting service contract packages is detailed in Section C.

### C. Procurement Plan

#### Basic Data

Project Name: Increasing Access to Renewable Energy Project for Tuvalu	
Project Number: 49450-015	Approval Number:
Country: Tuvalu	Executing Agency: Ministry of Finance

Project Procurement Classification: B	Implementing Agency: Tuvalu Electricity Corporation (TEC)
Procurement Risk: Medium	
Project Financing Amount: \$6.48 M ADB Financing: \$6.0 M Cofinancing (ADB Administered): None Non-ADB Financing: \$0.48 M	Project Closing Date: December 2022
Date of First Procurement Plan 1 April 2019:	Date of this Procurement Plan: 04 October 2019

## 1. Methods, Thresholds, Review and 18-Month Procurement Plan

### a. Procurement and Consulting Methods and Thresholds

45. Except as the Asian Development Bank (ADB) may otherwise agree, the following process thresholds shall apply to procurement of goods and works.

Procurement of Goods and Works		
Method	Threshold	Comments
International Competitive Bidding for Works	US\$3,000,000 and Above	Prior Review

Consulting Services	
Method	Comments
Quality and Cost Based Selection	
Individual Consultants Selection	
Single Source Selection	

### b. Goods and Works Contracts Estimated to Cost \$1 Million or More

46. The following table lists goods and works contracts for which the procurement activity is either ongoing or expected to commence within the next 18 months.

Package Number	General Description	Estimated Value (in US\$ million)	Procurement Method	Review (Prior/Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
IAREP-P-01	BESS, solar panels and associated equipment for Funafuti & outer islands	4.8	ICB	Prior	1S1E	Q4 2019	Advertising: International PQ: No AC: Yes DPA: No eGP: Yes SBD: Plant

AC = advance contracting, DPA = domestic preference applicable, eGP = electronic procurement, ICB = international competitive bidding, PQ = prequalification of bidders, Q = quarter, SBD = standard bidding document, TBC = to be confirmed.

Source: Asian Development Bank.

### c. Consulting Services Contracts Estimated to Cost \$100,000 or More

47. The following table lists consulting services contracts for which the recruitment activity is either ongoing or expected to commence within the next 18 months.

Package Number	General Description	Estimated Value (US\$)	Recruitment Method	Review (Prior/ Post)	Advertisement Date (quarter/year)	Type of Proposal	Comments
IAREP-CS-01	Construction Supervision	300,000	QCBS	Prior	Q4 2019	STP	Type: Firm Assignment: International QCR: 90/10 AC: Yes eGP: CMS
IAREP-CS-02 to 06	Individual Consultants 1. Project Manager 2. Environmental Safeguards Officer 3. Social Safeguards Officer 4. Gender Officer 5. Project Accountant	200,000	ICS/SSS	Prior	Q4 2019		Type: Individual Assignment: National AC: Yes eGP: CMS

AC = advance contracting, CMS = consultant management system, eGP = electronic procurement, Q = quarter, QCBS = quality and cost-based selection, QCR = quality/cost ratio, STP = simplified technical proposal, and SSS = single source selection.

Source: Asian Development Bank.

## D. Consultant's Terms of Reference

### 1. Construction Supervision Consultant (CSC)

48. The tasks assigned shall be as outlined below. Notwithstanding this, the CSC shall support other reasonable requests by the PMU throughout the project duration.

49. The CSC shall support the PMU in the site supervision of the contracts entered into under the project. The tasks for which the CSC shall be responsible include, but are not limited to, the following:

- (i) Responsible of all site supervision activities and coordination of third-party inputs necessary for successful completion of the contract on behalf of the employer;
- (ii) Review contractor's project implementation schedule and assess its technical risks. Recommend necessary updates or adjustments to the schedule to both PMU manager and contractor;
- (iii) Review the contractor basic designs, detailed designs and drawings for the sub-projects to ensure that they meet the relevant international standards and conforms to the employer's requirements;
- (iv) Review the equipment selection and manpower allocations of the contractor;
- (v) Review material submittals provided by the contractor. Attend and review tests of construction materials prior to their use;
- (vi) Attend the inspection and witnessing of the testing of electrical plant, equipment and civil structures;
- (vii) Assess the testing and commissioning process and documentations provided by the contractor and attend the testing and commissioning phase;
- (viii) Review and comment on the contractor's O&M program and manuals. Finalize and submit the O&M program/plan and manuals and supervise and assist the implementing agency in the initial O&M implementation;
- (ix) Assist the PMU manager in the assessment of contractual claims submitted by the contractor;

- (x) Prepare regular analysis and progress reports after site visits as required, and no less than on a monthly basis;
- (xi) Other activities reasonably requested by the PMU Manager that are related to the supervision of the contracts;
- (xii) Assist, train and support implementing agencies in providing project management in line with international standards and best practices;
- (xiii) Develop (a) common technical standard and asset register for solar photovoltaic mini-grid system, and (b) O&M strategy including supporting scheme to the outer islands;
- (xiv) Assist the PMU/TEC to review and approve O&M training program and O&M procedure manual (to be submitted by turnkey contractor) and to assess completeness of the O&M training program for invoice processing;
- (xv) Develop project performance monitoring system incorporating project implementation progress, contract award and disbursement, project performance management system, and compliance with grant covenants to comprehensively monitor all 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;
- (xvi) Provide expert advice and support on design, procurement, and construction supervision activities;
- (xvii) Enhance the operations and maintenance (O&M) programs developed by the contractors and assist the executing agency and implementing agencies in implementing the O&M program in the initial stages;
- (xviii) Organize, conduct and deliver the capacity building program for the executing and implementing agencies and other relevant stakeholders as outlined below through classroom training, hands-on workshops, and seminars. Coordinate with individual consultants under the PMU on related capacity building tasks and deliverables under their TORs and incorporate into the program:
  - a. assessing renewable energy technologies; financial and economic viability of projects;
  - b. technical and financial management of assets
  - c. improving community engagement;
  - d. climate impacts, environmental and social safeguards assessment and monitoring;
  - e. workshop on operations and maintenance (O&M) and project management and supervision; and
  - f. mainstreaming gender (in coordination with PMU individual consultant)
- (xix) Provide capacity building to the PMU/TEC in O&M and safeguards matters and raise awareness in the PMU and contractors on all aspects of the statutory and policy requirements for environmental assessment and management as required by the government and ADB.

50. Other Activities:

- (i) Input to the preparation of a detailed work program and implementation schedule for the project output activities, to the satisfaction of the PMU manager;
- (ii) Ensure compliance with the ADB's Safeguard Policy Statement (2009) and project safeguards documents, including the initial environmental examinations (IEEs) and corresponding environmental management plans, and social safeguards due

- diligence report, as needed; and ensure compliance of project implementation with the government's laws, environmental policy and procedures;
- (iii) Assist the PMU manager in assessing changes necessary to the project design in order to fulfil the project requirements and support the preparation of consequent variations to the main plant contracts;
  - (iv) Assist the PMU manager with financial management including:
    - a. monitoring the financial performance of the construction contract including managing and reviewing budget, assessing contractors' payment claims and other various claims; and
    - b. providing inputs to project audit reports with respect to the contracts that the CSC is supervising.
  - (v) Input to the preparation of project performance monitoring and assessment procedures within PMU/TEC requirements during implementation; include monitoring of climate components and performance indicators;
  - (vi) Assist the PMU in preparing quarterly progress reports; semi-annual safeguards monitoring reports; any required updates to safeguards documents (IEE, Gender Action Plan, and others, as appropriate), climate risk assessments and monitoring;
  - (vii) Develop and implement stakeholder consultation and communication programs to ensure the full awareness and participation of communities and stakeholders;
  - (viii) Support the PMU/TEC in the development, implementation and monitoring of a Stakeholder Communication Strategy;
  - (ix) Develop HIV/AIDS training program for community near the project construction sites, who may be impacted by temporary influx of construction workers, and coordinate with local health authorities and the PMU for its implementation;
  - (x) Assist and provide inputs to ADB missions; and
  - (xi) Where requested by the PMU Manager, review and input to the creation of terms of reference for individual consultants to be engaged under the project.

51. An estimated 13 person-months of international consulting services and 24 person-months of national consulting services for a period of 30 months to be allocated as part of the time-based CSC firm contract are required to (i) facilitate construction supervision; and (ii) provide an O&M program (including gender aspects), strengthen the operational capacity of TEC and other beneficiaries, and provide knowledge transfer. A summary is presented below:

<b>International Specialists</b>	<b>Person-months</b>
Solar PV Expert [Team Leader]	6.0
Battery Storage and Integration Specialist	1.5
Financial Specialist	1.5
Environment Specialist	1.5
Gender Specialist	1.5
Social Safeguards Specialist	1.0
<b>Total</b>	<b>13</b>
<b>National Specialists</b>	<b>Person-months</b>
Project Engineer	<b>24</b>

Source: Asian Development Bank estimates.

52. **Solar photovoltaic Expert [Team Leader]** (international, 6 person-months, intermittent). The expert should have post graduate degree in engineering or other relevant field, and about 12 years of experience in solar photovoltaic engineering with the design, specification and installation of grid connected solar photovoltaic system including battery storage energy 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) As a Team Leader, prepare the detailed work program and implementation schedule for the project and project completion report;
- (ii) Provide high level advice to the PMU Manager regarding management issues;
- (iii) Assist the PMU Manager with monitoring the financial performance of the project including managing and reviewing budget, assessing Contractor's claims and other various claims;
- (iv) Assist the PMU Manager with the human resource management of the project staff, including monitoring of staff performance, satisfaction and training needs and making recommendations for actions by the PMU to maintain competent staff;
- (v) Assist the PMU Manager with risk management of the project, ensuring compliance with legal requirement, occupational health and safety requirement;
- (vi) Coordinate the input and activities of the international specialists and ensure coordination with the national specialist and Contractor;
- (vii) Review Contractor's project implementation schedule and assess the plan's technical risks and carry out sensitivity analysis to check project viability under these risks. Prepare terms of reference, expertise requirements, and person-month and cost estimates for additional consulting services, if required;
- (viii) In conjunction with the PMU Manager establish and support the planning objectives for the PMU and provide high level advice to the PMU Manager regarding management issues;
- (ix) Prepare monitoring assessment procedures within PMU/MTET/TEC and the necessary guidelines for staff guidance during project preparation and implementation. Assist in the development and monitoring of the project and sub-project programs;
- (x) Assist the PMU Manager in developing detailed budgets for the project and subprojects. Assist in controlling sub-project budgets. Provide advice to the PMU Manager to mitigate the effects of cost over-runs. Assist the PMU Manager in developing and implementing cost control mechanism for the project and for project management;
- (xi) Provide high level advice to other national and international consultants as required to ensure adequate coordination occurs between all disciplines and with the National Specialists;
- (xii) Assist the PMU Manager in preparing monitoring assessment procedures within PMU/MTET/TEC and the necessary guidelines for staff guidance during project preparation and implementation. Prepare progress reports after site visits to assist the PMU Manager in monitoring the project progress;
- (xiii) Review the contractors design, documentation, equipment selection and test program;
- (xiv) Review the proposed materials by the Contractor used in construction/fabrication work and ensure that they comply to the requisite standards and Employer's Requirements;
- (xv) Inspect and witnessing of testing of mechanical plant and equipment;
- (xvi) Assist in the supervision of construction of the project and their commissioning;
- (xvii) Undertake site visits to establish the project progress and effectively monitor the project progress and assess the contractor's claims. Provide advice to the PMU Manager on the necessary measures to effectively mitigate project issues;

- (xviii) Assist the PMU Manager in assessing changes to the project design, project requirements and any consequent variation claims; Review contractor's claims for milestone payments for civil portions and assist PMU/MTET/TEC to verify and adjust the claims. Assist PMU/MTET/TEC to assess any variations proposed by the Contractor and assess it;
- (xix) Assist PMU/MTET/TEC in strengthening the technical and safeguard management of the Project by undertaking the necessary training for the PMU/MTET/TEC's national specialists in technical assessment procedure and techniques, construction supervision and monitoring, and reporting. Involve the national specialists through on-the-job training, affecting transfer of knowledge and skills, in project management and monitoring of the projects, and develop staff capability in handling the technical management of the projects;
- (xx) Review existing documents and data relating to all subprojects;
- (xxi) Review Contractor's concept designs, detailed designs and drawings for the projects to ensure that they meet the necessary international standards and conforms to the Employer's Requirements;
- (xxii) 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, and foundation design. Assist the PMU to guide and instruct the turnkey contractors for corrective actions or design and drawings revision where necessary;
- (xxiii) 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;
- (xxiv) Assist the PMU in construction supervision which includes cost oversight including variation order, bill of quantity check, and invoice check processing; Supervise construction, monitoring project program according to the construction program, maintaining quality and construction standards and Commissioning of the projects;
- (xxv) Review Contractors' plans for pre-commissioning, test-run, and final acceptance procedure. Develop witnessing plan for review and confirmation of the performance and submit to the PMU for approval. Attend and review the material tests of the construction material and provide advice on the suitability of the material for construction; Jointly conduct pre-commissioning, test run, and final acceptance witnessing to verify compliance with functional guarantee of equipment and the designed performance of all subprojects;
- (xxvi) Develop (a) common technical standard and asset register for solar photovoltaic system and BESS, 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;
- (xxvii) Review the proposed construction materials and the construction process proposed by the Contractor to ensure it conforms to the recommended international standards and the Employer's Requirements; Assist PMU/MTET/TEC undertaking the implementation of the projects by ensuring all civil and structural components meet International best practice and ensuring that the contractor's design is suitable for conditions at sites and allow for any limitations imposed by the site conditions;

- (xxviii) Develop project performance monitoring system incorporating all subprojects' implementation progress, contract award and disbursement, project performance management system, and compliance with grant covenants to comprehensively monitor all 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;
- (xxix) Undertake site visits to establish the project progress and effectively monitor the project progress and assess the contractor's claims. Provide advice to the PMU manager on the necessary measures to effectively mitigate project issues; Develop project management capacity enhancement training module in project preparation including site selection, system configuration design, costing, and grid synchronization and protection. Lead the conduct of capacity enhancement training in project preparation procurement, disbursement, monitoring and administration, and evaluation upon completion for staff in the PMU and the other relevant agencies;
- (xxx) Liaise with other international and national consultants and coordinate with their local counterparts to ensure that the overall design of the sub-projects is cost effective for long term operations and maintenance, practical and meet the overall requirements of PMU/MTET/TEC; and
- (xxxi) Guide and assist the PMU to prepare quarterly progress report and project completion report in ADB formats.

**53. Battery Storage and Integration Specialist** (international, 1.5 person-months, intermittent). The expert should have a postgraduate degree in engineering or other relevant field; and at least 8 years of experience in grid integration of intermittent generators. Experience includes integration of intermittent renewables, particularly, solar photovoltaic systems with BESS 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) Carry out site visits to assess the status of the current scheme prior to evaluating the Contractor's proposed electrical design;
- (ii) Review the contractor's design including the proposed equipment as a part of the design and assess their compatibility with the existing system, where necessary, and its compatibility and interconnection with TEC's overall system and grids;
- (iii) Review the adequacy of the contractor's proposed control system implementation plan and control system algorithm and operation. Make recommendations to TEC about integration actions for communications and control for the connection of the battery systems;
- (iv) Supervise the installation of the key electrical equipment and systems;
- (v) Assess the testing and commissioning process and documentation provided by the contractor and attend the testing and commissioning phase;
- (vi) Assist TEC during implementation of the control system to ensure effective integration, training, and efficient operation of the electrical system;
- (vii) Provide the PMU Manager with the support to monitor and supervise the project and develop a monitoring procedure identifying key components in the installation process;

- (viii) Undertake site visits to establish the project progress and effectively monitor the project progress and assess the contractor's claims. Provide advice to the PMU Manager on the necessary measures to effectively mitigate project issues;
- (ix) Assist the PMU Manager in assessing changes to the project design, project requirements and any consequent variation claims; and
- (x) Develop (a) common technical standard for BESS system, and (b) O&M strategy including supporting scheme to BESS. 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, especially for BESS.

54. **Project Engineer** (national, 24 person-months, intermittent). The expert should have a bachelor's degree in economics, business administration, engineering, science or other relevant field, and at least 5 years of working experience, with strong familiarity in international procurement procedures. The expert will assist the team leader in performing all tasks, particularly in the following activities:

- (i) Visit the project sites; collect the updated information; and guide and assist the other international specialists to prepare all the deliverables below in ADB formats; and
- (ii) 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 contractor of local operational requirements and logistics; and
  - e. identify and manage opportunities for capacity building and knowledge transfer.

55. **Environment Specialist** (international, 1.5 person-months, intermittent). The expert should have a postgraduate degree in environment or relevant field, and about 10 years of experience in environmental assessment and monitoring for projects funded by ADB or similar IFI. Experience in the Pacific region is required. The activities to be undertaken will include but not limited to the following:

- (i) Based on detailed design, review and update the initial environmental examination (IEE) report, the feasibility study, and other relevant reports prepared for all subprojects. Assist the PMU prepare the applications for clearance by the Department of Environment and submit the applications.<sup>7</sup>
- (ii) Ensure that the updated IEE and environmental management plan (EMP) and any conditions of consent issued by the Department of Environment are integrated into the bid documents.
- (iii) As required, provide support and training to the contractor as they prepare their construction EMP (CEMP), review and approve the CEMP; and assist the PMU to monitor compliance with the approved CEMP.
- (iv) Assist in the evaluation of bids in respect of environmental management matters.
- (v) Assist the PMU to implement and monitor the environment safeguard requirements including preparation of the semi-annual safeguards monitoring reports.

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<sup>7</sup> Based on determination by the Department of Environment, this will include reformatting the IEE as a preliminary environmental assessment report or environmental impact assessment.

- (vi) Support the PMU to prepare and implement compliance and monitoring checklists, including working through the Resident Engineer to issue instruction to contractor or corrective action requests for non-conformances and/or breaches.
- (vii) Provide capacity building and mentoring to PMU/MTET/TEC. Assist PMU/MTET/TEC in strengthening environmental management in the sector by undertaking the necessary training in environmental assessment, mitigation planning, environmental supervision and monitoring, and reporting. Involve PMU/MTET/TEC through on-the-job training, affecting transfer of knowledge and skills, in environmental management and monitoring of projects.
- (viii) Ensure the project is implemented in compliance with the environmental, health and safety laws and regulations of Tuvalu and ADB's Safeguard Policy Statement, 2009;
- (ix) Report on implementation of environmental safeguards including monitoring, particularly CEMP implementation and effectiveness of environmental impact mitigations and training provided to PMU/MTET/TEC and contractors in: (a) inputs to PMU quarterly progress reports; and (b) semi-annual safeguards monitoring reports; and
- (x) In discussion and coordination with PMU/MTET/TEC, assist in preparing or updating environmental assessment guidelines for energy sector focusing on solar and BESS projects in line with country systems/procedures and best practice (using SPS as benchmark) for staff guidance during project preparation and implementation.

56. **Gender Specialist** (international, 1.5 person-months, intermittent). The international expert should have a postgraduate degree in social science, gender and development studies or relevant field, and about 8 years working experience, or a combination of undergraduate degree and directly relevant professional experience in gender mainstreaming and also preferably in social development/safeguards and ideally in projects funded by ADB or similar international development agencies. The expert, in collaboration with the Social Safeguards Specialist and the local Gender and Social Safeguards Officers in the project management unit, will undertake the following activities:

- (i) Implement the GAP including developing and implementing gender policy for human resource management for TEC, and business skills training, among others and conduct field visits to monitor GAP progress working closely with TEC and PMU;
- (ii) Work with the Social Safeguards Specialist and assist the PMU in monitoring overall project implementation with the view to identifying any unanticipated social risks, particularly sensitive gender impacts. If such risks and/or impacts eventuate, adjust, adapt, and/or develop project activities to implement appropriate mitigation measures including revision of GAP and gender indicators if required;
- (iii) Implement the collection of sex-disaggregated data relevant to the project and reflecting on GAP targets and indicators to prepare GAP semi-annual progress reports and provide inputs to the project's monthly/quarterly progress reports;
- (iv) Together with the Social Safeguards Specialist and local PMU counterparts, implement the project's overall stakeholder communication and consultation plan especially dealing with the affected persons, CSOs/NGOs and other relevant stakeholders and ensure gender inclusive participatory consultation such as with local women and men (in separate groups) and provide all the meeting minutes and documentation, working closely with relevant CSC team members and TEC and PMU;

- (v) Assist the Social Safeguards Specialist and local PMU counterparts in working with the PMU, TEC and the contractor in setting-up and resolving grievances during project implementation including, but not limited to, communicating with concerned parties the grievances by the affected persons /communities, including women and vulnerable groups, conducting assessment on any safeguards related issues and facilitate timely resolution;
- (vi) Undertake regular check and supervision of all the contractor's compliance with the gender/social safeguards requirements and prepare corrective actions to address non-compliance, if any, during construction;
- (vii) Provide inputs to the semi-annual safeguards report and other necessary inputs for the monthly/quarterly progress report; and
- (viii) Provide training and capacity building to PMU, especially the Gender Officer, TEC and concerned government staff on gender mainstreaming and social development.

57. **Social Safeguards Specialist** (international, 1 person-months, intermittent). The international expert should have a postgraduate degree in social science, gender and development studies or relevant field, and about 8 years working experience, or a combination of undergraduate degree and directly relevant professional experience and social safeguards, and social development and also preferably in gender mainstreaming, and ideally in projects funded by ADB or similar international development agencies. The expert, in collaboration with the Gender Specialist and the Social Safeguards and Gender Officers in the project management unit (PMU) will undertake the following activities:

- (i) Coordinate with the Gender Specialist and assist the PMU in monitoring overall project implementation with the view to identifying any unanticipated social risks and/or sensitive gender impacts. If such risks and/or impacts eventuate, adjust, adapt, and/or develop project activities to implement appropriate mitigation measures including revision of GAP and gender indicators if required;
- (ii) Implement the project's overall stakeholder communication and consultation plan especially dealing with the affected persons, CSOs/NGOs and other relevant stakeholders and ensure gender inclusive participatory consultation such as with local women and men (in separate groups) and provide all the meeting minutes and documentation, working closely with relevant CSC team members and TEC and PMU;
- (iii) Work with the PMU and the contractor in setting-up and resolving grievances during project implementation including, but not limited to, communicating with concerned parties the grievances by the affected persons /communities, including women and vulnerable groups, conducting assessment on any safeguards related issues and facilitate timely resolution;
- (iv) Undertake regular check and supervision of all the contractor's compliance with social safeguards requirements and prepare corrective actions to address non-compliance, if any, during construction;
- (v) Inform TEC of any unanticipated resettlement impacts during construction and conduct field assessment to update or formulate new resettlement plan, if required
- (vi) Collaborate with the Gender Specialist and the Social Safeguards and Gender Officers in preparing semi-annual safeguards report and other necessary inputs for the monthly/quarterly progress report; and
- (vii) Provide training and capacity building to PMU, especially the Social Safeguards Officer, TEC and concerned government staff on social safeguards and social development.

58. **Financial Specialist** (international, 1.5 person-months, intermittent). The expert should have a postgraduate degree in finance or relevant field, and about 5 years working experience. The expert will undertake the following activities.

- (i) Guide and assist the PMU/MTET/TEC to prepare project audit report and corporate audit report in accordance with the requirements of ADB;
- (ii) In cooperation with the team leader, develop project management capacity enhancement training module in financial analysis and financial management. Lead the conduct of capacity enhancement training in financial analysis and management and ADB disbursement and financial management policies and procedures for staff in the PMU and other relevant agencies;
- (iii) Update and enhance, as necessary, the tariff and subsidy analyses conducted by the government (Ministry of Finance, TEC, MTET and with the help of ADB and World Bank consultants) to ensure sound financial performance of all subprojects and TEC and provide recommendations for necessary improvement in tariff level and structure to approach cost recovery;
- (iv) Undertake electricity tariff analysis based on historical data and assess the level of direct and indirect subsidies. Estimate the willingness to pay for incremental electricity consumed, long run marginal cost of power generation; and
- (v) Assist TEC and MTET to calculate appropriate tariff levels to comply with relevant grant covenants. Assist TEC in developing a plan towards cost-recovery and assist in the initial stages of implementation of the plan to comply with grant covenants and conditions.

59. The consulting firm shall submit the following required reports:

- (i) **Inception Report.** This shall be submitted within one month after issuance of the Notice to Proceed. It shall contain the updated implementation plan, schedule of personnel deployment, and detailed approach and methodologies for implementation. An inception workshop will be conducted with PMU/TEC/MTET and ADB within 6 weeks from notice to proceed with services to present the proposed program of activities and to seek feedback on improvements, which will be reflected in the consultants' inception report;
- (ii) **Monthly Progress Reports.** This shall be submitted by the end of the first week of the succeeding month during the consulting service period. This shall contain (i) the latest progress status against the targets set in the initially agreed implementation plan (including capacity building activities described in Output 3) in the inception report, (ii) justification for any major variations (iii) mitigation measures to minimize any further variations;
- (iii) **Quarterly Progress Reports.** This shall be submitted by the last week of each quarter during the consulting service period. This shall contain (i) the latest progress status against the targets set in the initially agreed implementation plan (including capacity building activities described in Output 4) in the inception report, (ii) justification for any major variations (iii) mitigation measures to minimize any further variations; (iii) safeguards implementation and monitoring (including consultation, communications, grievance redress and other relevant matters).

- (iv) **Semi-Annual Safeguards Monitoring Reports.** Support will be provided to the PMU in preparation of this report. This shall be submitted every 7<sup>th</sup> month covering the previous six months during the project period. These reports are required to be prepared in accordance with ADB's Safeguards Policy Statement (2009).
- (v) **Interim Report.** This shall be submitted 12 months after Notice to Proceed. This shall contain achievement of the project in relation to the targets set in the TOR and agreed implementation plan. It shall include key findings of project-supported workshops, and key progress, monitoring and evaluation data to enable overall project monitoring;
- (vi) **Final Report.** This shall be submitted one month prior to the end of the assignment, including accomplishments under the project, challenges faced, and lessons learned and comparison between estimates vs. actual outputs - for instance, technical, financial, economic, and environment and social safeguards, etc. Following submission, a final review workshop will be conducted with relevant government agencies, stakeholders and ADB. The final workshop will summarize the final report.

60. For each island, the CSC shall submit:

- (i) **Design Review/Acceptance Report.** This shall be submitted within one month after turnkey contractor submits the detailed design. This shall contain (i) key assessments of detailed designs; (ii) recommendation for acceptance and (iii) reference specifications, mitigation measures, standards and requirements for environmental management.
- (ii) **Test Reports.** For each construction contract, the following test reports shall be prepared and submitted within one month after each test.
  - a. Mechanical Completion Test and Supervision Report;
  - b. Inverter Commissioning Test Report;
  - c. Performance Test (Acceptance Test) Report;
  - d. Provisional Acceptance Report; and
  - e. Final Acceptance Test Report

61. **Site Records.** At the completion of the construction stage, the CSC shall provide to the Employer a full detailed set of all site records. This shall include, as a minimum, all site reports, materials approvals, test records, photographs, instructions, variations, inspection certs, etc. The information shall be provided in paper and electronic (PDF) format.

## 2. Project Management Unit (5 individual consultants)

62. SSS is envisioned for the Project Manager and Project Accountant positions. The Project Manager will likely be TEC staff seconded to the position such that the staff not only benefits from hands-on training or on-the-job training but can also offer technical advice and provide his inside knowledge of TEC and the power systems it operates. The Project Accountant will likely be the PMU accountant for the ADB and WB-funded Outer Island Maritime Infrastructure Project.

63. **Project Manager** (national). The expert (either consultant or seconded government staff) should have tertiary qualifications in engineering or equivalent from a recognized institution and should have at least 10 years of relevant project management and power project experience, preferably in a power utility. Duties of the expert will include the following:

- (i) Lead the PMU who is accountable to the Task Force and MTET;
- (ii) Work with construction supervision consultant (CSC) to progress the implementation of the project;
- (iii) With assistance and support from the CSC, manage procurement of contractors to implement all the sub-projects;
- (iv) With assistance and support from the CSC, manage, supervise, and oversee all the goods, works and turnkey contracts;
- (v) Regularly visit the project sites to ensure timely implementation of project activities;
- (vi) Communicate with all stakeholders to ensure community support and acceptability of project implementation;
- (vii) Coordinate with ADB, government authorities, and stakeholders to achieve the project outcomes as stated in the expected project outputs;
- (viii) With assistance and support from the CSC, develop project implementation schedule based on the project management strategy and monitor the progress, reporting regularly on action necessary to mitigate potential delays in project implementation;
- (ix) With assistance and support from the CSC and in consultation with ADB, update the project administration manual regularly;
- (x) With assistance and support from the CSC, coordinate the disbursement of project funds;
- (xi) Prepare, with assistance from MOF, MTET and Task Force, TEC and CSC, project audit reports, and corporate audit reports as required by ADB;
- (xii) Provide management, financial, and administrative support to ensure that contractual requirements are met;
- (xiii) With assistance and support from the CSC, supervise procurement and contracting activities and supervise and oversee the contractors, suppliers for construction and commissioning of solar photovoltaic and BESS facilities;
- (xiv) With assistance and support from the CSC, manage construction phases including sending letters of acceptance and notices to proceed, implementing and monitoring contractors' quality assurance plans and environmental management plans, monitoring consultant / contractor programs and progress, processing progress claims, reviewing change of orders and extensions of time, providing employer / owner sign-off at hold points, reviewing contractors' construction drawings for compliance with the design intent and specifications, coordinating environmental and social safeguard (land acquisition and resettlement) activities, overview commissioning, and providing oversight of contract completion and administration activities;
- (xv) Report and provide secretariat support to the Task Force;
- (xvi) With assistance and support from the CSC, prepare quarterly progress reports and semi-annual safeguard monitoring reports as well as project completion reports as required by ADB; and
- (xvii) Coordinate and actively manage and participate in training activities of the project for counterparts assigned to the project.

64. **Gender Officer** (national). The expert (either consultant or seconded government staff) will be part of the PMU and support the overall implementation and monitoring of the project. The national expert should preferably have a degree in social science, or gender and social development and at least 3 years of relevant experience in gender mainstreaming and social development, ideally in projects funded by ADB or similar international development agencies. The activities to be undertaken will include but not limited to the following:

- (i) Assist the PMU and work with the CSC Gender Specialist in the implementation and monitoring of the project's Gender Action Plan (GAP) including all gender awareness and capacity building activities, and provide guidance on the revision of the gender targets/activities, if needed or identify areas where gender-inclusive and socially inclusive provisions can be strengthened under the project;
- (ii) Assist in monitoring the contractor's compliance with their responsibilities under the GAP including preparation of corrective actions if required;
- (iii) Assist and work with the Social Safeguards Specialist and Officer in monitoring grievances particularly relevant to vulnerable groups including women and measures to address the grievances in a timely and appropriate manner;
- (iv) Assist in implementing the collection of sex-disaggregated data relevant to the project and reflecting on GAP targets and indicators to prepare GAP semi-annual progress reports and provide inputs to the project's monthly/quarterly progress reports;
- (v) Work with the CSC Gender Specialist and Social Safeguards Specialist in the implementation of the stakeholder communication and consultation plan during project implementation, ensuring the participation of vulnerable groups and working closely with relevant CSC team, TEC and other relevant government agencies;
- (vi) Assist/provide inputs in the preparation of quarterly progress reports and semi-annual safeguard monitoring reports as well as project completion reports as required by ADB;
- (vii) Work with CSC Gender Specialist and Social Safeguards Specialist in ensuring compliance with social safeguards and GAP during implementation including preparation of necessary safeguards plan for unanticipated impacts and/or corrective action plan, if required; and
- (viii) Provide necessary inputs, if needed, to other project implementation documents (e.g. monitoring and evaluation) on social safeguards and gender aspects.

65. **Social Safeguards Officer** (national). The expert (either consultant or seconded government staff) will be part of the PMU and support the overall implementation and monitoring of the project. The national expert should preferably have a degree in social science or social development and at least 3 years of relevant experience in social safeguards, and preferably social development and gender mainstreaming, and ideally in projects funded by ADB or similar international development agencies. The activities to be undertaken will include but not limited to the following:

- (i) Assist the PMU and work in collaboration with the CSC' Social Safeguards and Gender Specialists in the implementation and monitoring of the project's Gender Action Plan (GAP) including all gender awareness and capacity building activities, and provide guidance on the revision of the gender targets/activities, if needed or identify areas where gender-inclusive and socially inclusive provisions can be strengthened under the project;
- (ii) Assist in monitoring grievances particularly relevant to vulnerable groups including women and measures to address the grievances in a timely and appropriate manner;
- (iii) Work with the CSC Gender Specialist and Social Safeguards Specialist in the implementation of the stakeholder communication and consultation plan during project implementation, ensuring the participation of vulnerable groups and

- working closely with relevant CSC team, TEC and other relevant government agencies;
- (iv) Assist/provide inputs in the preparation of quarterly progress reports and semi-annual safeguard monitoring reports as well as project completion reports as required by ADB;
  - (v) Work with CSC Gender Specialist and Social Safeguards Specialist in ensuring compliance with social safeguards during implementation including preparation of necessary safeguards plan for unanticipated impacts and/or corrective action plan, if required; and
  - (vi) Provide necessary inputs, if needed, to other project implementation documents (e.g. monitoring and evaluation) on social safeguards and gender aspects.

**66. Environmental Safeguards Officer** (national). The specialist (either consultant or seconded government staff) will be part of the PMU and support the overall implementation and monitoring of the project. The activities to be undertaken will include but not limited to the following:

- (i) Work with the international environment specialist (IES) to review and update the initial environmental examination (IEE) report, the feasibility study, and other relevant reports prepared for all subprojects. Assist the PMU prepare the applications for clearance by the Department of Environment and submit the applications;
- (ii) Work with the IES to ensure that the updated IEE and environmental management plan (EMP) and any conditions of consent issued by the Department of Environment are integrated into the bid documents;
- (iii) Assist in the evaluation of bids in respect of environmental management matters;
- (iv) Work with the IES to, as required, provide support and training to the contractor as they prepare their construction EMP (CEMP), review and approve the CEMP; and assist the PMU to monitor compliance with the approved CEMP;
- (v) Assist the PMU to implement and monitor the environment safeguard requirements including preparation of the semi-annual safeguards monitoring reports.
- (vi) Support the PMU to prepare and implement compliance and monitoring checklists, including working through the Resident Engineer to issue instruction to contractor or corrective action requests for non-conformances and/or breaches;
- (vii) Undertake capacity building and mentoring provided by the IES and assist in strengthening environmental management in the sector by undertaking the necessary training in environmental assessment, mitigation planning, environmental supervision and monitoring, and reporting. Involve PMU/MTET/TEC through on-the-job training, affecting transfer of knowledge and skills, in environmental management and monitoring of projects;
- (viii) Work with the IES to ensure the project is implemented in compliance with the environmental, health and safety laws and regulations of Tuvalu and ADB's Safeguard Policy Statement, 2009; and
- (ix) Work with the IES to report on implementation of environmental safeguards including monitoring, particularly CEMP implementation and effectiveness of environmental impact mitigations and training provided to PMU/MTET/TEC and contractors in: (a) inputs to PMU quarterly progress reports; and (b) semi-annual safeguards monitoring reports.

**67. Project Accountant** (national). The Project Accountant (either consultant or seconded government staff) will be responsible to the Project Manager for the compilation and security of all records of receipts and payments, and records management. The expert will process all project

payments, in accordance with the guidelines under the Asian Development Bank's (ADB) Loan Disbursement Guidelines, for approval by the approved Authorizing Officer and will also be responsible for the preparation and balancing of project accounts and periodic reporting. Duties of the expert will include the following:

- (i) Provide management, financial and administrative support to ensure contractual requirements are met, with the following deliverables;
- (ii) Prepare and maintain project account ledgers and monthly bank reconciliations for ADB and Government project accounts in a timely manner;
- (iii) Prepare and maintain contract logs/monitoring for consultants and contractors;
- (iv) Prepare and maintain project account ledgers for each grant category timely;
- (v) Prepare withdrawal applications and the necessary documentation required for direct payment and reimbursement disbursement procedures, as per ADB guidelines;
- (vi) Monitor and report on withdrawal application processing periods;
- (vii) Prepare and maintain adequate accounting records, proper internal control systems, and ensure timely reporting to management;
- (viii) Prepare monthly, quarterly and annual project financial reports; Assist TEC and MOF in their preparation of annual audits in compliance with the relevant Project agreement and consistent with ADB guidelines; and
- (ix) Other duties as may be required by the Project Manager or the ADB project officer.

## **VII. SAFEGUARDS**

### **A. Environment**

68. The project has been screened and categorized as B for environment because the impacts will largely be site-specific creating a small footprint, generated during the construction stage and for which mitigation measures can be readily designed and implemented. The environmental assessment has been prepared in accordance with the ADB's SPS and will be updated, following detailed design, to also comply the laws and regulations of Tuvalu. The potential impacts include earthworks and site preparations, limited vegetation removal, dust and noise generation, importing and haulage of equipment and materials, presence of foreign workers, and health and safety risks. To manage and mitigate impacts during operation, TEC will implement the relevant measures identified in the EMP covering correct disposal of used equipment such as batteries and inverters. Adequate mitigation measures have been incorporated into the EMP. A climate change adaptation risk evaluation was conducted and will inform the technical specifications for infrastructure design. The PMU and CSC will be responsible for inspecting works undertaken during construction and installation, monitoring and reporting on the effectiveness of environmental safeguards implementation and mitigation during the project.

### **B. Involuntary Resettlement and Indigenous Peoples**

69. The project is classified as category C for involuntary resettlement and C for indigenous peoples. Due diligence has confirmed that there will be no land acquisition, physical or economic displacement or any impact on assets and livelihood. For subprojects in the outer islands, proposed sites in Nukulaelae and Nukufetau will utilize land under an existing lease with TEC, and on Nui, require only an extension to the existing lease agreement. The subprojects on Funafuti will install additional solar photovoltaic on government building rooftops and install BESS capacity in the TEC compound, subject to an agreed Memorandum of Understanding (MOU) between the Funafuti Native Lands Trust Board and the government. A due diligence report has

been prepared for the project and will be updated after detailed design and before award of any works contract.

70. No distinct and vulnerable indigenous peoples will be affected and all the activities under the project will be implemented in a culturally appropriate and participatory manner.

### **VIII. GENDER AND SOCIAL DIMENSIONS**

71. The project will add additional small-scale solar and battery infrastructure that will increase renewable energy penetration and displace more diesel fuel and, as a result, help to reduce and stabilize generation costs. The tariff review has a two-pronged objectives of ensuring full cost recovery of operations especially in the outer islands and arriving at a more equitable subsidy distribution which will benefit the consumers at the low-income bracket, including vulnerable groups. A more sustainable and equitable energy supply from the project will not only benefit the entire population but will contribute to narrowing the gap between the poor and the rest of the population. Women will be among the key beneficiaries being the main energy consumers at the household level. They will maximize power supply for income generating and productive activities from business skills training and capacity building activities to be implemented as part of the project.

72. The project will ensure that 25% of women benefit from construction related jobs that will be generated by the project and for achieving this, implementation contractors will propose strategy on proactively seeking women local workers in bid documents. The current target is based on the discussion with TEC and practice set by another ADB project in the Tuvalu which has 10% target for women in construction work.<sup>8</sup> This project will provide opportunities for women in administration, maintenance, security and supervision roles as well. Electricity demand management public awareness programs and separate business skills trainings for men and women will be organized with 50% participation of women. Number of women staffs in TEC will be increased by 20% while, 30% of women in CSC team will be mobilized. TEC will fund, advertise, and award academic and/or practical training scholarships of up to two years each for two Tuvalu women. Gender sensitive tariff review of residential accounts will be undertaken with analysis and recommendation on the subsidies to increase the use of labor-saving appliances and tools among low income households. Gender policy for human resource management for TEC will be developed in consultation with Tuvalu National Council of Women.

73. The overall implementation of the GAP will be led by the Social Safeguards and Gender Specialists (internal and local) under the CSC with oversight from the PMU. The specialists will be responsible for delivering the gender mainstreaming measures and targets during project implementation and establishing sex-disaggregated data collection for project performance and monitoring, in coordination with the contractor, PMU, Gender Affairs Department and other relevant government agencies. The PMU with assistance from the CSC will report the progress of GAP and safeguard activities in its quarterly progress reports and semi-annual GAP progress reports to ADB and the government.

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<sup>8</sup> Grant 0603-TUV: Outer Island Maritime Infrastructure Project (Additional financing)

## GENDER ACTION PLAN

Project Outputs	Design Features and Targets	Timeline	Responsibility
Output 1: Solar photovoltaic system installed on three outer islands.	a) During implementation, arrange public awareness and stakeholder consultations on project activities. Target: 50% women (baseline: 0).	Q1 2020–Q2 2021	CSC, PMU, and implementation contractor
	b) During implementation, ensure participation of women for the construction, administration, maintenance, security, and supervision roles. Target: 25% women (baseline: 0). <sup>9</sup>	Q1 2020–Q2 2021	Implementation contractors
	c) Conduct at least two awareness and training for all project staff and contract workers on HIV/AIDS and gender issues prior to or upon mobilization (baseline: 0).	Q1–Q2 2020	Implementation contractors
	d) Ensure equal pay for equal work between women and men contract workers.	Q1–Q2 2020	Implementation contractors
	e) Provide safe and suitable accommodation and facilities for all project staff. <sup>10</sup>	Q1 2020–Q2 2021	TEC and PMU
	f) Develop (i) public awareness program on efficient household electricity demand management; and (ii) business skills training on income opportunities from electricity supply. Target: 50% women (baseline: 0). <sup>11</sup>	Q1 2020	Construction Supervision Contractor (CSC) working with and through Tuvalu National Council of Women.
	g) Carry out (i) at least two electricity demand management public awareness programs. Target: 50% women (baseline: 0) and (ii) separate business skills trainings for men and women Target: At least 20 women and 10 men.	Q1 2020–Q3 2020	CSC working with and through Tuvalu National Council of Women
Output 2: Solar photovoltaic and battery energy storage system installed on Funafuti.	a) During implementation, arrange public awareness and stakeholder consultations. Target: 50% women (baseline: 0).	Q1–Q4 2020	CSC, PMU and implementation contractor
	b) During implementation, ensure participation of women for the construction, administration, maintenance, security, and supervision roles. Target: 25% women (baseline: 0) (footnote 12).	Q1–Q4 2020	Implementation
	c) Conduct at least two awareness and training for all project staff and contract workers on HIV/AIDS and gender issues prior to or upon mobilization. <sup>12</sup>	Q1 2020	Implementation contractors.
	d) Ensure equal pay for equal work between women and men contract workers.	Q1 2020	Implementation contractors.
	e) Provide safe and suitable accommodation and facilities for all project staff (footnote 13).	Q1 2020	Implementation contractors. with support from PMU

<sup>9</sup> Implementation contractor to propose strategy on proactively seeking women local workers in bid documents.

<sup>10</sup> Include separate, secure and private room for women staff, including sanitation facilities with easy and well-lit access.

<sup>11</sup> These activities will have collaboration with the Gender Affairs Department and with their Communication and Campaign Officer as the focal point.

<sup>12</sup> Gender Affairs Department will participate and undertake sessions on gender issues in Tuvalu.

Project Outputs	Design Features and Targets	Timeline	Responsibility
	f) Develop (i) public awareness program on efficient household electricity demand management; and (ii) business skills training on income opportunities from electricity supply. Target: 50% women (baseline: 0) <sup>13</sup>	Q1 2020	CSC working with and through Tuvalu National Council of Women.
	g) Carry out (i) at least two electricity demand management public awareness programs. Target: 50% women (baseline 0) and (ii) separate business skills trainings for men and women. Target: 30 women and 20 men. (baseline: 0)	Q1 2020–Q3 2020	CSC working with and through Tuvalu National Council of Women.
Output 3: Institutional capacity for inclusive renewable energy project development and implementation enhanced.	a) Site safety induction for all relevant TEC, contractor and its engaged local workers and PMU staff to include a component on gender awareness (baseline: 0).	Q1 2020–Q1 2021	CSC and Implementation Contractor.
	b) Number of TEC women staff increased by 20% (baseline: 10% i.e. 5 women out of 50 staff)	by Q4 2021	TEC
	c) Number of women CSC team member mobilized by 30% (2 out of 6 consultants)	Q1 2020	TEC
	d) Fund, advertise, and award academic and/or practical training scholarships of up to two years each for two Tuvalu women and hire them on graduation to relevant technical positions in TEC. Target: 2 (baseline: 0).	Q4 2019	TEC and GOT
	e) Trainings provided on renewable energy project management, financial and procurement, governance, tariff design, construction, operations and maintenance, environment and gender/social safeguards to relevant government agencies with participation from all women staff working in these fields (5 women in TEC; 2 women in DoE; 2 women from MOF; 2 from Gender Affairs Department)	Q4 2019	CSC
	f) Organize national workshop on photovoltaic and BESS technology and related operation and maintenance for 30 participants. Target: 9 women (baseline: 0)	Q2 2020	CSC, TEC and PMU
	g) Develop a formal gender policy for human resource management for TEC in consultation with Tuvalu National Council of Women. <sup>14</sup>	Q1–Q2 2020	CSC and TEC.
	h) Ensure a gender-sensitive tariff review of residential accounts with analysis and recommendations on subsidies and tariffs to increase the use of labor-saving appliances and tools among low income households.	Q1 2020	CSC, GOT, TEC

ADB = Asian Development Bank, CSC = construction supervision consultant, GAP = gender action plan, GOT = Government of Tuvalu, PMU = project management unit, and TEC = Tuvalu Electricity Corporation.

Source: ADB.

<sup>13</sup> These activities will have collaboration with the Gender Affairs Department and with their Communication and Campaign Officer as the focal point.

<sup>14</sup> Policy will explore gender-responsive provisions in human resource management, such as (i) measure to be adopted for hiring and grooming female staff in the organization; (ii) maternity leave benefits; and (iii) measures to combat sexual harassment at workplace.

## IX. PERFORMANCE MONITORING, EVALUATION, REPORTING AND COMMUNICATION

### A. Project Design and Monitoring Framework

<b>Impacts the Project is Aligned with</b> Utilization of renewable energy increased and greenhouse gas emissions in the power subsector reduced (Intended Nationally Determined Contributions, 2015) <sup>a</sup>			
<b>Results Chain</b>	<b>Performance Indicators with Targets and Baselines<sup>a</sup></b>	<b>Data Sources and Reporting Mechanisms</b>	<b>Risks</b>
<b>Outcome</b> Generation and utilization of reliable and clean energy from renewable energy increased	By 2022: a. Increase renewable electricity generation in Tuvalu to 35% of generation mix (2019 baseline: 16%) b. Increase generation of solar photovoltaic power by 1,280 MWh per year (2019 baseline: 0 MWh) c. Diesel fuel savings of at least 317,000 liters per year generated in the first year (2019 baseline: 0) d. Carbon dioxide emissions avoidance of 844 tons per year in the first year (2019 baseline: 0)	a.–d. MOF, MTET annual reports, TEC generation data, and project completion report	Reduction in diesel use by power subsector is offset by increase in other sectors.
<b>Outputs</b> 1. Solar photovoltaic system installed on three outer islands	By 2022: 1a. At least 44.8 kWp solar photovoltaic capacity for Nukulaelae 1b. At least 78.4 kWp solar photovoltaic capacity for Nukufetau 1c. At least 100.8 kWp solar photovoltaic capacity for Nui 1d. Hire at least 25% women among any local workers hired, for construction, administration, maintenance, security, and supervision roles (baseline: 0) 1e. Public awareness program on efficient household electricity demand management; and business skills training on income opportunities from electricity supply for women and men developed and potential trainers with at least 50% women trained (baseline: 0) 1f. At least two electricity demand management public	1a.–e. MTET and TEC annual reports, project progress reports  1d.–f. GAP progress report	Bidding packages are unattractive and do not receive sufficient competitive tender offers.  Counterpart support, performance, and coordination are weak and inadequate.  There are implementation delays because of bad weather and unavailability of transport to the outer islands.

Results Chain	Performance Indicators with Targets and Baselines <sup>a</sup>	Data Sources and Reporting Mechanisms	Risks
	awareness programs implemented with at least 50% participation of women (baseline 0) and separate business skills trainings for men and women (20 women and 10 men).		
2. Solar photovoltaic system and BESS installed on Funafuti	<p>By 2022:</p> <p>2a. At least an additional 500 kilowatts photovoltaic capacity commissioned and operational</p> <p>2b. At least 1 megawatt /2 MWh BESS commissioned and operational</p> <p>2c. Hire at least 25% women among any local workers hired, for construction, administration, maintenance, security, and supervision roles (baseline: 0)</p> <p>2d. Public awareness program on efficient household electricity demand management; and business skills training on income opportunities from electricity supply for women and men developed and potential trainers with at least 50% women trained (baseline: 0)</p> <p>2e. At least two electricity demand management public awareness programs implemented with at least 50% participation of women (baseline 0) and separate business skills trainings for men and women (30 women and 20 men)</p>	<p>2a.–d. MTET and TEC annual reports, project progress reports</p> <p>2c.–e. GAP progress report</p>	<p>Bidding packages are unattractive and do not receive sufficient competitive tender offers.</p> <p>TEC are staff not prepared to operate a modernized power station incorporating automated controls, BESS technology, and solar photovoltaic capacity.</p>
3. Institutional capacity for inclusive renewable energy project development and implementation enhanced	<p>By 2022:</p> <p>3a. At least two women provided scholarships on solar- and battery-related technical courses and subsequently employed at TEC (baseline: 0)</p> <p>3b. TEC percentage of women staff increased by 20% (baseline: 10%, i.e., five out of 50 are women)</p> <p>3c. Construction supervision consultant with at least 30% women team members</p>	3a.–e. MTET and TEC annual reports, project progress reports, GAP progress report	There is insufficient interest in training and programs offered.

Results Chain	Performance Indicators with Targets and Baselines <sup>a</sup>	Data Sources and Reporting Mechanisms	Risks
	mobilized (i.e., two out of six consultants) 3d. At least 30 stakeholders, including nine women, participate in a national workshop including hands-on training on photovoltaic and BESS technology and related operation and maintenance (baseline: 0) 3e. Gender policy for human resource management for TEC developed (baseline: 0)		
<b>Key Activities with Milestones</b> <ol style="list-style-type: none"> <li><b>1. Solar photovoltaic system installed on three outer islands</b> <ol style="list-style-type: none"> <li>1.1 Procure EPC contractor (Q4 2019–Q1 2020).</li> <li>1.2 Award and mobilize EPC contract (Q1 2020).</li> <li>1.3 Contractor procures solar photovoltaic and auxiliary systems (Q2 2020).</li> <li>1.4 Contractor installs solar photovoltaic and auxiliary systems (Q3 2020–Q4 2020).</li> <li>1.5 Contractor operates, maintains, and hands over solar photovoltaic and monitoring systems (Q4 2020–Q1 2022).</li> </ol> </li> <li><b>2. Solar photovoltaic and battery energy storage systems installed on Funafuti</b> <ol style="list-style-type: none"> <li>2.1 Procure EPC contractor (Q4 2019–Q1 2020).</li> <li>2.2 Award and mobilize EPC contract (Q1 2020).</li> <li>2.3 Contractor procures solar photovoltaic, BESS, and auxiliary systems (Q2 2020).</li> <li>2.4 Contractor installs solar photovoltaic, BESS, and auxiliary systems (Q3 2020–Q4 2020).</li> <li>2.5 Contractor operates, maintains, and hands over solar photovoltaic, BESS, and monitoring systems (Q4 2020–Q2 2022).</li> </ol> </li> <li><b>3. Institutional capacity for inclusive renewable energy project development and implementation enhanced</b> <ol style="list-style-type: none"> <li>3.1 Establish project management unit (Q4 2019).</li> <li>3.2 Engage project implementation consultant (Q4 2019).</li> <li>3.3 Project implementation consultant develops capacity building program, including design of an education and awareness campaign (Q1 2020).</li> <li>3.4 Project implementation consultant organizes and conducts training and education and awareness campaign (Q1 2020–Q2 2022).</li> <li>3.5 EPC contractor organizes and conducts hands-on training in solar photovoltaic and BESS design, construction, operation, and maintenance (Q1 2020–Q2 2022).</li> </ol> </li> </ol>			
<b>Project Management Activities</b> Monitor and evaluate capacity building events (Q1 2020–Q2 2022).			
<b>Inputs</b> Asian Development Bank: \$6.00 million (Asian Development Fund) Government of Tuvalu: \$0.48 million			

BESS = battery energy storage system; EPC = engineering, procurement, and construction; GAP = gender action plan; kWp = kilowatt peak; MOF = Ministry of Finance; MTET = Ministry of Transport, Energy and Tourism; MWh = megawatt-hour; Q = quarter; TEC = Tuvalu Electricity Corporation.

<sup>a</sup> Government of Tuvalu. 2015. *Tuvalu Intended Nationally Determined Contribution*. Funafuti (communicated to the United Nations Framework Convention on Climate Change [UNFCCC]).

**Contribution to the Asian Development Bank Results Framework:** To be determined.

Source: Asian Development Bank.

## B. Monitoring

74. **Project performance monitoring.** TEC and MTET, in coordination with MOF and assisted by PMU, will prepare quarterly monitoring reports, including (i) disaggregated baseline data for output and outcome indicators, and (ii) implementation status: 'Projection vs Actual' (e.g. implementation schedule, costs, outputs (installed capacity, energy yield and GHG emissions reductions etc.). The quarterly reports will provide information necessary to update ADB's project performance reporting system. The two annual grant reviews and the quarterly monitoring reports will include environmental and social safeguard monitoring reports.

75. **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 quarterly progress reports, (ii) discussed during PMU meetings, and (iii) reviewed during biannual grant review missions. The executing and implementing agencies will cause the detailed consolidated project accounts to be audited in accordance with International Standards on Auditing by an auditor acceptable to ADB. The audited accounts will be submitted in the English language to ADB within 6 months of the end of the fiscal year by the executing agency. The government has been made aware of ADB's policy on delayed submission, and the requirements for satisfactory and acceptable quality of the audited accounts. 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. For revenue generating projects only, ADB requires audited financial statements (AFS) for each EA and IA associated with the project.

76. **Safeguards monitoring.** Safeguards issues, including grievances received, contractor's compliance with the approved CEMP, safeguards non-compliance requiring corrective actions and any unanticipated safeguards impacts will be monitored and reported in the contractor's monthly reports, and quarterly progress reports and semi-annual safeguards monitoring reports to be prepared by the PMU supported by the CSC. Implementation checklists and suggested contents for the semi-annual safeguards monitoring report for social and environmental safeguards monitoring are in Appendixes 1 to 2 and 3 to 4, respectively.

77. **Gender and social dimensions monitoring.** The project's GAP will be implemented by the social safeguards and gender specialists under CSC with oversight from the PMU. The specialist will be responsible for incorporating social and gender mainstreaming measures into project implementation, including awareness activities and establishment of sex-disaggregated indicators for project performance and monitoring. PMU assisted by the social safeguards and gender specialists will report the progress of activities in its quarterly progress reports on overall project activities and semi-annual GAP progress report to ADB and the government.

78. **Greenhouse gas emissions monitoring.** During the operational phase, the project's GHG savings will be monitored by the IAs, with initial assistance from the international specialists within the PMU. A monitoring procedure and analysis tools have been developed that utilize data streams available to the IAs through monitoring equipment to be included as part of the project. For islands with existing generation the method estimates fuel consumption if the project's associated renewable energy contribution to demand was not available and compares that to actual fuel consumption. An emissions factor of 2.68 tCO<sub>2</sub>/liter<sup>10</sup> (diesel) is applied to the difference. GHG savings will be published annually by the IA.

## C. Evaluation

79. ADB and the EA assisted by PMU will conduct two annual reviews throughout the implementation of the project as well as a midterm grant review for project. The review will monitor and conduct a 'Projection vs. Actual' comparison analysis for (i) project output quality (e.g. installed capacity, energy yields and GHG emissions reductions, etc.), (ii) implementation arrangements, (iii) implementation progress, and (iv) disbursements. Within 6 months of physical completion of the project, the EA will submit a project completion report to ADB.<sup>15</sup>

80. ADB will undertake a midterm review within 2 years of the Project being effective or at any time that ADB and the concerned Government consider it necessary. The midterm review mission will (i) review institutional, administrative, organizational, technical, environmental, social, economic, and financial aspects of the project based on the assumptions and risks included in the design and monitoring framework and updated PPR; (ii) review covenants to assess whether they are still relevant or need to be changed, or waived due to changing circumstances; (iii) assess the need to restructure or reformulate the project and the effects of this on the immediate objectives (purpose) and long-term goals of the project; and (iv) update the project's design and monitoring framework if restructuring or reformulation is necessary or its immediate objectives will change. The midterm review mission will be conducted in accordance with ADB's Project Administration Instructions (PAI).

81. Within 6 months of physical completion of the project, the national executing entities will submit a project completion report (PCR) to ADB. Then, ADB will prepare its own PCR<sup>16</sup> to evaluate the performance of the project to enhance transparency and accountability, and to learn from operation experience in the design and implementation of the project. These lessons are expected to be used to improve the design and performance of ongoing and future ADB-financed and administered projects. The PCR is validated by the Independent Evaluation Department (IED). The PCR:

- (i) provides a concise description of the project and its rationale;
- (ii) assesses the adequacy of preparation, design, implementation arrangements, and due diligence, including how problems were identified and handled, whether they were foreseen as potential risks at appraisal, and the adequacy of the solutions adopted during implementation;
- (iii) evaluates relevance of project design at appraisal and at completion, effectiveness in achieving outcomes and attribution to the project by assessing achievements of output targets including GHG emissions reductions, efficiency in delivering outputs, and sustainability of achieving output and outcome targets;
- (iv) evaluates the performance of the recipient, executing agency and ADB;
- (v) identifies remaining issues and lessons learned from the project;
- (vi) suggests follow-up actions if required; and

<sup>15</sup> Project completion report format is available at: <http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar>.

<sup>16</sup> The PCR will be prepared within 24 months (the preparation will start after 12 months if the project needs to see a full year operation of the project to gauge the achievements of the outcomes) after project completion regardless of financial closure of the grant accounts. A project is complete when all its outputs are completed (i.e. when the project's facilities are completed and ready to operate. If revenue streams are envisaged, then these should be occurring). The PCR can only be finalized and circulated to the Board after the financial closure of the grant accounts, including all co-financed products administered by ADB.

- (vii) makes recommendations—based on the evaluation and lessons learned—for future project design and implementation as well as improvements in related ADB procedures.

82. Within 2 years after the PCR is approved, ADB's IED will evaluate and validate the PCR. Both PCR and IED's evaluation report are rated as highly successful, successful, less than successful, or unsuccessful. To align with other Multilateral Development Banks like the World Bank Group weighting systems for 'sovereign' project ratings, equal weights are applied to the four evaluation criteria (relevance, effectiveness, efficiency, sustainability) that determine the overall success rate. Both PCR and IED's evaluation report will be prepared in accordance with ADB's (i) Guidelines for the Evaluation of Public Sector Operations and (ii) PAI.

#### **D. Reporting**

83. MOF will provide ADB with (i) quarterly progress reports in a format consistent with ADB's project performance reporting system; (ii) 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 (iii) a project completion report within 6 months of physical completion of the project. To ensure that projects will continue to be both viable and sustainable, project accounts and the executing agency audited financial statement together with the associated auditor's report, should be adequately reviewed.

## E. Stakeholder Communication Strategy

**Table 8: Stakeholder Communication and Participation Plan\***

No.	Objectives	Target Stakeholders**	Messages Agenda	Means of Communication	Schedule/ Frequency	Responsible Agencies/Groups	Resources	Reporting
<b>PHASE 1: OUTER ISLANDS CONSTRUCTION</b>								
1.	Inform island residents about construction contractor and about construction program, schedule, logistics, and outcome.	Island <i>kaupule</i> and other residents.	Project construction program, schedule, and outcome.	Email to island TEC staff and to <i>Ofisa Kaupule</i> . <i>Kaupule</i> then inform other residents by notice on bulletin board and other standard procedures.	Once in Q1 2020.	PMU, Ministry of Local Government and Agriculture , island TEC staff, island <i>Ofisa Kaupule</i> . Assistance from CSC.	Email documents.	Island <i>Ofisa Kaupule</i> report back to PMU by email.
2.	Arrange for temporary use of local building(s) and land(s) for storing construction materials and equipment and for project staff housing. Arrange any support services for construction contractor staff.	Island <i>kaupule</i> and other residents.	Solicit and confirm supporting arrangements.	Email to island TEC staff and to <i>Ofisa Kaupule</i> . <i>Kaupule</i> then discuss with other residents as necessary.	Once in Q1 2020.	PMU, implementation contractor, Ministry of Local Government and Agriculture, island TEC staff, island <i>Ofisa Kaupule</i> . Assistance from CSC.	Email documents.	Island <i>Ofisa Kaupule</i> email report back to PMU and PMU to implementation contractor.

No.	Objectives	Target Stakeholders**	Messages Agenda	Means of Communication	Schedule/Frequency	Responsible Agencies/Groups	Resources	Reporting
3.	Public awareness of EMP monitoring and GRM.	Island <i>kaupule</i> and other residents.	EMP monitoring and GRM procedures.	Public consultation with island TEC staff and <i>Ofisa Kaupule</i> then with community.	Once in Q1 2020.	Implementation contractor. Oversight from CSC.	Printed handouts and posters.	EMP and GRM records and reports.
4.	Ribbon cutting ceremony.	Island community.	Summary of work done and outcome.	Public ceremony.	Once in Q2 2020 and Q3 2020.	Implementation contractor, <i>Ofisa Kaupule</i> , and island TEC staff. Assistance from CSC.	Ceremony.	Implementation contractor and TEC.
<b>PHASE 1: OUTER ISLANDS OPERATIONS AND MAINTENANCE</b>								
1.	Customer and local TEC staff feedback and error reports.	TEC customers and local staff.	Feedback and error reports.	Verbal to local TEC staff, written reports by email to PMU.	As necessary.	Local TEC staff, PMU, and implementation contractor.	Pencil and paper and electronic records and reports.	Local TEC staff report to PMU, and PMU reports to implementation contractor regarding any warranty work.
<b>PHASE 2 – FUNAFUTI CONSTRUCTION</b>								
1.	Inform Funafuti residents about construction contractor and construction program, schedule, and outcome.	TEC customers.	Project construction program, schedule, and outcome.	TEC and GOT notices.	Once in Q1 2021.	PMU with assistance from CSC	Public radio and notice boards.	PMU quarterly report.

No.	Objectives	Target Stakeholders**	Messages Agenda	Means of Communication	Schedule/Frequency	Responsible Agencies/Groups	Resources	Reporting
2.	Public awareness of EMP monitoring and GRM.	Island <i>kaupule</i> and other residents.	EMP monitoring and GRM procedures.	Public consultation with island TEC staff and <i>Ofisa Kaupule</i> then with community.	Once in Q1 2020.	Implementation contractor. Oversight from CSC	Printed handouts and posters.	EMP and GRM records and reports
3.	Funafuti ribbon cutting ceremony.	Island community.	Summary of work done and outcome.	Public ceremony and local radio news report.	Once in Q4 2021.	TEC and GOT.	Ceremony.	PMU quarterly report.
<b>PHASE 2 – FUNAFUTI OPERATIONS AND MAINTENANCE</b>								
1.	Customer and local TEC staff feedback and error reports.	TEC customers and local staff.	Feedback and error reports.	Verbal to local TEC staff, written reports to PMU and to implementation contractor.	As necessary.	Local TEC staff, PMU, and implementation contractor.	Pencil and paper and electronic records and reports.	PMU reports to implementation contractor regarding any warranty.

\*Plan will be continuously assessed and revised, if required, during implementation.

\*\*Participation of women and vulnerable groups will be ensured in all consultations.

ADB = Asian Development Bank, CSC = Construction Supervision Consultant, EMP = environmental management plan, GRM = grievance redress mechanism, PMU = project management unit.

## X. ANTICORRUPTION POLICY

84. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the project.<sup>17</sup> All contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of the executing agency and all project contractors, suppliers, consultants, and other service providers. Individuals and/or 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.<sup>18</sup>

85. To support these efforts, relevant provisions are included in the grant agreements and the bidding documents for the project. Additionally, the government will (a) comply with ADB's Anticorruption Policy (1998, as amended to date), and cooperate fully with any investigation by ADB and extend all necessary assistance, including providing access to all relevant books and records for the satisfactory completion of such investigation; (b) ensure that relevant staff are trained in ADB's Anticorruption Policy; (c) ensure that the audited annual project accounts under the project, project progress, and procurement activities are disclosed on relevant government entities; and (d) allow and facilitate ADB's representatives to conduct spot and random checks on (i) flow of funds and their use for the projects in accordance with the legal agreements; (ii) work-in-progress; and (iii) project implementation under the project.<sup>19</sup>

## XI. ACCOUNTABILITY MECHANISM

86. 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 an effort in good faith 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.<sup>20</sup>

## XII. RECORD OF CHANGES TO THE PROJECT ADMINISTRATION MANUAL

Date Changed	Section Changed	Changes made
1.		

The estimated budget to implement the activities of the GAP will be made available by the Government and the Contractor as part of their legal commitment to the project.

<sup>17</sup> [Anticorruption Policy](#).

<sup>18</sup> ADB's Office of Anticorruption and Integrity web site: [https://www.adb.org/site/integrity/main\\_](https://www.adb.org/site/integrity/main_)

<sup>19</sup> [Governance and Anticorruption Action Plan II Guidelines](#). See also Sourcebook: [Diagnostics to Assist Preparation of Governance Risk Assessments](#).

<sup>20</sup> [Accountability Mechanism](#).

### Checklist for Safeguard Supervision/Monitoring (Resettlement)

Checklist for Safeguard Supervision: Involuntary Resettlement					
PROJECT INFORMATION					
Loan/Grant No.:	Project Name:				
Approval Date:	Closing Date:			Cumulative Progress (%):	
Project Team Leader(s):				Project Analyst:	
<b>1) Resettlement Categorization</b>					
(Original)	A	B	C	FI	
(additional financing, if any)	A	B	C	FI	
<i>(Please complete the following sections if the project has been categorized as A, B or FI involving land acquisition/resettlement issues)</i>					
<b>2) Resettlement Planning</b>					
Resettlement Planning Documents:	RF <input type="checkbox"/>	RP <input type="checkbox"/>	Number of RPs _____	ESMS <input type="checkbox"/>	
RP Finalized or Updated after Detailed Design: (Attach a list of subprojects and status if necessary.)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	If no, actions? _____		
Final/Updated RP Disclosed and Posted on ADB Website:	Yes <input type="checkbox"/>	No <input type="checkbox"/>	If no, actions? _____		
Compensation Rates Approved by the Government:	Yes <input type="checkbox"/>	No <input type="checkbox"/>	If no, actions? _____		
<b>3) Institutional Setup for Resettlement</b>					
PIU/PMU Resettlement Staff Assigned:	Yes <input type="checkbox"/>	No <input type="checkbox"/>	If no, actions? _____		
	If yes, Name: _____		Since: _____ / _____		
			(month)	(year)	
Resettlement Specialist Consultant Mobilized:	Yes <input type="checkbox"/>	No <input type="checkbox"/>	If no, actions? _____		
	If yes, Name: _____		Since: _____ / _____		
			(month)	(year)	
Grievance Redress Mechanism Established:	Yes <input type="checkbox"/>	No <input type="checkbox"/>	If no, why? _____		
Allocation of Government Budget:	Yes <input type="checkbox"/>	No <input type="checkbox"/>	If no, actions? _____		
	If yes, amount\$: _____				
<b>4) Resettlement Monitoring and Reports</b>					
Internal Monitoring System Established:	Yes <input type="checkbox"/>	No <input type="checkbox"/>	If no, actions? _____		
External Monitor Engaged (if needed):	Yes <input type="checkbox"/>	No <input type="checkbox"/>	If no, actions? _____		
	If yes, Name: _____		Since: _____ / _____		
			(month)	(year)	
Monitoring Report Submitted to ADB:	Yes <input type="checkbox"/>	No <input type="checkbox"/>	If no, actions? _____		
	If Yes, provide information below				
	<b>Baseline Report</b>	<b>Report 1</b>	<b>Report 2</b>	<b>Report 3</b>	<b>Report 4</b>
Submission Date (m/yr)					
ADB Review Date (m/yr)					
Web-posting Date (m/yr)					
Name of ADB Reviewer					
<b>5) Resettlement Field Review with Participation of Safeguard Specialist/Officer/Staff Consultant</b>					
	Yes <input type="checkbox"/>	No <input type="checkbox"/>	If no, actions? _____		
	If Yes, provide information below				
Mission Date (m/yr)					
Type of mission					
Name of safeguard specialist/officer/staff consultants					

### 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 the monitoring
Monitoring Activities	Methodology for monitoring (whether checklists prepared etc.); What period the monitoring covers Main activities – site visits, consultations, survey etc.
Monitoring Results and Actions Required	Progress and performance in implementation of RPs and other programs (how these were implemented, what are the outputs, etc.) Results on consultations, disclosure and grievance redress (whether they have been effective, level of satisfaction of affected persons [AP] with various aspects of the resettlement plan [RP], public awareness of the compensation policy and entitlements will be assessed among APs.) Whether the implementation comply with the approved RPs (e.g. whether compensation rates were at replacement cost, full payment made to all APs sufficiently before land acquisition; prompt attention to unforeseen damages or losses, to ensure APs are fully compensated for losses) Results on outcome (whether APs were able to restore livelihoods and productive activities) Compliance on monitoring and disclosure (whether reports have been submitted, posted on website) Whether any issues and corrective measures identified to achieve the RP 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 including progress of the follow-up of problems and issues identified in the previous report
Attachments	Monitoring checklist (based on items identified in the RPs) Photographs Additional information as required

### Checklist for Safeguard Supervision/Monitoring (Environment)

PARD Safeguards Implementation Checklist: Environment									
Date: _____									
<b>PROJECT INFORMATION</b>									
Loan/Grant No.:		Project Name:							
Approval Date:			Closing Date:				Cumulative Progress (%):		
Project Team Leader(s):						Implementing Agency			
<b>1) Categorization</b>									
(Original)		A		B		C		FI	
(additional financing, if any)		A		B		C		FI	
<i>(Please complete the following sections if the project has been categorized as A, B or FI)</i>									
<b>2) Planning</b>									
Documents:		EARF		IEE/EIA		No. of IEE/EIA		EMP	
IEE/EIA Disclosed and Posted on ADB Website:		Yes		No		If no, actions?			
EMP Finalized or Updated after Detailed Design:		Yes		No		If no, actions?			
CEMP submitted, reviewed and approved:		Yes		No		If no, actions?			
(Attach a list of subprojects and status if necessary.)									
<b>3) Institutional Setup</b>									
PIU/PMU Environment Staff Assigned:		Yes		No		If no, actions?			
If yes, Name:				Since:		/			
						(month)		(year)	
Environmental Specialist/Consultant Mobilized:		Yes		No		If no, actions?			
If yes, National Specialist's Name:				Since:		/			
						(month)		(year)	
If yes, International Specialist's Name:				Since:		/			
Participation of Gov. Environment Agency/Division:		Yes		No		If no, actions?			
If yes, Name:				Since:		/			
						(month)		(year)	
Grievance Redress Mechanism Established:		Yes		No		If no, why?			
Allocation of Government Budget:		Yes		No		If no, actions?			
If yes, amount\$:									
<b>4) Monitoring and Reports</b>									
Internal Monitoring System Established:		Yes		No		If no, actions?			
Compliance monitoring incorp. into Q Progress Reports:		Yes		No		If no, actions?			
External Monitor Engaged (if needed):		Yes		No		If no, actions?			
If yes, Name:				Since:		/			
						(month)		(year)	
Monitoring Report Submitted to ADB:		Yes		No		If no, actions?			
If Yes, provide information below									
		<b>Baseline Report</b>		<b>Report 1</b>		<b>Report 2</b>		<b>Report 3</b>	
Submission Date (m/yr)									
ADB Review Date (m/yr)									
Web-posting Date (m/yr)									
Name of ADB Reviewer									
<b>5) Field Review with Participation of Safeguard Specialist/Officer/Staff Consultant</b>									
		Yes		No		If no, actions?			
If Yes, provide information below									
Mission Date (m/yr)									
Type of mission:									
Participants (safeguard specialist/officer/staff consultants)									



### 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 prepared etc.). When the monitoring was undertaken and what period it covers. Summary of other monitoring undertaken in the period (i.e. form contractor's monthly reports and if any survey/sample monitoring 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 environmental management plan (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 implementing agency).
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 annex 1. Additional photographs. Additional information as required.