Technical Assistance Report

Project Number: 49450-022
Transaction Technical Assistance Facility (F-TRTA)
July 2019

Preparing the Pacific Renewable Energy Investment Facility (Phase 2)

Asian Development Bank

ABBREVIATIONS

ADB	–	Asian Development Bank
MW	–	megawatt
MWh	–	megawatt-hour
PIC-11	–	11 smaller Pacific island countries
TA	–	technical assistance
TASF	–	Technical Assistance Special Fund

NOTE

In this report, "$" refers to United States dollars.

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TRANSACTION TECHNICAL ASSISTANCE AT A GLANCE

1. Basic Data — **Project Number:** 49450-022

Project Name	Preparing the Pacific Renewable Energy Investment Facility (Phase 2)
Nature of Activity	Project Preparation
Modality	Facility
Country	REG (COO, FSM, KIR, NAU, PAL, RMI, TUV)
Department/Division	PARD/PAEN
Executing Agency	Asian Development Bank

2. Sector	**Subsector(s)**	**ADB Financing ($ million)**
✓ Energy	Electricity transmission and distribution	0.30
	Energy sector development and institutional reform	0.15
	Renewable energy generation - small hydro	0.90
	Renewable energy generation - solar	1.50
	Renewable energy generation - wind	0.15
	Total	**3.00**

3. Strategic Agenda	**Subcomponents**	**Climate Change Information**	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Climate Change impact on the Project	Low
		ADB Financing	
Environmentally sustainable growth (ESG)	Eco-efficiency	Mitigation ($ million)	3.00
	Global and regional transboundary environmental concerns	**Cofinancing**	
		Mitigation ($ million)	1.00

4. Drivers of Change	**Components**	**Gender Equity and Mainstreaming**	
Governance and capacity development (GCD)	Institutional development	Some gender elements (SGE)	✓
Knowledge solutions (KNS)	Knowledge sharing activities		
Partnerships (PAR)	International finance institutions (IFI) Official cofinancing		
Private sector development (PSD)	Conducive policy and institutional environment Promotion of private sector investment		

5. Poverty and SDG Targeting		**Location Impact**	
Geographic Targeting	No	Nation-wide	High
Household Targeting	No		
General Intervention on Poverty	Yes		
SDG Targeting	Yes		
SDG Goals	SDG1, SDG5, SDG7, SDG9, SDG10, SDG12, SDG13		

6. Risk Categorization Low

7. Safeguard Categorization Safeguard Policy Statement does not apply

8. Financing

Modality and Sources	Amount ($ million)
ADB	**3.00**
Transaction technical assistance: Technical Assistance Special Fund	3.00
Cofinancing	**1.00**
Strategic Climate Fund - SREP (Full ADB Administration)	1.00
Counterpart	**0.00**
None	0.00
Total	**4.00**

Currency of ADB Financing: USD

I. THE TECHNICAL ASSISTANCE FACILITY

A. Justification

1. The proposed transaction technical assistance (TA) facility will conduct required due diligence and provide project preparation and procurement support, capacity building, and policy recommendations for seven ensuing energy sector projects for approval in 2019–2022 under the Pacific Renewable Energy Investment Facility.[1] The facility, approved in June 2017, is designed to finance a large number of small-value renewable energy projects in the 11 smaller Pacific island countries (PIC-11).[2] The facility supports the PIC-11 in transforming their power sectors from diesel to sustainable renewable energy generation sources; and supports sector reform, private sector development, and capacity building.[3] The proposed TA is included in the PIC-11 country operations business plan, 2019–2021.[4]

2. The facility impact is improved energy security following the outcome of lower cost and cleaner electricity generation. The facility outputs are (i) renewable energy generation constructed and (ii) sector reform undertaken. The facility will finance renewable energy projects in the PIC-11 with an overall estimated cost of $750 million, comprising (i) up to $200 million in Asian Development Bank (ADB) financing, (ii) an estimated $500 million from cofinancing sources, and (iii) an estimated $50 million from government counterpart financing. ADB will consider projects to be financed by the facility up to July 2022, while the implementation period will be up to July 2025.[5]

3. The facility will support an estimated 20 projects with the following cumulative performance indicators by 2025: (i) 80 megawatts (MW) of renewable energy generation capacity commissioned, (ii) 30 megawatt-hours (MWh) of battery storage installed, and (iii) 300 kilometers of transmission and distribution network constructed. The facility implementation is generally on track and the details are in the 2018 facility's annual report.[6]

4. Regional project preparatory TA for $5 million, $2 million of which is financed on a grant basis from ADB's Technical Assistance Fund (TASF-V) and $3 million from the Clean Energy Financing Partnership Facility, was approved in November 2016 to help prepare projects to be financed under the facility.[7] Increases in the TA amount totaling $3 million from the TASF and $500,000 from the High-Level Technology Fund were approved during 2017–2018.[8] The TA is to

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[1] ADB. 2017. *Report and Recommendation of the President to the Board of Directors: Proposed Pacific Renewable Energy Investment Facility.* Manila.

[2] The 11 countries are the Cook Islands, the Federated States of Micronesia, Kiribati, Nauru, Palau, the Marshall Islands, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu. Smaller refers to population.

[3] The facility will benefit the PIC-11 economies through (i) an improved balance of trade by reducing fossil fuel imports, (ii) improved energy security, (iii) downward pressure on tariffs, and (iv) and reduced greenhouse gas emissions.

[4] ADB. 2018. *Country Operations Business Plan: 11 Small Pacific Island Countries, 2019–2021.* Manila.

[5] The facility provides an aggregate approval limit under which the President is authorized to approve loans and grants to a range of qualifying small-value renewable energy projects in the PIC-11 from 2017 to 2022. This innovative modality streamlines ADB's procedures and reduces processing times and transaction costs.

[6] ADB. 2019. *Pacific Renewable Energy Investment Facility: Progress Report, June 2018–December 2018.* Manila.

[7] ADB. 2016. *Technical Assistance for Preparing the Pacific Renewable Energy Investment Facility*. Manila (TA 9242-REG).

[8] TASF increases for TA 9242-REG are $1.2 million approved on 23 June 2017 and $900,000 each approved on 13 February and 1 October 2018. Supplementary financing of $500,000 from the High-Level Technology Fund was approved on 1 October 2018.

prepare 12 energy projects, of which four were approved in 2017–2018 and eight are being prepared for approval in 2019 and 2020.[9] All funds under the TA are fully committed.

5. At least four projects per year are expected to be prepared under the facility. Therefore, a second transaction TA facility is needed to prepare the five identified projects from the 2020–2022 pipeline, including (i) the South Tarawa Renewable Energy Project in Kiribati, (ii) the Renewable Energy Project in Palau, (iii) Phase 2 of the Majuro Power Network Strengthening Project in the Marshall Islands, (iv) the Aitutaki Renewable Energy Project in the Cook Islands, and (v) Phase 2 of the Renewable Energy Development Project in the Federated States of Micronesia. The geographic scope may be expanded later to include additional countries and additional financing to be sought from other sources such as the Clean Energy Financing Partnership Facility.

6. The proposed TA will also support additional project preparation and pre-implementation works for two projects for consideration in 2019 and are being prepared under ADB TA for Preparing the Pacific Renewable Energy Investment Facility—the Solar Power Development Project in Nauru and the Increasing Access to Renewable Energy Project in Tuvalu—to enhance project delivery and readiness.

7. **Project 1.** The proposed Kiribati South Tarawa Renewable Energy Project will finance solar photovoltaic generation and a battery energy storage system; and will support the development of a renewable energy-enabling environment, including addressing barriers to private sector investment in Kiribati. It will allow the South Tarawa grid to achieve 26% renewable energy penetration (equivalent to 72% of the government's target for South Tarawa, which is 36% renewable energy penetration by 2025).[10] The project is expected to generate 6.25 gigawatt-hours of clean electricity from solar photovoltaic and avoid up to 4,900 tons of carbon dioxide equivalent in greenhouse gas emissions per year by 2024. The government requested $5 million from ADB's Special Funds resources, $3.7 million from the Strategic Climate Fund,[11] and $2 million from the Government of New Zealand.

8. **Project 2.** The proposed Palau Renewable Energy Project will help Palau achieve its Nationally Determined Contributions target of 22% greenhouse gas emissions reductions below its 2005 level by 2025, with a corresponding target of 45% renewable energy contribution in power generation. The transaction TA facility will help prepare the proposed project by (i) analyzing Palau's electricity demand and supply; (ii) preparing a least-cost generation expansion plan; (iii) enumerating corresponding generation investment projects; and (iv) undertaking full technical, financial, economic, governance, and safeguards due diligence of identified and agreed candidate investment projects for inclusion in the proposed project.

9. **Project 3.** The proposed Marshall Islands Majuro Power Network Strengthening Project (Phase 2) will fund (i) electricity network strengthening measures, including network reconfiguration, transformer replacement, and loss-reduction and revenue-performance

[9] The four projects approved in 2017–2018 are ADB. 2017. *Pacific Renewable Energy Investment Facility: Energy Access Project in the Republic of Vanuatu.* Manila (Loan 3572-VAN and Grants 0543/0544-VAN, approved in September 2017); ADB. 2017. *Pacific Renewable Energy Investment Facility: Majuro Power Network Strengthening Project in the Republic of the Marshall Islands.* Manila (Grant 0554-RMI, approved in November 2017); ADB. 2018. *Pacific Renewable Energy Investment Facility: Energy Security Project in the Republic of the Marshall Islands*. Manila (Grant 0637-RMI, approved in December 2018); and ADB. 2018. *Pacific Renewable Energy Investment Facility: Outer Island Renewable Energy Project in the Kingdom of Tonga* (Grant 0586-TON, additional financing, approved in July 2018).

[10] United Nations Climate Change. Republic of Kiribati: Intended Nationally Determined Contribution.

[11] Under the Scaling Up Renewable Energy Program in Low-Income Countries.

improvement measures (e.g., the installation of reliable and accurate three-phase end-user meters for large customers); and (ii) possibly a waste-to- energy generation plan. The proposed TA will mainly be to prepare the electricity network component,

10. **Project 4.** The proposed Aitutaki Renewable Energy Project in the Cook Islands will help the country reach the 100% renewable energy target for Aitutaki, as set out in the Cook Islands Renewable Energy Chart Implementation Plan.[12] The proposed project will provide additional renewable energy generation capacity to that of the ongoing ADB-funded Renewable Energy Sector Project.[13] Two options will be considered under the proposed project, which will enable 43% renewable energy penetration on Aitutaki island: installation of 900-kilowatt wind or 1 MW of photovoltaic, with a standby battery and a synchronous condenser.

11. **Project 5.** The proposed Federated States of Micronesia Renewable Energy Development Project (Phase 2) will finance a small storage reservoir with about 9 MWh and 3 MW of hydropower in the Lehnmesi river system in Pohnpei.

12. **Support to improve project readiness.** The proposed transaction TA facility will also complement the project preparatory work being carried out under ADB's TA for Preparing the Pacific Renewable Energy Investment Facility: (i) site preparation to increase the readiness of the proposed Solar Power Development Project in Nauru for approval in 2019 and (ii) technical and environmental and social safeguards due diligence for potential floating solar photovoltaic in Tuvalu.

B. Outputs and Activities

Table 1: Summary of Major Outputs and Activities

Major Outputs	Delivery Dates Months from Notice to Proceed	Key Activities with Milestones
1. Feasibility study and due diligence documents	Within 2 months	1.1 Optimize project design and scope
	Within 6 months	1.2 Conduct technical, financial, economic, gender, governance, and safeguards due diligence
	Within 6 months	1.3 Submit grid integration study or least-cost generation plan
	Within 8 months	1.4 Submit facility financing proposal and linked documents
2. Capacity building support and assistance to procurement	Within 2 months	2.1 Conduct procurement capacity, financial management, and risk management assessments
	Within 18 months	2.2 Implement capacity development plan
	Within 2 months	2.3 Recommend procurement arrangements
	Within 6 months	2.4 Prepare bidding documents
	Within 18 months	2.5 Assist in bid evaluation and contract negotiation
3. Enabling framework and model transaction documents (for the proposed Kiribati project)	Within 6 months	3.1 Recommend technical standards and grid code updates
	Within 8 months	3.2 Develop and recommend regulations and model transaction documents and standard forms of contracts for private sector participation in the renewable energy market
	Within 18 months	3.3 Draft a gender-sensitive electricity act and assist implementing agencies in initial stages of enactment

Source: Asian Development Bank.

[12] Government of the Cook Islands. Office of the Prime Minister. The Cook Islands Renewable Energy Chart Implementation Plan.
[13] ADB. Cook Islands: Renewable Energy Sector Project.

C. Cost and Financing

13. The TA facility is estimated to cost $4 million, of which (i) $3 million will be financed on a grant basis by ADB's Technical Assistance Special Fund (TASF 6) and (ii) $1 million will be financed on a grant basis by the Strategic Climate Fund (footnote 11) and administered by ADB. The key expenditure items are listed in Appendix 1.

14. The beneficiary governments will provide counterpart support in the form of counterpart staff, office supplies, office space and communication facilities for consultants, and other in-kind contributions. The governments were informed that approval of the TA does not commit ADB to finance any ensuing project.

D. Implementation Arrangements

15. The TA activities for an ensuing project will start only after ADB approves the project concept paper on the ensuing project. ADB will administer the TA. The Energy Division of ADB's Pacific Department will select, supervise, and evaluate consultants.

16. The implementation arrangements are summarized in Table 2.

Table 2: Implementation Arrangements

Aspects	**Arrangements**		
Indicative implementation period	August 2019–August 2022		
Executing agency	Asian Development Bank		
Implementing agency	Energy Division, Pacific Department		
Consultants	To be selected and engaged by ADB		
	Firms: Quality- and cost-based selection	Project preparation consultants (2 firms)	$1.8 million
	Firms: Single-source selection, direct contracting, or contract variation to the existing consultant contracts	Project preparation consultants (5 contracts)	$1.9 million
	Individual: Individual selection	International (15 person-months) and national (56 person-months)	$300,000
Procurement	None		
Advance contracting and retroactive financing	None		
Disbursement	The TA resources will be disbursed following ADB's *Technical Assistance Disbursement Handbook* (2010, as amended from time to time).		
Asset turnover or disposal arrangement upon TA completion	None		

ADB = Asian Development Bank, TA = technical assistance.
Source: Asian Development Bank.

17. **Consulting services.** ADB will engage consultants following the ADB Guidelines on the Use of Consultants (2013, as amended from time to time). The TA facility will require 144 person-months of international consultants' and 78 person-months of national consultants' input. ADB will engage the consultant firms through quality- and cost-based selection using simplified technical proposals, through single-source selection or variation of ongoing contracts under

ADB's TA for Preparing the Pacific Renewable Energy Investment Facility (footnote 7) following the facility's streamlined procedures. For single-source selection, consultants may be selected from those already engaged under the facility whose contracts allow for extension or further engagement to prepare additional renewable energy projects under the facility. Output-based contracts will be used wherever appropriate, such as for the Kiribati project.

18. **Cofinancier requirements.** For the preparation and implementation of the Kiribati South Tarawa Renewable Energy Project, core and development co-benefit indicators will be reported annually to the Strategic Climate Fund (footnote 11), in consultation with the ADB fund manager, Sustainable Development and Climate Change Department.

E. Governance

19. The proposed TA will involve financial management assessment, procurement capacity assessment, and risk assessment and management with tasks and outputs stated in the terms of reference for consultants.[14]

II. THE PRESIDENT'S DECISION

20. The President, acting under the authority delegated by the Board, has approved (i) the Asian Development Bank (ADB) administering a portion of technical assistance not exceeding the equivalent of $1,000,000 to be financed on a grant basis by the Strategic Climate Fund[15] and (ii) ADB providing the balance not exceeding the equivalent of $3,000,000 on a grant basis for preparing the Pacific Renewable Energy Investment Facility (Phase 2), and hereby reports this action to the Board.

[14] Terms of Reference for Consultants (accessible from the list of linked documents in Appendix 3).
[15] Under the Scaling Up Renewable Energy Program in Low Income Countries

COST ESTIMATES AND FINANCING PLAN
($'000)

Item	ADB[a]	External Source[b]
A. Consultants		
1. Remuneration and per diem		
a. International consultants	2,045.0	520.0
b. National consultants	30.0	179.0
2. Out-of-pocket expenditures		
a. International and local travel	555.0	92.0
b. Surveys	195.0	50.0
c. Training, seminars, and conferences	35.0	100.0
d. Reports and communications	15.0	0.0
e. Miscellaneous administration and support costs	25.0	14.0
B. Contingencies	100.0	45.0
Total	**3,000.0**	**1,000.0**

Note: The technical assistance is estimated to cost $4 million, of which contributions from the Asian Development Bank (ADB) and the Strategic Climate Fund under the Scaling Up Renewable Energy Program in Low Income Countries are presented in the table. The beneficiary governments will provide counterpart support in the form of counterpart staff, office supplies, office space and communication facilities for consultants, and other in-kind contributions. The value of the government contribution is estimated to account for 30% of the total technical assistance cost.

[a] Financed by ADB's Technical Assistance Special Fund (TASF 6).

[b] Financed by the Strategic Climate Fund under the Scaling Up Renewable Energy Program in Low Income Countries. Administered by ADB.

Source: Asian Development Bank estimates.

PROJECTS UNDER TECHNICAL ASSISTANCE FACILITY

Table A2: Indicative Consultants' Input Allocation
(person-months)

Item		Projects						
		KIR	PAL	RMI	COO	FSM	NAU	TUV
Indicative risk category	Total	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
Renewable energy engineer/team leader	30.0	3.0	6.0	6.0	2.5	12.0	0.5	
Hydropower expert	6.0					6.0		
Power systems engineer	4.5	2.5	2.0					
Power system planning expert	3.0		3.0					
Utility management expert	1.0		1.0					
Battery energy storage engineer	3.0	2.0			1.0			
Solar/floating solar expert	4.0		2.0					2.0
Wind power engineer	3.0		2.0		1.0			
Civil engineer	13.0		2.0			6.0	4.0	1.0
Legal and regulatory expert	2.0	2.0						
Financial specialist	5.5	1.5	1.0	1.0	1.0	1.0		
Economist	5.5	1.5	1.0	1.0	1.0	1.0		
Procurement specialist	10.0	2.0	2.0	1.0	1.0	4.0		
Transaction advisor	2.0	2.0						
Environment specialist	16.5	1.5	2.0	1.0	1.0	6.0	4.0	1.0
Social safeguards specialist	12.0	2.0	2.0	1.0	1.0	6.0		
Gender specialist	6.0	2.0	1.0	1.0		2.0		
Climate change expert	2.0	1.0			1.0			
Project manager	15.0	15.0						
Total international experts	**144.0**	**38.0**	**27.0**	**12.0**	**10.5**	**44.0**	**8.5**	**4.0**
Total national experts	**78.0**	**71.0**					**7.0**	

COO = Cook Islands, FSM = Federated States of Micronesia, KIR = Kiribati, NAU = Nauru, PAL = Palau, RMI = Republic of the Marshall Islands, TUV = Tuvalu.
Source: Asian Development Bank estimates.

LIST OF LINKED DOCUMENTS

http://www.adb.org/Documents/LinkedDocs/?id=49450-022-TAReport

1. Terms of Reference for Consultants