



Technical Assistance Report

Project Number: 55070-001
Transaction Technical Assistance Facility (F-TRTA)
November 2021

Preparing Clean and Renewable Energy Investments in the Pacific

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Asian Development Bank

ABBREVIATIONS

ADB	–	Asian Development Bank
COVID-19	–	coronavirus disease
DMC	–	developing member country
IPP	–	independent power producer
PPP	–	public–private partnership
TA	–	technical assistance

NOTE

In this report, “\$” refers to United States dollars.

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TRANSACTION TECHNICAL ASSISTANCE AT A GLANCE

1. Basic Data		Project Number: 55070-001	
Project Name	Preparing Clean and Renewable Energy Investments in the Pacific	Department/Division	PARD/PAEN
Nature of Activity	Project Preparation	Executing Agency	Asian Development Bank
Modality	Facility		
Country	REG (FSM, RMI, SOL)		
2. Sector	Subsector(s)	ADB Financing (\$ million)	
✓ Energy	Energy efficiency and conservation		3.00
		Total	3.00
3. Operational Priorities		Climate Change Information	
✓ Accelerating progress in gender equality		GHG Reductions (tons per annum)	0.000
✓ Tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability		Climate Change impact on the Project	Low
✓ Fostering regional cooperation and integration		ADB Financing	
		Adaptation (\$ million)	0.00
		Mitigation (\$ million)	0.00
		Cofinancing	
		Adaptation (\$ million)	0.00
		Mitigation (\$ million)	0.00
Sustainable Development Goals		Gender Equity and Mainstreaming	
SDG 1.3		Some gender elements (SGE)	✓
SDG 5.c			
SDG 9.4		Poverty Targeting	
SDG 10.2		General Intervention on Poverty	✓
SDG 12.2			
4. Risk Categorization	Complex		
5. Safeguard Categorization	Safeguard Policy Statement does not apply		
6. Financing			
Modality and Sources		Amount (\$ million)	
ADB		3.00	
Transaction technical assistance: Technical Assistance Special Fund		3.00	
Cofinancing		0.00	
None		0.00	
Counterpart		0.00	
None		0.00	
Total		3.00	
Currency of ADB Financing: US Dollar			

I. THE TECHNICAL ASSISTANCE FACILITY

A. Justification

1. The transaction technical assistance (TA) facility will provide project preparation support to a series of ensuing projects, including (i) Federated States of Micronesia Climate Resilient Energy and Water Project (\$43 million), (ii) Republic of the Marshall Islands Electrification Project (\$10 million), and (iii) Solomon Islands Sustainable Solar Development Investment Program (\$50 million). The TA facility will support required due diligence, provide project preparation and procurement support, capacity building, and policy recommendations for ensuing projects, which are planned for approval in 2022–2025 under the Indicative Country Pipeline and Monitoring Report for Eleven Small Pacific Island Countries (PIC-11), 2022–2024. The TA facility is listed in the Regional Operations Business Plan for 2021–2023 and aligned with Asian Development Bank’s (ADB) Strategy 2030 operational priorities 2, 3, and 7, as well as the Sustainable Development Goals and the Paris Agreement on climate change.¹ Two of the three main objectives of the Pacific Approach, 2021–2025 are “preparing for and responding to shocks” and “delivering sustainable services,” areas in which renewable energy-based electricity generation has a key role to play.²

2. **Development context.** The PIC-11 are among ADB’s smallest developing member countries (DMCs) by population size, and 10 of them are included in the world’s 25 smallest countries. These small island developing states tend to share similar development challenges, including small populations, limited resources, remoteness, susceptibility to disasters, vulnerability to external shocks, and excessive dependence on international trade. Six of the PIC-11 are classified as fragile and conflict-afflicted situations, characterized by weak governance and institutional capacity, economic and social insecurity, and greater vulnerability to the effects of climate change and natural hazards.

3. The Pacific DMCs are committed to improving energy security and reducing greenhouse gas emissions and have set ambitious targets for renewable electricity generation by 2025–2030.³ The global deployment of renewable energy in recent years has been rapid, mostly due to manufacturing economies of scale, an exponential decline in hardware costs, and resultant greater affordability. Battery and other energy storage technologies are more available and affordable for improving network reliability and stability, which is helping increase the share of renewable electricity.⁴ However, the implementation of renewable energy programs has been insufficient to meet renewable energy targets and nationally determined contribution commitments. The share of renewable energy in the Pacific subregion has increased less than 20% since 2015. Diesel and other petroleum fuels remain the primary sources of the energy mix in most Pacific DMCs.

4. **Energy security.** The Pacific DMCs rely on imported fuels for bulk power generation at an estimated cost of over \$1.5 billion annually (footnote 4). The average fuel import bills in the Pacific DMCs are about 25% of total imports and over 10% of gross domestic product. Fuel imports are vulnerable to severe weather events, which are exacerbated by climate change. This dependence on energy imports exposes Pacific DMCs to fuel price shocks and a higher risk of power outages if supply is interrupted.

¹ ADB. 2020. *Regional Operations Business Plan: Pacific, 2021–2023*. Manila; and ADB. 2018. *Strategy 2030: Achieving a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific*. Manila

² ADB. 2021. *Pacific Approach, 2021–2025*. Manila.

³ Pacific Community. 2021. *Framework for Energy Security and Resilience in the Pacific 2021–2030*. Noumea.

⁴ International Energy Agency et al. 2021. *Tracking SDG 7: The Energy Progress Report*. Washington, DC.

5. **Insufficient funding for climate-resilient energy.** Pacific utilities are heavily dependent on public funds, with limited or no access to private capital for energy investments. With fuel expenses making up more than 65% of generation costs, renewable energy is key to reducing operating costs. The Pacific DMCs require an estimated \$500 million of investments annually until 2030 to meet renewable energy targets, which far exceeds envisioned public funding.⁵ Some Pacific DMCs have prioritized the transition to renewable energy by designing projects to be implemented with commercial investment through independent power producers (IPPs). While robust power purchase agreements are instrumental for hedging IPPs' risks, the power utilities continue to underperform with weak transmission and distribution grids and limited evacuation capacity for renewable energy produced by IPPs. Due to the combination of the high costs of energy supply and public service obligations and limited operating budgets, most utilities defer grid maintenance, which results in poor service reliability and unscheduled interruptions.

6. **High cost of energy.** Electricity costs in the Pacific are among the highest in the world. The reliance on imported fuel is reflected in the high generation and retail tariffs estimated at an average of \$0.33 per kilowatt-hour and \$0.42 per kilowatt-hour, respectively (footnote 5). Under present tariff regimes, electric power utilities can pass fuel costs directly to consumers and charge an inflation-indexed nonfuel tariff. Volatile fuel prices and heavy reliance on imported fuel for power generation negatively affect the economy and living standards. To mitigate the high cost of electricity, the Pacific DMCs maintain various retail price subsidies and community service obligation programs, compensating the most vulnerable households and communities. However, public resources are not sufficient to fund both energy subsidization schemes and other critical social programs (health, education, etc.) funded by the governments.

7. **Coronavirus disease pandemic.** Energy sector resilience and security in the Pacific subregion has been identified as an urgent need during the coronavirus disease (COVID-19) pandemic. Power utilities have been one of the most severely affected, many of which were not in a strong financial position before the pandemic. Reductions in energy demand due to COVID-19 lockdowns have reduced revenues, but operational costs have not decreased. These utilities have experienced the combination of decreased revenues as demand declined and reduced payment from end-consumers who are less able to pay because of the pandemic. Many governments have provided financial support to both end-users and energy utilities to mitigate these issues, which could affect the ability to finance the utilities' capital investments. While the COVID-19 pandemic has reduced the cost of imported fuel, the Pacific DMCs experienced significant supply challenges caused by transportation delays and limited storage capacity due to outdated infrastructure.

8. Pacific DMCs can produce power that is lower in cost than fossil fuel generation, providing the economic incentives (i.e., preferential taxation, customs, etc.) and access to capital to deploy clean energy technologies to harvest indigenous renewable resources. Alongside this, investments in climate-resilient electricity grids are needed to reduce the cost of power transmission in the Pacific DMCs. ADB is well-placed to support these investments along with strengthening governance, policy, and planning that may otherwise prove to be a weak link in the transition to lower-carbon energy systems. Aligning these investments with COVID-19 recovery stimulus can leverage development progress while meeting climate change goals and ensuring that energy infrastructure is in place to support the economic recovery of the Pacific DMCs.

9. **Pacific energy development priorities.** The Pacific DMCs formulated their vision, "Framework for Energy Security and Resilience in the Pacific (2021–2030)" (footnote 4), with the

⁵ Pacific Power Utilities. 2020. *Pacific Benchmarking Report*. Suva.

aim to develop climate-resilient power generation and distribution infrastructure for the Pacific (Policy Target 10). The Pacific DMCs recognize the strong link between energy and sustainable and resilient economic growth, and the urgency to sustain energy supply by modernizing infrastructure and promoting reliable and clean energy generation. ADB's Pacific Approach also prioritizes clean energy investments in: (i) battery storage to support grid stability and higher penetration rates of renewables; (ii) improvements to the technical and commercial performance of utilities by building capacity and helping rationalize tariffs; and (iii) public-private partnerships (PPPs) and catalyzing private investment in clean energy and new technology.⁶

10. The ensuing projects to be prepared under the TA facility are of similar nature. These projects are aligned with the objectives of the Pacific DMCs to strengthen the reliability and sustainability of the energy sector and mobilize private sector investments (footnote 4). The projects aim to improve the quality of energy supply, reduce aggregate technical and commercial losses, and improve the financial performance of energy utilities. All proposed projects will be supported by ADB's ongoing and scheduled regional technical assistance programs.⁷

B. Outputs and Activities

11. **Output 1: Viability assessments on ensuing projects prepared.** The TA facility will provide technical expertise to prioritize, plan, and prepare investment projects for the proposed (i) Federated States of Micronesia Climate Resilient Energy and Water Project, (ii) Republic of the Marshall Islands Electrification Project, and (iii) Solomon Islands Sustainable Solar Development Investment Program. Due diligence will include viability assessments of all key aspects of the proposed projects. Detailed activities will include, as required: (i) technical feasibility studies; (ii) economic and financial analyses; (iii) financial management assessments; (iv) procurement assessments, plans and preparation of bidding documents; (v) gender analysis, collection of baseline data and gender action plans; (vi) risk assessments and management plans; (vii) environment, involuntary resettlement and indigenous peoples safeguards assessments and support for initial implementation of required safeguards plans; (viii) integrity due diligence; (ix) initial poverty and social analysis; (x) climate adaptation and disaster risk management measures, climate risk and adaptation assessment, and disaster risk assessment; (xi) sector assessment; and (xii) project implementation consultant recruitment.

12. **Output 2: Capacity building intervention and energy sector reforms strengthened.** This will include identifying potential technical capacity building, financial management, reporting, disclosure, and corporate governance issues and defining the scope of capacity building to meet ADB's requirements on sustainability. This activity will be completed by ongoing and planned ADB regional assistance to power utilities and regulators to ensure sustainable implementation capacity for future operations is built.⁸ In addition, plans to mobilize and manage PPPs in energy infrastructure will be developed, including support to the Pacific DMCs for identifying, designing, managing, tendering, and negotiating private sector participation in the energy projects. Under

⁶ The ensuing projects will also consider a broad spectrum of opportunities for private investment: (i) hydrogen and thermal storage for seasonal time-shifting; and (ii) energy end-use as storage, e.g., electric vehicle charging.

⁸ ADB. 2017. *Report and Recommendation of the President to the Board of Directors: Proposed Pacific Renewable Energy Investment Facility*. Manila; ADB. 2017. *Technical Assistance for Capacity Building and Sector Reform for Renewable Energy Investments in the Pacific*. Manila; ADB. 2019. *Report and Recommendation of the President to the Board of Directors: Proposed Pacific Renewable Energy Program*. Manila; and ADB. 2021. *Proposed Technical Assistance for Development of the Pacific Energy Regulators Alliance (under the Pacific Renewable Energy Investment Facility)*. Manila.

⁸ ADB. 2017. *Technical Assistance for Capacity Building and Sector Reform for Renewable Energy Investments in the Pacific; Proposed Technical Assistance for Development of the Pacific Energy Regulators Alliance (under the Pacific Renewable Energy Investment Facility)*. Manila.

Output 2, Pacific DMCs will be supported to identify broader investment pipelines, which will crowd in private investment, and, for a subset of these projects, create preliminary project profiles and facilitate investment roadshows.

C. Cost and Financing

13. The TA facility is estimated to cost \$3.0 million, which will be financed on a grant basis by ADB's Technical Assistance Special Fund (TASF 7). 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 facility does not commit ADB to finance any ensuing project.

D. Implementation Arrangements

14. The TA facility activities (paras. 10 and 11) for an ensuing project will start only after ADB approves the project concept paper on the ensuing project. ADB will administer the TA facility. The Energy Division of ADB's Pacific Department will select, supervise, and evaluate consultants. Overall, TA facility results and outputs will be disseminated through workshops, donor meetings, PPP, and ADB's energy sector group.

15. The implementation arrangements are summarized in the table.

Implementation Arrangements							
Aspects	Arrangements						
Indicative implementation period	November 2021–November 2026						
Executing agency	ADB						
Implementing agency	Energy Division, Pacific Department						
Consultants	To be selected and engaged by ADB						
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Firms: Quality- and cost-based selection, direct contracting</td> <td style="width: 40%;">Project preparation consultants</td> </tr> <tr> <td></td> <td>International (75 person-months)</td> </tr> <tr> <td></td> <td>National (32 person-months)</td> </tr> </table>	Firms: Quality- and cost-based selection, direct contracting	Project preparation consultants		International (75 person-months)		National (32 person-months)
Firms: Quality- and cost-based selection, direct contracting	Project preparation consultants						
	International (75 person-months)						
	National (32 person-months)						
Procurement	None						
Advance contracting and retroactive financing	None						
Disbursement	The TA facility resources will be disbursed following ADB's <i>Technical Assistance Disbursement Handbook</i> (2020, as amended from time to time).						
Asset turnover or disposal arrangement upon TA facility completion	None						

ADB = Asian Development Bank, TA = technical assistance.

Source: Asian Development Bank.

16. **Consulting services.** ADB will engage the consultants following the ADB Procurement Policy (2017, as amended from time to time) and its associated project administration instructions and/or staff instructions.⁹ The TA facility will require 75 person-months of international consultants' and 32 person-months of national consultants' inputs. ADB will engage consulting firms through quality- and cost-based selection or through direct contracting. Consultants engaged for an initial facility project assignment may be extended or have their contract varied to continue onward to

⁹ Terms of Reference for Consultants (accessible from the list of linked documents in Appendix 3).

subsequent facility project assignments. Output-based contracts will be used, wherever appropriate.

II. THE PRESIDENT'S DECISION

17. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of \$3,000,000 on a grant basis for preparing the Clean and Renewable Energy Investments in the Pacific, and hereby reports this action to the Board.

COST ESTIMATES AND FINANCING PLAN
(\$'000)

Item	Amount
Asian Development Bank^a	
A. Consultants	
1. Remuneration and per diem	
a. International consultants	1,837.2
b. National consultants	281.6
2. Out-of-pocket expenditures	
a. International and local travel	67.6
b. Surveys	150.0
c. Training, seminars, and conferences ^b	210.0
d. Reports and communications	102.0
e. Miscellaneous administration and support costs ^c	70.0
B. Contingencies	281.6
Total	3,000.0

Note: The technical assistance (TA) is estimated to cost \$3.33 million, of which contributions from the Asian Development Bank 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 10% of the total TA cost.

^a Financed by ADB's Technical Assistance Special Fund (TASF 7).

^b In-country capacity building such as training and workshops. Advance payment facility may be used.

^c Translation and editing costs. Advance payment facility may be used.

Source: Asian Development Bank estimates.

PROJECTS UNDER THE TECHNICAL ASSISTANCE FACILITY

Table A2.1: Indicative Consultants' Input Allocation
(person-months)

Item	Projects			
	Total	FSM Complex	RMI Complex	SOL Complex
Energy (Solar) Specialist/Team Leader	15.0	5.0	4.0	6.0
Energy (Battery Storage) Specialist	5.0	0.0	2.0	3.0
Power Distribution (Mini Grid) Specialist	5.0	3.0	2.0	0.0
Transport Electrification Specialist	2.0	0.0	2.0	0.0
Energy Economist	7.0	2.0	2.0	3.0
PPP Specialist	4.0	0.0	2.0	2.0
Financial Management Specialist	8.0	3.0	2.0	3.0
Environmental Specialist	7.0	2.0	2.0	3.0
Social Safeguards and Gender Specialist	8.0	2.0	2.0	4.0
Procurement Specialist	7.0	2.0	2.0	3.0
Climate Change Specialist	7.0	2.0	2.0	3.0
Power Specialist/ Deputy Team Leader	12.0	4.0	2.0	6.0
Environmental Specialist	10.0	2.0	2.0	6.0
Social Safeguards Specialist	10.0	2.0	2.0	6.0

FSM = Federated States of Micronesia, PPP = public-private partnership, RMI = Republic of the Marshall Islands, SOL = Solomon Islands.

Source: Asian Development Bank estimates.

Table A2.2: Indicative Technical Assistance Budget Allocation
(\$'000)

Item	Total	FSM Complex	RMI Complex	SOL Complex
Training, seminars, and conferences	210.0	30.0	30.0	150.0
Reports	102.0	12.0	11.0	79.0
Surveys	150.0	30.0	20.0	100.0
Others	351.6	60.1	42.3	249.2

FSM = Federated States of Micronesia, RMI = Republic of the Marshall Islands, SOL = Solomon Islands.
Source: Asian Development Bank estimates.

Table A2.3: Basic Project Information

	FSM	RMI	SOL
Indicative ADB financing	\$28 million	\$10 million	\$50 million
Lending modality	Project/SDP	Project	MFF
Board approval (indicative)	2023	2023	2023
Outcome	Access to sustainable and clean energy enhanced		
Implementing Agency	Department of Resources and Development / Pohnpei Utility Corporation/Chuuk Public Utility Corporation	Marshalls Energy Company	Solomon Power

ADB = Asian Development Bank, FSM = Federated States of Micronesia, MFF = multitranches financing facility, RMI = Republic of the Marshall Islands, SDP = sector development project, SOL = Solomon Islands.
Source: Asian Development Bank.

LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/LinkedDocs/?id=55070-001-TAReport>

1. Terms of Reference for Consultants