A photograph of a solar farm with rows of photovoltaic panels installed in a grassy field. The panels are tilted towards the sun, and the background shows a line of trees under a blue sky with scattered clouds.

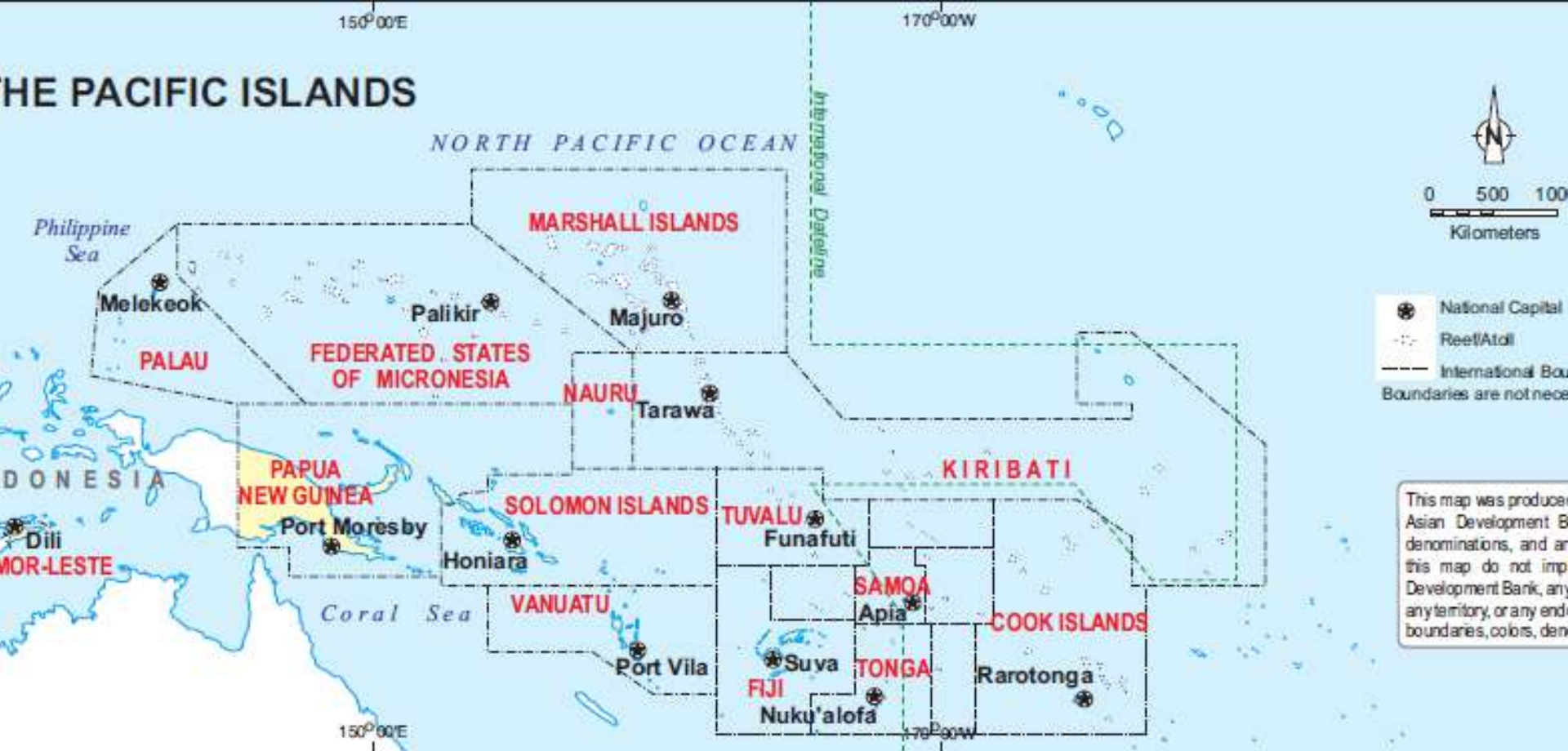
Energy for the Pacific: Case of Tonga Renewable Energy Project

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The Pacific Region

Common Challenges in the Pacific Energy Sector

- Vulnerable to natural disasters and the potential effects of climate change
- High reliance on imported fossil fuel and high tariff
- Limited electricity access in outer islands
- Lack of Capacity





ADB Energy Projects in the Pacific

ADB ENERGY OPERATIONS IN THE PACIFIC

ACTIVE COMPLETED PROPOSED



YAP RENEWABLE ENERGY DEVELOPMENT PROJECT
Completed—Total financing: \$9.04 million
RENEWABLE ENERGY DEVELOPMENT PROJECT
Proposed—Total financing: \$15.00 million



ELECTRICITY SUPPLY SECURITY AND SUSTAINABILITY PROJECT
Completed—Total financing: \$9.68 million
SOLAR POWER DEVELOPMENT PROJECT
Proposed—Total financing: \$26.98 million



RENEWABLE ENERGY
Proposed—Total financing: \$15.00 million

PALAU

FEDERATED STATES OF MICRONESIA

PAPUA NEW GUINEA



TOWN ELECTRIFICATION INVESTMENT PROGRAM (TRANCHE 1)
Active—Total financing: \$59.00 million

TOWN ELECTRIFICATION INVESTMENT PROGRAM (TRANCHE 2)
Active—Total financing: \$46.90 million

IMPROVED ENERGY ACCESS FOR RURAL COMMUNITIES
Active—Total financing: \$9.70 million

PORT MORESBY POWER GRID DEVELOPMENT PROJECT
Active—Total financing: \$66.70 million

POWER SECTOR DEVELOPMENT PROJECT
Proposed—Total financing: \$249.00 million

REGIONAL



PACIFIC RENEWABLE ENERGY INVESTMENT FACILITY
Active—Total financing: \$750.00 million

PACIFIC REGION INFRASTRUCTURE FACILITY COORDINATION OFFICE
Active—Total financing: \$13.16 million

CAPACITY BUILDING AND SECTOR REFORM FOR RENEWABLE ENERGY INVESTMENTS IN THE PACIFIC
Active—Total financing: \$5.00 million

DEVELOPMENT OF THE PACIFIC ENERGY REGULATORS ALLIANCE
Active—Total financing: \$0.23 million



TINA RIVER HYDROPOWER PROJECT
Proposed—Total financing: \$222.57 million

SOLAR POWER DEVELOPMENT PROJECT
Active—Total financing: \$15.30 million

ADB \$855.13 million
Co-financing \$875.46 million



MAJURO POWER NETWORK STRENGTHENING
Completed—Total financing: \$0.69 million
MAJURO POWER NETWORK STRENGTHENING PROJECT
Active—Total financing: \$2.00 million
ENERGY SECURITY PROJECT
Active—Total financing: \$12.70 million
WASTE-TO-ENERGY PROJECT
Proposed—Total financing: \$11.00 million

MARSHALL ISLANDS

KIRIBATI

NAURU

TUVALU

SOLOMON ISLANDS

VANUATU

FIJI

SAMOA

TONGA

COOK ISLANDS



SOUTH TARAWA RENEWABLE ENERGY PROJECT
Proposed—Total financing: \$13.70 million
SOUTH TARAWA WATER SUPPLY PROJECT
Proposed—Total financing: \$61.83 million

INCREASING ACCESS TO RENEWABLE ENERGY PROJECT
Proposed—Total financing: \$6.48 million



RENEWABLE ENERGY SECTOR PROJECT
Active—Total financing: \$43.65 million



RENEWABLE ENERGY DEVELOPMENT AND POWER SECTOR REHABILITATION PROJECT
Active—Total financing: \$26.76 million

SOLAR POWER DEVELOPMENT PROJECT
Active—Total financing: \$3.00 million

ALAGA MULTIPURPOSE DAM PROJECT
Active—Total financing: \$42.10 million



CYCLONE IAN RECOVERY PROJECT
Completed—Total financing: \$8.79 million

CYCLONE GITA RECOVERY PROJECT
Active—Total financing: \$6.98 million

OUTER ISLAND RENEWABLE ENERGY PROJECT
Active—Total financing: \$26.16 million

TONGA RENEWABLE ENERGY PROJECT
Proposed—Total financing: \$44.60 million



SUPPORT FOR ENERGY SECTOR REGULATORY CAPACITY AND RURAL ELECTRIFICATION INVESTMENT PLANNING
Completed—Total financing: \$1.20 million



ENERGY ACCESS PROJECT
Active—Total financing: \$11.94 million

Solutions for Paradigm-Shift in the Pacific

- MW-scale renewable energy (RE) and battery energy storage system (BESS) for main islands
- RE-based hybrid system for outer-islands
- Collaboration and co-financing with other bilateral and multilateral development partners and private sector
- Women's participation
- One ADB Approach



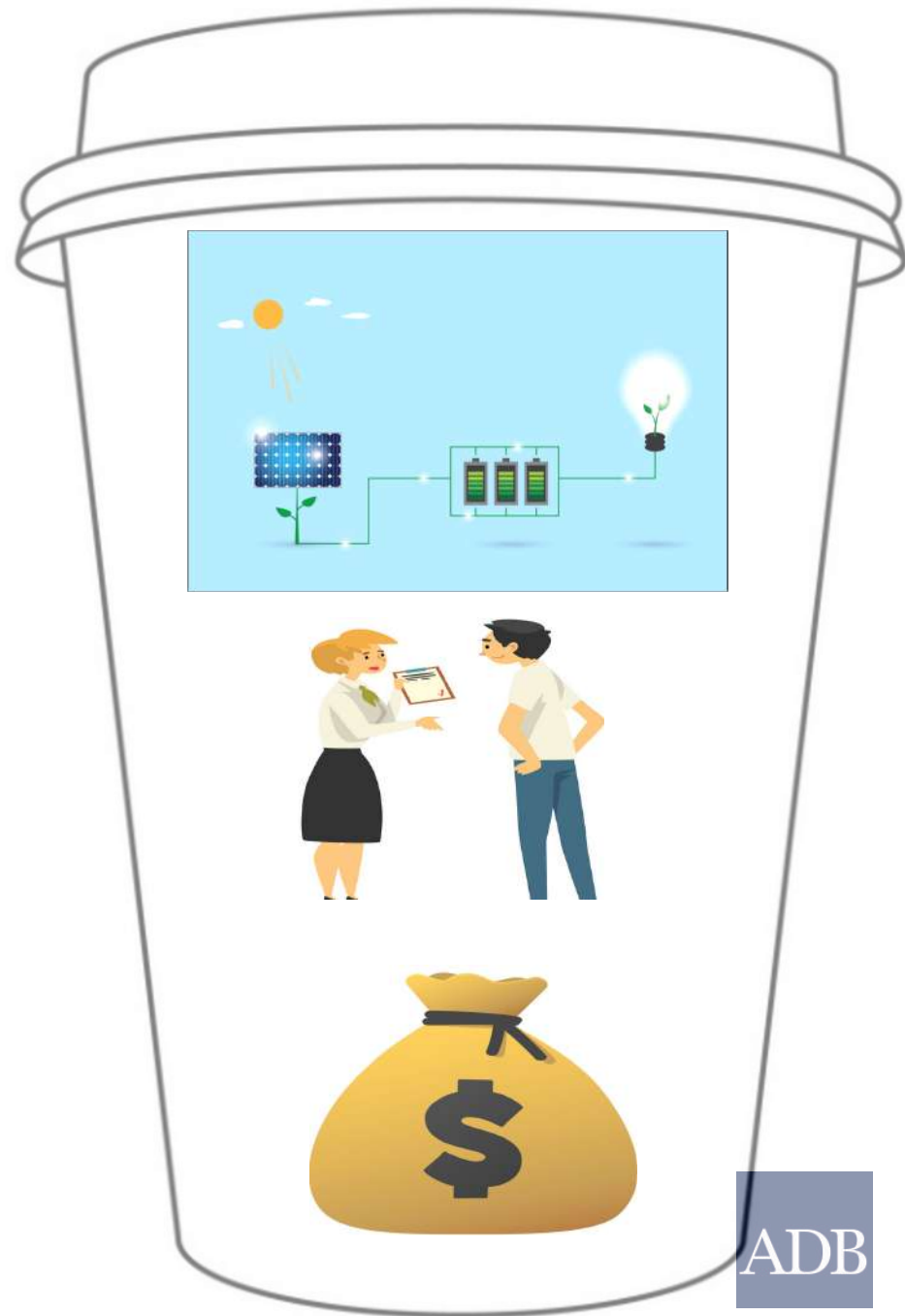


Tonga Renewable Energy Project

ADB's Public Sector Funding

ADB's Advisory Services

ADB's Private Sector loan and guarantee



ADB



Remarks from CEO of Tong Power Limited

A large, textured orange watercolor splash graphic on the left side of the slide, with various shades of orange and some darker spots, creating a painterly effect.

Take Away Messages

- Are you specialized in and passionate about the small-scale of RE/BESS/EV projects?
- Would you like to propose new and innovate solutions other than RE/BESS/EV for small islands countries in the Pacific?
- Would you like to contribute big development impacts with smaller investments?
- Would like to work for the Pacific?
- If yes, please contact us!!!

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PACIFIC ENERGY UPDATE 2019

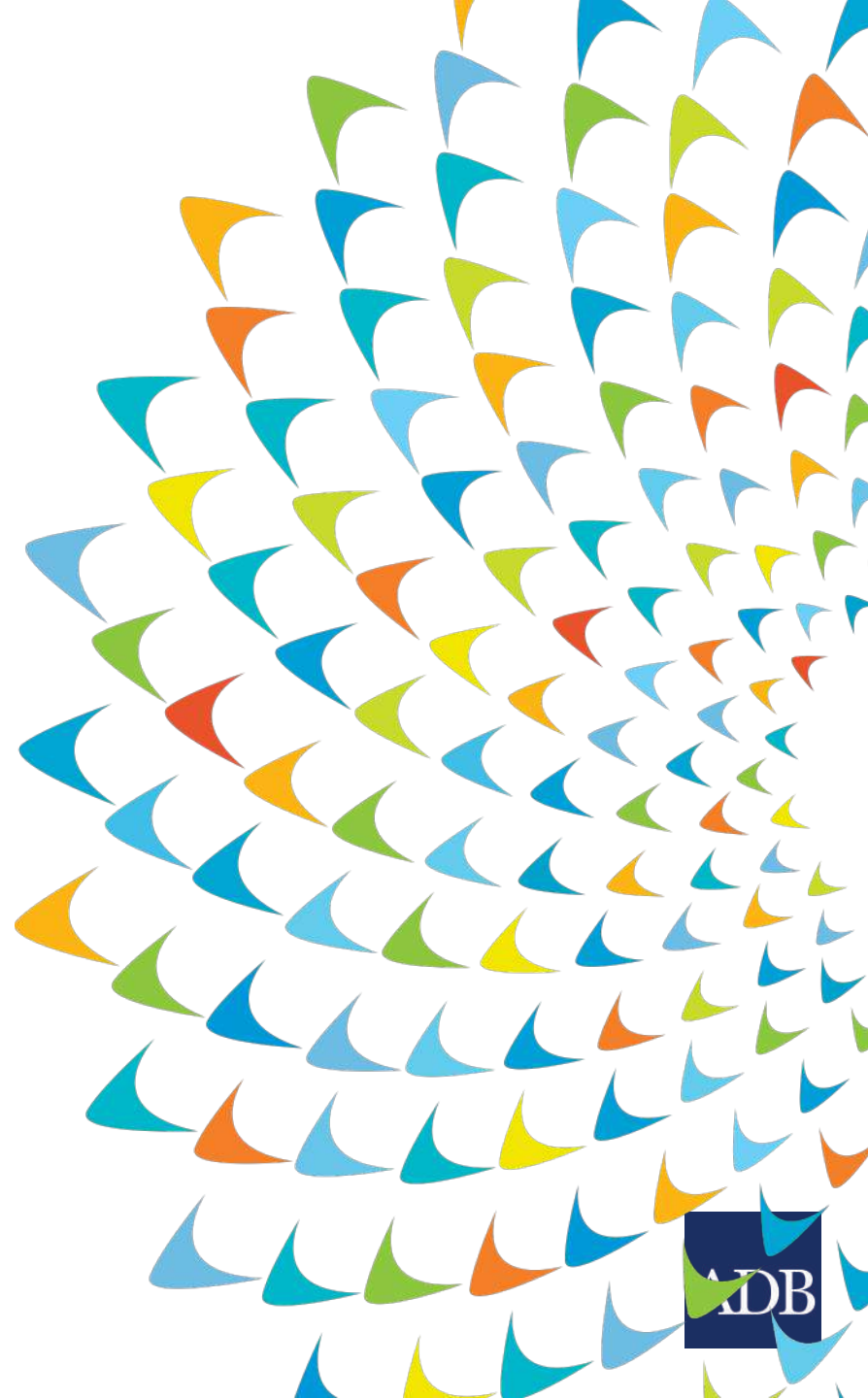
More
information

<https://www.adb.org/sites/default/files/institutional-document/545686/pacific-energy-update-2019.pdf>

ADB



Appendixes





Tonga Energy Road Map

Tonga's 50% Renewable Energy Target by 2020

Phase 1 (2014-2019)

Outer Island Renewable Energy Project [OIREP] (RE plants on 9 outer islands + power distribution network upgrades) funded by

- ADB Loan: \$2.50M
- ADB Grant: 11.44 M
- Government of Australia Grant: \$6.72 million
- European Union: \$3.57 million
- Second Danish Cooperation Fund for Renewable Energy and Energy Efficiency for Rural Areas: \$0.75M
- Global Environment Facility Grant: \$2.64 M
- Government of Tonga: \$1.57 million

Total: \$29.19 M

Phase 2 (2017-2019)

- 1 Solar IPP: ~ \$5.0 M
- 2 Wind Farms to be funded by JICA and Government of China : \$10-15M
- **Total: \$15~20 M**

Phase 3 (2018-2020)

Tonga renewable energy project (TREP):

- Green Climate Fund Grant: \$29.90M
- ADB Grant: \$12.20M
- Government of Australia Grant \$2.50M
- Tonga Power Limited: \$3.00 million
- Government of Tonga: \$5.60 million

Total: \$53.20 M

- ✓ 4MW Solar PV farms and 3.8MW wind farm to be developed by IPPs
- ✓ Potential contribution from Government of NZ for wind IPP (to be confirmed)
- ✓ Potential Biomass Plant _Funding sought

Tonga's Energy Efficiency Target (Reduction of Power Grid Losses to 9%) by 2020

Completed

1. Cyclone Ian Recovery Project to rehabilitate TPL's power grid on Haāpai (completed in 2015).

- ADB Grant: \$ 2.0 M
- Tonga Power Limited: \$0.5M

2. Tongatapu – Tonga Village Network Upgrade Project (completed in 2015).

- Government of New Zealand Grant: \$ 35 M

Total: \$37.5 M

Ongoing

1. 'Eua – part of OIREP (to be completed in 2018).
2. Vava'u – part of OIREP (to be completed in 2019).
2. Tongatapu – Smart Metering Project (completed in 2018).

- Government of New Zealand Grant: \$ 0.6 M
- TPL: \$3.0M

Total: \$3.6 M

Planned (Beyond 2020)

1. Nukuālofa Network Upgrade Project

- ADB Grant: \$ 6.8 M
- Government of New Zealand: \$8.0M

2. Battery Energy Storage System - part of TREP

3. Energy Efficiency Programs for residential and commercial customers

- Tonga Power Limited: \$0.5M/yr

Total: \$14.8 M (excluding TPL's annual contribution)



Pacific Renewable Energy Program (PREP)

*A project financing and donor-backed
guarantees program for private sector
investment in renewable energy projects
in the Pacific*



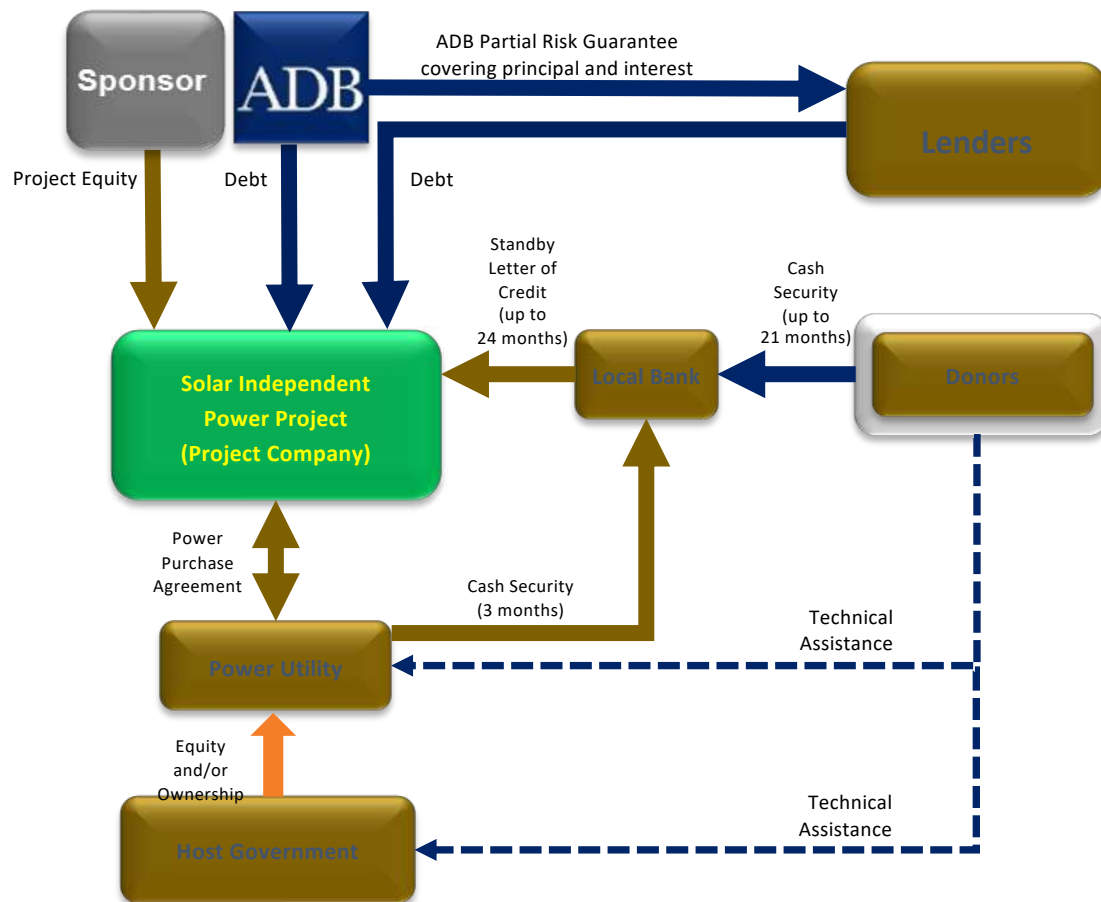
Overview

- The Pacific Renewable Energy Program, provides project financing and donor backed guarantees to support private sector investment in renewable energy projects.
- The Program aims to address:
 - short term liquidity risk in relation to the offtake obligations of power utilities; and
 - long term liquidity risk to address perceived political risks and termination payment
- The objective is to mitigate a key risk for investors and “crowd-in” the private sector to develop solar and wind projects in the Pacific.



The Program encourages private sector renewable energy investment by supporting short term liquidity risk through a donor backed standby letter of credit and by supporting long term investment through a partial risk guarantee.

Program Overview for a Potential Solar Independent Power Project



Key Features

1 Up to 99% Partial Risk Guarantee (PRG)*

Issued by ADB in favor of qualified lenders to the project company to guarantee against the following:

- ▶ Denial of justice and arbitral award default
- ▶ Transfer restriction
- ▶ Expropriation
- ▶ War and civil disturbance

2 Letter of Credit (LC)*

Issued by a local bank in favor of the project company, and in an amount sufficient to cover the monthly payment obligations of the power utility under the PPA for up to 24 months

3 Technical Assistance (TA)*

Arranged by ADB to assist the host government and/or the power utility with project preparation (e.g., tender preparation, power purchase agreement drafting)

4 ADB Debt Financing*

ADB's private sector operations department may lend to the project company alongside commercial lenders.

* Indicative only, subject to ADB satisfactory due diligence, internal credit and Board approvals, and final documentation relevant to each IPP and its sponsors.

▶ (PREP)





Frequently Asked Questions

- Does the letter of credit (LC) cover equity?
 - The LC is for the benefit of the project company to keep it operating as a going concern, pay expenses and make debt service payments (including to any ADB loan). If the LC is drawn and not replenished, dividend payments will be suspended at some interval until the LC is restored by the utility and normal operations resume.
- What happens if the LC is restored?
 - If the LC is restored and normal operations resume, then the LC will be rolled over for another 24 months.
- What happens if the LC is not restored?
 - If the LC is not restored, and the project goes into the default process, the partial risk guarantee (“PRG”) is exercised.
 - The PRG covers political risk and breach of contract, upon arbitration award.
- Can ADB lend in local currencies?
 - ADB can lend in local currencies by taking a risk participation (partial credit guarantee “PCG”) in a domestic or international bank that can directly lend in that currency.
- How does a sponsor or utility apply to use the Program?
 - For sponsors, there is no formal application process and interested parties can contact ADB’s private sector team directly so that we can assess a project’s suitability for the Program.
 - The Program can be introduced by utilities to bidders during a bid process but use of the Program is subject to ADB’s due diligence, internal credit and Board approvals, and final documentation relevant to each IPP and its sponsors.
- What size and tenor of financing is available?
 - Loans and guarantees combined total are \$10 million per project, with tenors of up to 15 years.
 - Equity is injected first.



One ADB Approach

