

 Early Warning System

ADB-49450-037

Energy Transition Project (formerly Smart Grid Project)



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## Quick Facts

<b>Countries</b>	Palau
<b>Financial Institutions</b>	Asian Development Bank (ADB)
<b>Status</b>	Proposed
<b>Bank Risk Rating</b>	B
<b>Borrower</b>	Government of Palau
<b>Sectors</b>	Energy
<b>Investment Type(s)</b>	Grant, Loan
<b>Investment Amount (USD)</b>	\$ 10.00 million
<b>Loan Amount (USD)</b>	\$ 10.00 million



## Project Description

As stated by the ADB, the project will install a total of 15 megawatt hour battery energy storage system (BESS), which will enable the grid to increase the utilization of outputs from the solar photovoltaic power plant and provide grid services to Koror-Babeldaob grid to equip Palau Public Utilities Corporation (PPUC) with tools to optimize the use of renewable energy. Protection systems will also be upgraded to reduce the frequent blackouts of the grid system, especially with the expected increase of outputs from the solar photovoltaic power plant. The project also includes a pilot vehicle-to-grid project, as a future option for further optimization of renewable energy generation.

Although Palau enjoys almost 100% electrification rate, it relies heavily on imported diesel for power generation. Over 97% of power generation is based on fossil fuel (diesel) and 3% on solar. To reduce reliance on fossil fuel and to meet the Nationally Determined Contribution target, Palau plans to integrate renewable energy through (i) two phases of independent power producers (IPPs) engagement, and (ii) solar roof top installations. The first phase of the IPP project (IPP-1) is expected to be complete with a 13.2 megawatt-peak (MWp) solar system and a 15 megawatt-hour (MWh) battery energy storage system (BESS) by early 2024. This IPP-1 solar system will bring the share of renewable energy to 20% of Palau's generation mix if the grid can accommodate its outputs. This will depend on optimizing the intermittent outputs of IPP-1 by minimizing curtailment.

PPUC plans to install a BESS in its grid system to achieve this goal. Reducing curtailment is critical to optimizing PPUC's operational efficiency because of the take-or-pay arrangements in the power purchase agreement. In addition to BESS, the government plans to make better use of IPP-1 generation capacity with an introduction of vehicle-to-grid (V2G) solutions. As a small island nation with limited demand for equipment necessary for V2G, a public sector pilot initiative is needed to test and showcase the effectiveness of V2G solutions.



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## **Early Warning System Project Analysis**

The ADB categorized the project risks as follows:

**Environment - B;**  
**Involuntary Resettlement - C;**  
**Indigenous Peoples - C.**



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### Investment Description

- Asian Development Bank (ADB)

*Information on the amount of the grant was not available at the time of disclosure.*



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**Private Actors Description**

As stated on the company's website, the Palau Public Utilities Corporation (PPUC) is a public corporation established to manage and operate the electrical power and the water and wastewater systems of the Republic of Palau.



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Private Actor 1	Private Actor 1 Role	Private Actor 1 Sector	Relation	Private Actor 2	Private Actor 2 Role	Private Actor 2 Sector
-	-	-	-	Palau Public Utilities Corporation (PPUC)	Undisclosed	Energy

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## Contact Information

### ADB Team Leader:

Yuki Inoue - Energy Specialist

*No contacts provided at the time of disclosure.*

## ACCESS TO INFORMATION

You can submit an information request for project information at: <https://www.adb.org/forms/request-information-form>

ADB has a two-stage appeals process for requesters who believe that ADB has denied their request for information in violation of its Access to Information Policy. You can learn more about filing an appeal at: <https://www.adb.org/site/disclosure/appeals>

## ACCOUNTABILITY MECHANISM OF ADB

The Accountability Mechanism is an independent complaint mechanism and fact-finding body for people who believe they are likely to be, or have been, adversely affected by an Asian Development Bank-financed project. If you submit a complaint to the Accountability Mechanism, they may investigate to assess whether the Asian Development Bank is following its own policies and procedures for preventing harm to people or the environment. You can learn more about the Accountability Mechanism and how to file a complaint at: <http://www.adb.org/site/accountability-mechanism/main>.





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**Bank Documents**

- [Project Disclosure PDF](#)



## Other Related Projects

- ADB-49450-001 Pacific Renewable Energy Investment Facility (formerly Pacific Renewable Energy Investment Program)
- ADB-49450-004 Pacific Renewable Energy Investment Facility (formerly Pacific Renewable Energy and Energy Efficiency)
- ADB-49450-008 Energy Access Project
- ADB-49450-005 Renewable Energy Sector Project - Additional Financing
- ADB-49450-010 Capacity Building and Sector Reform for Renewable Energy Investments in the Pacific
- ADB-49450-006 Outer Island Renewable Energy Project-Additional Financing
- ADB-49450-007 Majuro Power Network Strengthening Project
- ADB-49450-011 Energy Security Project
- ADB-49450-012 Renewable Energy Project
- ADB-49450-022 Preparing the Pacific Renewable Energy Investment Facility (Phase 2)
- ADB-49450-009 Solar Power Development Project
- ADB-49450-015 Increasing Access to Renewable Energy Project
- ADB-49450-023 Renewable Energy Development Project
- ADB-49450-021 South Tarawa Renewable Energy Project
- ADB-49450-028 Preparing Floating Solar Plus Projects under the Pacific Renewable Energy Investment Facility
- ADB-49450-035 Development of the Pacific Energy Regulators Alliance
- ADB-49450-029 Energy Access Project (Additional Financing)
- ADB-49450-027 Renewable Energy Development Project (additional financing)
- ADB-49450-026 Energy Security Project (additional financing)
- ADB-49450-036 Pacific Renewable Energy Investment Facility: Nuku'alofa Network Upgrade Project
- ADB-49450-038 Preparing the Pacific Renewable Energy Investment Facility, Phase 3
- ADB-49450-032 Increasing Access to Renewable Energy Project (Additional Financing) under PREIF
- ADB-49450-030 South Tarawa Renewable Energy Project (Phase 2)
- ADB-49450-043 Grid Enhancement for Sustainable Energy Transition (formerly Grid Strengthening Project)
- ADB-49450-042 Increasing Access to Renewable Energy Project - Second Additional Financing