

Application Form

PCCC-JICA Mentoring Service for the Public and Private Collaboration for Climate-Resilient Pacific

Note for applicants

- Applicants must include information about a project under development by filling each item on the application form.
- The total number of pages for the application **should be minimum 5 pages and maximum 10 pages** (excluding supplemental materials).
- An application for the Mentoring Service must be sent to the PCCC-ISPCCR (agnesw.ext@sprep.org and taiji.ext@sprep.org) by 06 August 2025.

1. Information of applicant

Date of submission	02/08/2025
Country	Papua New Guinea
Organization	Tropical Green Energy Limited
Department/ Division	Renewable Energy
Name of contact person	Mr. Justin Joe
Position in organization	Managing Director & Electrical Engineer
Contact information	E-mail: tropicalgreene24@gmail.com Phone: (+675)79955257
PCCC training programs or capacity building programs which you attended	☐ Hazard and Risk Assessment for Coastal Area Management by Using Remote Sensing Technology (Nov 2019) ☐ Climate Science – Observed Climate Change and Future Climate Projections (Sep 2020) ☐ Understanding Access to Climate Finance, Part 1: Essential Aspects for Access to Climate Finance (Nov 2020) ☐ Understanding Access to Climate Finance, Part 2: Gender, Social Inclusion and Safeguards (Nov – Dec 2020) ☐ Climate Change Adaptation and Disaster Risk Reduction through Structural Approaches (Mar 2021) ☐ Ecosystem-Based Adaptation and Mitigation (Jun – Jul 2021) ☐ Climate Resilience and Food Production Systems – Agriculture and Coastal Fisheries (Sep – Oct 2021) ☐ Enhancing Climate Resilience in Tourism in The Pacific (Jan – Feb 2022) ☐ Enhancing Climate Resilience and Safe Water Access in Rural Areas in the Pacific (May 2022) ☐ Health Systems and Climate Change: Enhancing

	Resilient and Low-carbon Development in the Pacific (Sep – Oct 2022) ☐ Climate change impacts and innovative solutions in the Pacific (Sep 2024) ☐ Others (please specify the name of the PCCC training course or capacity building program)
--	--

2. Information of a project under development

1. Project Title	Solar Power System for Maramuni Rural Hospital
2. Themes	☒ Energy
3. Country(ies)	Papua New Guinea
4. Project objectives and project components	
The Solar Power System for Maramuni Rural Hospital aims to provide a reliable and sustainable energy source for a hospital under construction in a remote area of Enga Province, where no power infrastructure exists. The Wabag District Development Authority (DDA) has allocated PGK 30 million for the hospital's infrastructure, but the energy solution requires separate funding. Planners face a choice between diesel generators, vulnerable to climate-induced disruptions like landslides and frosts, and solar power, which is more viable for its resilience and cost-effectiveness. The primary objective is to install a 50-kilowatt solar photovoltaic system with battery storage to power critical services, such as vaccine refrigeration and emergency care, ensuring operational readiness upon completion. This aligns with Papua New Guinea's National Adaptation Plan (NAP) 2022-2030, prioritizing resilient infrastructure (CCDA, 2025). A secondary objective is to support climate change mitigation by avoiding emissions from diesel generators, estimated at 20 tonnes of CO₂ annually. Solar power aligns with PNG's Nationally Determined Contribution (NDC) target of carbon neutrality in the energy sector by 2030 (World Bank, 2024). The project also builds local capacity through training, ensuring sustainable maintenance, critical for a new facility in a remote area. The first component is the solar system installation, managed by Tropical Green Energy Limited, leveraging its 2023 Wabag projects. The system ensures reliable power, unlike diesel, which faces fuel supply challenges in Enga's terrain. Funding will be sought from climate finance sources, separate from the Wabag DDA's infrastructure budget. Capacity-building workshops, led by Tropical Green Energy Limited, will train staff and technicians in solar maintenance, drawing on PCCC's climate resilience programs. This mirrors UNDP's renewable energy initiatives, ensuring sustainability (UNDP, 2023). Training addresses technical gaps in Maramuni, enhancing long-term viability. Community engagement, coordinated by the Enga Provincial Administration, will align the project with local needs, promoting solar's benefits over diesel. Consultations with	

residents, similar to the EU-STREIT PNG Programme, foster ownership (EU-STREIT, 2024). This ensures the energy solution supports the new hospital's community impact.

A monitoring framework will track energy output and healthcare improvements, aligning with the CCDA's Measurement, Reporting, and Verification (MRV) system. This builds on the USAID-supported Pimaga Rural Hospital solar project, ensuring a scalable model for new facilities (USAID, 2024). The components establish a climate-resilient energy solution.

5. Alignment with national and sectoral policies and strategies

The Solar Power System for Maramuni Rural Hospital aligns with PNG Vision 2050 and the National Strategic Plan 2010-2030, which prioritize sustainable infrastructure for remote communities. The hospital, funded by the Wabag DDA's PGK 30 million for infrastructure, requires a separate energy solution, with solar chosen for its sustainability over diesel. This supports the CCDA's mandate under the Climate Change (Management) Act 2015 to promote climate-compatible growth in vulnerable regions like Enga, where landslides disrupt development (CCDA, 2025). The project ensures reliable healthcare from the hospital's opening.

The project supports PNG's Second NDC (2020), targeting carbon neutrality in the energy sector by 2030. Solar power avoids diesel emissions, aligning with the World Bank's NEAT Project, which promotes rural electrification (World Bank, 2024). By securing separate funding, the project complements the Wabag DDA's infrastructure investment, ensuring environmental benefits for the new facility.

The NAP 2022-2030 emphasizes health sector resilience in the Highlands, where climate risks threaten services. Solar ensures the hospital operates during disruptions, addressing vulnerabilities noted in UNDP's assessments (UNDP, 2023). The project's focus on resilience aligns with national adaptation priorities, enhancing healthcare access.

The Enga Provincial Development Plan prioritizes sustainable infrastructure and health. Solar power supports these goals, benefiting communities reliant on the new hospital during climate events. The Wabag DDA's infrastructure funding underscores regional commitment, with the solar project enhancing impact, as seen in the EU-STREIT PNG Programme (EU-STREIT, 2024).

Collaboration with the CCDA ensures compliance with national climate governance, integrating the project into PNG's development framework. The separate funding for solar ensures alignment without diverting the Wabag DDA's infrastructure budget, strengthening policy coherence.

By aligning with national and regional priorities, the project establishes a sustainable energy solution for the new hospital, leveraging climate finance to complement the Wabag DDA's investment, positioning it as a model for climate-resilient infrastructure.

6. Justification of climate rationale (mitigation and/ or adaptation)

The project's mitigation rationale focuses on avoiding greenhouse gas emissions by choosing solar power over diesel generators for the new Maramuni Rural Hospital. Diesel systems would emit approximately 20 tonnes of CO₂ annually, but solar eliminates this, supporting PNG's NDC goal of carbon neutrality by 2030. Separate funding, independent of the Wabag DDA's PGK 30 million infrastructure budget, aligns with the CCDA's REDD+ and Mitigation Division efforts and the World Bank's NEAT Project (World Bank, 2024). Solar's viability ensures environmental benefits from the hospital's inception.

For adaptation, solar ensures reliable healthcare in a region vulnerable to climate hazards like landslides and frosts, which disrupt diesel fuel supplies. The 50-kilowatt system with battery storage guarantees power for critical functions, aligning with the NAP's focus on health infrastructure resilience (CCDA, 2025). UNDP's Highlands assessments highlight these vulnerabilities, underscoring solar's advantage (UNDP, 2023). The project prepares the hospital for climate challenges upon completion.

Solar's cost-effectiveness over diesel, which incurs high fuel and transport costs, enhances adaptation by ensuring affordability. Separate climate financing ensures sustainability without relying on the Wabag DDA's infrastructure funds, mirroring UNDP's renewable energy projects (UNDP, 2023). This approach supports long-term resilience in a remote area.

The capacity-building component trains local technicians, addressing technical gaps and enhancing community resilience. This aligns with the EU-STREIT PNG Programme's focus on sustainable infrastructure (EU-STREIT, 2024). Training ensures the solar system remains functional during disruptions, supporting healthcare delivery.

The project's dual mitigation and adaptation benefits create a holistic climate solution. Solar's reliability and environmental advantages make it the optimal choice, complementing the Wabag DDA's infrastructure investment. The project sets a precedent for new facilities in PNG.

By leveraging separate funding, the project aligns with PNG's climate goals, ensuring a sustainable energy solution for the new hospital, supported by the CCDA's vision and global climate efforts

7. Draft theory of change [OPTIONAL]

The theory of change for the Solar Power System for Maramuni Rural Hospital addresses the challenge of powering a new hospital in a remote area of Enga Province with no existing power infrastructure. The Wabag DDA's PGK 30 million funds the hospital's construction, but the energy solution requires separate financing. Planners face a choice between diesel generators, vulnerable to climate disruptions, and solar power, which is more viable for its resilience. The intervention involves installing a 50-kilowatt solar system with battery storage, training technicians, and engaging the community, ensuring reliable power upon completion. This aligns with the NAP's resilient infrastructure focus (CCDA, 2025).

The intervention's outputs include uninterrupted electricity for healthcare functions and zero emissions, avoiding 20 tonnes of CO₂ annually from diesel. Solar's cost-effectiveness, funded separately, reduces operational costs, aligning with the NDC's carbon neutrality goal (World Bank, 2024). These outputs ensure the hospital's readiness and environmental sustainability.

Capacity-building workshops, led by Tropical Green Energy Limited, train staff and technicians, drawing on PCCC's climate resilience programs. This mirrors UNDP's renewable energy projects, ensuring sustainability (UNDP, 2023). Training addresses technical gaps, enabling independent system management.

Community engagement, facilitated by the Enga Provincial Administration, aligns the project with local needs, promoting solar's benefits. Consultations with residents, similar to the EU-STREIT PNG Programme, foster ownership (EU-STREIT, 2024). This ensures the energy solution supports community healthcare demands.

The outcomes include reliable healthcare delivery, reduced environmental impact, and a scalable model. Solar supports critical services, as seen in the USAID-supported Pimaga project (USAID, 2024). Separate funding ensures viability without diverting the Wabag DDA's infrastructure budget.

The project establishes a climate-resilient hospital, contributing to PNG's climate goals and empowering Maramuni. It creates a replicable framework for new facilities, leveraging climate finance to complement the Wabag DDA's investment, aligning with global climate objectives.

8. Describe how the project promotes collaboration between public and private sector, and describe the name of the private company/ state-owned enterprise or another private sector actor that are/ can be involved in project financing or implementation.

The Solar Power System for Maramuni Rural Hospital fosters public-private collaboration, aligning with PCCC-JICA guidelines, by integrating Tropical Green Energy Limited with the Enga Provincial Administration, Enga Provincial Health Authority, Wabag District Development Authority, Maramuni Rural Hospital, and the CCDA. Tropical Green Energy Limited leads the design and installation of the 50-kilowatt solar system, chosen for its viability over diesel. The company contributes technical expertise from its 2023 Wabag projects, with funding sought separately from the Wabag DDA's PGK 30 million infrastructure budget, aligning with PNG's renewable energy goals (World Bank, 2024).

The Enga Provincial Administration and Wabag District Development Authority coordinates land access and consultations, ensuring alignment with the Enga Provincial Development Plan. Its role, supported by separate funding, mirrors the BRCC project, promoting sustainability (CCDA, 2025). The administration ensures solar meets regional needs, complementing the hospital's construction.

Maramuni Rural Hospital, under construction with Wabag DDA funding, will manage the

solar system upon completion, providing staff for training. This mirrors the USAID-supported Pimaga project, ensuring public sector ownership (USAID, 2024). Solar supports healthcare from the outset, enhancing the Wabag DDA's investment.

The CCDA provides policy guidance and facilitates climate finance, such as the GCF, aligning with the NDC and NAP. Its role, independent of the Wabag DDA's funds, mirrors the BRCC project (CCDA, 2025). This ensures national alignment and scalability.

Tropical Green Energy Limited's expertise, combined with public sector support, leverages solar's advantages, as seen in the EU-STREIT PNG Programme (EU-STREIT, 2024). Separate funding ensures the project complements the Wabag DDA's infrastructure budget, enhancing impact.

This collaboration creates a scalable model for rural PNG, demonstrating how public-private partnerships, supported by climate finance, deliver sustainable energy solutions for new facilities, aligning with global climate goals.

9. History of stakeholder consultation and communication with the relevant ministries including climate change focal point agency

The project's development involved consultations to align with priorities for the new Maramuni Rural Hospital, funded by the Wabag DDA's PGK 30 million for infrastructure. In October 2024, Tropical Green Energy Limited engaged the hospital's construction team to assess energy needs, confirming solar's viability over diesel due to its resilience to landslides. This aligned with the CCDA's climate-resilient infrastructure focus (CCDA, 2025). The discussions ensured solar meets healthcare demands.

In November 2024, the Enga Provincial Administration's Health and Infrastructure Divisions were consulted to integrate the project into regional plans. They endorsed solar, drawing on the BRCC project, with funding sought separately to complement the Wabag DDA's budget (CCDA, 2025). This ensured alignment with the Enga Provincial Development Plan.

In December 2024, the CCDA's Adaptation and Projects Division confirmed alignment with the NAP 2022-2030, exploring GCF funding to support the solar system. The CCDA recognized solar's sustainability, leveraging prior GCF engagements (GCF, 2024). This consultation ensured policy coherence without relying on Wabag DDA funds.

In January 2025, community consultations in Maramuni gathered resident input, promoting solar's benefits. This participatory approach, mirroring UNDP's projects, ensured ownership (UNDP, 2023). Separate funding supported these engagements, aligning with community energy needs.

In February 2025, the Department of Health endorsed the project for its health sector alignment, recognizing solar's role in the new hospital. This addressed Highlands' health challenges, complementing the Wabag DDA's investment. The consultation strengthened national integration.

The consultation process ensures inclusivity, aligning the solar project with PNG's climate and development goals, leveraging climate finance to complement the Wabag DDA's infrastructure funding, ensuring a sustainable energy solution.
10. Targeted climate financial sources if any (e.g. GCF, Adaptation Fund, bilateral donors, multilateral development banks)
The project targets the Green Climate Fund (GCF) via its Simplified Approval Process, aligning with PNG's prior engagements (GCF, 2024). Solar's resilience for the new hospital, separate from the Wabag DDA's PGK 30 million infrastructure budget, supports GCF priorities. The CCDA will guide proposal development, ensuring alignment. The Adaptation Fund is targeted for its focus on resilient infrastructure. Solar's reliability during climate disruptions aligns with the fund's criteria, building on the BRCC project (CCDA, 2025). Separate funding ensures sustainability without diverting Wabag DDA resources. Australia's Climate FIRST program, managed by DFAT, supports PNG's climate finance access. The project's solar focus aligns with its goals, as seen in similar initiatives (DFAT, 2024). Climate finance complements the Wabag DDA's infrastructure investment, enhancing viability. Tropical Green Energy Limited's technical contribution strengthens donor appeal, mirroring the USAID-supported Pimaga project (USAID, 2024). Solar's cost-effectiveness over diesel supports funding prospects, independent of Wabag DDA funds. The multi-source strategy ensures robust funding, leveraging GCF, Adaptation Fund, and Climate FIRST. This aligns with PNG's climate frameworks, ensuring sustainability for the new hospital's energy needs. Collaboration with the CCDA streamlines funding access, positioning the project as a model for financing climate-resilient infrastructure, complementing the Wabag DDA's infrastructure investment with climate finance
11. Human or financial support currently receiving for project formulation and implementation
Tropical Green Energy Limited provides technical expertise, drawing on its 2023 Wabag projects to design the solar system. This ensures solar's viability over diesel, aligning with PNG's renewable energy goals (World Bank, 2024). The expertise, separate from the Wabag DDA's PGK 30 million, supports formulation. The Enga Provincial Administration contributes in-kind support, facilitating consultations and land access. This aligns with the BRCC project, complementing the Wabag DDA's infrastructure funding (CCDA, 2025). Separate financing ensures the solar project's regional relevance. Maramuni Rural Hospital, under construction, offers future staff time and land, ensuring

integration. This mirrors UNDP's renewable energy projects, promoting sustainability (UNDP, 2023). The Wabag DDA's infrastructure budget supports the hospital, while climate finance funds the solar system.

The PCCC-JICA Mentoring Service provides technical guidance, leveraging JICA's expertise (JICA, 2024). This enhances project quality, complementing the Wabag DDA's investment with separate funding, ensuring alignment with international standards.

The support framework integrates private expertise, public coordination, and community involvement. Solar's advantages, funded separately, enhance the Wabag DDA's infrastructure investment, as seen in the USAID-supported Pimaga project (USAID, 2024).

CCDA's policy guidance supports formulation, ensuring alignment with national climate goals. This multi-stakeholder approach, leveraging climate finance, ensures a sustainable energy solution for the new hospital.

12. Description of institutional set-up for project formation

Tropical Green Energy Limited leads project design, leveraging its 2023 Wabag projects to ensure solar's viability. Funded separately from the Wabag DDA's PGK 30 million infrastructure budget, it aligns with PNG's renewable energy goals (World Bank, 2024). The company drives technical excellence.

The Enga Provincial Administration coordinates governance and consultations, aligning with the Enga Provincial Development Plan. Its role, supported by separate funding, mirrors the BRCC project, ensuring sustainability (CCDA, 2025). This complements the Wabag DDA's investment.

The CCDA provides national oversight, aligning with the NDC and NAP. It facilitates GCF access, independent of Wabag DDA funds, leveraging prior engagements (GCF, 2024). This ensures policy coherence for the new hospital.

The Maramuni community participates through consultations, ensuring ownership. This mirrors UNDP's projects, supported by separate financing (UNDP, 2023). Community input ensures solar meets local needs, complementing the Wabag DDA's infrastructure.

The PCCC-JICA Mentoring Team provides guidance, leveraging JICA's expertise (JICA, 2024). This enhances project quality, ensuring scalability with climate finance, separate from Wabag DDA funds.

This framework integrates private innovation, public governance, and community engagement, ensuring a sustainable energy solution for the new hospital, complementing the Wabag DDA's investment with climate finance.

13. Expected schedule for project formulation and implementation

By August 2025, the PCCC-JICA application will be submitted, initiating formulation. Separate funding, independent of the Wabag DDA's PGK 30 million, leverages JICA's expertise to align with the hospital's construction timeline (JICA, 2024). This ensures

readiness.

From September to December 2025, PCCC-JICA mentoring will refine the project, focusing on climate finance. This builds on the BRCC project, complementing the Wabag DDA's investment (CCDA, 2025). The phase ensures quality and scalability.

From January to March 2026, funding will be secured from the GCF, with CCDA support, independent of Wabag DDA funds (GCF, 2024). This ensures financial sustainability for the solar system.

From April to July 2026, Tropical Green Energy Limited will install the solar system, drawing on Wabag project experience (World Bank, 2024). Training ensures readiness, complementing the Wabag DDA's infrastructure.

From August to November 2026, monitoring will align with the CCDA's MRV framework, documenting impacts. This mirrors the USAID-supported Pimaga project, ensuring scalability (USAID, 2024). Separate funding supports accountability.

By December 2026, the project will be handed over, ensuring sustainability. This complements the Wabag DDA's investment, creating a replicable model for new rural health facilities.

14. References for existing feasibility studies, and projects/experience on which the proposal is based, etc.

A 2024 assessment, separate from the Wabag DDA's PGK 30 million, confirmed solar's viability, highlighting diesel's vulnerabilities. This aligns with CCDA's resilient infrastructure focus (CCDA, 2025). The study ensures technical feasibility.

The USAID-supported Pimaga project (2024) demonstrated solar's effectiveness, informing Maramuni's design. Its success provides a scalable model, complementing the Wabag DDA's investment (USAID, 2024). This strengthens credibility.

Tropical Green Energy Limited's 2023 Wabag projects showcase expertise, ensuring implementation. Separate funding aligns with PNG's goals (World Bank, 2024). Community engagement lessons are incorporated.

The World Bank's NEAT Project supports electrification, providing a framework (World Bank, 2024). UNDP's FREAGER Project informs solar implementation (UNDP, 2023). These align with national goals.

The BRCC project offers coordination lessons, informing the approach (CCDA, 2025). Separate funding ensures relevance, complementing the Wabag DDA's investment.

These references ensure reliability and scalability, leveraging climate finance to support the new hospital's energy solution, complementing the Wabag DDA's infrastructure.

15. Other related projects being implemented, under formulation, or under the approval process, if any.

The EU-funded Enga SISLaM project (2021–2026) supports climate-resilient agriculture, complementing the solar project’s healthcare focus. Separate funding enhances synergy, supporting resilience (UNDP, 2023). This aligns with the Wabag DDA’s investment.

Australia’s Climate FIRST program (2024–2028) facilitates finance, potentially supporting the project. Its alignment with BRCC enhances viability, complementing Wabag DDA funds (DFAT, 2024). This supports solar’s role.

The World Bank’s NEAT Project expands electrification, aligning with the project’s goals. Separate funding benefits from NEAT’s framework, enhancing scalability (World Bank, 2024). This complements the Wabag DDA’s investment.

UNDP’s FREAGER Project demonstrates solar systems, providing lessons. Separate funding aligns with its goals, strengthening credibility (UNDP, 2023). This supports the new hospital’s energy needs.

The BRCC project supports resilience, informing the strategy. Separate funding ensures integration, complementing the Wabag DDA’s budget (CCDA, 2025). This enhances national alignment.

These projects create a supportive ecosystem, leveraging climate finance to complement the Wabag DDA’s infrastructure investment, positioning Maramuni as a model for sustainable energy in new facilities and scalability. By leveraging existing initiatives, the project contributes to PNG’s climate and development objectives, positioning it as a model for the Pacific.