



New Zealand – Maluku Access To Renewable Energy Support

Background

Indonesia's remote province of Maluku is home to approximately 1,7 million people. According to the country's Central Statistics Agency (BPS) Maluku is the second happiest province in Indonesia and is home to one of the most culturally diverse populations. Maluku's fishing and agricultural production are some of the province's key economic competitive advantages, including production of a considerable portion of the world's nutmeg.

Although Maluku's electrification ratio has improved in recent years – increasing from 70,80% in 2011 to 92,44% in 2021 – it remains below the national average of 99,20%. In addition, more than 99% of its electricity is generated using diesel, with a few independent small-scale solar PV mini-grids. This fossil fuel dependency makes electricity generation volatile, expensive (0,20 USD/kWh, more than double the national average of 0,0739 USD/kWh), dirty, and unreliable.

Limited access to energy has been identified as one of the main obstacles to overcoming regional discrepancies both of a social nature and in terms of production capacity. Access to energy has the potential to improve welfare in the household, enhance social and community services, and enable economic activities. Renewable energy provides an opportunity to do this while helping Indonesia to meet its climate change goals.

Goal and expected outputs

NZMATES's goal is to support the uptake of affordable, reliable, and renewable energy in off-grid and grid-connected areas in Maluku Province, with the following expected outputs:

- Establish a Programme Management Office to engage with stakeholders, provide technical services, plan and coordinate
- Produce and maintain a mapping of the institutional, technological, electrification, and grants framework to support programme activities
- Support smooth progress of grid-connected and off-grid renewable energy projects towards funding and implementation
- Strengthen renewable energy skills of partners

Project period

April 2018 – June 2023

Approach



NZMATES is funded by the New Zealand Ministry of Foreign Affairs and Trade (MFAT), and implemented through a three-way Partnership Arrangement with State Electricity Company (PLN) and the Ministry of Energy and Mineral Resources (ESDM) Directorate General for New Renewable Energy and Energy Conservation (EBTKE) to jointly coordinate, plan, and provide direction for the programme.

NZMATES is being delivered on the ground by Infratec Ltd. and Yayasan Mercy Corps Indonesia. The programme is also working closely with provincial partners the Agency of Energy and Mineral Resources (ESDM) of Maluku Province and PLN Maluku and North Maluku Office (MMU), Provincial Development Planning Agency (BAPPEDA), Provincial and District Governments, and other key stakeholders in Maluku. NZMATES is a uniquely flexible and responsive programme, allowing the team to iteratively develop work plans that respond to key partners' needs and to changing circumstances throughout the lifetime of the programme, to ensure outcomes are achieved.

NZMATES

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The main tasks fall under four areas:

- **NZMATES office services:** A PMO and programme team is the face of NZMATES in Ambon, managing activities, resources, engagement and monitoring.
- **Programme framework:** Analysis of renewable energy legislation, rural electrification plans, energy access needs mapping, renewable resource assessments, technological solutions, and funding catalogues.
- **Project Pipelines:** Collaborate and support partners with planning, project identification, field surveys, feasibility studies, assessments, engagement efforts, grant matching, supervision and commissioning, O&M and sustainability measures for long-lasting projects, among other demand-driven tasks for off-grid and grid-connected renewable energy projects.
- **Capacity building and training:** Workshops, mentoring, technical exchange programmes, and interaction between Maluku educational institutions and NZ renewable energy specialists, in order to enhance local public and private sector RE capacity.

Projects supported in the NZMATES pipeline so far include:

- Technical and socio-economic assessments of broken solar mini-grids on remote islands, and recommendations for refurbishment
- Design and implementation of the refurbishment and upgrade of a solar and storage mini-grid on a small island in Central Maluku regency
- Pre-feasibility studies for hybridization of dozens of diesel grids throughout Maluku province with solar and storage
- Pre-feasibility studies for dozens of new off-grid solar and storage sites throughout Maluku province
- Support for supervision, operation and maintenance of rooftop solar installations in Ambon
- Due diligence of feasibility studies for several solar and hydro projects
- Fund-matching and proposal writing for projects with good viability
- Design and implementation of a solar training laboratory at Pattimura University in Ambon
- Support in strategic planning of renewable energy development at the provincial level with both Dinas ESDM and PLN.



Implemented by



Mercy Corps Indonesia

Funded by



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