



## 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 92,39% in 2019 – it remains below the national average of 99%. 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 of **Seram and surrounding islands 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 off-grid renewable energy projects towards funding and implementation
- Support smooth progress of grid-connected renewable energy projects towards funding and implementation as well as strengthen renewable energy skills of partners.

### Project period

April 2018 – June 2023

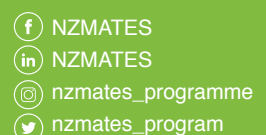
### Target areas

While the NZMATES programme's main focus is Seram and surrounding islands, we are currently supporting the assessment of existing solar and small hydro systems throughout Maluku, many of which are no longer operational, for possible refurbishment. The NZMATES project pipeline also includes some potential new solar and micro-hydro sites on Seram Island, and in future months and years more new projects will continue to be added.



#### NZMATES

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### » Approach

The New Zealand Ministry of Foreign Affairs and Trade (MFAT) has partnered 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 NZMATES through a Programme Steering Group. The NZMATES Programme is delivered on the ground by the Programme Management Office (PMO) in Ambon, staffed by Infratec Ltd. and Yayasan Mercy Corps Indonesia. The NZMATES Team has been working closely with provincial partners, the Agency of Energy and Mineral Resources (ESDM) of Maluku Province, PLN Maluku dan Maluku Utara Office (MMU), and the Regional Development Planning Agency (BAPPEDA) through a Technical Committee that plans, monitors, and works together on the implementation of tasks and activities.

NZMATES has also been working together with Provincial and District Governments and other key stakeholders in Maluku. NZMATES engages closely with communities to ensure their needs, concerns, requests, and views are reflected. 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.

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.



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