Section 1 Overview

Purpose

This grants manual is intended as a source of information about the procedures for accessing funding under the *Pawarim Komuniti* – PNG Off-Grid Electrification Program (also referred to as 'the program', 'OEP' or '*Pawarim Komuniti*'). The main purpose of this manual is to assist entities preparing funding applications for off-grid electrification or lighting projects and other initiatives.

The manual is divided into three sections;

- **Section 1:** provides an overview of the program – its background, objectives and procedures.
- **Section 2:** outlines project site locations, criteria for eligibility and selection, key operational systems, processes and procedures for applications, awarding, and due diligence.
- **Section 3:** provides information for entities and organisations that have received grants and refers to the OEP's standards, policies and guidelines for managing grants.

This grants manual will be updated periodically by the program based on the needs of grantees and lessons learnt from project implementation.

Background

Electrification rates in Papua New Guinea (PNG) are low. Official reports put them at 13 per cent although this likely does not include some small-scale stand-alone systems (e.g. solar home systems). Australia has committed to helping PNG reach its ambitious target of 70 per cent electrification by 2030. Some studies, including the National Electrification Roll-out Plan have optimistic assessments of how far it will be economically viable to extend the grid and increase on-grid connections. Other reports are more circumspect about the economic viability of large-scale grid extension, finding that for much of the population off-grid solutions will remain the most appropriate option for the near and medium term.

PNG currently has three large electricity grids operated by the state-owned vertically integrated electricity utility, PNG Power Limited (PPL). PPL also owns and manages mini grids in Provincial centres. PPL has exclusivity to a 10km radius around its existing grids. Private sector operators (including Independent Power Producers) can apply for a licence to operate outside this exclusivity zone through the Independent Consumer and Competition Commission. Operators with generation less than 10MW are excluded from this licensing requirement. For the purposes of the OEP, 'off-grid' is considered anything beyond the 10km exclusion zone, and less than 1MW of generation power that does not involve extending one of PPL's existing grids or management by PPL. The program will address grid extensions and support to PPL through mechanisms other than the OEP.

A rugged topography and a sparse population make it unlikely that national grid extension or intensification will provide access to electricity to a large proportion of the communities in Papua New Guinea, many of which are remote and isolated. Currently, villages in PNG have little or no access to electricity, relying instead on lower forms of energy such as kerosene (lighting) and biomass (cooking).[1] The dangerous appliances associated with these energy sources pose a serious health risk, as well as resulting in higher costs for households and increased greenhouse gas emissions. Government buildings and services such as schools and health posts sometimes function on small diesel generators, but poor maintenance and high costs of diesel combined with the logistics of getting services and diesel supplies delivered to site mean that run-down assets and long outages are common.

[1] ANZ Insight Report, *Powering PNG into the Asian Century,* 2015, p. 19

There has been an increase in uptake of small-scale solar appliances. This is still largely limited to 'non-quality assured' pico devices (single torches / lanterns), but some households in higher-income areas have started purchasing 20–50W solar home systems.

Households in rural areas would benefit from the use of decentralised and renewable sources of energy in the forms of cost saving, lighting reliability, increased income and creation of employment[2] but high-quality data on requirements and uses of energy by different communities is still lacking.

Objective

Pawarim Komuniti has two broad aims:

- Provide rural households, community service facilities and businesses with reliable and affordable access to clean energy.
- Support government, development partners, civil society and private sector with information on successful sustainable off-grid electrification models.

PNG has not experienced the same levels of innovation in this space as Africa, where market-based solutions for sales of solar home systems and income generating community owned mini grids have achieved reasonable levels of success in many places. While it is unlikely that models that are proving successful in parts of Africa will be directly transferable, *Pawarim Komuniti* seeks to encourage innovation of locally designed models of delivery and implementation of small-scale renewable off-grid electrification projects.

In addition to directly increasing electrification rates for communities around PNG, the program aims to stimulate activity in the off-grid sector and build an evidence base of what works in different contexts, to provide sustainable access to energy and foster income generating activities and improvement in the life of the community, as well as raising awareness and attracting further development initiatives. Evidence collection and sharing will therefore be a key objective of the program.

Principles

The program seeks to initiate electrification projects in line with the principles below.

- Deliver access to energy that has a positive development impact on people and communities.
- Deliver projects with benefits lasting beyond the immediate intervention / project delivery by ensuring local ownership and participatory involvement of beneficiaries and a focus on training in operations and maintenance.
- Provide technically and economically feasible solutions with a focus on renewable energy and avoiding harm to the environment.
- Ensure projects are inclusive of all population groups, with a strong gender component, understand rural households' needs of women and men, and have a focus on vulnerable groups.
- Innovate and pilot new models of delivery for technologies that are newly adapted for PNG.

Cross cutting themes and approaches

The program acknowledges the importance of mainstreaming gender equity, social inclusion (GESI) and safeguards in its operational process, as it is fundamental for the program and required under various DFAT policies and GoPNG's legal system.

[2] Global Green Growth Institute, Socio-Economic Analysis, 2018, p. 44

Women and girls in the communities are the caretakers of household energy (using biomass for cooking and lighting), thus electrification will have a significant impact on their livelihoods and their families. The involvement of women and other marginalised groups in the project cycle is essential to guarantee a beneficial outcome for all.

Pawarim Komuniti will ensure that gender equity, social inclusion and safeguards are practiced at the program and project level. It will ensure that GESI practices are considered throughout the implementation of the project and sustainably after completion (see the GESI Strategy for *Pawarim Komuniti*).

All application forms will include guiding questions on how the applicant will address benefits for women, girls and people with disabilities, and how the grantee organisation / company reflects the principles of gender equity, child protection and how environment and climate change risks are mitigated.

Customary landownership, land leases or acquisition of land must be clarified before a grant can be awarded and the applicants must demonstrate that landowners have been consulted and given consent for the development (if applicable). Generally, schools and health centres are built on state owned land, however evidence of this must be provided. The applicant must follow legal processes of land acquisition as stated in the *National Land Act 1996* and other PNG Policies.

Environment protection and climate change mitigation are other fundamental safeguards apart from land and child protection. Depending on the technology of the off-grid project (e.g. hydro or wind), an appropriate environmental impact assessment, focusing on the protection of endemic and threatened species, must be undertaken. A detailed environment plan with mitigation measures will be required for larger projects. Incorrect disposal of batteries will affect the environment and households; hence awareness should be extended to community members.