# Myanmar photovoltaic pv systems

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GPE completed the Taungdaw Gwin solar photovoltaic (PV) facility within ten months despite the challenges of the COVID-19 pandemic. The renewable energy project was commissioned in November 2022.

Downstream Petroleum, Shipping, Renewable Energy, Plastics & Ceramics Manufacturing, Real Estate, Wood Treatment, Corporate Finance, Banking, Insurance, Tea Production, Logistics and Distribution.

I can"t thank you enough for your understanding support through some difficult times. It is refreashing to work with someone who provides the utmost in professionalism and kindness

Countries with higher levels of poverty often have limited access to modern energy services (World Bank 2017). Universal access to electricity is widely regarded as a prerequisite for alleviating poverty to stimulate economic growth, expand employment opportunities, and support human development. Electricity access is critical for achieving the UN"s 2030 Agenda for Sustainable Development, and one of the targets for Sustainable Development Goal 7 is to expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing states, and land-locked developing countries, in accordance with their respective programs of support.

Despite all the goals, policies, and plans of the government, a significant population living in remote rural areas will remain far from the nation grid and unable to afford connection fees in the distant future. In general, the farther the village was from the grid, the lower the average income and ability to pay for energy services. The government estimates that of the 64,000 villages in Myanmar, about 40,000 are un-electrified. The geographical diversity makes it difficult to provide grid electricity to these isolated villages.

The Myanmar Department of Rural Development (DRD) under the Ministry of Agriculture, Livestock and Irrigation, which is the leading government agency in implementing the off-grid component of the NEP, seeks assistance from advanced countries and international societies, including the Taiwanese government. The International Cooperation and Development Fund (TaiwanICDF or Fund) subsequently starts a dialogue with the DRD to understand existing government and donor off-grid electrification programs.

Further, Myanmar has a strong solar radiation level, and around 60% of the land area suitable for solar PV installation (Asian Development Bank (ADB) 2016). Given the country"s high radiation rates, of the renewable energy technologies available for off-grid use in Myanmar, solar technology has become particularly popular among international donor community. The solar PV modules has fallen by more than 80% since 2009, while the global cost of solar PV power declined over 70% from 2010 to 2017 (International Renewable Energy Agency (IERNA) 2018). With globally rapidly declining price of PV systems and widespread use of highly efficient light-emitting diode bulbs in Myanmar, renewable energy solutions may be

a cost-competitive option to expand electricity access.

The main focus of the project is the solar PV technology and the nature of mini-grids. In the policy framework of Myanmar, the primary purpose of mini-grids is to fill the time-gap for many communities in rural areas until they connect to the national grid. However, some villages are simply difficult to access, hence the grid is not likely to extend to them in near future, possibly over 10 years. This is exactly the situation faced by some of the villages in the project. Therefore, for vulnerable groups and rural areas, the sustainability of solar PV mini-grids is even more critical, and in the interests of governments and communities.

The project team identified the specific sites from a list of villages provided by the government of Myanmar. Key parameters for site selection include geographical suitability, renewable energy resource potential, existing economic activity, population density, distance of main grid arrival, as well as the commitment and willingness of local communities. It also included a comprehensive survey of potential socioeconomic and environmental impacts. The team identified two project sites:

Site I: Inbingan Village

Site II: Bawdigone Village, ChiYarPinSu Village, Zeephyjim Village, Payagone Village.

The average irradiation in Site I is estimated to be approximately 5.34 kWh/m2/day and 4.78 kWh/m2/day in Site II--both are suitable for developing PV-based power applications.