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PRODUCTIVE USE OF ENERGY

Skills Development for Youth (SDY) Project

GIZ'S LONGSTANDING EXPERIENCE IN MYANMAR IN PROVIDING GREEN ENERGY TO VULNERABLE COMMUNITIES

Between 2016 and 2021, GIZ's Rural Electrification Program in Myanmar (RELEC), with funding both from the German Ministry of Economic Cooperation and Development (BMZ) and the New Zealand Ministry of Foreign Affairs and Trade (MFAT), has been working in disadvantaged communities in 9 regions and states (Bago, Chin, Irrawaddy, Magway, Mandalay, Rakhine, Sagaing, Shan and Thanintharyi). Village Electrification Committees (VECs) were trained to ensure the basic maintenance of the installations and also ensure that the highest possible number of community members benefit from the intervention. A total of 134 mini-grids with a capacity of 16-700 kWp covering an estimated 37,200 households were installed by the Program. This intervention was complemented by a three-pronged capacity-development approach targeting both communities and the private sector comprising:

- The formulation of basic standards such as mini-grid regulations, an environmental and social safeguarding framework, a gender mainstreaming strategy, and a gender action plan;
- The provision of specialized training in diverse areas such as inspection and verification of mini-grids, community operators' training to maintain/monitor the installations and collect the tariffs from households, GIS data collection and data analysis, codes and practices related to the grid-interconnection of distributed generation, the installation of smart meters and data loggers for monitoring the long-term quality assurance of the mini-grids;
- The technical and managerial empowerment of 20 private companies through financial training on how to develop solar-related business models, technical training on how to design, install, and commission solar PV systems with respect to demand (load) using simulation software, and the establishment of practitioners' forums where professionals can exchange knowledge and information on rural electrification practices.

4 regulatory mechanisms prepared, debated and primed for adoption

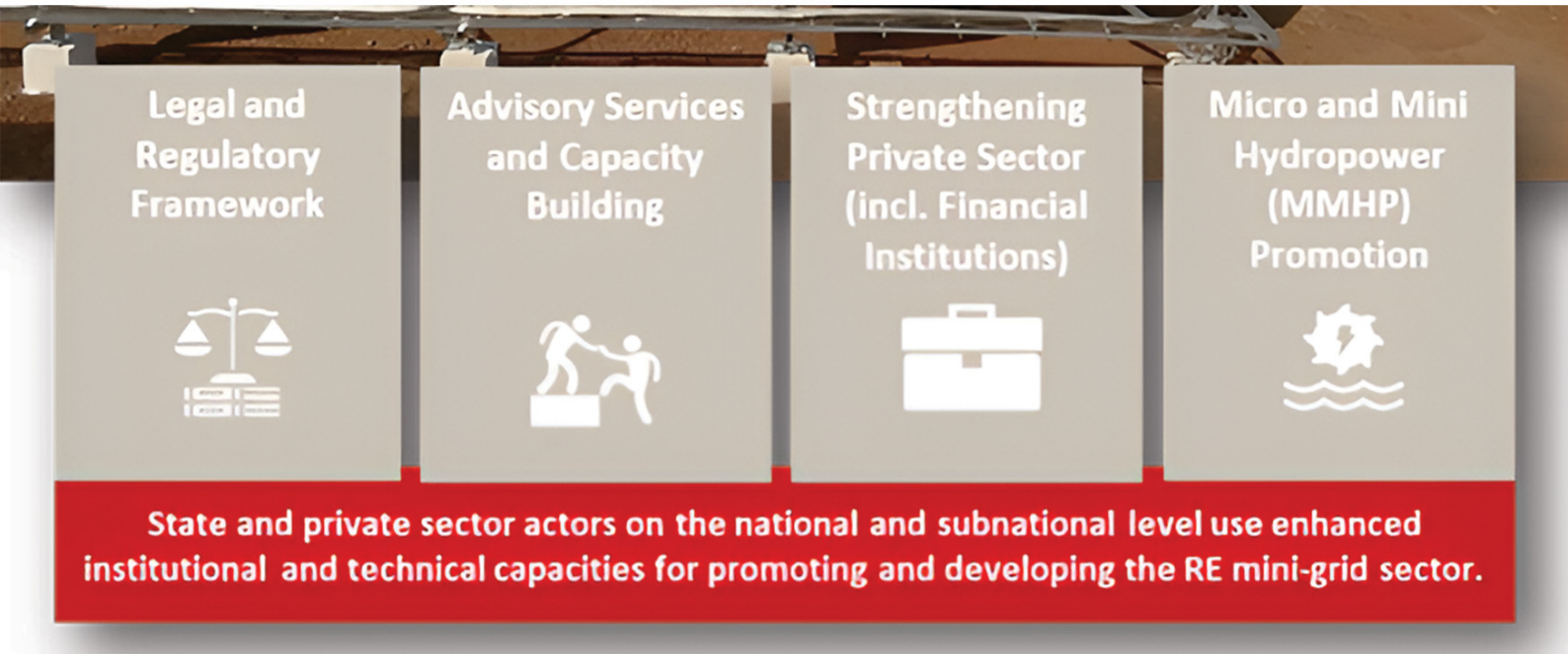
>37,200 households with access to electricity from mini-grids

>124 mini-grids signed and either operational or under construction

>USD 8m invested by 12 local companies

>4,500 tonnes CO_2 emissions avoided each year through RE -based mini-grids

>700 participants public and private participants trained on mini-grid planning and administration



PROVIDING VULNERABLE COMMUNITIES WITH ACCESS TO RENEWABLE ENERGY IN RAKHINE

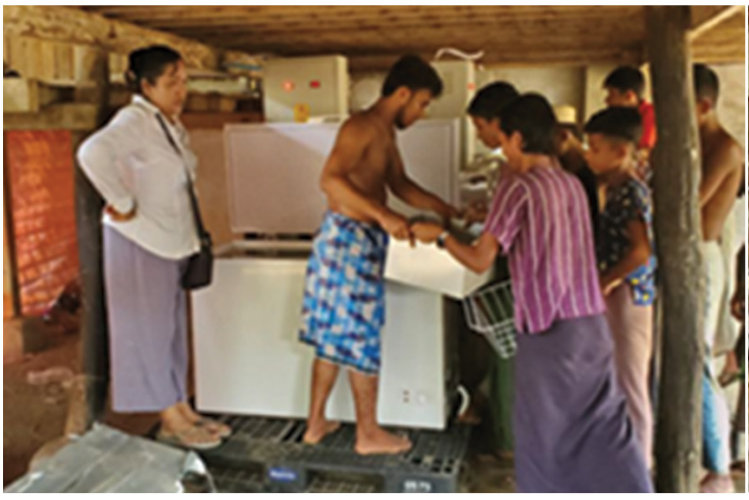
Skills Development for Youth" Project (SDY), funded by the German Ministry of Economic Cooperation and Development (BMZ), has been empowering vulnerable communities in Rakhine State since December 2017. The Project's component dedicated to the **Productive Use of Energy,** has been co-funded by the New Zealand Ministry of Foreign Affairs and Trade (MFAT) to provide vulnerable communities and IDP camps in Pauktaw Township with access to clean energy. Selected social infrastructure, particularly schools and clinics, alongside economic activities in the fishery sector have been electrified using off-grid photo-voltaic (PV) systems.

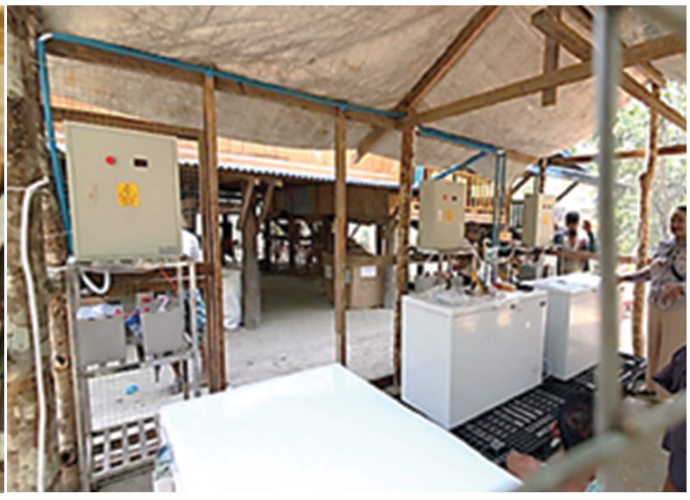
The component selected communities and facilities for electrification based on various criteria such as distance from the national grid, community demographics, and accessibility. The initiative aimed to electrify community-based education and health facilities provide street lighting in communities and IDP camps and offer training in solar maintenance to community members. By forming "village electrification committees" and training young electricians, to ensure the sustainability of the electrification efforts. Additionally, solar-powered freezers were provided to boost livelihoods in the fishery sector to increase productivity by using clean energy, and clinics received solar-powered fridges to store vaccines.

Overall, the community electrification and productive use of energy interventions have had a significant impact on expanding access to electricity in selected communities on 'Ah Lal Pha Yone Gar Island' in Rakhine, benefiting 7 communities and 3 IDP camps by improving access to healthcare, education services, and economic opportunities. Building on this success, the project is now strategically moving to Southern Shan State, where it is also electrifying community buildings in seven remote villages in Kalaw, ensuring that vulnerable communities gain access to reliable, sustainable energy.

By providing modern lighting, solar-powered systems, and training opportunities, the component has not only enhanced the quality of life for the residents but also contributed to sustainable development within the selected communities.

ECONOMIC EMPOWERMENT OF FISHER COMMUNITIES THROUGH SOLAR FREEZERS



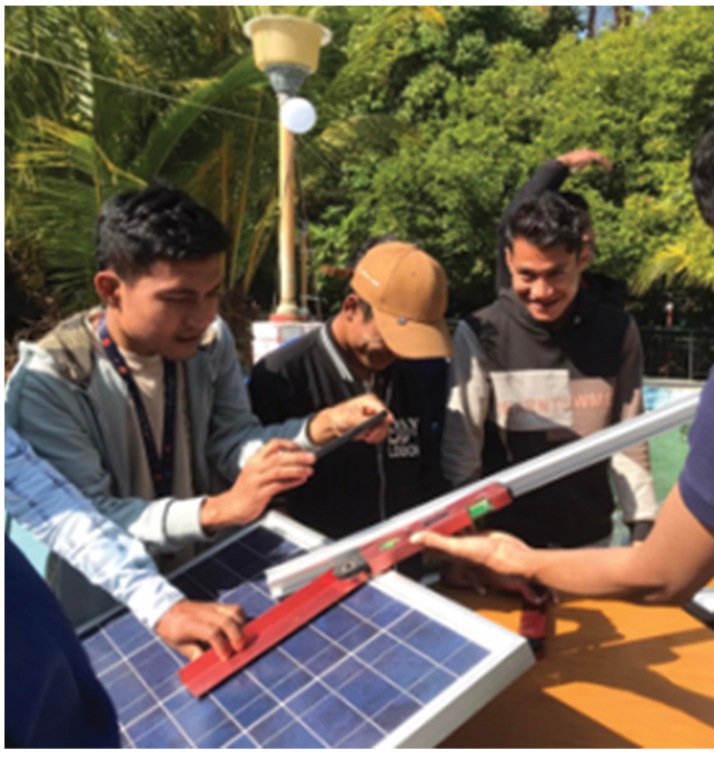


SDY is also contributing to strengthening the communities' economic resilience. The Project surveyed how electricity access could enhance fishery productivity, identifying cold storage as a key need for value addition and improved product marketing. Hence, four communities were selected to receive three freezers each with the required solar equipment to run them.

TRAINING ON SOLAR INSTALLATION AND MAINTENANCE

The Project has put in place a two-pronged approach to empower youths as well as the residents of the community members IDP camps with the necessary technical skills to engage in basic maintenance and operation of solar installations.

On the one hand, SDY's Community Electrification and Skills Development Components have been cooperating to train 70 young electricians that graduated from SDY's previous TVET courses. These technicians have been upgraded to acquire specific knowledge and practical competencies in solar systems design, as well as in maintaining and operating basic photovoltaic equipment. Upon graduation, the beneficiaries are equipped with a start-up kit and exposed to real-life working contexts under the supervision of solar companies to be able to apply their skills in the market, ensure constant solar services in Rakhine State and secure their livelihood.

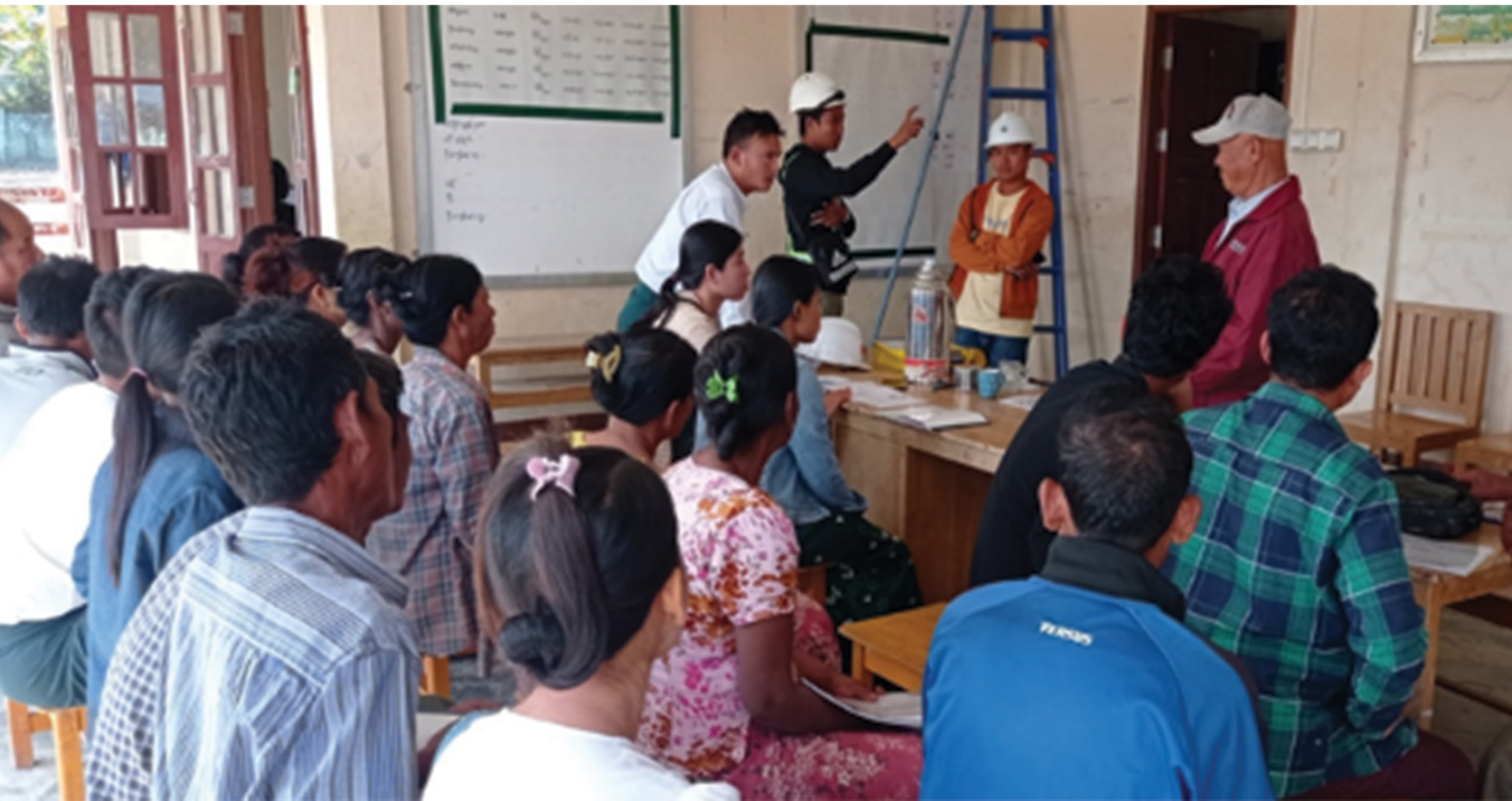


On the other hand, SDY and its implementing partners provided training to selected residents of communities and IDP camps on basic electrical and solar systems safety, operation and maintenance. 242 villagers and/or VEC members were trained (inclusive of 56 women and 93 minorities) on how to operate and maintain the installed solar PV systems. These trainings significantly contributed to strengthening the knowledge of electrical safety as well as the operational and maintenance capacities at the village level.

The installation of solar PV systems at schools, rural health centers, and streetlights, has an immediate impact, benefiting a total of 799 students from 8 communities who study at night with the number ranging from a minimum of 20 to a maximum of 200. Additionally, sub-rural health centers have witnessed in-patient visits, with a total of 458 patients every two weeks, with a minimum of 18 to 140. Moreover, 605 villagers from 10 communities benefit from the programme, as they can now safely pass the road in the morning or after sunset under the illumination of streetlights, with an average of 30 to 90 persons per day.

PUE LEARNING PLATFORM

The PUE learning platform sessions facilitated collaboration and knowledge-sharing to address challenges such as limited awareness of clean energy technologies and difficulties in integrating renewable solutions into existing supply chains. Using a structured, step-by-step approach, the platform offered practical guidance on planning, promoting, and implementing PUE initiatives. It combined hands-on learning with business development, helping participants translate theory into real applications.



During the sessions, participants explored the PUE concept through discussions on successful energy transitions in local enterprises such as welders and rice millers shifting from diesel to renewable energy. The sessions also identified opportunities for local production of goods currently imported to Rakhine, such as processed foods, and introduced new subsectors like solar-powered irrigation, pumping systems, drying facilities, and clean energy-based photocopying businesses as pathways for economic diversification.

Guest speakers were invited to the sessions with case studies demonstrating practical PUE applications. Shwe Chan Thar (SCT), one of the project's partners, shared its work in enhancing cold chain systems through solar-powered freezers in four fishing communities in Pauktaw. This initiative significantly reduced ice dependency and transport costs for 205 households. SCT also trained 70 youths from conflict-affected areas, addressing the shortage of solar technicians, with around 10%now employed in the sector.

Participants were further introduced to Smart Power Myanmar, a financing facilitator supporting SMEs/MSMEs to access clean energy technologies through loans and other mechanisms.

The sessions also inspired direct project improvements. For instance, the Youth and Community Development Network (YCDN) revised its project design after participating in the platform, integrating solar-powered irrigation systems in Kyauk Yan and Kyauk Kone Boke villages in Rathedaung Township. This benefited 133 households, improved agricultural productivity, and trained 20 youths in system maintenance—demonstrating PUE's scalability in agriculture. YCDN also plans to establish solar-powered social access centers in three IDP camps, each equipped with televisions and satellite access to promote social inclusion and information sharing.

Through collaboration with multiple implementing partners, the platform has advanced clean energy access in community-owned facilities, linking infrastructure rehabilitation with skills training and livelihood support. Overall, the PUE learning platform served as a catalyst for adaptive programming, enabling partners to align energy access efforts with broader development goals and enhance resilience through sustainable, locally driven solutions.

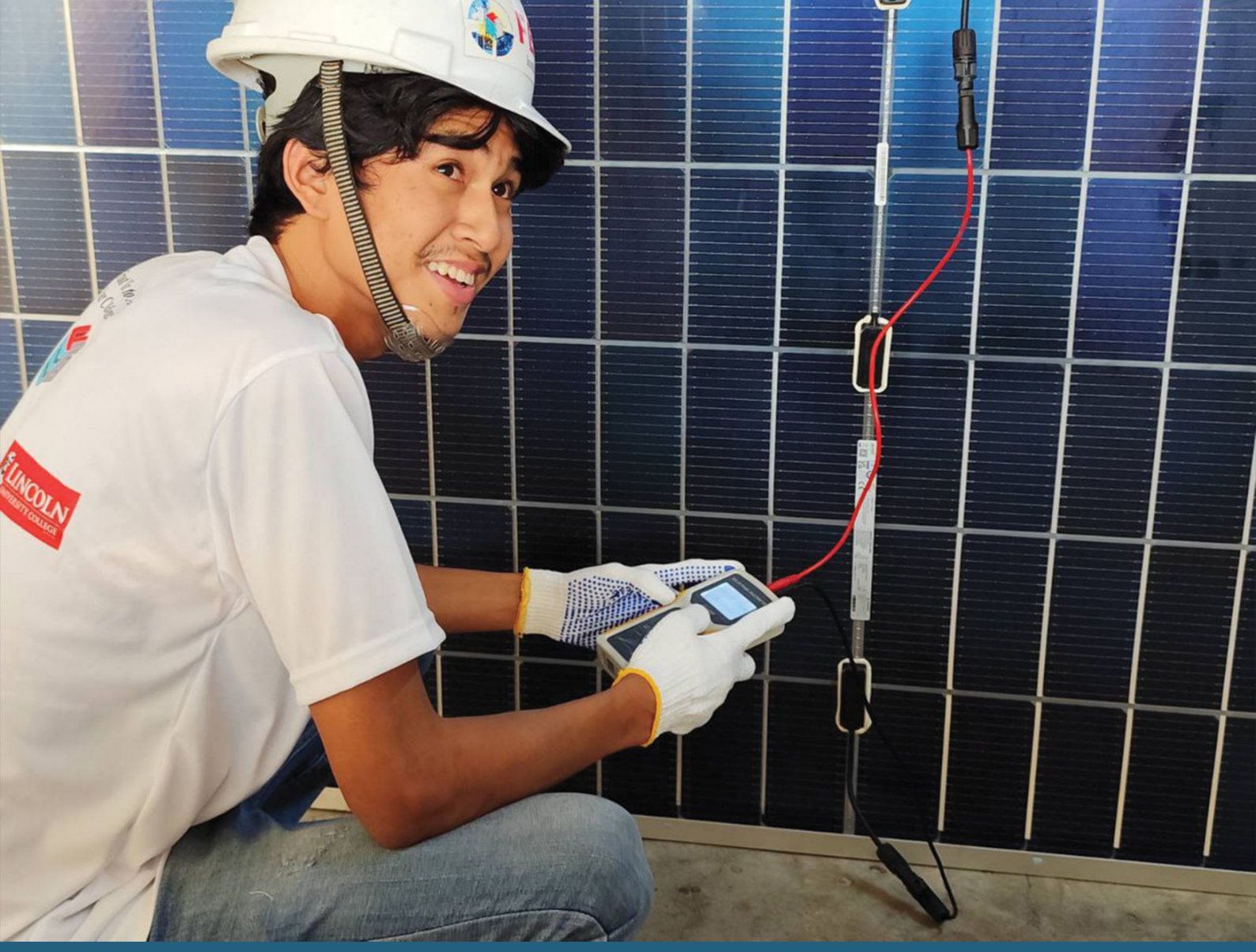
TESTIMONIALS

“Solar PV systems have enabled teachers to stay late and correct answer sheets, and some matriculation students are now able to study at nighttime. This has greatly enhanced the opportunities for our students," said the Head Mistress of Sin Tet Maw Rakhine High School.

“Around 200 students used to study at school using their battery lamps. Since the installation of solar-powered lighting, the students are now able to study under much brighter lights, which has greatly improved their learning experience," stated the Head of Ah Nauk Yae Camp.

Previously, the clinic relied on a generator, which was heavily used at night during childbirth, resulting in high fuel costs. However, the installation of solar PV systems has significantly reduced these costs. Additionally, the clinic can now operate other appliances, such as sterilizers and vaccine storage fridges, which has greatly benefited the villagers and those living in nearby areas who visit the clinic," stated the medical assistant from Myint Gar Village.

"We can now work more comfortably under bright lights, and the time required to start traditional stoves for hot water to sterilize equipment has been significantly reduced, thanks to the use of electric kettles. Vaccines can now be stored at precise temperatures in the vaccine storage fridge, which has improved our efficiency and effectiveness in providing healthcare services," said the nurse at Taw Tan Clinic.



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Skills Development for Youth (SDY) Project
4th Floor, Uniteam Office
Building 84, Pan Hlaing Street
Sanchaung Township Yangon Myanmar

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