

# Consumer Financing

**INSIGHT: Offering connection financing to rural customers helps unlock demand for electricity, increasing revenue for developers.**

One of the fundamental problems with mini-grids profitability in Myanmar is that electricity consumption of rural customers is very low. Insufficient demand creates a very real risk for mini-grid developers to sustain mini-grid operations in the future. With the goal of finding scalable ways to increase plant utilization through its Applied Energy Lab, Smart Power Myanmar is assisting developers to predict energy demand and optimize energy usage and sustainability through Proof of Concept testing.

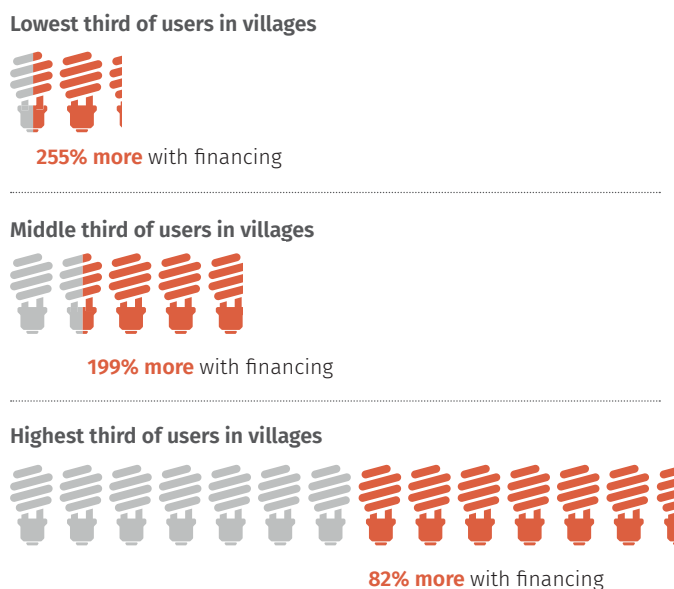
Access to finance has been identified as one of the major barriers for accessing and using electricity in Myanmar. Given the high upfront costs for connecting to subsidized

mini-grids in Myanmar, Smart Power Myanmar set out to test whether mini-grid connection financing could play a significant role in increasing access to electricity and provide stable revenue for mini-grid developers subsidized under the mini-grid program managed by the Myanmar Government’s Department of Rural Electrification. Between October 2018 and July 2019, almost US\$50,000 in zero-interest loans was disbursed through the Energy Impact Fund to 6 villages served by 3 developers. With support from Smart Power Myanmar, Village Electrification Committees disbursed and managed the financing for interested households. We surveyed about 30% of households for attitudes and energy consumption.

**FINDINGS:** We found that offering connection financing had a positive impact on electricity access and revenue for the developers. The data that we gathered<sup>1</sup> revealed the following:

- **Financial reasons** were cited as the primary reason some households chose not to connect. Ongoing monthly charges were of greater concern than the connection fees. The decision not to connect was still made even though most were aware that connection financing was available.
- **On average, 55% of the households requested financing from the Energy Impact Fund, with the average loan of US\$120**, which is equivalent to 67% of the average connection fee in a subsidised mini-grid setting.
- **Financed households doubled the monthly load for mini-grids** across all sites.
- **Financing was requested from consumers of all income levels.** The largest impact in total load volume was among **the highest third of electricity users, adding over 1,000 kWh per month to overall load.**

**FIGURE 1: Additional load associated with financed households**



1. Smart Power Myanmar. Nov 2019. Demand Report: Applied Energy Lab report covering the period October 2018 – August 2019.

## INSIGHTS & FUTURE IMPLICATIONS

With this early data, we have gained the following insights:

- 1 Demand for connection financing was high.** Financing facilitated access to electricity in more than half of all households. This was still the case even though at least 80% of all households initially committed to connecting at the time of site selection, prior to when connection financing from the Energy Impact Fund was made available.
- 2 Connection financing assisted developers by facilitating the timely generation of funds for mini-grid development capital expenditure (CAPEX).** For the Government-supported mini-grid program, the community's required contribution is currently 20% of the investment cost. Connection financing helped to raise the necessary funds to ensure timely deployment of mini-grids.
- 3 Early entry to communities is critical.** In villages where commitments to connect have not yet been established, offering the option of connection financing as part of the site selection process is expected to have much higher impact. In the villages tested, connection financing was offered after the village had already committed to a minimum of 75% of households to be connected. Communicating connection financing options to communities when developers are scouting potential mini-grid sites will likely change the distribution of potential sites by increasing the number of villages that are able to commit to a minimum level of connection coverage. Consumer financing options through facilities such as the Energy Impact Fund should be introduced while mini-grid developers first engage with communities.
- 4 The design of the current mini-grid subsidy scheme, requiring communities to contribute 20% of capital expenditure through connection fees of US\$200-250, may be unwittingly hindering electricity access while disincentivizing maximized plant utilization.** The sector should explore and introduce alternative subsidy structures, including those with smaller or no connection fees while incentivizing productive use and/or load development to raise revenue rather than subsidizing only the investment costs.
- 5 Better access to data and targeted analyses will help optimize performance and revenue.** Due to the absence of rapid access to end-user data, the data collection in the Applied Energy Lab was done manually, requiring significant time and resources, and limiting the data that could reasonably be collected. Developers are limiting their revenue potential by not accessing and analysing data effectively. Improved data gathering, analysis and sharing is essential for the future growth of the off-grid sector in Myanmar.

The Applied Energy Lab – in combination with the Energy Impact Fund for financing connections, appliances and productive use – is focused on solving some of the basic problems inherent in deploying mini-grids at scale in Myanmar. Our market assessment suggests that the potential viable mini-grid market could be as large as 16,000 mini-grids. Future technical notes will examine the impact of offering **financing for appliances** as well as **productive end-use** financing on the mini-grid business models.