

Rural Energy Resilience Trends in Myanmar: Snapshot of analysis and insights in response to major events

CONTEXT

In the last 24 months, Myanmar has experienced multiple significant events including three waves of COVID-19 and an intense political shift. As result, the distributed renewable energy sector has encountered three main challenges in the first half of 2021:

1. Heightened perception of risk from donors and other investors that has slowed or halted much needed investment in viable projects,
2. Compounded operational issues that come with serving remote and low-income markets (e.g., maintenance and payment issues due to limited travel and telecom disruptions), and
3. Increased economic stress on an already vulnerable rural customer base.

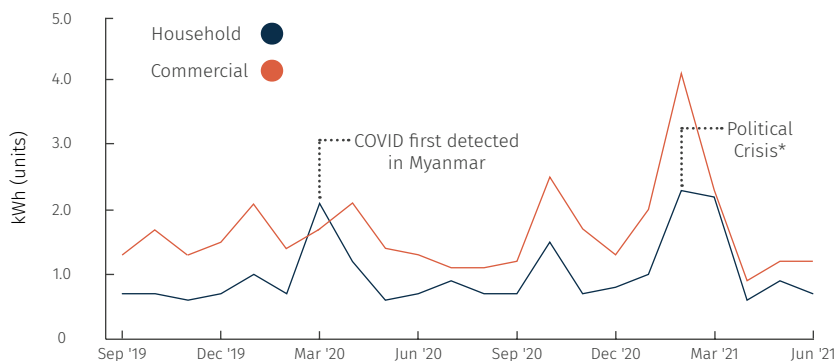
However, the impacts of these significant events and their accompanying challenges on mini-grid connected communities has been largely unexplored. In order to address this gap in understanding, Smart Power Myanmar investigated the impact of these significant events on rural electricity demand in 29 mini-grid sites and supplemented these data by interviewing over 14,000 households from July to August 2021.

The findings and insights from this survey data can be used to support the selection of new interventions that could strengthen and sustain the country’s nascent decentralised renewable energy sector and ensure that Myanmar communities continue to benefit from access to reliable, affordable electricity.

FINDINGS

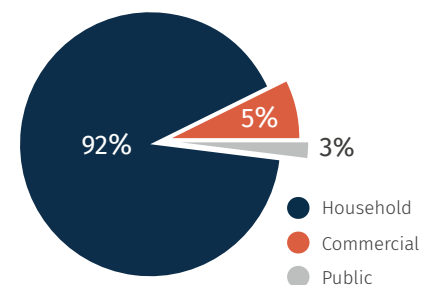
1. **Electricity consumption has remained steady throughout each wave of COVID-19 and immediately after Myanmar’s political crisis.** Household consumption remained consistent, with an average of 1.22kWh per user per day while commercial consumption averaged 2.04kWh per user per day.

Figure 1. Average User Consumption Per Day in 29 Sites



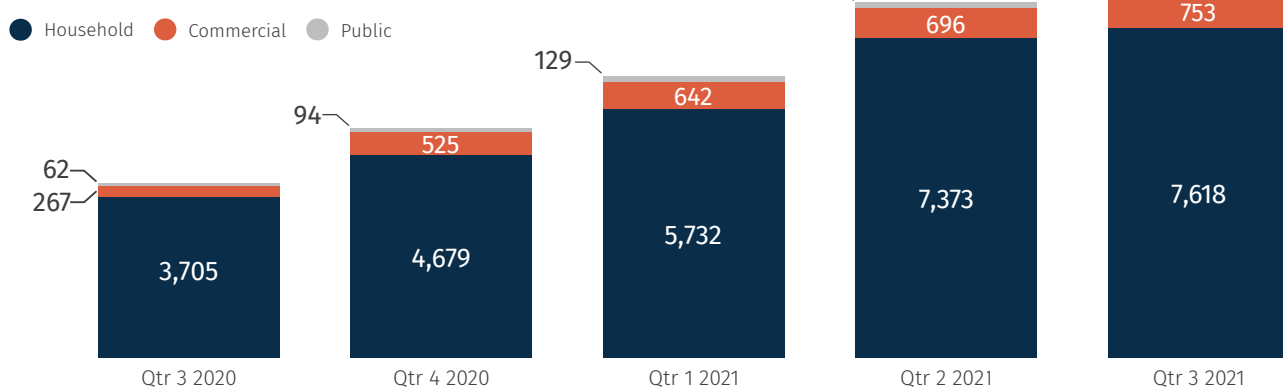
* Spikes in Feb-Mar 2021 are related to developers issuing pre-pay vouchers in the absence of internet communications and should be interpreted with caution.

Figure 2. Breakdown of Electricity Consumption In 29 Sites (Jan 2021 – Sep 2021)



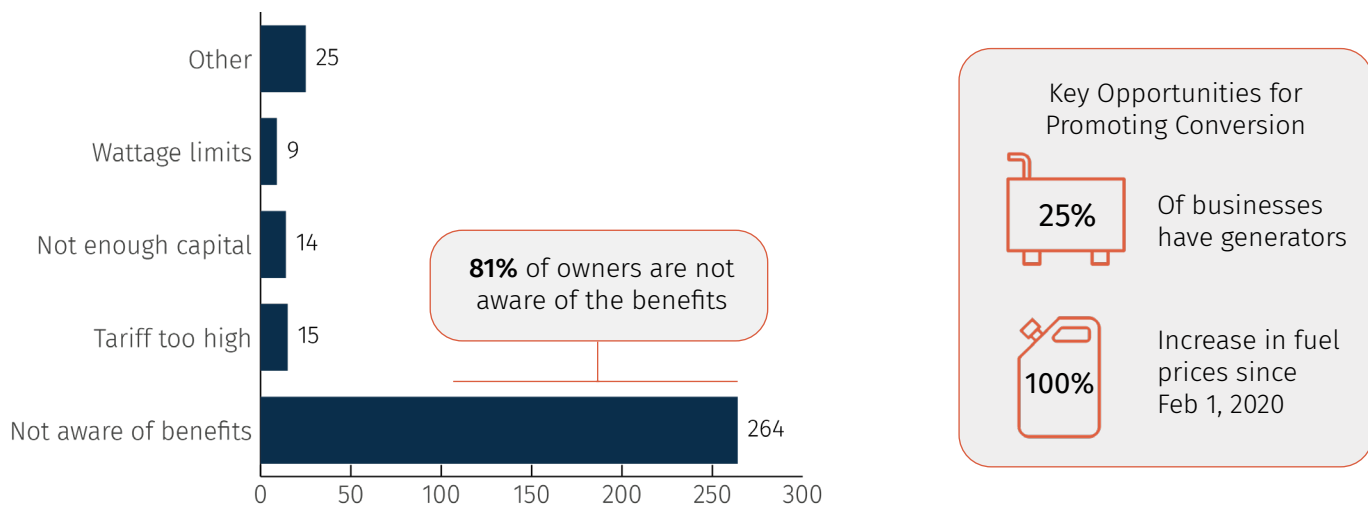
2. **Connection rates in 2021 continued to grow despite Myanmar’s political crisis, but appeared to be negatively affected by the third wave of COVID-19 and consequent restrictions on movement.** From January–September 2021, the number of household and commercial mini-grid connections monitored by SPM grew from 4,679 to 7,618 (5.5% growth per month) continuing the upward trend from the previous year. However, from June to September 2021 – the period marking the start of the third wave of COVID-19 – there were only 308 new household connections, representing 1% growth per month.

Figure 3. Number of Connections In 29 Sites



3. **A significant number of businesses have not converted due to a lack of knowledge or understanding.** When asked in our household survey why they had not converted, 81% of businesses with diesel generators reported they were not aware of the benefits and savings of conversion. This is notable as diesel prices in Myanmar have increased approximately 100% since February 1st, presenting a unique opportunity to encourage conversion.

Figure 4. Reasons that Businesses with Diesel Generators Have Not Converted (Based on 14,000+ Household Surveys)



INSIGHTS

1. **Affordable, reliable electricity clearly remains a high priority for rural communities in times of crisis.** Since the onset of COVID, financial insecurity in Myanmar has been on the rise. In July 2021, the World Bank noted that “ongoing political turmoil and the third wave of COVID-19” were “compounding the welfare challenges faced by the poorest and most vulnerable” ([World Bank, 2021](#)). Despite these issues, both household and commercial electricity consumption remained stable throughout this period while the rate of new connections remained consistent up until Myanmar’s third – and deadliest – COVID wave to date. In addition, there is ample evidence that local mini-grid developers are continuing to seek out new forms of financing to construct new mini-grids, but are struggling to identify patient capital to support expansion plans despite demand from communities. These findings challenge the assumption that electricity demand will immediately decline following a crisis and should be considered by national and international stakeholders seeking to support vulnerable communities. Specifically, there is an urgent case to be made for re-establishing access to finance for nascent mini-grid developers and their rural consumers.
2. **The opportunity is ripe for developers to encourage local businesses to convert from diesel to renewable energy.** With rising diesel prices and 25% of businesses having diesel generators, there is great potential to support consumer savings and improve developer revenues by promoting conversion. As 81% of business owners are unaware of the benefits of conversion, developers must focus on educating owners about the cost savings and business growth opportunities provided by conversion, particularly as these benefits are greatly enhanced by rising fuel costs. However, education is only the first step. Developers must also be proactive in supporting businesses with the successive steps (e.g., accessing the necessary finance and technical support). If successful, developers will stimulate economic development in the local communities, thereby improving the financial viability and sustainability of their mini-grid portfolios.
3. **Access to distributed renewable energy is still increasing, albeit more slowly.** Despite safety and travel concerns post February 2021, mini-grid developers continue to complete construction and operationalise mini-grids. Due to the sudden withdrawal of bilateral and multilateral funding, and the reduction in commercial bank lending for the mini-grid sector in Q2 2021, developers have been forced to seek out alternative means of financing in order to continue to add new communities to off-grid solutions. In the longer term, and in the absence of large subsidies, developers will need to develop more bankable business models that emphasise and integrate productive use and anchor loads. Stakeholders must also re-evaluate the criteria used in selecting new mini-grid sites, which can be supported by Smart Power Myanmar’s regularly updated site selection tools and data.