



**AFRICA CLEAN ENERGY (ACE)
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Consumer awareness and financing options required for stand-alone solar to reach more rural people in Nigeria

Blessing Ogbuewu is 34 years and lives with her husband, three children and her sister in Igbudu District, Ikwo Local Government Authority, Ebonyi State, Nigeria. Her husband is a rice farmer and spends most of his day on the farm. Two of her children attend school and her sister helps with house chores and taking care of the last child. Blessing has a stall from where she sells groceries. The money she makes caters for food while proceeds from the farm are mainly used for school fees and building the house. The family lives in a three-roomed house that is neither complete nor connected to the national grid. Blessing has been using a kerosene lamp and candles to light her home at night. She cannot afford a generator or its daily fuel requirement like some of her friends in the village.

Blessing's family is not alone. The International Energy Agency estimates that 77 million people in Nigeria do not have access to electricity. Moreover, millions of those connected to the grid have less than 12 hours of electricity every day. According to a study by the International Finance Corporation¹, Nigeria has one of the largest fleets of petrol/diesel generators globally, with three million generators – or one for every 60 people. Moreover, many low-income earners in Nigeria use kerosene lamps for lighting and cooking. Annually, more than 25 billion litres of kerosene are used for lighting in the country². The generators and kerosene lamps contribute to environmental pollution and other health and safety risks.

About a year ago, Blessing's friend who joined Solar Sister introduced her to solar products. Previously, she thought that solar products were quite expensive, not durable and would not provide enough light for her household needs. Blessing says, *'I used to see solar lanterns at the shop and would ignore them, always thinking they are just fancy little flashlights which are expensive.'* What she learnt from her friend changed her mind and within four weeks she bought her first solar lantern at N 3000. After using the lantern for a few weeks, she felt the price was reasonable especially as she was using the lantern for two to four hours each evening.

Blessing's husband was also impressed by the solar lantern such that he bought another two. Blessing is grateful for the lanterns because the school-going children can finish their homework even after dusk and study longer, and she feels more prepared to handle a night emergency compared to before when she was using a kerosene lamp. She uses the money she used to spend on kerosene for other needs and the quality of lighting in the house has improved. She still charges her phone at her neighbour's place, and together with her husband are saving up to buy a solar home system with multiple lighting points, phone charging capability and a radio.

¹ IFC (2019) [The Dirty Footprint of the Broken Grid](#)

² UNEP (2017) Partnership to accelerate the global market transformation for efficient appliances and equipment (United for Efficiency Initiative)

Blessing's aspirations to own a bigger solar solution represents the need of many other Nigerians. A working pay-as-you-go (PAYG) business model could be one way that stand-alone solar companies meet this demand. However, a recent market survey by the African Clean Energy Technical Assistance Facility (ACE TAF)³ found that only 28 percent of SHS users acquired the product through PAYG, while another 65 percent expressed interest in paying for future products using PAYG. Of these, 37 percent knew where to find the PAYG products, while 63 percent did not know. Further, consumers in peri urban areas have more access to PAYG traders (59 percent) followed by urban consumers (50 percent), but these services are rare in rural areas.

As noted in other countries like Kenya, a key pre-condition for success with PAYG is widespread use of mobile money platforms. To increase the uptake of PAYG especially in rural Nigeria, SAS traders may have to be incentivized where the mobile money infrastructure required does not exist. They will require support to overcome the infrastructure constraints and additional costs of entering rural markets. One approach would be to leverage the network of female entrepreneurs such as that created by Solar Sister. Ultimately the government and donor partners can establish programmes designed to facilitate partnerships that scale PAYG delivery in rural markets. Besides PAYG, other consumer financing models like partnerships with microfinance institutions, savings and credit cooperatives, and informal savings groups can be used to help consumers move up the energy ladder⁴.

The fact that Blessing initially had misconceptions about solar products points to the need for mass consumer awareness on the benefits of solar especially in rural areas where 72% of the potential market is found. Solar Sister has started creating awareness through female entrepreneurs who distribute a range of clean energy products including clean cookstoves mostly in the northern parts of the country. Development partners in Nigeria could consider a consumer education campaign like the one conducted by the Lighting Africa Program in Kenya⁵. Retailers can also start increasing their distribution networks in rural areas. Presently, most of the retailers are in urban and peri-urban areas⁶. After-sales service will also be a critical part of improving consumer confidence and use of solar in the country.

³ ACE TAF (2021) Nigeria Deep Dive (unpublished report).

⁴ ACE TAF (2020) [Access to consumer finance for vulnerable groups: One size does not fit all](#)

⁵ Lighting Africa (2012) [Lighting Africa's consumer education campaign wins Kenya marketing award](#)

⁶ ACE TAF (2021) Nigeria Deep Dive (unpublished report).