



## Furthering clean energy access through pay-as-you-go technology



### Background

The high upfront cost of solar products is a major barrier to the widespread adoption of decentralized, clean energy solutions in the developing world. Microfinance loans typically are not available for assets of this kind because of their high servicing costs. As a result, manufacturers strip functionality and durability from their products to bring down the upfront price, resulting in low-quality units with low light output and no phone charging.

Angaza Design has developed an innovative pay-as-you-go (PAYG) technology that enables off-grid customers to pay for high-quality solar products in small amounts over time, in a rent-to-own fashion.

The flexible pricing structure of PAYG enables customers to match energy micro-payments with their often erratic cashflow.

### Project purpose

To optimise the Angaza PAYG pricing structure with a randomised control trial (RCT), and then to scale up PAYG sales in partnership with SunnyMoney.



### Main activities and outputs

- Rigorously test the effects of different PAYG payment models among small-scale entrepreneurs in partnership with Innovations for Poverty Action (IPA), Massachusetts Institute of Technology (MIT), and SunnyMoney
- Offer 1,500 small-scale Kenyan entrepreneurs the chance to purchase Angaza's PAYG-enabled SoLite3 solar lantern and phone charger under different pricing schemes
- Determine the payment structure that optimizes PAYG solar product adoption and repayment rate
- Activate a 20-dealer sales network that will sell and service PAYG products to support off-grid power generation
- Develop marketing/customer education materials, dealer training methodology for PAYG solar
- After the RCT, incorporate PAYG solar into SunnyMoney's established distribution network in Kenya

### Expected impacts

- Data validated on the optimal pricing structure for PAYG solar to maximise product take-up, minimise defaults
- 1,000 SoLite units sold during trial, displacing 100 tons of CO<sub>2</sub>, and 2.9 MWH of solar energy generated
- PAYG dealer network of 60 persons set up in western Kenya
- 15 % month-on-month sales growth achieved for dealers
- 5,000 solar units sold in Kenya, displacing 500 tons of CO<sub>2</sub>
- PAYG data could apply to other distributed consumer goods such as water kiosks, clean cookstoves
- Data on CO<sub>2</sub> abatement and energy use collected in real time

#### Project Information

**Location:**

Kenya

**Duration:**

2013–2014

**Sector:**

Renewable energy

**Thematic focus:**

Business

**Total project budget:**

€ 575,886

**REEEP grant:**

€ 144,297

**REEEP donor:**

Norway

**Co-funding:**

€ 431,589 from Innovations for Poverty Action, SunnyMoney/SolarAid and Angaza Design

**Implementing partner:**

Angaza Design