

REMMMP BRIEFING NOTE

RENEWABLE ENERGY MICROFINANCE AND MICROENTERPRISE PROGRAM

In-House Asset Finance for Small-Scale Renewable Energy

While demand for small-scale renewable energy products among low-income consumers around the world is growing, most of these potential clients are unable to pay the cost of the devices they desire upfront. Poor consumers need access to finance to enable them to make these purchases. Some energy companies have elected to help their customers obtain financing through a credit facility provided by a third-party financial institution. Other energy companies are pursuing in-house asset financing strategies that offer consumers the convenience and simplicity of a one-stop-shop for purchasing a clean energy product and availing themselves of the financing necessary for that purchase at the same time.

At its most basic, asset finance is a loan to purchase equipment, which can take the form of either a “hire purchase” or “leasing” arrangement. Hire purchase is a financing solution for the purchase of a business asset. The customer pays an initial deposit, with the remainder of the balance and interest paid over a period of time in regular installments. On completion, ownership of the asset transfers to the customer. In the case of leasing, the leasing company buys and owns the asset. The customer, or lessee, then leases the asset, paying rent over a fixed period. At the end of the contract, the customer usually has a choice of extending the lease, buying the asset or simply returning it.

For energy companies, in-house asset finance involves providing customers with a pay plan that allows them to purchase a specific asset on an installment basis. Usually the plan has a set of conditions related to a down payment, such as the time period within which the installments must be made, as well as interest requirements and warranty provisions. Typically, a

service contract is part of the package. For low-income consumers, having a direct financing relationship with the asset provider has a number of benefits: interest rates are usually lower than those charged by banks or microfinance institutions (MFIs); repayment terms are often longer; and for renewable energy products like solar, the comfort of having a warranty and service package is an important consideration.

Asset finance provides a valuable alternative to conventional bank loans and is secured wholly or largely on the asset being financed, which reduces the requirement for additional collateral. For the user, it provides security because the finance cannot be recalled during the life of the agreement, and it is a sustainable solution as it offers the option to replace or update equipment at the end of the lease period.

Consumer demand, coupled with other business considerations, has prompted several energy enterprises that provide small-scale energy products for low-income end-users to take the strategic decision of developing an in-house asset finance capability. Companies cite a number of business reasons for doing this, ranging from the inability to find viable financing partners to the multiple benefits of having a direct financing relationship with the consumer. In some parts of the world, third party financing entities like banks or microfinance organizations may be absent from the local market or may be unwilling to provide credit for energy products due to the perceived risks of this type of lending. Providing credit directly enables an energy enterprise to build an on-going relationship with customers through the installment payment process. It also makes it easier to sell upgrades

or expansion packages, and significantly increases the pool of potential customers, many of whom cannot or do not wish to borrow from banks or other financial institutions. As the renewable energy sector matures and lessons are learned, distribution companies are exploring whether adding an in-house financing capability is a better option than partnering with an MFI. However, while the benefits of providing in-house credit might seem compelling, it is a complex and challenging undertaking. In order to provide this type of service, the asset financing company needs to have built the capability to identify and manage credit risk within its own organizational framework and

capabilities. The company needs to have the ability to undertake a risk assessment of low-income customers who, virtually by definition, have volatile incomes, are susceptible to financial shocks, and are expensive to reach and service. An additional consideration is that in some countries there are legal and regulatory requirements that need to be addressed.

This briefing note will provide examples of energy companies that have successfully developed an in-house asset finance capacity – SolarNow, Simpa Networks, Grameen Shakti and M-Kopa – and outline some of the lessons learned associated with in-house asset finance overall.

SELECTED CASE STUDIES OF IN-HOUSE ASSET FINANCE

1. SOLARNOW

Launched in 2011, SolarNow (www.solarnow.eu) is a solar company based in Uganda that sells, installs and services high-quality modular solar home systems (SHSs) on a hire-purchase basis to mostly rural households and businesses. The company offers clients a 12-month payment plan made available via its in-house credit facility. As of February 2014, SolarNow actively provides solar power to 3,819 Ugandan households.

Business Model

SolarNow uses the hire purchase business model and offers clients a “payplan” to enable them to buy a range of SHSs (50W to 500W) that cost from US\$340 to US\$3,000. Customers, who are identified by a group of dedicated SolarNow franchisees, must go through a rigorous credit assessment to ensure that they are able to pay for the product. Franchisees market the products and conduct an initial credit assessment, which is approved or declined by the head office in Kampala. Once approved, customers typically pay a 25% deposit on the system followed by 12 monthly installments, after which they own the system. Systems are dispatched and installed within 14 days. On-site inspections are made within 30 days, and again within three months. The hire purchase comes with a 24-month guarantee for free maintenance and warranty services.

SolarNow’s operations follow a simple, highly standardized and low-cost design. A state-of-the-art back office system ensures complete and correct client information is available in the field at all times, and enables management to intervene based on real-time management information as and when needed. The central team at SolarNow manages the credit approval and assessment process directly, including close, on-going interaction with customers. In addition to the introduction of a dedicated central credit risk management function, further improvements to SolarNow’s credit process have included centralizing the credit approval process, increasing franchisee ownership of delinquency management and credit losses, a proactive rescheduling model and repayment incentives.

For SolarNow, the hire purchase scheme has a number of advantages. The payment plan makes upgrading to additional power easy for all parties. The customer can double up from 50W to 100W, or even add an appliance such as a TV or refrigerator, signing on for another 12-month payment agreement to cover the cost of the upgrade. These payments are slightly lower than those in the initial 12-month hire purchase agreement. This not only stimulates on-time payments, it also reassures SolarNow of a customer with an established payment record, with lower-cost underwriting and reduced risk the second time around. Customers have responded positively

to the payment plan and the company reports a very low portfolio at risk (PAR) (1% less than 30 days delinquent and less than 0.3% write-offs), reflecting the effectiveness of the credit assessment and monitoring process as well as high product quality and customer satisfaction.

This combination of quality, credit and strong customer relationships has been the key to success. Quality and credit go hand in hand. Providing flexible credit is critical for managing affordability and maximizing market penetration. Customer satisfaction, transparency and excellent after-sales service drives commitment to pay. Remote disconnect technologies are making this easier to manage, but building strong relationships with customers is the key to successfully managing credit and growing a strong customer base for future growth.

2. SIMPA NETWORKS

Simpa (www.simpanetworks.com) is a Bangalore-based enterprise that sells “solar-as-a-service” through an operating lease with the client. A customer pre-pays for electricity via a pay-as-you-go meter that unlocks a SHS for the specific amount of service purchased (defined either as an amount of energy consumed or time used).

Business Model

Simpa offers clients Simpa-branded SHSs that range in size from 20W to 80W (and priced from US\$190 to US\$400) and come with a special meter – the Simpa Regulator - to enable regular payments. Simpa’s patent-pending Progressive Purchase technology – a combination of product-embedded hardware plus cloud-based software – makes the units eminently affordable. Customers make a small, initial down payment for a SHS and then pre-pay for the energy service, topping up their systems in small, user-defined increments, using a mobile phone and mobile agents. Each payment for energy also adds towards the final purchase price. Once fully paid, the system unlocks permanently and produces free, unrestricted energy for the life of the product. The platform’s flexible architecture allows integration into a wide range of energy systems and products that are sold to multiple customer segments under a variety of pricing models.

Simpa sells its products through “Simpa Urja Mitras” (Energy Friends), who are Village Level Entrepreneurs.

3. M-KOPA SOLAR

Based in Kenya, M-KOPA Solar (www.m-kopa.com) is an asset financing company that sells small-scale solar home systems to off-grid households on an affordable, 12-month mobile money payment plan via hire purchase. The company was established in 2011 by experienced mobile technology innovators following successful consumer trials in Kenya during 2010. As of February 2014, M-KOPA Solar actively provides affordable solar power to over 50,000 Kenyan households.

Business Model

Under M-KOPA Solar’s model, customers buy a SHS on an M-PESA payment plan (M-PESA is the Kenyan mobile banking platform). Clients make an initial deposit by daily payments for up to one year. M-KOPA Solar currently offers customers two systems. The d.light d10g SHS is a 4W system with three lights and a phone and USB charging port. The user pays Ksh 40 (US\$0.50) per day for 360 days with a deposit of Ksh 2,500 (US\$30). The d.light d20g SHS is a 5W system with three lights (two wall-hanging and one portable), a phone and USB charging port and a chargeable radio. The user pays Ksh 50 (US\$0.60) per day for 360 days with a deposit of Ksh 2,999 (US\$35). A two-year warranty is provided, and after completing payments, customers own the product outright. M-KOPA Solar reports a 95% repayment rate.

M-KOPA stands out because of its technology platform, which allows the organization to extend credit to customers who are otherwise lacking formal collateral or credit histories; the value to consumers of the savings from no longer purchasing kerosene; the convenience of mobile money for making regular, tiny repayments; and high organizational effectiveness in managing such regular installment payments of tiny amounts.

The linking of mobile money – highly developed in Kenya through the M-PESA platform – with a credit facility permits asset finance in a more efficient, cost-effective way, and regular, very small repayments are desirable for consumers with high income volatility.

4. GRAMEEN SHAKTI

Founded in 1996 and based in Bangladesh, Grameen Shakti (www.gshakti.org) is a not-for-profit that is part of the Grameen Bank family. The goal of Grameen Shakti is to promote and supply renewable energy technology at an affordable rate to rural households in Bangladesh. The company focuses on both the technical and capacity-building sides of renewable energy promotion as well as the financing needed to make renewable energy applications affordable for poor rural households. Today, Grameen Shakti is a global leader in sales of SHSs to the poor, and one of dozens of participating organizations following a business model that is prescribed by the Bangladesh Ministry of Finance's Infrastructure Development Company Limited (IDCOL). As a result of following the IDCOL model, Grameen Shakti is able to access a government subsidy that substantially reduces its costs as an energy provider. As of November 2012, it had installed solar systems in over 1,000,000 homes.

Business Model

Grameen Shakti offers financing packages for SHSs, improved cookstoves and biogas plants. The SHSs range in capacities from 10W to 85W, and the larger systems provide not only lighting but can also power other devices, including TVs. Grameen Shakti allows its customers to pay for their SHSs (which typically cost between US\$150 and US\$300) in installments over a period of up to three years. This is achieved through a monthly service charge that combines the cost of the equipment, maintenance and financing. Customers are offered six different financing plans that require different down payments, payback times and service charge incentives.

- ◆ **Option 1:** 35% down payment, remainder payable over 12 months at a flat rate service charge of 5%.
- ◆ **Option 2:** 25% down payment, remainder payable over 24 months at a flat rate service charge of 6%.
- ◆ **Option 3:** 15% down payment, remainder payable over 36 months at a flat rate service charge of 8%.

- ◆ **Option 4:** 100% down payment with a 4% discount on the total package price.
- ◆ **Option 5:** 10% down payment, remainder payable over 36 months at a flat rate service charge of 5% (only for a microutility system of 20, 40 and 50 W).
- ◆ **Option 6:** 25% down payment, remainder payable over 12 months with no service charge (only for a mosque, temple, pagoda, church). Two types of improved cookstoves are offered, one for domestic cooking and one for commercial cooking. While there is a range of stove size available at different prices, there are only two types of payment plans that are offered:
 - ◆ **Option 1 for domestic cooking:** 50% down payment, remaining 50% payable after installment.
 - ◆ **Option 2 for commercial cooking:** 50% down payment, remainder payable over 6 months at a flat rate service charge of 6%.

For biogas, five different-sized biogas plants are offered at different prices but the payment plan is the same: 15% down payment, remainder payable over 24 months at a flat rate service charge of 8%. The IDCOL subsidy is deducted from total construction cost.

The comprehensive package of services customers receive includes installation, customer training and a warranty (which for the SHS is five years on the battery and 20 years on the solar panel; for the biogas plants, it is two years). Technicians collect the installments during their monthly service visits. Customers are aware that the technician and installment collector is one and the same person, and that this person is incentivized to reliably appear once a month; likewise, Grameen Shakti knows that its customers value the necessary maintenance that incentivizes them to continue payment. The alignment of incentives between the organization and the customer is key to Grameen Shakti's successful finance facility.

LESSONS LEARNED

While asset finance is a common form of financing for larger commercial entities, it is still relatively new in the small-scale renewable energy sector. Based on experiences to date, some key lessons are emerging, which will be useful for entities seeking to begin offering asset finance.

1. Understand and implement the “specialist” function.

Choosing to offer asset finance is in effect choosing to get into a new line of business. It means making the right product selection for the commercial and regulatory realities of a specific market and means that all of the requirements for offering credit must be in place. This includes developing policies and procedures for credit assessment, monitoring and collection. The interest charged to customers must be accounted for and reported correctly. Risk of loss through non-collection must be quantified. Cash must be raised to fund the portfolio of credits for a much longer period than previously – up to three years, if that is the term chosen. Systems are affected from front-end data capture, new analytics, adjusted financial reporting and document management for records that are legally required to be stored and accessible for long periods. To do all of this successfully, a company needs to hire people with the right skill sets, and ideally create a new department within the energy company to manage this function. Adding a new layer of technical complexity in the last mile could create additional unforeseen challenges for small-scale energy entrepreneurs.

2. Selling with credit is different. Most sales complete on delivery, however credit sales are complete when the last payment is made. Credit benefits, terms and obligations must be clear to the customer as well as the organizations’ sales channel (the sales team, dealers or agents). The process of selling will involve more than just product attributes; it will include a credit assessment and collection process. Since some customers will not be selected, a procedure for handling rejection is important. Incentive schemes need to be crafted accordingly.

3. Customer satisfaction must last the whole length of the credit term. Successful asset financing depends on customer satisfaction for the full length of the credit term. If a three-year credit is offered, and the equipment fails in month 30, the customer will not pay, and costs may not be fully recovered. Therefore, close attention is required to product features, performance and after-sales support.

For an in-depth case studies on Simpa and SolarNow, and to see other Arc publications, please see www.arcfinance.org/knowledge.

This briefing note series is a core offering under the Renewable Energy Microfinance and Microenterprise Program (REMMP), which is implemented by Arc Finance and funded by the United States Agency for International Development (USAID). The central goal of REMMP is to increase access of underserved populations to clean energy products to improve livelihoods and quality of life, while minimizing climate-damaging emissions.