

Fact Sheet “The Potential of Linking Microfinance & Energy Supply”

This document was prepared by MicroEnergy International and PlaNNet Finance Deutschland following the 4th Microfinance-Breakfast organized with Up Micro Loans at Pöllath + Partners on March 4th in Berlin. Microfinance-Breakfasts are organized regularly in Berlin within the frame of the UMM programme (“University Meets Microfinance”) supported by the European Union.



Energy Supply and the Quality of Life of the Poor. For about 1.6 billion people worldwide it gets dark earlier. This is not just because most of them live near the equator, but also because they live off-grid or cannot afford on-grid facilities. Not having the option of simply flicking on a light switch when night falls is more than a mere inconvenience. It prevents you from reading a school book or preparing a meal in the evening and makes you resort to energy alternatives, which are often time-consuming, unhealthy and more expensive.

Car batteries weighing up to 50 kgs often are transported great distances in order to be recharged; diesel generators are loud, noisy and release toxic exhaust fumes and soot – as do kerosene oil lamps, which barely produce sufficient light. The issue of energy supply is linked to the poor quality of life of hundreds of millions – and to the lack of possibilities to escape from it. A typical household in Bangladesh using kerosene lamps and rechargeable car batteries for lighting, TV and other applications spends an astonishing 1.50€ per kWh – compared to the subsidized price for grid electricity of only 0.03€ per kWh in Bangladesh and the slightly higher price of more than 0.20 € in Germany.¹

The expansion of renewable and efficient energy supply can contribute to improving and enhancing the access of low-income people to energy. Assuming an average price of 0.50 € per kWh for solar-powered energy, households without grid-connection can in some cases even save money by using renewable energy. Still, a solar powered system requires an initial investment often greater than the financial capacity of most households in developing countries. A critical issue is to find the adequate financing and delivery models to serve the potential demand.

Combining Microfinance and Access to Energy. There exist ways to effectively combine microfinance with renewable energies, especially in rural areas where access to energy remains limited. Out of about 10.000 Microfinance Institutions (MFIs) serving worldwide more than 155 million clients, 30 to 40 MFIs today offer energy loans. Each of these MFIs has its own strategy, but their three main objectives are:

¹ Noara Kebir, Daniel Philipp (2004): Ländliche Elektrifizierung auf der Basis von erneuerbaren Energien in Kombination mit Mikrofinanzierung am Beispiel von Grameen Shakti in Bangladesch, Berlin, pp. 234-236.



- To finance the access to energy and to renewable energies for micro & small enterprises (MSEs) and low-income households through adapted financial services ;
- To enhance the productivity and the business opportunities of MSEs through energy-efficient solutions
- To raise awareness among MSEs and low-income populations, especially in rural areas, on the opportunities offered by renewable energies.

Although a few of these MFIs have been successful, most of them are still in the learning phase and face important challenges on extending energy loans.

Grameen Shakti, the best known example of microfinancing energy in Bangladesh (www.gshakti.org). Founded in 1996 as part of the Grameen social-business family, the company focuses on so-called Solar Home Systems (SHS) as their flagship product: stand-alone photovoltaic systems, which are mostly microfinanced over a period of three years. The comprehensive package of services includes installation, customer training and a warranty of five years on the battery and 20 years on the solar panel. It is an approach of "everything from one hand", with Grameen Shakti providing the technology as well as the financing.

With this concept the company has become a forerunner in the field of rural electrification on the base of renewable energies – and a best-practice example. The figures speak for themselves: currently, about 350,000 SHS have been installed in Bangladesh by Grameen Shakti, with 12,000 systems being added to this figure every month. The example of Grameen Shakti shows that it is possible to use the microfinance approach to offer other services to the Base of the Pyramid (BoP). Bangladesh has overtaken Germany in terms of the number of solar roofs (but not of the capacity of the systems).

SEEDS in Sri Lanka and its development challenges (<http://www.seeds.lk/>). On the island of Sri Lanka, another MFI has become committed to the energy supply of its clients. In response to the emerging demand for Solar Home Systems, the Sarvodaya Economic Enterprise Development Services Ltd. (SEEDS) started its energy lending operation in cooperation with international solar companies. SEEDS is the biggest microfinance partner within the Renewable Energy for Rural Economic Development Program (RERED), a market based project of the Government of Sri Lanka supported by the World Bank and the Global Environment Facility. The energy-lending activities were thus established with significant financial and technical support from government or donor programs.

The delivery model involving the MFI SEEDS differs considerably from that of Grameen Shakti. It is a so called two-hand model: providing only energy loans to clients, SEEDS has established partnerships with solar supply companies which are bound to the standards set by the RERED program. The solar company is responsible for supplying and transporting the Solar Home System to end-users, for installing and providing adequate after-sales service. It also covers all promotion costs.

The delivery model of SEEDS has grown in the first years much faster than Grameen Shakti. The fact that the partnership has been designed in a way that every partner does what he can best has boosted sales. Another specific factor was the involvement of experienced international solar companies in the pioneer phase in Sri Lanka which brought both capital and know-how for capacity building, supply chain development and quality management. A number of solar companies operating today in Sri Lanka are spin-offs of these pioneers and have considerably benefited from this well financed learning curve.

As of 2006, SEEDS has reached about 80,000 customers but did not grow significantly since then. In fact, the organization has met with a lot of challenges. The bankruptcy of one of the pioneering solar companies had serious consequences; several thousand systems stayed almost without any service in the field and customers refused to pay back their loans. Furthermore, the development of two parallel infrastructures, one for financing the systems, the other for maintaining them, makes the whole delivery system expensive, especially because SEEDS is not serving its own bundled microfinance clients with solar loans but reaching out with special loan officers to remote areas and then disbursing individual loans to new clients. At the end of the day, the delivery model imposed too much risk on the MFI side and is currently being restructured.

Nevertheless, the experience of the microfinanced solar market in Sri Lanka is very valuable because it has reached scale and built enough capacities from which to learn lessons and adapt the model. This holds true especially for the architecture of the partnerships and a better balance of risks between the partners. For this reason, a second boosting phase can definitely be expected soon. For most of the MFIs worldwide, the model followed by SEEDS is much more attractive than the one followed by Grameen Shakti because it does not require heavy organizational changes nor involvement with technology matters.

Key Lessons Learnt from Existing Experiences



MFIs can play a significant role in the supply of efficient energy systems to low-income clients. This is not only because micro-loans are an appropriate financial instrument to overcome the barrier of relatively high investment costs compared to the clients' incomes. MFIs also offer the right structure and experiences for the distribution of the systems. Nobody else has penetrated the BoP segments as deeply or is as well-organized. Moreover, MFIs are often the only stakeholder with an economic interest in quality, since they carry the financial risk if a system breaks during the repayment period.

However, significant challenges remain. MFIs, energy companies, future donors and investors can be inspired by the experience made by Grameen Shakti in Bangladesh, SEEDS in Sri Lanka and by a few others like FINCA in Uganda, Procredit in Serbia, Equity Bank in Kenya, Emprenada in Argentina or Madina in Tajikistan. A few key lessons learnt were emphasized during the Microfinance-Breakfast:

1) Operating in a favourable institutional and legal environment: Initiatives can only be successful in a favourable institutional and legal environment. The institutional framework in Bangladesh is again instructive: it combines a) a national program managed by the company IDCOL (IDCOL - Infrastructure Development Company Limited – is a government-funded private company in charge of executing the national solar program), b) international funding with development banks and agencies like the World Bank, the KFW Development Bank and the GTZ offering both grants and loans and c) commercial approaches at the grassroots level (Grameen Shakti being the main operator) .

2) Enhancing the dialogue with policy-makers: Renewable Energies (RE) and Energy-Efficient (EE) Programs should be developed in coordination with public authorities and policy-makers. The case of Ethiopia was mentioned by a participant during the Microfinance-Breakfast. Whereas only 12% of the Ethiopian population is grid-connected, it seems difficult to develop an existing solar initiative because of the lack of integration of the initiative into the national grid extension.

3) Finding the appropriate pricing: One basic rule is that low-income people cannot afford to pay more for the repayment of energy micro-loans than what they already pay using their current energy solutions (generators, batteries or traditional biomass). The experiences made to subsidize the energy systems or the micro-loans have not succeeded in improving the access to energy supply for low-income families. Evidence shows that the energy systems are likely to be better maintained if the end-users are owners of the systems. This implies sufficient training for the end-users and on-site maintenance to be offered by the energy suppliers.

5) Enhancing business opportunities linked to renewable energies will be a critical factor to the expanding in developing countries. Information and awareness-raising, especially among rural communities, can enhance the productive uses of energy. The additional revenues generated could off-set the cost of energy and provide additional income sources for low-income people to invest in education, health and productive assets. In addition, the sector of RE and EE offers some business opportunities in itself. In Bangladesh, 7,000 jobs were created in 5 years, bringing new career opportunities to youth as employees of solar companies or as microentrepreneurs running their own solar enterprise.



About the organizers:

MicroEnergy International is a Berlin-based company, which supports MFIs in the development of energy programs. The company's history is actually closely linked with that of Grameen Shakti. It started in 2001 as a research project of scientists of the Technical University Berlin to identify the factors for the success of Grameen Shakti and develop initial approaches for the replication of its business model. With a team of experts in power engineering, management consultancy and energy policy *MicroEnergy International* has set out to implement these approaches and develop new energy solutions, specifically tailored to the particular region and to the different stakeholders. Within its five years of professional experience the company has developed a profound expertise in the field of microfinances energy. *MicroEnergy International* prepares and conducts market studies for MFIs in order to identify the energy requirements of their clients, and supports them in developing adequate business plans. When necessary, it organizes workshops for the qualification and further training of employees, identifies technology partners and/or establishes a quality management system. It also helps MFIs find financing opportunities from external investors, or invests its own capital.

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PlaNNet Finance Deutschland is a Berlin-based association dedicated to the development of microfinance and to the support to microentrepreneurs in emerging and developing countries. Our main activities are to support microfinance projects and to contribute to microfinance innovation through awareness raising & research. We participate actively at the University Meets Microfinance (UMM) Programme. We are affiliated with the PlaNNet Finance Group, based in Paris, operating in 75 countries worldwide, whose mission is to contribute to poverty development through microfinance. In the field of "microfinance and environment", 5 pilot programs are currently on-going in Africa and Asia. Our priorities are to improve the access of low-income households to Renewable Energies (RE) and to Energy-Efficient (EE) solutions as well to support microenterprises in rationalizing the use of energy and in managing waste. Our activities in this specific field include technical assistance, refinancing of Microfinance Institutions, awareness of stakeholders and research & consulting services.

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UP Micro Loans is a German NGO which extends loans to microfinance institutions in Africa, Southeast Asia, Latin America and Eastern Europe. The NGO was founded by the German law firm P+P Pöllath+Partners (and their foundation "Hilfe zur Selbsthilfe") in 2000 and is a non-profit organization fully financed through donations. At present UP works with 28 microfinance institutions which have a strong focus on social impact and work mostly in rural areas. UP regularly organizes events to discuss current issues of development and microfinance.

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(from left)

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