

## **Preliminary Concept Paper**

### **SunPower Afrique: Bringing Sustainable Electricity to MFIs in Togo through the Installation of Financed Photovoltaic Systems**

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#### **Introduction and Mission:**

A difficult and all too familiar energy crisis threatens Togo's development on a daily basis. Many cities and towns experience frequent electricity cuts, lasting anywhere from 15 minutes to 12 hours. The lack of reliable energy endangers not only essential services at hospitals, schools and government offices but also puts Togo's developing economy at risk on a larger scale.

Microfinance has become a large and important part of this small West African country's growth in that past 15 years and the ongoing contributions of microfinance institutions (MFI) to both financial progress and societal well-being are paramount. Microfinance is also a sector that suffers significantly in the wake of unreliable energy sources. The lack of consistent electricity at the headquarters and widespread local branches of MFI poses serious challenges to daily operations carried out with the use of computers and essential financial and accounting software. Evidently, the inability to communicate within and outside of the microfinance sector as well as to efficiently use information technology to manage, record and calculate data are serious obstacles to productivity.

In collaboration with the CNM (National Microfinance Committee) and the members of APIM Togo (Professional Association of Microfinance Institutions of Togo) SunPower Afrique plans to provide a reliable and renewable source of energy to microfinance institutions (MFI) in Togo in order to set up an operational framework for their continued progress.

Initially, we will focus our project on MFI located in non-urban areas with little or no access to electricity so that they may accomplish their existing objectives and increase capacity to achieve development plans. With access to decades of a dependable energy from the sun, MFI can achieve their mission of reducing poverty much more quickly, by maximizing their usage of information technology.

Specifically, through the provision of reliable electricity, MFI will gain the capacity to:

- Achieve better management of savings accounts, loans, deposits and withdrawals, interest rates, other essential accounting functions and daily operations

- Regularly and effectively use financial software programs (Quickbooks, PERFECT, GESCA, etc.) and management information systems to ensure reliability and organization of information, transparent development and credibility in the world of finance
- Improve centralization of financial data and reporting as well as management and sharing of processes and policies (internally and between MFI)
- Provide enhanced services to the population with the capacity to allocate, disburse and track loans and repayments in real time; additionally, MFI can reach more clients
- Gain access to the world of Microfinance on national and international levels through use of the internet and reliable communication technology (land lines, fax machines, etc.)

In addition to providing MFI with the means to realize their existing development goals, SunPower Afrique maintains a larger mission to set up a tangible and successful example in which this new industry, solar energy, can be established in Togo. Eventually, the introduction of solar energy's advanced technology on an even larger scale will trigger the creation of an infrastructure to support its expansion. Importantly, this infrastructure will require the development of a trained Togolese workforce to install and maintain it, creating jobs throughout the supply chain, boosting local economies and bringing Togo's progressive economic growth into the international spotlight.

## **Strategy:**

### **I. The National Microfinance Committee (CNM)**

SunPower Afrique will contribute to, in the capacity of an Accompanying NGO<sup>1</sup>, the principle goals of the CNM to realize certain elements of the National Strategy for Microfinance (SNMF) that can be better accomplished with reliable access to electricity.

#### **A. "National Strategy for the Development of Microfinance (2008-2012.)"**

In looking closely at the concept paper drafted by the CNM in November 2007, we believe that the electricity provided by SunPower Afrique can better actualize Part Two of the *National Strategy for the Development of Microfinance (2008-2012.)*

- Specifically, in section 3.1. #80, *The Justification of the SNMF*, the CNM describes the importance of a "better understanding of the needs and goals [of MFIs] relative to the new context of finance and, in this way, to help mobilize the resources and means required to effectively achieve them."<sup>2</sup> These resources and means are, and can be better realized through the use of solar energy, which will help MFIs to fully participate in the modern context of a globalized and technologically proficient world of finance.
- The consistent electricity provided by solar energy will afford the means to accomplish the following:
  - Generally, for the CNM to "push for the creation and development of reliable and permanent microfinance institutions with access to sustainable services."

- With electricity to run computers and programs, MFI can “Develop quality Information Management Systems (MIS) that provide timely statistical information and reliable financial data”
  - Through a general increase capacity, MFI can “respond to and engage with clients to provide the best, adaptable services”
  - With improved and modern information technology, MFI can “ensure transparency in the dissemination and reporting of financial information/data; as well as efficiently mobilize savings”
  - With access to electricity, the CNM, individual MFI and external investors can “take advantage of investment in technical assistance in order to strengthen institutions and their capitalization.”<sup>3</sup>
- In the CNM’s discussion of actors, SunPower Afrique’s role can be seen as that of an external investor. Through installations of fully financed photovoltaic systems, SunPower Afrique represents an peripheral support network that “provides the necessary resources for the realization of the national strategy by concentrating their funding directly in the structures [of the program.]”; SunPower Afrique will invest its resources in “Those structures that are pushing for technical assistance, notably the MFIs themselves”<sup>4</sup>

## **B. Details of the Strategy**

SunPower Afrique’s initial objective is to install solar energy systems for MFI that operate in non-urban areas so that they may gain an increased access to and guarantee of reliable electricity. These installations will trigger the creation of trained personnel within the geographical zone to provide and transport materials, install the system itself and to maintain it. The spontaneous job creation that will be a consequence of SunPower Afrique’s work will not only boost local economies as previously mentioned, but will also benefit Togolese commerce and industry from port to site.

SunPower Afrique hopes to tangibly facilitate the CNM’s realization of its outlined “Objective of Development” which states:

“Provide access to viable, diverse and perennial microfinance services to those sectors of the population who are excluded from the formal financial sector; notably to reach those small, rurality-based entrepreneurs, by 2012, thanks to MFI that are reliable, professional, competitive and supervised, and connected to the national and international financial markets.”<sup>5</sup>

With the provision of sustainable energy from the sun, MFI located in geographic zones that are currently excluded from the electric grid will be able to benefit from the same services as those MFI in urban/electrified areas. SunPower Afrique will therefore promote the ability of MFI “to offer sustainable microfinance products and services that are adaptable, diversified and extensive – notably in rural or isolated areas.”<sup>6</sup> This project will show that access to reliable electricity is one of the largest “factors that allow

the highest level of productivity for rural MFI to achieve their goals in the coming years.”<sup>7</sup>

In the interest of alleviating poverty, MFI attempt to reach a widespread and often remote network of villages in order to provide credit to the working poor. Solar energy will generate a higher capacity for communication and organization, allowing MFI to elaborate “precise strategies for the best coverage of territory and the development of products adapted to the private sector in rural areas.”<sup>8</sup> In the coming years, through the introduction of constant, affordable energy, MFI will experience sustainable growth, acquiring the means to reach an even larger number of clients in formerly inaccessible areas. This growth will consequently create a larger job market within the microfinance sector and, encouraged by the increased access to credit, will spur entrepreneurship in rural areas.

### **C. “National Strategy for the Development of Microfinance (2008-2012): Results and Actions”**

SunPower Afrique supports the “Results and Actions” described by the CNM in its National Strategy. Through a forward-looking approach highlighted by the continued development of a mentality of conservation, we can contribute to the following positive developments for MFI:

- **Result 2.1 #99:** The general improvement of professionalism of MFI in the sector.

SunPower Afrique sees that the following advances can be much better realized with, or in several cases are unable to be realized without, reliable electricity. As these developments are largely technical in nature, the durability and flexibility of solar energy will guarantee their success and sustainability for decades. For example:

- 2.1.2 “Pursue efforts to introduce management tools in MFI (loan management, procedure manuals, internal control/auditing and the general introduction of banking technology)”
- 2.1.3. “Put in place information management systems to assure and disseminate regular and viable reporting for [under-the-radar] MFI.”
- 2.1.4 “Put ATMs in place for appropriate and well-developed MFI.”<sup>9</sup>

- **Résultat 2.2 #100:** The improvement of products and services offered by MFI.

With access to reliable and sustainable energy, MFI can better respond to their existing clients, reach a larger part of the population and, in this way contribute at a higher level to the reduction of poverty. Specifically, solar energy will help to realize the following goals:

2.2.3 “Extend MFI coverage in rural zones and create conditions to improve their viability,” and similarly, “Improve [existing MFI] coverage in geographical zones that are isolated and do not have access to electricity.”

2.2.5.2 “Identification of the constraints relative to each zone.”

2.2.5.4 “Elaborate on and set in motion measures to induce [development and improvement] of existing structures and/or create new structures in rural areas.”<sup>10</sup>

Additionally, consistent energy will tangibly allow maintain and preserve resources, particularly equipment. When power goes on and off, equipment gets fried - with solar energy equipment will have a longer life, saving money and other such resources due to power purity and uniformity of current.

• **Résultat 2.3 #101:** Set in motion conditions to reinforce the viability of MFI

Not only will the transparency of each MFI be improved with the regular use of MIS, computerized financial reporting systems and accounting software, the credibility of the sector in general will increase. The CNM and individual institutions will be able to “Push for the rationalization of the sector by standardizing and regularizing services of isolated MFI in order to achieve the highest level of productivity for the sector.”<sup>11</sup>

## II. Professional Association of Microfinance Institutions of Togo (APIM)

In addition to working directly with the CNM, SunPower Afrique hopes to work on a micro-level with individual MFI realize their institutional goals. To access particular MFI and better understand national microfinance strategies, SunPower Afrique hopes to work within the structure of APIM. The services provided by SunPower Afrique are compatible with the mission of APIM, stated as: “To facilitate professional growth and development for MFI by reinforcing their capacity to offer services in accord with best practices.”<sup>12</sup>

We hope to assist APIM, and its members, to most efficiently and effectively realize this mission. Solar power can not only “reinforce capacity” in general by guaranteeing access to electricity and the internet, but can also facilitate the standardization and widespread use of best practices through regular use of computerized accounting, automated financial reporting and robust data management.

### **A. Objectives**

The “Fixed Objectives” of APIM (from Article 5 of its Statutes) to increase capacity and development in MFI can also be seen as compatible with SunPower Afrique’s program. Specifically, APIM aims to:

“To reinforce institutional capacities and structures through member sharing of optimal practices/policies and the development of common standards of performance; to centralize information and tools for use in MFI; to promote a

progressive transfer of knowledge to benefit member structures through exchange, trainings and intra-MFI communication.”

Solar power will enable MFI to use phone, fax and the internet to be in regular contact with each other to share information, policies, materials and other tools; this will also dramatically increase APIM’s capacity to centralize information coming in from a widespread network of MFI.

Additionally, reliable electricity will provide an opportunity experiment with new technology (software, databases, and other management information systems) in order to improve performance and develop best practices.

Importantly, APIM’s efforts to provide training programs to MFI will be enhanced. An increased access to technology can improve the capacity and effectiveness of such programs, as well as encourage more APIM members to contribute and attend.

## **B. Course of Action**

Another channel through which SunPower Afrique can work in tandem with APIM and its members is through its outlined “Course of Action.” Reinforcing the above objectives, and to demonstrate the commonly defined course of action, note that the following goals can be facilitated by power from a Photovoltaic system:

- “To develop access to information and exchange of experiences, innovation and research between microfinance structures not only on a national and sub-regional level, but also on the international stage.”
- “To put in place a system of autoregulation of the profession through the creation of standards and models for risk and loan delinquencies.
- “To organize and put in place training programs and technical assistance adapted to the needs of each member.”<sup>13</sup>

## **C. Conclusion**

SunPower Afrique believes that the relatively small population and well organized microfinance community in Togo represents an ideal environment for a solar project of this magnitude and character to succeed.

SunPower Afrique plans to pilot its project with APIM member FECECAV. We hope to begin with an installation of a PV system at its headquarters located in Kpalimé (please see below for further details.) Other ideas for MFI recipients without reliable access to electricity are: URCLEC and USMEC in the Central and Savannah regions.

## **III. Individual Microfinance Institutions: FECECAV and Beyond**

FECECAV (*Faitière des Entités des Caisses d’Epargne et de Crédit des Associations Villageoises*) is a Microfinance Cooperative based in Kpalimé, Togo Serving over

14,000 clients in the Maritime and Plateau regions, FECECAV operates out of 11 branches to provide essential banking services to populations that are excluded from the formal financial sector.

FECECAV has a detailed organizational structure built on the mentality of mutual responsibility and respect, as manifested in the General Assembly and Board, where clients are given the opportunity to serve as patrons of the organization. Each of the 11 CECAV are autonomous units, as required by law, but centralize information for concise reporting and all operate within standard policy guidelines. FECECAV prides itself on being able to provide credit for those most in need while maintaining stringent policies on repayment.

The organization offers a variety of loan and savings products to meet its members' diverse needs in a secure environment; from agricultural and small business loans to loans specifically intended for use in covering school and medical fees. In order to receive a loan, a client must be a member of the bank (having paid the 5000CFA membership/social fee) and have had a savings account with FECECAV for at least three months. In 2007, its portfolio had an average 2.19% risk rating.

Kpalimé experiences frequent energy cuts, lasting from 15 minutes to up to 12 hours. The lack of reliable current at the FECECAV headquarters, CECAV-Avenir, poses serious challenges to daily operations carried out with the use of computers and essential financial and accounting software (specifically, PERFECT, GESCA and Quickbooks.) Evidently, the inability to use technology information systems to record client repayments, maintain general accounting, manage financial calculations and reporting, communicate with investors and partners, and centralize data are serious obstacles to productivity and transparency.

#### **A. The Importance of PERFECT**

In 2006-2007 FECECAV installed PERFECT, a microfinance software created by CAGEC-FI, taking a giant step forward in its development and credibility as a financial institution. PERFECT allows FECECAV to authenticate and organize all client and financial data, modify existing records, record funding sources and other specific account activity and, importantly, systematize and run concise reports. The services provided by PERFECT represent an imperative stage in FECECAV's growth as a microfinance organization as well as in its ability to extend its borders, within Togo and throughout the world.

Without reliable power, FECECAV struggles daily to input monetary data from the cash desk itself, figures from accountants and directors of finance and auditing, as well as client data from loan officers. There are also specific problems that can occur in the event of a power cut in regard to PERFECT, for example:

- The program cannot be properly reopened the following day if it is not shut down the night before as a result of a loss of electricity.

- Relations with investors and partners can be damaged as a result of an inability to run reports in a timely fashion.
- Centralization and sharing of data between branches cannot be carried out efficiently.

SunPower Afrique, through the installation of a PV system that can power computers that run PERFECT, hopes to provide FECECAV with the necessary electricity to carry out its operations and avoid the aforementioned inconveniences. With the provision of consistent electricity, valuable time that is wasted in the unfortunate event of an energy cut will be preserved.

## **B. FECECAV's Development Plan 2008-2010**

SunPower Afrique sees an opportunity to provide the means to realize the goals stated in phase 2 of FECECAV's development plan (2008-2010.) In particular (and in accordance with the aforementioned importance of PERFECT) Section 5, Section III: Improvement of Management Information Systems cannot be well executed without reliable electricity.

FECECAV's strategy is defined as: "Acquire a software program [PERFECT] adapted to microfinance; acquire the equipment to perform its functions; and for all actors to master the utilization of this software program."<sup>1</sup> In September 2007, FECECAV acquired the software PERFECT Super Tontine. Since that time, FECECAV has continued to achieve their goals in regard to PERFECT, including the acquisition of technological equipment, new computers and their distribution between the (11) CECAV branches. FECECAV has also begun extensive training on the new system and to create an internal auditing system connected to PERFECT. Most importantly, they are on the way to realizing their long-term goal which is the creation of "11 centers for the treatment of data."<sup>2</sup> All of these activities will help FECECAV to better centralize and manage their products, their clients and their relationships within the CECAV branches and with investors and partners.

In all of these processes, the most serious problem is the lack of electricity. Even in offices in Lomé, Adéta and Kpalimé, where electric lines exist, the services provided are not reliable enough to support FECECAV's aggressive information technology strategy that is so essential to their development as a financial institution.

This is the reality that SunPower Afrique is poised to improve. If SunPower Afrique can provide electricity for each of the 11 FECECAV offices, their usage of PERFECT will increase twofold. The internal PERFECT manager can better troubleshoot the program as well as better respond to problems and training needs in each branch. He can also increase the number of installations to include those branches that are currently unable to support PERFECT because they lack electricity.

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<sup>1</sup> FECECAV Plan de développement 2008-2010; p.35

<sup>2</sup> FECECAV Plan de développement 2008-2010; p.36 "Fiche d'activité"

Importantly, FECECAV has also established important partnerships in recent years with the financial institutions BRS Togo, EcoBank and Western Union as well as an American NGO, Kiva. The security that these organizations offer for money transfers and the financial support provided by Kiva is invaluable to FECECAV and its clients. Solar energy will strengthen these partnerships through the ability to communicate more frequently and transfer funds and reports accurately and transparently.

In conclusion, with solar energy, FECECAV can use its MIS, technological programming and partnerships to their true aptitudes, accomplishing ambitious development goals in the coming years.

### **C. Strategy and Timeline**

SunPower Afrique believes that the most prudent course of action is to install the first Photovoltaic system for FECECAV at CECAV-Avenir in Kpalimé. As the headquarters of FECECAV, CECAV-Avenir is a hub for vital centralization processes and data management. The Kpalimé office is a geographical meeting point for all CECAV branches and therefore is a sensible location to pilot our project. Also, Kpalimé is not as isolated as several of FECECAV's other branches, and will therefore offer practical advantages to facilitate the smooth completion of our first installation in Togo.

After the initial installation at CECAV-Avenir, SunPower Afrique plans to install similar systems (of varying sizes, dependant on specific needs) at CECAV-Nevame (Womé,) CECAV-Duanenyo (Danyi,) and CECAV-Solidarité (Amoussakopé.) These three branches do not currently have access to electricity. All three are efficient and high-volume providers of credit to remote populations and could much better accomplish their goals and daily operations with the provision of reliable energy.

CECAV-Nevame, CECAV-Duanenyo and CECAV-Solidarité will experience a general increase in productivity and capacity and will be able to, in turn, provide better services to their respective populations. The timeline for installations for other CECAV branches will be further developed in tandem with fundraising goals and strategic calculations of cost per kilo-watt hour.

Each office with a successfully installed system will embody SunPower Afrique's mission to showcase the durability and practicality of solar energy in Togo. Educational materials and displays will be provided at each branch, to inform the population and future clients of the benefits and progress provided by energy from the sun.

### **III. The Actors**

Through the collaborative nature of the relationship between SunPower Afrique, the CNM, and APIM and its members, each party shall bear certain responsibilities in their respective domains, in order to facilitate the endorsement, installation and expansion processes. If all can provide the necessary conditions, we can succeed with the

installations of solar energy systems for MFI in Togo, with the larger vision of improving the state of our environment, resolving a significant energy crisis, and reducing poverty.

### **A. The National Microfinance Committee (CNM)**

Most importantly, on the part of the CNM, SunPower Afrique hopes that its proximity state organs can facilitate the movement of materials through customs and checkpoints. SunPower Afrique is in compliance with all state regulations and hopes that in cooperation with the CNM, we can avoid large obstacles pertaining to fees and restrictions on the movement of materials.

### **B. Professional Association of Microfinance Institutions of Togo (APIM)**

SunPower Afrique hopes to work closely with APIM to gain access to MFI for our long-term strategy. We can capitalize on the experience of APIM and its members to help choose recipients that will benefit the most from a solar installation and that will facilitate the programs and missions of the association.

In addition, SunPower Afrique hopes that APIM will provide training and support to MFI in regard to management of information technology and sustained development to the best of its ability, in the face of great changes brought about with the installation of a Photovoltaic system.

### **C. SunPower Afrique**

On behalf of SunPower Afrique, our largest responsibility will be to mobilize the necessary funds to purchase materials for the installations of solar systems. We will undertake this as a registered non-profit organization in the US (TBC.) SunPower Afrique will also supervise the installation of these systems to ensure that they are operational and achieve maximum performance.

**SunPower Afrique pledges to work with local personnel (carpenters, electricians, etc.) and materials as much as possible. A large part of our project will be, in the interest of sustainability, to train local workers so that they can maintain and troubleshoot the systems. This training will generate capacity within Togo's burgeoning solar industry not to only sustain itself, but to expand to the creation of jobs and an infrastructure for material production and transport.**

In addition, SunPower Afrique is committed to maintaining and further developing the mentality of conservation that inherently exists in Togo. To combat a looming global energy crisis, the world's most developed countries and multinational organizations must begin to conserve resources, modeled on the techniques of preservation that already exist in countries with fuel shortages. SunPower Afrique hopes that Togo's successful solar economy will be a symbol for conservation and progress. This exemplary and innovative development will benefit Togo in both the short and long-term, through the creation of

jobs and sustainable sources of energy, as well as an unprecedented potential for international acclaim, recognition and eco-tourism.

### **Conclusion: Solar Works...Here are the #s...**

To meet daily needs for both homes and businesses, many compensate for the lack of reliable energy with generators that run on gasoline or charcoal. Not only is this practice harmful to the environment and not sustainable, it is extremely expensive.

Take the energy usage of SunPower Afrique's pilot project, FECECAV's headquarters, CECAV-Avenir, an office that does not currently have the funds to use a generator...To power this office using a generator, CECAV-Avenir would expend 40 liters of gas daily. Consider that one liter of gas costs 505CFA (aka : 1 gallon of gas costs approximately \$4.20, in a society where the average annual income is approximately \$300.) Therefore, CECAV Avenir would pay 7,373,000 CFA after one year to run their generator (approximately \$17,500.) After 10 years, CECAV-Avenir would pay 73,730,000 CFA on gas alone to run this generator (approximately \$175,000) – barring any repairs, maintenance or replacements of the generator itself. These numbers also do not account for the inevitable increase in the prices of oil and gas in the near future.

Now consider that the installation of a 8kW solar Photovoltaic system costing one payment of approximately 14,000,000CFA (approximately \$33,000) could guarantee clean energy to this same office for at least 25-30 years. After 2 years, CECAV-Avenir would break even on the cost of the system. After 10 years, CECAV-Avenir will still have made only one payment of \$33,000 (plus minimal costs for maintenance of wiring and batteries.)

Does solar for an organization like FECECAV sound like a good investment?

We think so.

Contact [kira.costanza@sunpowerafrique.org](mailto:kira.costanza@sunpowerafrique.org) to get involved!

## NOTES

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<sup>3</sup> Section 3.1 #83,

<sup>4</sup> Section 3.3 #84, “The role of different actors,”

<sup>5</sup> described in Section 3.4.2 #88-89

<sup>6</sup> details of the strategy, section 3.4.2 #90

<sup>7</sup> details of the strategy, (Section 3.4.2. #91.)

<sup>8</sup> details of the strategy, (Section 3.4.2. #91.)

<sup>9</sup> National Strategy for the Development of Microfinance (2008-2012): Results and Actions, Result 2.1 #99 (2.1.2 – 2.1.4).

<sup>10</sup> “National Strategy for the Development of Microfinance (2008-2012): Results and Actions, Résultat 2.2 #100 (2.2.3 – 2.2.5.4).

<sup>11</sup> “National Strategy for the Development of Microfinance (2008-2012): Results and Actions, Résultat 2.3 #101 (2.3.1).

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