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REPIC

Renewable Energy &
Energy Efficiency
Promotion in
International
Cooperation

Final Report:

Nuru Light Project - Cameroon



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The author(s) of this report are alone responsible for its content and conclusions



Content

0. Summary	3
1. Objectives	4
2. Technical solution/ applied method	6
3. Results	10
4. Impacts	13
5. Future Prospects	14
6. Conclusions	17
7. References	19
Appendix I - Baseline questionnaire to survey households	20
Appendix II - Baseline questionnaire to survey kerosene sellers	23
Appendix III - Sample contract with Entrepreneurs	24

0. Summary

The Nuru Light Project - Cameroon promotes the use of a newly tested technology for rural (off grid) lighting. The Nuru technology was developed in Rwanda by Nuru Energy East Africa and is now spreading in the whole East Africa by the same company; and the business approach presented by First Climate and S2 Services Sarl (S2) is to replicate the technology in Cameroon.

First Climate wishes to undertake Clean Development Mechanism (CDM) projects under the Kyoto Protocol in Africa. The objective for First Climate is to get a foot on the ground of Africa by engaging with a real project after several years of unsuccessful attempts to get hold of African CDM projects from Europe.

S2 is a newly established venture in Cameroon which will closely cooperate with First Climate for the Nuru Lighting project in Cameroon. S2's overall objective is to undertake all the required work for the pilot phase and the final implementation of the project.

REPIC supported the first phase of this project with a grant which was spent to undertake a baseline study and a pilot project.

The content of the baseline study was to find out details about rural lighting habits in Cameroon, the prevailing practice and to collect initial feedback for the Nuru lights. The results of this baseline study are a clear plan of how to go ahead in terms of project implementation, how to sell and distribute the lights, whether to use Mobile Money as a platform for the entrepreneurs to pay for the recharges, etc. This baseline study was done via interviewing more than 300 people and more than 50 kerosene retailers in villages all over Cameroon.

The pilot project was conducted in the village Missole II close to Douala which allowed conducting the study most effectively. In this baseline study, the details of the acceptance of the lights in the village community, a plan of how to train and install the entrepreneurs who will recharge the lamps, a training manual for the Village Level Entrepreneurs (VLEs) and practical ways of how to enter a village community as a stranger were investigated. Also the contract into which the selected VLEs have to enter was established and signed with the existing VLEs. Many experiences important for the roll-out of the

project have been collected, starting from the most critical selection of the VLEs, as they are the cornerstone in the project and most important for the success of the project. Further, the cooperation with local NGOs who have already established a relationship with the project has been tested and was perceived as having high relevance.

In the pilot project eight POWERCycles and 400 lights were distributed. The pilot project is working and people who switched to Nuru lights do widely not use their kerosene lamps any more. People have been convinced that they can save a big share of their household income by using the Nuru lights which not only are a cheaper but also more healthy and sustainable solution for serving rural lighting needs. The whole community Missole II in which the pilot is conducted now knows and appreciates the project very much already.

Additionally, a fully-fledged business plan for the roll-out of the project all over Cameroon has been developed and the Project Idea Note for the application for Carbon Credits has been filed and handed in at Cameroonian authorities, resulting in the receipt of the Letter of No Objection.

The overall goal is to spread the Nuru Lighting Project all over Cameroon. To achieve this, an investor will be required. Now, after successful operation of this initial pilot project it became clear, that a bigger sample of lamps and lights distributed and operating will be needed to find commitment of investors. Hence the next step for this project will be to increase from 400 lights and 8 POWERCycles to 10'000 lights and 100 POWERCycles distributed. First Climate and Nuru are hence looking for sources to co-finance this extension of the pilot project.

1. Objectives

The twofold objectives of this pilot project were to test a new business model where First Climate is partnering an African based company to develop a project in Africa and to practically test the applicability of the Nuru technology – the technology applied for this elected project – in Cameroon. Concretely, to test the replicability of the project a baseline study has been done as well as a pilot project which was implemented in a second step.

1.1 First Climate's objectives

This project is getting real already after just few months on site through First Climate's support, whilst in the over three years that First Climate has been travelling all over Africa to acquire projects under the Clean Development Mechanism of the Kyoto Protocol (CDM), only few good projects could be identified and no project had been successfully delivering carbon credits so far. The very few African projects on First Climate's books were found via brokers. It is therefore in our view very important to get people on the ground who have a perfect understanding of the CDM and comprehensively know about First Climate's objectives, to get First Climate projects going in Africa.. First Climate will manage the carbon asset developed from the project by brokering or buying on own books and organize financing for the project. First Climate will privilege this type of cooperation in any African country and will prefer to train local partners that have no good understanding of First Climate's business model, rather than being based in Zurich and trying to get project in African countries from remote. The start-up costs for this strategy might be high in the beginning but in the long run First Climate will be having a bigger portfolio of African Projects, especially as Africa is going to be the privileged destination for CDM projects after 2012.

The first commitment period of the Kyoto Protocol is finishing at the end of 2012. One of the mechanisms of the Kyoto Protocol is the CDM and the expectation is that the CDM might cease in some countries. The European Union has clearly indicated, since Africa has not benefited from the investment opportunities offered by the CDM significantly until today, that CDM projects developed in many African countries beyond 2012 will still have their carbon credits traded in the EU Emissions Trading Scheme. First Climate will make use of this opportunity and will have a firm foot in the ground via the Nuru Lighting Project. The sooner the Nuru project gets going, the better for First Climate to establish a track record and afterwards being able to explore many other opportunities in the region, starting with replicating the Nuru project beyond Cameroon.

First Climate is project leader, organizing the work and doing the quality control of all reports. S2 is doing the actual implementation of the pilot in the ground and reporting to First Climate. Further to this, First Climate will take care of the investment and carbon side of the project, meaning that First Climate will write the PDD for this project, support the validation process and guide the project to registration as a CDM or a VER project. Further to this, First Climate shall take care of searching for investors for the project by using its worldwide contacts.

1.2 S2's objectives

S2, managed by Durando Ndongsok, former Project Manager with First Climate develops the project. The yearly generated carbon credits will be purchased by First Climate. Nuru Energy East Africa Limited (NEEA), the technology provider who is currently rolling out the project in East Africa, will also hold shares in the project to facilitate the development and implementation with their over 3 years experience in Rwanda. There is a business contract signed between NEEA and S2, granting S2 the exclusivity to replicate the technology in Cameroon and setting up commercial terms.

S2 has very good connection in many Central and West Africa countries, understands the CDM as well as the philosophy of First Climate and is willing to work with First Climate in a model where S2 develops projects on site and runs the respective Due Diligences with the support of First Climate

The Managing Director of S2, the Cameroon based local partner working with First Climate and their joint objective today is to replicate the Nuru Light Project as partners in as many countries as possible, focussing on Western Africa and starting with Cameroon. A partnership agreement has been signed between S2 and First Climate for that purpose.

S2 will take of all local work, which are undertaking the baseline survey, the marketing of the project, the implementation of the pilot, the training of the entrepreneurs and others.

Finally, First Climate as well as S2 will found a Special Purpose Vehicle (SPV) – a company which will be managing the final project (not the pilot) in Cameroon and elsewhere. This SPV will be the legal entity in which investors can take shares against their financial commitment. S2 and First Climate will remain shareholders in this SPV and therefore be able to benefit from the returns of the project in the long run.

1.3 Objectives of the baseline study

The baseline study aims at finding out the particularities of rural lighting in Cameroon. This step is necessary for several reasons. Firstly an analysis of the existing situation in the rural Cameroon should be conducted. It has to be found out how many people are using kerosene lamps, in which regions they are located and hence where to place the pilot project. Further to this, the habits around the usage of these kerosene lamps had to be investigated. These are represented by the hours of usage per day, the number of users per lamp, the times and distances in which kerosene will be purchased, the types of kerosene lamps in use, etc. For this purpose a survey conducted in several regions across the country is to be established.

From an emission point of view, especially the hour of operation per day and the fuel amount used in the lamps are most relevant parameters which describe the existing situation.

1.4 Objectives of the pilot project

The idea of the pilot project is to test the applicability and acceptance of Nuru lamps on the ground in Cameroon. Besides the relatively simple parameters like whether and how the technology proposed by Nuru works, more complex tasks shall be investigated. These tasks are inter alia to develop strategies of how to convince the rural population to switch to Nuru lights, the training of the entrepreneurs, the mode of payment for the entrepreneurs and the end users of the lights and finally the acceptance of the lights distributed.

The size of the pilot project was defined with 1000 lamps and ten POWERcycles which shall be ordered via NEEA. It was planned to install ten entrepreneurs which run these ten POWERcycles.

Neither the mentioned objectives of the study financed by REPIC, nor the overall objective by First Climate and S2 have changed during the term of this pilot project.

2. Technical solution/ applied method

Nuru Energy is an award-winning, for-profit social enterprise providing off-grid energy to rural markets. The technology was developed and tested in Rwanda and is now spreading in other African Countries. S² Services Sarl (S2) has the exclusivity to replicate the technology in Cameroon. In Cameroon, more than 50% of the population (10 million people) do not have access to electricity. For their lighting needs, they rely on expensive, polluting, unhealthy and dangerous kerosene lamps.

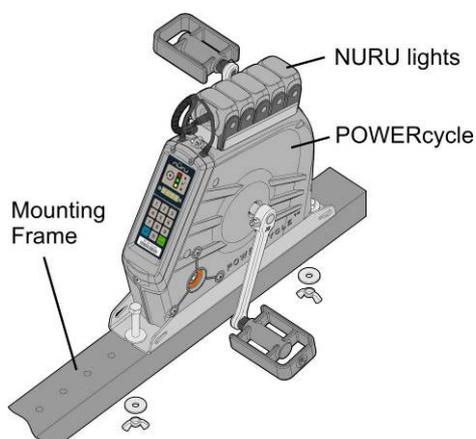
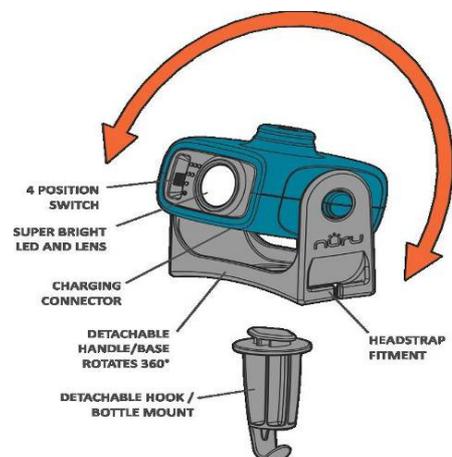
Nuru Energy is acknowledged as a global leader in disseminating affordable and user-friendly off-grid lighting and has received several awards, including the 2008 World Bank Lighting Africa Marketplace Competition, the 2009-2010 UNEP Sasakawa Prize, the 2010 Global Social Entrepreneurship Competition, the 2010 Tulane University Business Plan Competition, the 2010 William James Foundation Social Responsibility Prize, the 2010 International Chamber of Commerce World Business and Development Award, the 2010 St. Andrews Prize for the Environment (runner-up), the MIT Clean Energy Prize (semi-finalist) - and has been named of the “top 10 ideas to change the world” by CNBC. The products have also been profiled in the New York Times, Fortune Magazine, Business Week, and USA Today. Nuru Energy has been named in 2012 by the WEF as “Social Entrepreneur” of the year.

2.1 Technical solution

The technology consists of two parts (1) the Nuru Light: Portable, rechargeable LED Lights, each many times brighter than the light produced by a typical kerosene lamp. Features of the Nuru Light are:

- gives up to 25 hours of light with a full recharge; and
- is used individually in a variety of ways (head/neck lamp, hung up, resting on flat surface or bottle-mounted) or connected together (multiple Lights in various configurations) and (2) the Nuru POWERCycle (PWC): The Nuru Light is recharged using the world's first commercially-available pedal generator. With minimal human exertion (approx. one rotation per second), up to 5 Nuru Lights are recharged simultaneously in just under 20 minutes. The POWERCycle is 375 times more efficient than most solar panels, producing 375 minutes of light per minute of gentle pedalling. Because it is human-powered, the POWERCycle is not affected by unpredictable weather patterns and can therefore recharge products anytime, anywhere.

The PWC can also charge mobile phones but this is currently still being tested for economical viability.



One of the biggest challenges of the project is the collection of the 200 FCFA fees for recharge of lights. The POWERCycle is built to be automatically unlocked with a digital code. Once the VLE input

the code, the POWERCycle is unlocked for a certain number of rotations (depending on the code) and then is locked again until the new code is inserted. VLEs will use the Mobile Money platform to purchase codes that will be automatically sent to them. The system is being tested now with Orange Cameroon in the pilot project in Missole II and is working perfectly from a technical point of view, though other issues regarding the acceptance of Mobile Money were discovered (see Results section).

2.1.1 Technical specifications of a Nuru Light

- The Nuru Light is a LED-based rechargeable light that on its own is used as a portable task light, but can be snapped together to other Nuru Lights to provide ambient (room) lighting as and when necessary.
- There are 3 light output settings (hours after fully recharged): Low (25 hours), Medium (16 hours), High (9 hours)
- The Nuru Light has been certified by the World Bank Lighting Africa initiative and passes all requirements in the CDM Methodology AMS III.A.R
- More than 25 lux at 0.75m (on the High setting)
- LED lifetime: 30'000 hours with no degradation demonstrated in the light output after 2'000 hours
- Battery lifetime: > 200 recharge cycles without any battery capacity loss
- Battery replacement: Batteries can be easily disconnected and replaced at the end of life.
- 0.216W / 60mA (LED), 3.6V (Battery pack)
- Physical protection against weather impacts: > IP 41 ingress protection

2.1.2 Technical specifications of the POWERCycle

- The PWC is a pedal-powered electrical generator, which converts human power into electrical charging power via a bicycle pedal (or hand-crank) input system, a single stage transmission (which results in minimal power loss), an alternator and rectification electronics.
- The PWC produces about 60W of power when pedalled at 60 RPM.
- 60W
- It contains no internal battery; it delivers charge directly to the Nuru Light's rechargeable batteries or directly to the mobile phone charging pack.
- It can fully recharge 5 Nuru Lights simultaneously in 20 minutes.

2.1.3 Advantages of using the Nuru technology

The Nuru Lighting System solves the problem of providing low power lighting solution to the Base of the Pyramid (BoP) markets. Our system exceeds all of the following requirements for replacing kerosene and providing a lighting product custom designed for the BoP market:

- Minimal upfront cost (3.900 FCFA), with the ability to pay in instalments, and extremely low recurring costs (200 FCFA every 25 hours i.e. around 7 days) to match the cash flow of subsistence farmers earning less than \$1 per day;
- Great reliability to ensure that the light can be charged anytime, anywhere, even at night or under cloud cover (unlike solar);
- High quality to ensure that the product can withstand extensive use and harsh climates;
- Rapid recharging and long shine time, to ensure that customers do not have to charge their lights often or for long periods of time;
- Extreme functionality to ensure that customers can use their lights for a variety of household tasks, including caring for a child, tending to livestock, and studying at night; and
- No pollution, negative health effects, or risk of fire to eliminate detrimental effects on both the environment and on the health of its users

2.1.4 The principle of the Nuru system: Selling lights or providing services?

Using Nuru Light and Nuru PowerCycle to provide poor and remote populations with lighting requires a very well organized logistic. This project does not focus only on selling lamps, but rather on providing the rural population with a full chain of services to make light available anytime, anywhere at an affordable price. In addition the project will provide rural entrepreneurs with accounting, marketing skills and create employment.

POWERCycles are distributed to local Village Level Entrepreneurs (VLEs) that will recharge lights. Nuru Lights are distributed to end users through those local Entrepreneurs – making a margin already on lights sold – to create already a relationship between both parties as end users will need to recharge lights regularly by the VLE.

The project in Cameroon will draw a lot from the telecommunication industry that has within a decade provide telecommunication service to over 50% of the Cameroonian population.

2.2 Applied Methodology

The REPIC grant funding was spent to test the ground in Cameroon for the Nuru project and to see whether the Nuru business model could be successfully introduced in Cameroon. To do so, two main activities namely the baseline study and the pilot project have taken place following the following pre-defined methodology.

2.2.1 Baseline Study

The first main activity was the baseline study. The methodology used for this baseline study is a sampling survey in Cameroon.

Out of ten Regions of Cameroon, five representative Regions were selected for this baseline study. Important parameters about the rural lighting practice in Cameroon were determined. The sample of villages selected for the survey consists of randomly selected villages in the five different regions selected under the precondition that there is no electricity available in the village.

This baseline study was done with the help of a survey that S2 personally conducted in the five selected regions using the questionnaires attached in Appendices I and II. Over 300 households were consulted by the S2 team personally and about 50 kerosene retailers in villages interviewed to find out the following facts:

- Which technology is used for lighting
- The daily usage of kerosene per family
- The average spending for kerosene per week and per family
- The average spending each time villagers got to buy kerosene (depending on the income level of the family. Villagers showed different habits regarding the frequency of Kerosene purchase ranging from one litre per quarter to many litres per time.)
- The frequency of buying kerosene
- The distance of the village from the first point where electricity is available
- The distance walked to buy kerosene
- The spending and frequency of charging mobile phones (as it will be possible to charge mobile phones with the POWERCycle in near future - for the moment this is being tested in Rwanda)

The information collected was necessary to make sure that there is a market for Nuru lights in Cameroon, and to determine the pricing of the product.

2.2.2 Pilot Project

The second main activity was the pilot project in which the real acceptance of the project was tested and the strategy for the implementation of the project was established. The methodology for the pilot project was to select a village without electricity and try to establish the project there. Training of en-

preneur was expected to be the most difficult task and a training manual was elaborated beforehand with concrete modules.

S2 ordered 1'000 Nuru lights and 10 PWC for the pilot phase which were to be implemented in the pilot village.

In the selection of the pilot village, S2 focussed on a village which is not far from Douala (around 30 min travel time), so the project can be easily followed the project on a daily basis and also other stakeholders can be invited on site with little effort. Further it must not be electrified and people use kerosene lamps for lighting

After selection of the pilot site, the following steps to get the pilot started were taken. For the dissemination of the project to other regions in Cameroon the same procedure will be applied.

- Find and select a NGO with good on the ground experience in the pilot village, contact the same to have an exchange about the location.
- Ask the NGO to introduce us to the chief of the village and other important people.
- After convincing the chief of the village of the fact that the project is a good initiative for his village, the chief calls for a meeting with all the villagers. S2 introduces the technology and request for entrepreneurs interested to participate in the project
- Then entrepreneurs were selected and trained in 3 sessions (training manual developed is available upon request)
- After the installation of the entrepreneurs, regular on site visits shall be undertaken to check upon the development of the project

The payment strategy for the recharge units to unlock the PWC shall be preferably the use of Mobile Money. Other methods of payment like scratch cards which can be purchased by S2 people visiting the site and cash payment are investigated. For Mobile Money there are 2 main network operators, MTN and Orange in Cameroon. Discussions with both of them are planned on how to establish this payment system.

In the pilot project, the training of VLEs is perceived as the most important part, as the entrepreneurs are the multipliers for the sales of the lights and the key personnel in the project. The training of the entrepreneurs is organized in three modules so far.

First module of the VLE training

The first module is the presentation of the lights, how it works, what are advantages, etc. The first module is normally combined with the general meeting with villagers.

After the first meeting, entrepreneurs get some lights to do the marketing. They should now visit villagers in the evening with the Nuru Lights and after turning off the kerosene lamps show the quality of lighting of the Nuru Lights for comparison and talk about all other advantages like the price, the availability, the healthiness, etc.

Second module of the VLE training

During the second training, entrepreneurs are explained how the POWERCycle works with all details on how to insert units, how to recharge lights, how to fill in light sales and record recharges, how to fill in the warranty cards, etc.

During this second training the feedback from households to which the lights were presented is also discussed, which is relevant to improve the strategy of the entrepreneurs and design a better approach for the future.

At the end of this session, a copy of the contract which must be signed between the entrepreneurs and S2 is presented and handed out to the entrepreneurs to study it for the last training.

Third module of the VLE training

During the last training, the entrepreneur is reminded about important points for his work, then the contract is agreed upon and signed after the entrepreneur has paid the 10'000 FCFA training fee.

After Q&A session and all queries cleared, a contract is signed between S2 and the entrepreneur (sample contract in Appendix III) and the latter receives a POWERCycle with 35 free recharges and 20 lights as a first loan that he will sell to end users and pay back progressively the money to S2. This contract is already displaying the name of the SPV “Nuru Energy Cameroon” which will be established for the full project implementation for simplicity and not to confuse the entrepreneurs with legal matters.

3. Results

3.1 General results during the baseline study and pilot project

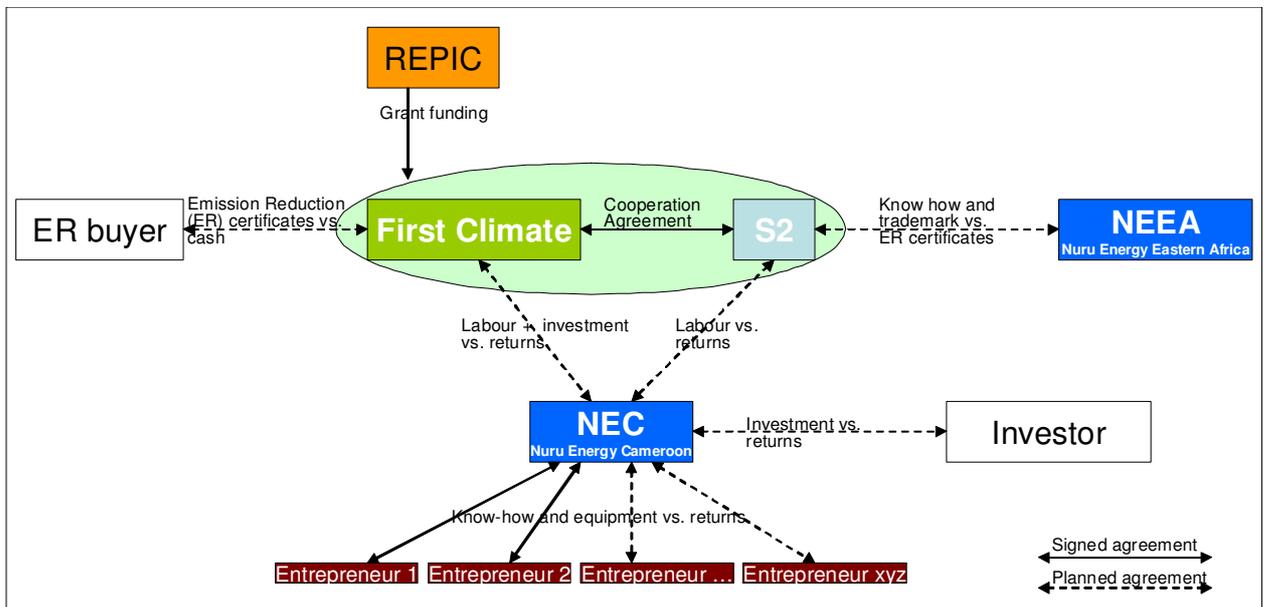
Besides the significant results and learnings described in section 3.2, great achievements regarding the structure of the project, the carbon side of the project and an initial search for investors have been achieved.

3.1.1 Contractual structure

During the phase of the baseline study and the pilot project which has been done by S2, First Climate was mainly working on the structure of the project. Agreements between REPIC and First Climate, between S2 and First Climate have been signed. A draft agreement for exclusivity and cooperation between NEEA and S2/ First Climate is being worked on. As a result of the pilot project, an agreement between S2 and the single VLE has been elaborated.

For the further implementation of the project, this contract shall be signed between the legal entities Nuru Energy Cameroon (NEC) – the SPV to be founded for the management of the project – and the entrepreneurs.

The planned contractual structure is displayed in the graph below:



3.1.2 PIN and PDD development

Under the lead of S2 a Project Idea Note has been elaborated by S2 and submitted to Cameroon’s Designated National Authority (DNA). The Letter of No Objection from the DNA has been secured.

Meanwhile, First Climate is working on the Project Design Document (PDD) which will be required for the registration of the project under the Voluntary Carbon Standard (VCS). Once the project is a registered VCS project, Voluntary Carbon Credits can be generated and sold to companies which wish to get climate neutral.

3.1.3 Business plan/ search for investors

S2 has developed a fully fledged business plan which is available upon request. Financial calculations for the entire project have been prepared in a comprehensive and clear manner so that any investors will be able to read and understand. Many investors already show interest into the project and initial negotiations have started. The only barrier investors express before fully committing now is the size of the sample investigated in the pilot, as it is perceived as too small to be representative for the extension of the project for all Cameroon.

Investors showing interest for the project are (more information will be disclosed to REPIC is necessary):

- ERM Low Carbon Enterprise Fund (discussions ongoing for an investment of up to 250'000 USD). The total cost for the full implementation of the project is around 1.5 million USD.
- Beyond Capital is a social investor created in Switzerland before moving to US recently. We have conducted preliminary discussions and they are also interested in investing in the project
- We have been contacted by Afriland First Bank (www.afriland.com), the biggest national bank of Cameroon owning the most spread MFI nationwide. Preliminary discussions are ongoing and they are very interested in investing in the project

S2 has elaborated a business plan based on the pilot project and with this participated in a business plan competition organized by the biggest association of Cameroon Diaspora in Germany and was awarded the first price¹.

3.2 Results of the baseline study and the pilot project

The goals of the baseline study and the pilot project were to find out the required details and hurdles for the project implementation and to test measures that will be useful for spreading the project all over Cameroon.

The baseline study was undertaken as planned. 300 households were consulted by the S2 team personally and about 50 kerosene retailers in villages interviewed to find out the facts described in the methodology section.

The pilot project could unfortunately not be conducted according to plan due to the unavailability of the equipment. Instead of the 1'000 lights and ten PWC ordered, S2 only received only 400 lights and eight PWC.

The village Missole II, a village not far from Douala, was selected being the pilot village of the project for the reasons that:

- Missole II is not electrified,
- People use kerosene lamps for lighting
- Missole II is not far from Douala (30 min by individual transport)

For the reason of less equipment received and the non availability of more equipment from Nuru's side, it was only possible to install eight VLEs instead of ten, and to sell 400 lights instead of 1'000.

Still, the following findings are much beyond the expectations in the beginning. Those will be of big importance for the project implementation eventually.

Lessons learned are presented in the following categories:

¹ The Association of Cameroon Diaspora in Germany organizes a Business Plan competition yearly during their annual meeting: <http://www.ccstuttgart2012.de/index.php/en/business-a-social-forum/business-plan-award.html>

3.2.1 Distribution/Selling through entrepreneurs

During the pilot, the lights were sold via the VLEs who make already a margin on sales of lights before later making a margin on recharges. This way it could be avoided to involve Micro Finance Institutions which would help to decrease the investment costs for the VLE, but on the other hand would increase the price of lights. Further to that a good basis of commitment is given if the VLEs invest into the purchase of lights as they share risks. In the beginning, the system worked perfectly and lights could be distributed by the VLEs up to a certain level. Major finding was that the single VLE is limited in reach and mostly not very educated which hampered the increased sales of lights. Hence a series of techniques had to be tested to support the VLEs, including road-shows, advertisement in local radios, presenting the new product and its benefits at schools, making the kids to multipliers who should tell their families about the advantages of using the Nuru light over kerosene lamps. Details are elaborated in the business plan.

3.2.2 Pricing

The sales price of Nuru lights to entrepreneurs was fixed at 3.400 FCFA (~7 USD). VLEs will resell to households at 3.900 FCFA (~8 USD). For one recharge the VLE has to pay 140 FCFA as a rent for the PWC. Charges should be resold at 200 FCFA to villagers. VLEs have to sign a contract with S2 which fixes the price for one charge to avoid uncontrolled price increases by the VLE. The price for the lights, the fee the VLE has to pay and the earnings he can make shall be fixed all over the country and known to everyone to further avoid uncontrolled price increases.

With this pricing, a household will be able to save up to 65% of their spending on lighting. Details are summarized in the table below:

	Unit cost (FCFA)	Amount	Total (FCFA)	Comment
Costs of using Nuru Lights			22'200	Per year
Cost of Nuru Lights	3'900	2	7'800	2 lights per household*
Cost of recharge	200	72	14'400	3 recharges per month
Costs of using kerosene lamps			64'000	Per year
Cost of lamps	5'000	2	10'000	2 cheap lamps per household**
Cost of kerosene	500	96	48'000	1 liter of kerosene per lamp per week***
Costs of wick, glass...	500	12	6'000	
Benefit for switching to Nuru Light			41'800	65% yearly cost savings

* The investment costs for the lights are here assumed to occur each year, which is an extremely conservative assumption, as Nuru Lights are built to last up to 10 years. This yearly cost can in reality be divided by at least five..

**The cheapest kerosene lamps cost around 5'000 FCFA on the market. These are of poor quality and will rarely last more than a year. Good kerosene lamps can cost up to 15'000 FCFA in Cameroon

*** One liter of kerosene lasts on average between 12 and 16 hours, depending on the type and aging of kerosene lamps. The result of the survey in the villages is that it is conservative to assume one liter lasting for one week on average.

3.2.3 Payment

For the pilot project, three solutions for payment have been introduced to the village chief and the ongoing VLEs: Scratch cards, Mobile Money and cash payments

Scratch cards have been identified as not practical as a network of sales points for these cards would have to be set up before any further entrepreneur can be installed.

Mobile Money has been discussed and a software has been developed by Nuru and S2 and successfully tested to facilitate the payment of lights and recharges by entrepreneurs using the Mobile Money platform. It was however found out that the culture of payment via cell phone is not yet well understood in Cameroon, unlike in East Africa, where especially this concept works since long in countries like Kenya and Rwanda.

Discussions were held with both network providers, MTN and Orange. S2 decided to work with Orange which is more spread and has the far better track record of providing Mobile Money services, as they are offering such services for over a year in the country already. The network provider Orange in Cameroon is keen to provide the Mobile Money solution and willing to develop strategies together with

S2 on how to promote and implement the Mobile Money solution. Further tests will be conducted in the next phase of the project

Despite many efforts in the pilot project, all entrepreneurs assigned still pay lights and fees for the recharges in cash.

For the moment, this is not perceived as a problem since S2 is following up with the project on a daily basis. Going forward in expanding the project, it will be a necessity to have the Mobile Money working for organisational reasons.

For the implementation of this Mobile Money solution, a fourth training module for entrepreneurs will be required which will be training on the use of Mobile Money. Once the decision for the preferred mobile money solution had been taken, this module can be designed.

3.2.4 Selection of VLEs

The success of the project will strongly depend on the performance of the Village Level Entrepreneurs selected. So far, eight entrepreneurs are already working. These were recruited in two batches. The first four entrepreneurs were not performing very well and the reason was that S2 was not training them and implementing them according to strict requirements and clear protocol. Lessons were learned and the below mentioned procedure was followed with the second four entrepreneurs, resulting in good success.

In short, the criteria and steps of training are as follows:

- Train only entrepreneurs that have paid their training fees of 10.000 FCFA (20 USD), to show their commitment to the project.
- Give entrepreneurs training in three sessions, allowing them to digest the learned between the sessions.
- Ask the prosperous VLEs to do some homework and ask them to do some marketing activities like going to neighbours and introducing the project to them.
- Prefer entrepreneurs who have a fixed activity at an existing site, like a shop or similar, selling kerosene, etc. out of which the entrepreneurs have an existing network of clients and are experienced in running a business.

Following these basic requirements, the successful start-up of the project could be achieved and success for up-scaling will be likely.

3.2.5 Adoption of the technology

One striking observation so far is that all people that have been convinced of Nuru lamps and succeeded in buying those, quickly adapted their behaviour and do not use their kerosene lamps anymore. We have developed a file to track recharges and the result is very satisfying. Households equipped with Nuru lamps are recharging lights more than 3 times per months, some people even going up to 5 recharges per month without complain.

4. Impacts

The impacts presented here are very superficial. With more funding available, a fully-fledged impact study where we analyse the baseline in one selected village before and after the introduction of Nuru project will be conducted. Parameters which will be recorded before and after implementation will amongst others be the following:

- Number of children attending school
- Study hours in the evening
- Children's success rate at school
- Breakdown of household revenue
- Percentage of revenue spent on lighting
- Shifted usage of revenue for other investments after switching to Nuru

The findings of this impact study will help to increase the efficiency of project implementation as the collected information can well be used for marketing purposes. Next to the impacts described by the parameters above, following contribution to sustainable development as well as socio economic effects will occur.

4.1 Contribution of the Nuru technology to sustainable social and economic development in Cameroon

- This project has the potential to positively impact the life of millions. In Cameroon around 3.8 million kerosene lamps are in use. Each lamp serves a community of two to five people. Target of the entire project is to achieve a market penetration of 20%, meaning that 600'000 kerosene lamps shall be replaced. At a conservative estimate that on average three people are using one lamp, 1.8 million people would benefit from the Nuru Light project in Cameroon.

This project will provide, clean, affordable and practical lighting to these millions of people. Without this project these people will continue to rely on kerosene burning for lighting, which is expensive, noxious and unsafe;

- Kerosene lamps cause respiratory diseases because of the incomplete combustion off the wick that produces carbon monoxide and other noxious gases. This project will avoid the production of such gases damaging the health of off grid population.

- Children can greatly benefit from the Nuru light in their homes. Kerosene is very expensive hence children are unable to study during the evening hours. Studies in Rwanda have shown an increase of one to four study hours by children each evening, reported from households which switched to the Nuru light. Similar studies will be conducted in Cameroon once we progress with the project.

- As we found out during the baseline study, access to kerosene is usually very time consuming in the rural areas of Cameroon. People do walk over 10 km to buy one litre of kerosene, use it for 3 days and walk back again to the seller. Those who do not walk have to pay over 1'000 FCFA (i.e. 2 US\$) for a motorbike ride to get access to kerosene which increases their cost of lighting tremendously. For Nuru Light, we are planning to have a maximum distance of 3 km between an entrepreneur and end users. After overcoming the 3 km distance and the 20min of charging, the light will last for 25 hours which is averagely more than 7 days of lighting usage. The time saved can be used for studying books for children or for other income generating activities.

- Economically, our very general studies in Cameroon show that switching from kerosene lamps to Nuru lights can help rural poor reduce their lighting cost by 65% per year, i.e. around 100 US\$ saved per household per year. This money can bring many families out of poverty.

- The main direct social effect other than the positive effects from using Nuru lights itself is employment creation. Over 4'000 Village Level Entrepreneurs will be set up just to recharge lights. Additionally, many other jobs will be created for the distribution, monitoring and the overall management of the project. In total, it is expected that more than 5'000 direct and indirect job opportunities will be created as a result of this project.

- Nuru entrepreneurs will be trained in basic accounting, grass roots marketing and management. We will create a critical mass of entrepreneurs that will be highly competent in customer service and sales. In addition young Cameroonians will be recruited and trained by S2 in the equipment maintenance thus creating more green jobs for the country.

5. Future Prospects

The baseline study is concluded and the pilot is providing very promising results. The project is indeed offering a much better alternative to existing lighting systems in rural areas. The acceptance in the region selected for the pilot is perfect. The intent is to now take the project further and eventually expand it in the whole country of Cameroon.

5.1 Up-scaling and financing of the project

The first and probably the most important next step is to extend the project to other regions of the country which will require additional seed financing. The financial calculation to extend the project based on the pilot project is done and some investors were already approached. After initial discussions it turned out, that success chances to eventually find investors which offer attractive terms will be far better if the pilot project will be extended to around 10'000 lights distributed and used. This will be a representative sample for the total amount of 600'000 lights which are needed for a market penetration of less than 20% of all rural population not having access to electricity. While looking for commercial investors, First Climate and S2 will invest time for finding a donor or venture capitalist who can close the gap between the 400 lights we have distributed so far and the 10'000 lights we wish to have distributed before closing investment. REPIC will be approached with an application for these funding needs in the first place and would be First Climate's and S2's preferred partner.

A detailed projection of the estimated costs for up-scaling to 10'000 lights is presented in the financial report as well as in S2's business plan which can be shared upon request.

Going further with the project, the following parameters will be considered:

5.2 Selection of region for the project

The idea is to start with the financially weakest regions (taking into account the overall level of electrification and per capita income level and the percentage of rural population without access to electricity) to bring lighting first to the real Bottom of the Pyramid.

The table below summarizes key parameters per Region of Cameroon, which will be used for the selection of the project locations in the country. The information, unless indicated is taken from the Cameroon National Census of 2005².

Region	Total population	Rural population	Percentage rural pop.	Density of the pop. (inhabitants/km ²)	Electrification rate*	Total number of lamps**
Adamaoua	884'289	540'799	61%	13.9	25.5	190'692
Centre	3'098'044	871'507	28%	44.9	46.7	444'570
Est	771'755	490'198	64%	7.1	23.6	262'067
Extreme-nord	3'111'792	2'403'732	77%	90.8	11.8	525'485
Littoral	2'510'263	185'611	7%	124.0	67.2	175'383
Nord	1'687'959	1'217'046	72%	25.5	16.6	342'171
Nord-ouest	1'728'953	1'087'395	63%	99.9	31	739'011
Ouest	1'720'047	987'486	57%	123.8	56.6	444'128
Sud	634'655	407'727	64%	13.4	72.1	251'278
Sud-ouest	1'316'079	757'397	58%	51.8	36.5	320'620
Cameroun	17'463'836	8'948'898	51%	37.5	38%	3'892'691

* From SIE (Système d'Information Energétique) 2010

** From National Institute of Statistics 2004 (we anticipate the change between 2004 and 2012 has rather positively altered the numbers. But to be conservative, we keep these values)

From the table above, the following set of criteria was developed:

² To be conservative in our assumptions, we do not adjust the population to 2012 by the year by year population increase.

- The focus should not be put on regions where the concentration of rural population is less than 50% (Only Littoral and Centre are excluded by this criterion and are hence not priority regions).
- Higher focus shall be put on regions where the density of the population is above 40 inhabitants per km².
- Focus on regions show an electrification rate of less than 30%.
- Regions close to Douala shall be prioritized, at least in the beginning, to enable close follow up and monitoring of the project at its initial stage.
- Slight advantage shall be granted to the regions in the Southern part of Cameroon (excluding the three regions in the Grand North) because of the proximity to Douala. Travelling and transferring equipment to the Grand North is very difficult.

With the criteria elaborated above, the regional development of the project after the pilot will be as follows:

Region	Rank	Comments
South West	1	Not the best market, but close to Douala. Will be good to use as extension to the actual pilot
North West	2	Very good market, but far from Douala. Will be the next target after pilot extension
West	3	These 3 regions are all far away in the Northern part of Cameroon and will be tackled all together
Far North	4	
North	5	
Adamawa	6	
East	7	
South	8	
Center		Density of the rural and non electrified population is very low. We will only optionally have project in selected villages here
Littoral		

This table above shows how the project shall be moved ahead. First Climate and S2 are open for any partnership and will not refrain from working with people interested, provided they have made a clear market study, a professional team and clear interest to act within the framework of our consortium.

Each region in Cameroon is split into several sublevels - the divisions. Cameroon has 58 divisions. Similar criteria as above shall be applied on the division level to select and prioritize the divisions for project implementation.

5.3 Selection of partners

In each region locally active NGOs or associations will be identified and approached to cooperate. Local NGOs can be big help in the development of the right strategy for the project implementation in the region. Also they can be good partners and help with their experience and network in selecting entrepreneurs.

S2 has co-founded the association Light for All Cameroun (www.light4allcameroun.org) and will prioritize working with NGOs affiliated to this association. In Missole II, where the pilot is taking place, cooperation with the NGO Cameroon Ecology, which is founding member of Light for All Cameroun as well, has been established. Cameroon Ecology recommended S2 to the Missole II village since they have been undertaking projects there already and know all chiefs and influential people.

NGOs working with S2 will be very well incentivized. They will get a margin on lights sold and a margin on recurring recharges, if they stay involved in the distribution process.

5.4 Selection of entrepreneurs

The project lays in the hands of Village Level Entrepreneurs (VLEs) who everyday recharge lights of customers and communicate directly with them on issues with the product. They are the real Nuru ambassadors and have to be ready to stand the challenge. It's important to make a good selection, as bad entrepreneurs might jeopardize the project.

When arrived in a village, it is tried firstly to connect with the local/traditional authority – generally the chief of the village – and to organize a meeting with villagers invited by the authority. During that meeting, the project is presented and the profile of ideal entrepreneurs is described. At the end of the meeting, the contacts of interested entrepreneurs are recorded and a training date is fixed with them. The number of entrepreneurs joining this first meeting shall not be limited. The selection is naturally made, as during the second meeting which is the first real training session. Only interested entrepreneurs show up.

The final hurdle that determine real and committed entrepreneurs is the 10 000 FCFA commitment (called training fee) fee that is requested from entrepreneurs before signing the contract (see sample of the contract in Annex III) with them. Only very interested pay the fee and become entrepreneurs.

VLEs are earning 500 FCFA per light sold and 60 FCFA per recharge sold. The more lights sold and recharged the more recurring income for VLEs.

5.5 Orange Money - a fourth training module for VLEs

Currently, discussions of how to advertise the Mobile Money platform with Orange are ongoing. The fourth training module will be held together with Orange personnel. This is required to explain to the entrepreneur how Orange Money works and its advantage in reducing the transaction costs and keeping the lights at reasonable price.

Subscribing to Orange Money in Cameroon requires to have an Orange Simcard, a phone and to provide Orange with a photocopy of the ID card. Discussions with Orange to see if a starter kit can be offered to entrepreneurs, containing a mobile phone with the Simcard and Orange Money are on the way.

5.6 Distribution of lights

The distribution strategy will develop around the pilot project. Different methods are being tested currently. The first and the most preferred method is selling lights through entrepreneurs. Entrepreneurs get a micro franchise of 20 lights, sell them to households and pay back the money to S2 before getting new lights. In Missole II the pilot village this procedure works with a lot great success.

The VLE in this way receives a sort of loan without interest and can pay back at his convenience. To incentivize the entrepreneurs on quickly paying back the light, the wholesale price of recharges sold to him increases from 140 FCFA to 180 FCFA. So he makes virtually only 20 FCFA benefit, but 40 FCFA go into reducing his debt

The second distribution method not tested yet will be sending vendors to the project site to do door to door selling of lights. They will be suitably trained for this assignment, as they will also have to clearly explain the system to buyers.

Already during the pilot, two road shows in which entrepreneurs organized meetings with local villagers and S2 presented and sold the lights were conducted.

The project will also be presented at school and children will promote it by reporting about the advantages of switching to Nuru technology to their parents.

All these procedures will be further tested during the pilot extension phase

6. Conclusions

Africa is a place where local presence is necessary to overcome hurdles presented by the economical, political, doing business, social and environmental challenges.

On the cooperation and strategic side, First Climate wanted to test a new business model with the Nuru Lights Project and test the cooperation with an African based company like S2. This change of strategy came after a lack of success on the African continent.

So far, the project showed reliable results regarding First Climate's wish to see if working from the field can bring more success than working from Zurich and trying to get projects in Africa from remote. First Climate can definitely conclude that the experience has been successful so far and will look into developing further cooperation with S2 Services but also with other African based companies in other African countries.

The project is taking shape and First Climate is the preferred buyer of carbon credits that will be generated and will be further involved in developing the project, by finding investors and partners and giving expert advice to S2.

On the project side, the objectives of developing baseline studies and conducting a pilot to test the acceptability of the technology have been achieved and a strategy to spread the project all over Cameroon has been elaborated. A final business plan is now ready and financial calculations and projections are done for the project. Also have many other useful documents for the project like the template to track recharges, the template contract with entrepreneurs, the training manual (in Word and Power-Point) have been established and are available.

6.1 Strengths

What has made this project successful so far?

- Lighting in rural area is a real problem. Using kerosene lamps damage the health of Bottom of the Pyramid. But what is more difficult to swallow is that, in Cameroon, people in rural area spend between 10 and 20% of their revenue for lighting, mostly to buy kerosene.
- Closeness to the project with S2 working from Cameroon. Without that local presence, the project would not have moved any further.
- The long time experience of First Climate in project development that has been useful to easily propose strategies to S2, initiate and support the development of the business plan and financial calculations
- The cooperation between S2 and First Climate has been perfect, maybe helped by the fact that one employee of S2 is former employee of First Climate
- The Nuru technology is far better than kerosene lamps and people who have tested it have easily adopted it.

6.2 Challenges now and ahead

Challenges that were faced and will need to be addressed going further are

- For now, the project shall only be developed in the rural area of Cameroon. The level of education there is the lowest in the country, which means entrepreneurs need more time to clearly understand the business. Also the entrepreneurs were foreseen to market and sell lights and this has had only limited success. Going further, extra sales personnel in different regions might be hired to boost the sales.
- The use of kerosene lamps for lighting has become a culture in Cameroon (but also in all developing countries where over 2 billion kerosene lamps are used). People refrain from changing "cultural asset" to new ways of doing things. It's sometimes challenging to prove that the Nuru technology is the best. Explanations had to be given over and over which can be very time consuming. We will progressively develop strategies to facilitate the understanding. The best strategy is still to achieve a certain level of distribution (the 10'000 we are seeking) at which the project will start speaking for itself. One encouraging remark so far is that, people that have finally accepted to test Nuru lights to not switch back to kerosene lamps.

- The income level in rural area of Cameroon is low and has forced us to sell the Nuru lights at a loss lead (8USD instead of around 13USD our cost). This implies that our payback time will be longer than expected, but it's the only way to get people purchase the lights. An overview of the expected payback time per POWERCycle can be looked up in the financial report.

6.3 The main lessons learned during this project and potential improvements into the future

- Planning in the office is good, but it's more important spending more time on the field talking to people. Our success with the pilot has been because a lot of time had been spent in the field talking to people and developing good strategies. And this is in general why the Nuru technology is having success in East Africa already. The technology itself was developing from a bottom-up approach to find a real successor to kerosene lamps.
- The culture in rural area of Cameroon is that "strangers" are respected and never contradicted. Sometime, we thought we agreed on something to find out later that we were still on opposite sides.
- Never base a decision only on just trust, always check the counterpart and challenge him before engaging. Our first entrepreneurs where mostly proposed by the village chief in Missole II. And they did not perform very well in the beginning and it finally took more time to help them o get on track. We learned the lessons and did not trust any further recommendations. Now we will rely only on competences and the criteria we developed.
- It's important in rural area to always approach village leaders and local NGOs. They know the mentality of people there and will support you in developing the good strategy to enter the village.
- Pricing products in rural area is very difficult exercise. No matter what price you propose, people will always complain that it's expensive. Maybe we could have increased the price and offer discount during road shows? We might test this during the next phase of the project.

7. References

1. *SIE (Système d'Information Energétique) 2010*
2. *National Institute of Statistics 2004 (we anticipate the change between 2004 and 2012 has rather positively altered the numbers. But to be conservative, we keep these values)*
3. *Cameroon National Census of 2005*

Appendix I - Baseline questionnaire to survey households

Customer Names: _____

Customer Location (Village, etc.): _____

Enumerator _____

Date:

Survey number:

1- HOUSEHOLD CHILDREN DEMOGRAPHICS

1.	Number of school age children in family? _____
2.	Number of children currently attending school in the family? _____
3.	Number of children currently using light for studying after dark? _____

2- CURRENT LIGHTING

1.	How many of each type of lighting systems do you have? Kerosene Lantern (small) Kerosene Lantern (medium) Kerosene Lantern (large) Box (kerosene based system without glass cover) Torch light Candles Burning wood fires for light Batteries Solar panels Other _____ None			
2.	Yesterday, for how many minutes was the lighting system used for each activity? Cooking ___ minutes Eating ___ minutes Studying ___ minutes Preparing beds ___ minutes Attending to livestock/milking cow or goat ___ minutes Attending to baby ___ minutes Social Interaction (not including eating) ___ minutes Handicraft ___ minutes Outdoor Work (not including attending to livestock /milking cow or goat ___ minutes	Who use it for each activity? Mother Mother Mother Mother Mother Mother Mother Mother Mother	Father Father Father Father Father Father Father Father Father	Child Child Child Child Child Child Child Child Child

	Security/Night light___minutes Walking at night___minutes	Mother Mother	Father Father	Child Child
3.	Last night, for how many minutes was the lighting system used total? _____			
4.	Was last night a normal night for light use?			
5.	If last night was not normal, then please indicate for how many minutes you typically use the lighting system.			

3- Kerosene Consumption

1.	How often do you buy kerosene for lighting? Daily ___Timesper week? Once a week Once every ___ weeks Never
2.	How much do you spend on kerosene each time you buy it (RWF)?
3.	How much kerosene do you buy each time you buy it (in L)if liter amount is not known, what container do they fill each time –a water bottle or some other container whose volume can be determined?
4.	How far do you travel to buy kerosene (kilometers)?
5.	From whom do you buy kerosene (local seller, petrol stations, etc.)?
6.	How far are you (kilometers) from the electric grid?
7.	Do you have a cell phone?
8.	If you do have a cell phone, where do you charge it?
9.	If you have a cell phone, how much do you pay for each charge?
10.	If you have a cell phone, how often do you recharge your phone?

	Daily ___ Times per week? Once a week Once every ___ weeks Never
11.	It is very important for me to have a cell phone charging station close to your home? Strongly Agree Agree Disagree Strongly disagree

4- Importance of light.

1.	Having light after dark is important for my household. Strongly Agree Agree Disagree Strongly disagree
2.	Having light after dark is important for my children's education. Strongly Agree Agree Disagree Strongly disagree
3.	We feel safe in our home after dark if we have light Strongly agree Agree Disagree Strongly Disagree
4.	Our present system of lighting cause health problems. Strongly agree Agree Disagree Strongly disagree

Appendix II - Baseline questionnaire to survey kerosene sellers

Kerosene Seller Name: _____

Customer Location (Village, etc.): _____

1.	For how much do you sell a liter of kerosene (CFA)? _____
2.	How many liters of kerosene do you sell each week? _____
3.	How many customers do you serve a week? _____
4.	How often do your customers buy kerosene?
5.	Where do you buy your kerosene (Petrol station, etc.)?
6.	How much do you pay to buy a liter of kerosene (CFA)?
7.	Where is the closest access to the electric grid from where you are selling kerosene (kilometers)?
8.	What is your monthly revenue (local currency)?
9.	How much kerosene (volume) does the average customer buy each time?

Enumerator _____

Date:

Survey number:

Appendix III - Sample contract with Entrepreneurs

The sample contract for the moment is signed under the name of S2, as the SPV Nuru Energy Cameroon (NCE) is not an existing legal entity yet. One of the next steps in going ahead with the project is to establish the venture NCE so that all entrepreneurs can sign up with this company.

CONTRAT

entre

S2 Services Sarl

et

.....
...

CNI **du**
à.....

Région..... **Département**.....

Arrondissement..... **Village**.....

Autre location.....**Tel:**

Monsieur ci après "Entrepreneur" et S2 Services Sarl ci après « S2 » acceptent d'entrer en contrat pour l'achat, la vente et la provision des services pour le système Nuru. Ce contrat est signé par l'Entrepreneur et le représentant S2 et est valide à partir de la date de signature indiquée à la fin de ce contrat.

SECTION 1: EQUIPEMENTS

- 1.1 L'Entrepreneur doit payer les frais de formation de 10 000 FCFA au début de la formation.
- 1.2 L'Entrepreneur va recevoir un nombre limité de lampes ne dépassant pas 20 lampes à la fois. L'Entrepreneur paiera à la réception des lampes le montant qu'il a à sa disposition et le reste sera payé progressivement quand il recouvrira l'argent des utilisateurs.
- 1.3 Le POWERCycle sera utilisé par l'Entrepreneur pour recharger les lampes Nuru Lights, mais appartiendra à Nuru. Le POWERCycle aura déjà 35 unités de crédit à l'achat.
- 1.4 Pour charger pleinement une lampe, l'Entrepreneur aura besoin d'acheter un crédit au prix de 140 FCFA. Pour acheter le crédit, l'Entrepreneur doit avoir un compte Orange Money et transférer de l'argent au numéro 98 77 65 25. L'Entrepreneur doit s'assurer de transférer de l'argent seulement à partir du numéro de téléphone qu'il a communiqué à Nuru à la réception du POWERCycle.
- 1.5 Pendant la période où l'Entrepreneur a des lampes non payées, le crédit lui sera vendu à 180 FCFA l'unité au lieu de 140 FCFA jusqu'à ce que sa dette soit épuisée. Pour vite éponger sa dette, l'Entrepreneur doit faire des transferts directs (qui n'achètent pas le crédit) au numéro 97 13 55 80.
- 1.6 Le POWERCycle est la propriété de S2, mais les lampes sont immédiatement après réception, la propriété de l'Entrepreneur, sauf au cas où il y a un problème couvert par la garantie. Cependant, si l'Entrepreneur a des problèmes pour commercialiser ses lampes, S2 pourrait les récupérer si elles sont encore en bon état.

- 1.7 Si S2 introduit sur le marché les nouvelles versions des lampes Nuru Light et/ou du POWERCycle et désire remplacer les anciennes versions, l'Entrepreneur se devra de collecter ses anciennes versions et les mettre à la disposition de S2.

SECTION 2: VENTES DES LAMPES NURU LIGHT ET DES RECHARGES

- 2.1 L'Entrepreneur doit charger les lampes dans la zone prédéterminée suivante:

Village: _____ Location spécifique:

- 2.2 L'Entrepreneur doit vendre les lampes au prix de 3900 FCFA par lampe et la recharge à 200 FCFA. Nuru se réserve le droit de changer le prix de vente au futur et l'Entrepreneur accepte d'appliquer les nouveaux prix communiqués par S2.
- 2.3 L'Entrepreneur doit accepter que les lampes soient retournées pour un remboursement total dans un délai de 10 jours après la vente si les lampes sont encore en bon état. Au delà de 10 jours, l'Entrepreneur n'est plus autorisé à reprendre les lampes, sauf s'il s'agit d'un cas couvert par la garantie.
- 2.4 L'Entrepreneur doit remplir les informations dans les fiches de suivi des ventes et des recharges données par S2.
- 2.5 L'Entrepreneur accepte d'être revendeur des futurs produits que S2 mettra sur le marché Camerounais. Si nécessaire, un nouveau contrat sera signé quand il y'aura un nouveau produit.
- 2.6 L'Entrepreneur ne vendra que les produits d'éclairage de Nuru, sauf si une permission spéciale lui est donnée par S2. La vente des autres produits d'éclairage autres que ceux de Nuru peut entraîner la rupture du contrat entre S2 et l'Entrepreneur.

SECTION 3: GARANTIE- NURU LIGHT

- 3.1 Chaque lampe Nuru aura deux cartes de garantie. Le client doit impérativement remplir les deux cartes puis en remettre une à celui qui lui a vendu la lampe. Ces derniers, généralement les Entrepreneurs, doivent remettre cette carte de garantie à un membre de l'équipe S2 dans un délai de trois mois après la vente de la lampe.
- 3.2 Les lampes ont une garantie d'un an et pendant cette période S2 s'engage à remplacer toute lampe ayant un défaut de fabrication. L'Entrepreneur doit s'assurer de remettre la lampe défectueuse à S2 pour remplacement. La lampe ne peut être remplacée que si la carte de garantie avait été remplie à l'achat de la lampe et transférée à S2.
- 3.3 Si la lampe Nuru est défectueuse parce que la batterie a été surchargée, l'Entrepreneur sera responsable et achètera à ses propres frais une nouvelle lampe pour le client. Pendant la formation, il est clairement expliqué à l'Entrepreneur de ne charger une lampe que si elle est totalement déchargée.
- 3.4 L'Entrepreneur doit cesser de charger toute lampe dont le client a ouvert pour utiliser la batterie, à d'autres fins et cesser tous les autres services offerts à ce client qui perdra aussi immédiatement sa garantie.

SECTION 4: GARANTIE- POWERCYCLE

- 4.1 Le POWERCycle a pour numéro de série _____
- 4.2 S2 va réparer ou remplacer immédiatement le POWERCycle ayant un problème technique à l'exception des clauses 4.2 et 4.3. L'Entrepreneur doit s'assurer que S2 soit informé en temps réel en cas de problème et apporter son POWERCycle au bureau S2 le plus proche pour réparation ou remplacement.
- 4.3 L'Entrepreneur ne doit pas tripoter ou ouvrir le POWERCycle. Si S2 trouve que le POWERCycle a été tripoté de quelque manière que ce soit et/ou ouvert, le POWERCycle sera immédiatement retiré et le contrat entre Nuru et l'Entrepreneur prendra fin avec effet immédiat.
- 4.4 L'Entrepreneur est seul responsable du remplacement des pédales usées

SECTION 5: RECHARGE

- 5.1 L'Entrepreneur doit recharger la lampe à 200 FCFA. Le prix de la recharge du téléphone portable sera indiqué au moment opportun quand l'appareil sera prêt pour cela. Ce contrat sera amendé au stylo manuel pour inclure ce prix.
- 5.2 L'Entrepreneur ne doit pas consciemment recharger les lampes volées. Si une lampe volée lui est apportée pour recharge, il doit immédiatement informer S2.
- 5.3 L'Entrepreneur doit être disponible au moins 40 heures par semaine pour recharger les lampes des clients.

SECTION 6: AUTRES

- 6.1 L'identité de l'entrepreneur dans le système Nuru est _____
- 6.2 L'Entrepreneur accepte de donner des réponses honnêtes et justes aux différentes enquêtes de S2.
- 6.3 L'Entrepreneur autorise S2 à publier ses photos et ses déclarations sans aucune autre compensation.
- 6.4 S2 n'a pas l'obligation de faire le marketing pour l'Entrepreneur dans sa zone de travail.
- 6.5 L'Entrepreneur reconnaît et accepte que S2 a le plein droit sur tous les crédits carbone qui pourraient être générés par l'utilisation des lampes Nuru Light vendues et rechargées par l'Entrepreneur.
- 6.6 L'Entrepreneur doit vendre au moins 100 lampes la première année de son contrat avec S2. Si cela n'est pas le cas, Nuru se réserve le droit de terminer le contrat et retirer le POWERCycle et les lampes non vendues pour les remettre à un nouvel Entrepreneur.
- 6.7 L'Entrepreneur accepte de suivre toutes les nouvelles lignes directrices de S2 concernant le business Nuru et l'utilisation du POWERCycle et des lampes Nuru Light.
- 6.8 SI L'ENTREPRENEUR VIOLE L'UNE DES CLAUSES ICI MENTIONNÉES, S2 SE RESERVE LE DROIT DE RETIRER LE POWERCYCLE ET LES LAMPES NON VENDUES ET D'ARRETER DE TRAVAILLER AVEC CET ENTREPRENEUR.**

SIGNATURES

ENTREPRENEUR
_____ Nom
_____ Signature
_____ Date

S2 Services Sarl
_____ Nom
_____ Signature
_____ Title
_____ Date

Identité entrepreneur: