

IMPLEMENTING ENTITY AGREEMENT

between

**L'UNITE DE COORDINATION POUR LA FORMULATION DU DEUXIEME
PROGRAMME ET DU SUIVI DES REFORMES DE MCA-BENIN**

and

**L'INSTITUT NATIONALE DE LA STATISTIQUE ET DE L'ANALYSE
ECONOMIQUE**

Dated as of February [4], 2015

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IMPLEMENTING ENTITY AGREEMENT

This IMPLEMENTING ENTITY AGREEMENT (this "**Agreement**") is made as of February [4], 2015, by and between the *Unité de Coordination pour la Formulation du Deuxième Programme et du Suivi des Réformes de MCA-Bénin*, an entity established by decree under the laws of Benin ("**UCF**") on behalf of the Government of the Republic of Benin (the "**Government**") and the *Institut Nationale de la Statistique et de l'Analyse Economique* (the "**Implementing Entity**") in partial implementation of that certain grant and implementation agreement (the "**Grant and Implementation Agreement**") between the United States of America, acting through the Millennium Challenge Corporation ("**MCC**") and the Government, acting through the Ministry of Economy and Finance, signed on September 24, 2013. Each of UCF and the Implementing Entity is referred to in this Agreement individually as a "**Party**" and together as the "**Parties**."

ARTICLE 1 AUTHORIZATION AND APPOINTMENT; PURPOSE

Section 1.1 Authorization and Appointment. Pursuant to Sections 1.1 and 2.2(b)(ii) of the Grant and Implementation Agreement, MCC granted the amount of five million U.S. Dollars (US\$5,000,000) to the Government in order to undertake the Activities, and named UCF as the Government's temporary Permitted Designee with responsibility to manage the implementation of such Activities. UCF accordingly authorizes and appoints the Implementing Entity to perform, in accordance with the terms and conditions of this Agreement and the Grant and Implementation Agreement, the obligations and responsibilities of the Implementing Entity as set forth in this Agreement, including all annexes to the Agreement (collectively, the "**Responsibilities**"). This appointment does not relieve UCF of any of its responsibilities under the Grant and Implementation Agreement.

Section 1.2 Acceptance. The Implementing Entity accepts the authorization and appointment and agrees to perform the Responsibilities and related obligations in accordance with the terms and conditions of this Agreement.

ARTICLE 2 PRINCIPAL DOCUMENTS

Section 2.1 Grant and Implementation Agreement. The Parties will perform their responsibilities under this Agreement in accordance with the following documents, as they may be amended from time to time (the "**Principal Documents**"): (a) the Grant and Implementation Agreement; (b) upon its adoption, the Interim Fiscal Accountability Plan, (c) the 609(g) Detailed Financial Plan; and (d) any other agreement entered into by UCF and applicable to the Grant and Implementation Agreement.

ARTICLE 3
IMPLEMENTING ENTITY'S RESPONSIBILITIES

Section 3.1 Reporting. In the performance of the Responsibilities, the Implementing Entity will report directly to the Responsible of Monitoring and Evaluation or another authorized UCF representative designated in writing by UCF. In addition, the Implementing Entity and UCF will ensure that all deliverables specified in Annex I will be provided to MCC through MCC's representative Guyslain Ngeleza, MCC Economist. The Parties further agree to coordinate fully with MCC in the implementation of this Agreement, including providing Mr. Ngeleza with status reports regarding implementation and including Mr. Ngeleza in relevant meetings and discussions, upon MCC's request.

Section 3.2 Procurement. Except as further specified in this Section 3.2, the Implementing Entity will not conduct any procurements for goods, works, or services in connection with this Agreement. Notwithstanding the foregoing, the Implementing Entity may procure, subject the provisions set forth in Annexes II and III of this Agreement: (i) limited Office Supplies (as defined in Annex III); and (ii) the services of certain individuals to function as Individual Enumerators (as defined in Annex III) for the duration of this Agreement.

Section 3.3 Cooperation in Fiscal Accountability Matters. The Implementing Entity will cooperate fully with UCF and will ensure prompt processing of all invoices received in connection with any goods, services or works in connection with this Agreement or the reimbursement or other treatment of any Taxes. The Implementing Entity agrees to follow the procedures set forth in Annex II with regard to payment of invoices.

Section 3.4 Tax Matters. No Grant funding will be used in the payment or reimbursement of any Taxes. The Implementing Entity will cooperate fully with UCF to ensure full and proper implementation of the Tax exemption as required by the Grant and Implementation Agreement. The Fiscal Agent will promptly notify MCC in the event of any erroneous reimbursement by MCC for Taxes paid by UCF.

Section 3.5 Certifications and Other Information Requests; Approvals; Actions. The Implementing Entity will provide such certifications, approvals, documents, data or other information and will take such other actions (a) necessary for any Disbursement, in accordance with the applicable requirements contained in the Grant and Implementation Agreement and this Agreement, (b) required in furtherance of or related to any Principal Document, (c) as otherwise designated to the Implementing Entity in this Agreement or (d) as may reasonably be requested by UCF from time to time. Any such certifications, approvals, documents, data, other information or other actions will not be unreasonably withheld or delayed by the Implementing Entity.

ARTICLE 4
UCF'S RESPONSIBILITIES



Section 4.1 Prompt Payments. UCF will coordinate with the Implementing Entity to ensure that all approved costs in Annex II of this Agreement will be paid properly and promptly, consistent with the procedures described in Annex II.

ARTICLE 5 RESOURCES FURNISHED TO THE IMPLEMENTING ENTITY

Section 5.1 Resources Furnished to the Implementing Entity. Up to 80 personal digital assistants will be provided to the Implementing Entity to use in carrying out the Responsibilities under this Agreement. Upon completion of the tasks further described in Annex I, or upon UCF's request, the Implementing Entity will return all such personal digital assistants to UCF.

Section 5.2 Fees. The Implementing Entity will not be entitled to, and will not receive, any payment of fees for performing the Responsibilities.

Section 5.3 Expenses. The Implementing Entity may be reimbursed for certain costs and expenses or other direct charges in connection with its performance of the Responsibilities to the extent such costs, expenses or other direct charges are (a) provided for in the budget set out in Annex II and (b) reimbursed in accordance with the terms of Annex II, any relevant terms of the Principal Documents and the MCC Cost Principles for Government Affiliates Involved in MCC Compact Implementation (available on the MCC Website).

ARTICLE 6 IMPLEMENTING ENTITY COVENANTS AND REPRESENTATIONS

Section 6.1 Implementing Entity Staff and Subcontracts.

(a) The Implementing Entity will use only qualified, experienced, and reliable staff for the performance of the Responsibilities. The Implementing Entity will be responsible for and will take all necessary action with respect to any misconduct or failure of any staff utilized by the Implementing Entity. Further, the Implementing Entity will take all reasonable action requested by UCF to address any misconduct or failure of any Implementing Entity staff.

(b) Any appointment, replacement, modification or addition of any Implementing Entity staff dedicated full-time to implementation of this Agreement or financed with the Grant (whether or not dedicated full-time to execution of the Responsibilities) will be subject to the prior written approval of UCF. Such approval will not be unreasonably withheld. However, any potential interruption, delay or material alteration of the Responsibilities will be a sufficient reason for UCF to deny such approval.

(c) Except as specified in Section 3.2 and Annex III, the Implementing Entity may not enter into any agreement, sub-contract or other arrangement or grant any sub-award involving the Grant with any other person or entity whatsoever without the prior written consent of UCF and MCC. The Implementing Entity will remain ultimately responsible for the



performance of all of its obligations under or in relation to this Agreement regardless of any arrangement made in accordance with this Section 6.1(c).

Section 6.2 No Conflict. The Implementing Entity will not enter into any agreement in conflict with this Agreement or the Principal Documents during the term of this Agreement.

Section 6.3 Representations. The Implementing Entity warrants that, as of the date of this Agreement, neither the Implementing Entity nor any of its officers, directors or employees involved in the provision of services contemplated by this Agreement has ever been convicted of any narcotics offenses and is not engaging or participating, has never engaged or participated, and will not engage or participate during the term of this Agreement, in drug trafficking, terrorism, sex trafficking, prostitution, fraud, felony, any misconduct injurious to MCC or UCF, any activity contrary to the national security interests of the United States or any other activity that materially and adversely affects the ability of the Government or any other party to effectively implement, or ensure the effective implementation of, the Grant or the Activities or to otherwise carry out its responsibilities or obligations under or in furtherance of the Principal Documents or that materially adversely affects any assets or properties relating to the Activities.

ARTICLE 7 TERMINATION

Section 7.1 Termination. This Agreement may not be terminated for any reason without the prior written consent of MCC. Together with such prior written approval of MCC, this Agreement will terminate upon the first to occur of the following:

- (a) either Party terminates this Agreement at any time upon not less than thirty (30) days' written notice to the other Party;
- (b) in the event of a material breach by the Implementing Entity of a representation, covenant, obligation or responsibility under this Agreement, UCF elects to terminate this Agreement by written notice; or
- (c) the Grant and Implementation Agreement expires, terminates or is suspended in accordance with its terms or otherwise.

Section 7.2 Effect of Termination.

(a) Upon the termination of this Agreement, the Implementing Entity will ensure the orderly and timely transfer of all (i) assets, goods or property (of any kind) purchased or financed in whole or in part (directly or indirectly) using the Grant and (ii) records, documents and information developed by or provided to the Implementing Entity as part of its performing the Responsibilities, together with all electronic copies thereof, to UCF or such other agent or representative designated by UCF. The Implementing Entity also will take, or cause to be taken, any other actions reasonably requested by UCF to ensure the proper transition of any services provided by the Implementing Entity pursuant to this Agreement, if applicable.



(b) Unless otherwise agreed by the Parties, no costs, expenses or other direct charges of any kind that may otherwise be reimbursable pursuant to Section 5.3 may be charged from the effective date of the termination of this Agreement, and the Implementing Entity or any sub-contractor or Service Provider (if properly engaged by the Implementing Entity in accordance with Section 6.1(c)) will be entitled solely to payment or reimbursement for permitted and valid costs, expenses or other charges incurred (i) prior to the effective date of the termination and (ii) in accordance with the terms of this Agreement.

ARTICLE 8 GENERAL PROVISIONS

Section 8.1 Communications. Any document or other communication required, permitted, or submitted by a Party to another Party under this Agreement (or MCC as applicable) will be in writing and in French and sent to a Party or Parties (or MCC) at the address indicated below, or at such other address as such Party (or MCC) may designate:

To UCF:

UCF/MCA-Benin
Attention: Samuel O. BATCHO, Coordonnateur UCF/MCA-Benin
Immeuble Kougblenou Nima Zogo Cotonou
Tel 00229 21 31 80 66/00229 95 36 08 49
Fascimile: 00229 21 31 46 92
Email: sbatcho@ucf.bj

To the Implementing Entity:

Institut National de la Statistique et de l'Analyse Economique
Attention: Alexandre BIAOU, Directeur General/INSAE
Immeuble INSAE/MDAEP Cotonou
Email: alexandrebiaou@yahoo.com

To MCC:

Millennium Challenge Corporation
Attention: Guylain Ngeleza, Economist, MCC
875 Fifteenth Street, N.W.
Washington, D.C. 20005
United States of America
Telephone: 202-521-7892
Email: ngelezaga@mcc.gov

Section 8.2 Representatives. For all purposes relevant to this Agreement, the Implementing Entity will be represented by the individual holding the position of, or acting as,



the Directeur Général, and UCF will be represented by the individual holding the position of, or acting as, its National Coordinator (each, a "*Principal Representative*"). Each Principal Representative, by written notice to the other Party, may designate one or more additional representatives (each, an "*Additional Representative*") for all purposes other than signing amendments to this Agreement. The names of each Party's Principal Representative and any Additional Representatives will be provided, with specimen signatures, to the other Party, and each Party may accept as duly authorized any instrument signed by such representatives relating to the implementation of this Agreement. A Party may replace its Principal Representative with an individual of equivalent or higher rank and seniority upon written notice to the other Party, which notice will include the specimen signature of such new Principal Representative.

Section 8.3 Assignment. The Implementing Entity may not assign, delegate or otherwise transfer its rights or obligations under this Agreement without the prior written consent of UCF and MCC.

Section 8.4 Amendments. This Agreement may be amended or modified only by written agreement, signed by the Principal Representatives of UCF and the Implementing Entity, and approved in writing by MCC, notwithstanding any law, regulation, or decree that purports to amend or modify any term or condition of this Agreement.

Section 8.5 Definitions of Capitalized Terms. Capitalized terms used but not defined in this Agreement have the meanings given such terms in the Grant and Implementation Agreement, as applicable.

Section 8.6 Inconsistencies and Interpretation.

(a) In the event of any conflict or other inconsistency between an annex or other attachment to this Agreement (which such annexes and other attachments for all purposes form an integral part of this Agreement) and the terms of Articles 1 through 8 of this Agreement, the terms of Articles 1 through 8 will prevail over the terms of the annex or other attachment.

(b) In the event of any conflict or other inconsistency between this Agreement and any Principal Document, the terms of the Principal Document will prevail over the terms of this Agreement.

(c) Nothing in this Agreement will be construed as an amendment, supplement or other modification or waiver of any provision of any Principal Document.

Section 8.7 Governing Law. This Agreement is governed by and construed in accordance with the laws and regulations of Benin.

SIGNATURE PAGE FOLLOWS ON NEXT PAGE



IN WITNESS WHEREOF, UCF and the Implementing Entity, each acting through its duly authorized representative, have caused this Agreement to be executed in their names and delivered as of the day and year first written above.

*UNITE DE COORDINATION POUR LA FORMULATION DU
DEUXIEME PROGRAMME ET DU SUIVI DES REFORMES DE MCA-BENIN*

By: _____

Name: Samuel Olukayodé BATCHO

Title: National Coordinator, UCF



INSTITUT NATIONALE DE LA STATISTIQUE ET DE L'ANALYSE ECONOMIQUE

By: _____

Name: Alexandre BIAOU

Title: Directeur Général/INSAE



ANNEX I IMPLEMENTING ENTITY RESPONSIBILITIES

Together with its obligations set forth elsewhere in this Agreement, the Implementing Entity will have the responsibilities set forth in this Annex I.

Scope of Work

Willingness To Pay (WTP) and Benefits for Electric Energy in Benin

I. INTRODUCTION

The Millennium Challenge Corporation (MCC) is a United States government-owned corporation created under Title VI of the Foreign Operations, Export Financing, and Related Programs Appropriations Act, 2004 and is responsible for the stewardship of the Millennium Challenge Account (MCA). MCC works with developing countries to promote sustainable economic growth to reduce poverty. Eligible countries develop specific investment programs in furtherance of the goal of economic development to be funded by MCC over a five year period and implemented by the country partner. Based on a deep analysis of the constraints identified as limiting private investment and economic growth in Benin, shortage in adequate and reliable energy supply is the most bidding one. MCC and UCF, therefore, have jointly decided to concentrate their efforts to improving the energy sector in the Benin II Compact. The energy projects, to be implemented, will align with newly adopted energy sector development strategies by the government of Benin. These projects will be focused on the electricity sub-sector and their objectives will include:

1. Increase production in electric energy to ensure adequate supply.
2. Reinforce the electric energy distribution networks in the major towns of the country.
3. Support reform of the institutional framework for the energy sector in the country (i.e. new regulatory board and tariff reform) and Improve SBEE governance, management and finances.

The main economic benefit envisioned for these projects is that, at the end of the five-year implementation period, Benin will have more efficient electric energy supply available to businesses and households, a functioning regulatory board, and a more transparent tariff system that will reduce the cost for the society. The main assumption of the economic model is that by making supply for electric energy more adequate and reliable, and by making the tariff system transparent, businesses and households will shift from using alternative energy sources (relatively more expensive) to using electricity.

The main purpose of this assignment is to: (1) assess the potential economic benefit of the incremental value of utilizing higher energy value and lower cost per unit of electric service in place of alternative energy sources such as: generators, candles, kerosene lamps, and batteries for lighting and household appliances. (2) assess their willingness to pay (WTP) more than they are currently paying for a more reliable electricity supply¹.

To assess the economic benefit and the WTP for additional electricity, MCC and UCF propose to use a comprehensive survey of households and businesses with and without a more reliable electric service to determine, in the most reliable way possible, their potential consumption of and expenditures on

¹ *Willingness to pay*: The maximum amount that an individual indicates that he or she is willing to pay for a good or service. *Economic benefit*: The increased benefit that a recipient could receive from a proposed project compared to his or her present situation. In the case of an electrification project, it indicates the attributed benefit of the electric service in monetary units, versus the use of current energy alternatives.



energy. The data collected from this household and business energy use survey will illustrate the consumers' preference for reliable electric service.

Under the agreement... between MCC/UCF and Institut National de la statistique et de analyse économique (INSAE) of Benin, the data will be collected by INSAE through a comprehensive survey of households and businesses willingness to Pay surveys. The surveys will consist of administration a face-to-face interview based on a pre-prepared questionnaire. It will cover about 3000 households and 1000 businesses throughout the whole country.

2. SCOPE OF WORK

A. TASKS

1. Based on proposed scope by MCC/UCF, INSAE will design and finalize the questionnaires for the survey, including a round of reviews by major stakeholders (including UCF, MCC, and others?)
2. INSAE will conduct a pilot survey to test the questionnaires (for both households and businesses).
3. INSAE will propose a sample design covering 2000 households and 1000 businesses. The sample design should allow for representative desegregation by major region as well as gender.
4. INSAE will be responsible for the recruitment and training of all surveyors, controllers, and field staff.
5. INSAE will be responsible for implementation and all logistics (coordination, transportation, lodging, meals, etc) for the household and business survey to the sample population (using tablets)
6. INSAE will also be responsible for all necessary data entry and data cleaning.
7. INSAE
8. INSAE in collaboration with MCC and UCF will perform the data tabulation, analysis and calculation of the willingness to pay estimates, using the methodology outlined in the SOW

B. DELIVERABLE

1. Draft Methodology Report (which should include the interview guide, questionnaires, and the sample design);
2. Draft Report on the pilot testing of the surveyors/controllers/field staff, including the raw pilot survey data;
3. Final Methodology Report;
4. Final Report on the pilot testing of the surveyors/controllers/field staff, including raw pilot survey data;
5. Complete datasets;
6. Report on data entry and cleaning, including major issues encountered and how INSAE has addressed them;
7. Data analysis report;
8. Final survey report that summarizes all of the previous deliverables;



9. Report on training of Individual Enumerators, and
10. Report on deployment of Individual Enumerators to the field.

3. DETERMINING ECONOMIC BENEFIT OF ELECTRIC ENERGY

As mentioned above, the economic benefit for the electric energy project comes primarily from the reduction in cost when moving from alternative sources of energy (generator, candle, kerosene...) onto the grid-based system. In a simple consumer surplus model shown in figure 1 below, a consumer who is shifting from alternative energy to the grid pays a lower cost (from P_A to P_E) but also he/she can increase the quantity of the energy he/she consumes (from Q_A to Q_E), if he/she is willing to pay for it at price (P_E).

The monthly cost for alternative energy sources is represented by the rectangle ($P_A * Q_A$). For an electrification project, the cost of electricity per month appears in the rectangle ($P_E * Q_E$). Figure 1 shows a situation where electricity projects offer the consumer a more efficient energy source with a greater return, and at a much lower price, when compared to alternative energy sources. The surplus or benefit to the consumer is represented by the sum of the triangle $(Q_E - Q_A) * \frac{1}{2} * (P_E - P_A)$ and the rectangle $(Q_A) * (P_A - P_E)$.

Where:

P_e	Price of Electricity	US\$/kWh
P_a	Price of Traditional Energy Sources	US\$/kWh
Q_e	Consumption of Electricity	kWh/month
Q_a	Consumption of Traditional Energy Sources	kWh/month

Source: World Bank (see also NRECA International, Ltd.2008?)

Note: In case of lighting the appropriate unit of unit of measurement is the the kilolumen-hour

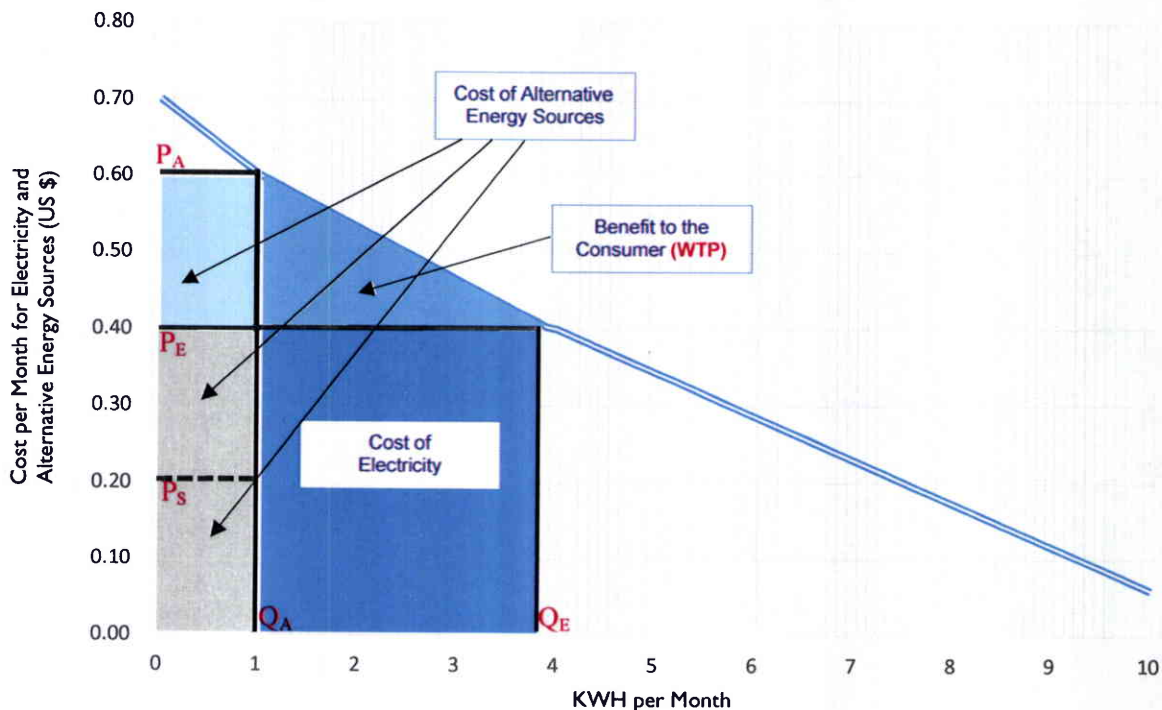
In Benin, however, the situation is more complex than the simple model presented above. Consumer in Benin can be classified into 4 categories:

1. Some consumers currently using generators and not connected to the grid we want to know if they will be willing to join the grid (given the bad reputation of SBEE). And if they join the grid how much they are willing to pay the kWh. We want also to know by how much they may be willing to increase their consumption once connected the grid (the assumption here being grid-based electricity is less expensive).
2. Other consumers connected to the grid and are SBEE subscribers, we know that they are currently paying a subsidized price. With MCC projects aiming at increasing production and restructuring tariffs, they may end up be paying a higher price than they are currently paying. Now the question for us is, would they be willing to pay a higher price? Our assumption is, this will depend on how much they value electricity quality attribute such as the number of outages.
3. For consumers who are connected to the grid but who are not SBEE subscriber (cobweb spider market) they are currently paying a price 2 to 3 times the price charged by SBEE to

consumers connected to the grid who are subscriber. These consumers may end up paying a lower price if somehow they are brought in the formal electricity markets.

4. Finally we have the public for the administration characterized by no payment of their electricity bills.

Figure 1. Energy demand curve.



Source: adapted from NRECA, 2012

This assignment will seek to understand these different markets and uncover what consumers are willing to pay in each of them. A consumer using alternative sources of energy only falls in the situation described in the simple model above. That is, without the project such a consumer uses the quantity Q_A of energy that he/she purchases at a price P_A . With the electricity projects he/she uses a greater quantity Q_E that he/she purchases at a lower price P_E . A consumer using on-grid electricity only in Benin may be in a very different situation. Without the project, the electric energy is primarily supplied by the government at a subsidized price (P_S). Such a consumer purchases a KWh at a price lower than he/she would have with the project. However, he/she is consuming way below his/her demand curve and facing multiple outages during the month. As mentioned, with the project, the consumer using only grid-based electric energy may be required to pay a higher price (P_E). Whether or not he/she will be willing to pay a higher price compared to the subsidized price he/she is currently paying depends on how he/she values quality attributes such as adequate supply, reliability and other idiosyncratic characteristics such as income. The prevailing distorted price does not reflect the benefits of service improvements, but only reflect the benefits of existing poor services.

This assignment will use a willingness to pay survey to uncover the savings in costs from shifting from alternative sources of energy to a grid-based electric energy and the consumer surplus generated by additional more efficient but low cost that consumer may be willing to pay for. Specifically, the survey will use the contingent valuation (CV) methods to collect data necessary to estimate the cost saving benefit and the willingness to pay for quality electricity at more accurate tariff rates. To account for

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potential biases that may arise from the CV approach, a “cheap talk” will be used for a subsample of the interviewees.

I. WILLINGNESS TO PAY (WTP) FOR ELECTRIC ENERGY IN BENIN: A “CHEAP TALK” APPROACH

The “effective demand” for electric energy is defined as the demand that is backed by the resources to pay for it². Consumer “effective demand” or willingness to pay (WTP) is determined through survey and analysis from consumers in the proposed intervention area. Using interviews conducted in the field, analysts determine, in the most reliable way possible, the actual expenditures for existing energy sources, and other aspects of their economy that indicate the availability of resources to pay for the electric service.

The most common approaches to this endeavor include the Revealed Preference (RP) methods and the “contingent valuation”. RP refers to the observation of preferences revealed by actual market behavior and represents real-world evidence on the choices that individuals exercise. In this approach, interviewees are asked what they are currently paying for alternative sources of energy like kerosene, candles, batteries, or for electricity in the case of communities already receiving some sort of electric service. This will reveal what the consumer is actually paying for the electricity.

In some cases, however, the behavior that is of interest to the analyst may not be observable or currently available. Electricity is often sold in a regulated market or is simply heavily subsidized and the prices may not necessarily reveal true preferences. As previously mentioned, the prevailing distorted prices may not reflect the benefits of service improvements, but only reflect the benefits of existing poor services. In Benin, for example, the projects to be implemented are intended to increase generation and improve quality for which consumer may be required to pay a higher price that cannot be observed with the current market behavior. In such cases it is necessary to make judgments about potential impacts in the absence of real-world evidence on how individual consumers may respond. Stated Preference (SP) methods allow examination of how consumer may value better quality electric energy, and how much they may be willing to pay for such electricity. Stated Preference (SP) methods allow examination of such hypothetical situations. The SP methodology describes to consumer a hypothetical electric service that the project will make available and then ask for the maximum amount they consumer would be willing to pay for such a service. This approach yields what is known as the “Stated preference” or “Expressed WTP” because it reflects what the consumer expresses that he or she is willing to pay. However, the SP approach can be very subjective and unreliable because the potential beneficiaries may not know enough about the service and its benefits to be able to offer a realistic response, or they may offer a high but unrealistic figure in the hopes that it might increase the probability of receiving the proposed electric service.

Out of concern that hypothetical willingness to pay questions overestimate or underestimate real willingness to pay, an alternative approach known as the “cheap talk” approach is proposed in the literature. This approach tries to eliminate potential biases that may emerge from the SP because of the very subjective nature of interviewees’ responses. The idea behind the “cheap talk” approach is that a *cheap talk script* makes respondents aware of the problem of hypothetical bias prior to the actual hypothetical questions. This approach alerts the respondents to the issue of hypothetical bias just before asking the hypothetical questions to try to minimize this form of bias. It offers the advantage of correcting the bias *ex ante*.

In addition to a number of idiosyncratic characteristics of the interviewees, this assignment will seek to uncover the following information: (1) the cost saving by the consumer from transitioning from

² See for example NRECA International Ltd.

alternative energy sources to grid-base electric energy; (2) the willingness to pay additional low cost but more efficient electric energy; (3) the value of adequate supply and reliability for electric energy consumers.

This survey proposes to use the contingent valuation methodology combining the Stated Preference (SP) and the *Cheap Talk* approaches. The survey will use the SP approach to interview a sample to collect data necessary to estimate the economic benefit and willingness to pay. A sub-sample of the respondents will be interviewed using a *cheap talk* approach. The SP approach will allow us to collect data necessary to establish the effective demand and the willingness to pay. The cheap talk approach will allow us to evaluate any potential bias caused by the subjective character of the SP approach. Such a bias, if it exists and if it is significant, will be then be corrected in the entire sample.

The SP approach will include a series of questions seeking to collect data concerning all current expenditures for energy sources that would no longer be purchased once the population has reliable electric service. For example, the survey would ask how much the household spends on candles, dry cell batteries, kerosene, and other liquid fuels for lighting. Similar questions are proposed for consumption of and expenditures on traditional energy sources for appliances, including dry cell batteries or car batteries to power radios and small televisions, kerosene or propane gas for refrigeration, voltage stabilizer, as well as diesel for water pumps, small portable power generators, and other internal combustion engines and equipment used for household or business purposes. For businesses, similar question would be asked concerning different equipment used. The data on current expenditures for traditional energy sources used for lighting and appliances serve as an acceptable estimate of what that household could pay for electric service.

The premise behind the cheap talk technique as explained by Brummett et al. (2007) is that one might be able to reduce or eliminate hypothetical bias by simply making respondents aware of it regardless of its underlying causes. Therefore, this technique involves a cheap talk script which precedes the elicitation of WTP, and subjects are told what the hypothetical bias is, that it is a common problem in hypothetical valuation questions, and why it might occur. Furthermore, subjects are asked to adjust for hypothetical bias in responding to the WTP question (Blumenschein et al., 2008).

A sample cheap talk script could be:

Many similar surveys find that when respondents are asked how much they are willing to pay for improved electricity service of the kind MCC and the Government of Benin are planning to implement, in most of the cases, they overstate or understate their willingness to pay. Overstating or understating willingness to pay is seen as a serious problem in this kind of surveys and is undesirable. If you overestimate the amount you are willing to pay, the Government might fix a higher fee or bill.

Other people say that they want to pay less than what they are currently paying. They often give reasons such as the bill is over charged or "I am a poor person". Some people can afford to pay a lot more, but they lie about being able to do so, thinking that the government will then charge a lower fee or no fee at all. If all households in your village agree to a fee or bill which is lower than what they can afford and are willing to pay, then the government will assume that the electricity improvement project is not important to people and may not undertake improvements in the sector.

If I were you, I would consider the effect of the stated amount of payment in my household economy. For example, if I pay some amount of money for this program, I will have to give up the money I was supposed to spend on other purposes. If I suggest I will pay an amount lower than what I can afford the investment may end up not being made and so my household budget may continue to be affected by the high cost of alternative energy I am currently using as a substitute or to fill the gap of the energy I need. So please assume that you are in a real situation where you are expected to make payment in cash, and answer the following question without any exaggeration.

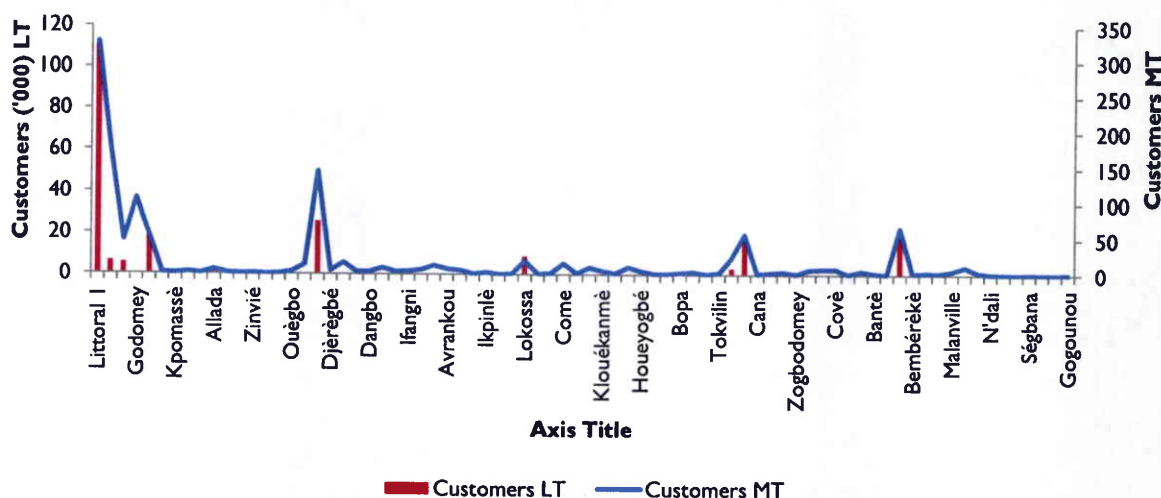
9. BENIN POWER SECTOR OVERVIEW AND SAMPLING PROTOCOL

BENIN POWER SECTOR OVERVIEW

Access to adequate and good quality electricity remains one of the biggest challenges for economic growth and development in Benin. The *Société Béninoise d'Énergie Electrique* (SBEE) supplies about 123 MW. When adjusted for losses (both commercial and technical) the SBEE network is estimated to only be a 101MW system, leaving the country with a power gap estimated at about 77 MW (99 MW when adjusted for loss)³. This gap is believed to be cover by other sources of energy and lighting such a generator and candle, but there may also be some suppress demand⁴.

The Electricity available in the country is largely met by external supplies (98% of energy). The remaining supply is met by domestic production from, primarily, small thermal power plant⁵. The extent of electrification is low (about 25% overall with 53% in urban areas and 2% in rural areas) serving approximately 500,000 customers in low voltage (LT) and 700 customers connected to mid-voltage (MT). Figure 2 below detail distribution of SBEE customers by district in Benin. The figure shows most customers connected to the grid are located in the littoral, are located in the

Figure 2. Energy demand curve.



The current maximum demand for electricity in Benin is estimated at between 200 and 250 MW. However, the *Société Béninoise d'Énergie Electrique* (SBEE) only supplies about 123 MW. When adjusted for losses (both commercial and technical) the SBEE network is estimated to only be a 101MW system, leaving the country with a power gap estimated at about 77 MW (99 MW when adjusted for loss)⁶. The Electricity available in the country is largely met by external supplies (98% of energy). The extent of electrification is low (about 25% overall with 53% in urban areas and 2% in rural areas) serving approximately 500,000 customers. The network is characterized by limited access, delays and prohibitive costs of connecting. Customers also suffer extensive outages (planned outages, rationing and

³In terms of energy this implies a total need of energy evaluated at 1,752,000 MWh. Currently, SBEE only supply 1,073,805 MWh (882,338 MWh when adjusted for losses), leaving the country with an electric energy deficit estimated at 678,195 MWh (869,662 MWh when adjusted for losses).

⁴ Anecdotal evidence from the key informant.

⁵ There is an 80 MW thermal plant installed in marieta Gleta in 2010. The plant use Natural Gas generated by jet fuel. It is therefore an expensive plant to operate and is only turn on exceptionally.

⁶In terms of energy this implies a total need of energy evaluated at 1,752,000 MWh. Currently, SBEE only supply 1,073,805 MWh (882,338 MWh when adjusted for losses), leaving the country with an electric energy deficit estimated at 678,195 MWh (869,662 MWh when adjusted for losses).

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unscheduled cuts). According to SBEE data, in the last 10 years, there have been on average 1224 unscheduled electricity outages per year, with a total duration of interruption estimated at 48179 minutes annually, corresponding to 3.4 outages per day lasting about 2 hours in total⁷. In addition, consumers consider tariffs too high (on order of \$.20/kWh), although the current tariffs are way below the SBEE full cost recovery.

Benin is characterized by a predominance of biomass energy (59.4%) a petroleum products (38.4%) in the overall energy mix. Electricity only represents only 2.2% of the mix. Most of the energy in Benin is consumed by household, accounting for approximately 63.9 %. The transport sector accounts for 23.2 %, the service sector for 10.6 % and the barely small developing industry sector of Benin consumes about 2.3 %. The majority of electricity is consumed by households using low voltage electricity (68%). Mid voltage, used mostly by medium and large businesses, represents on average 32%.

Under the Benin II compact, MCC investment will address some of the gaps in electricity supply, improve the distribution network, support the regulatory framework, and make the tariffs system more transparent and realistic. As we have mentioned above, the expected benefits from such investments stem primarily from the incremental value of utilizing a higher energy value at a lower cost per unit of electric service in place of alternative energy sources.

The purpose of the proposed surveys is to collect data that would allow the economic team to evaluate these benefits. In analyzing the different potential projects, the economic team will be interested in knowing if the consumer willingness to pay for electric service will be sufficient to generate expected economic return. A critical mass of potential consumers must be able to demonstrate that they have the means and willingness to pay a monthly electricity bill, which is calculated by multiplying actual electricity consumption in kilowatt-hours (kWh) by the electricity tariff rate. In addition, to justify the implementation of the project, the economic benefit to consumers over the life of the project must surpass the capital cost expended to develop it and generate a minimum Economic Rate of Return of 10%.⁸

For households the WTP will use existing comprehensive household survey (EMICoV) and will be complemented by a light ad hoc survey. It will distinguish households currently with and without electric service to determine, in the most reliable way possible, their actual consumption of, and their expenditures on energy over a defined time period. For businesses, a comprehensive survey will be conducted. This survey will include different categories of businesses with and without current electric service and will determine their actual consumption of and their expenditures on energy over a defined time period. The sample for businesses to survey will be drawn from the "Déclarations Statistiques et Fiscales" (DSF) database. For both households and businesses, specific questions will be included to determine the WTP a value different from what they are currently paying.

The economic benefit to the consumer is calculated using the data compiled from surveys and other existing databases. The data collected from these energy use surveys will allow us to determine, within the sample, the consumers' stated WTP for electric services. The economic benefit represents the incremental value of utilizing higher energy value and lower cost per unit of electric service in place of alternative energy sources such as: candles, kerosene lamps, and batteries for lighting and household appliances. The model also assumes that because of the inefficiency in the distribution network, consumers connected to the grid rely on voltage stabilizer equipment to avoid abrupt drop in voltages. Improving the distribution network will generate benefits consisting of lower costs of electricity thanks to the additional savings from consumers not purchasing voltage stabilizers.

⁷The 2009 World Bank enterprise survey in Benin found that on average businesses recorded 4.9 outages per month of a duration of about 1.9 hours each.

⁸A minimum ERR of 10% is the MCC requirement.



10. TASKS AND TIMING

Task	Entity	Timing
Develop a SOW	MCC-EA, UCF	by 11/15/2014
Identify the information needed	MCC-EA, UCF	by 11/15/2014
Formulate the necessary questions for the survey	MCC-EA, UCF and INSAE	by 11/30/2014
Design and test the instrument	MCC-EA < UCF and INSAE	by 12/23/2014
Define the target population	INSAE	by 1/10/2015
Design the database	INSAE	by 1/15/2015
Administer the survey	INSAE	1/20/2015-1/30/2015

11.

Annex 1

12. SURVEY QUESTIONNAIRES

As a first step in designing the questionnaire for the survey, we suggest the sections that we believe should be included in the questionnaire for both household and businesses and for each section we suggest what information needs to be collected. Based on this INSAE will design the questionnaire and test the instrument. Further refinement will be included after testing the questionnaire.

A. SECTIONS FOR HOUSEHOLD SURVEY

Section 1: Identification of households, informed consent, survey dates and others.

1. Household ID

- a. Region
- b. Zone
- c. Commune
- d. Village
- e. Full address (street, number, neighborhood...)
- f. ...

2. Informed Consent (Human Subjects Protection):

- a. Purpose and Benefits
- b. Procedures
- c. Safeguarding Privacy
- d. Risks and Benefits (if any)
- e. Rights as a Volunteer
- f. Respondent Agreement
- g. ...

3. Survey dates

- a. Survey year
- b. Survey month(s)

- c. Survey start day
- d. Survey end day

4. Others

Section II: Household member rostered with questions on age, sex, education, and occupation

- 1. Size of the household
- 2. House ownership and characteristics
 - a. Own or rent
 - b. Number of bed room
 - c. Single family house or multiple families apartment or compound/concession
 - d. ...
- 3. Members of the household:
 - a. Gender of the head of the household
 - b. Head of the household's age (Years)
 - c. Members of household's gender and ages (it may be difficult for interviewees to provide their exact age, in which case ask by category).
 - i. Age <35
 - ii. Age 35–44
 - iii. Age 45–54
 - iv. Age 55–64
 - v. Age 65+
 - d. Education
 - i. Head of household had attended school?
 - ii. If yes, years of education if any
 - e. Occupation
 - i. Work on own farm
 - ii. Work on own farm and other's farm
 - iii. Work on other's farm
 - iv. Labor
 - v. Service, professional, business
 - vi. Not working
 - vii. Work from home
 - viii. Complete official work from home
 - ix. Student
 - x. Housewife
 - xi. other

Section III: Questions on access to electricity:

- 1. Sources of energy for household lighting and other household energy need
 - a. Electricity line
 - b. Generator
 - c. Kerosene lamp
 - d. LPG/Gas light

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- e. Candle
- f. Solar power
- g. Voltage stabilizer
- h. propane gas
- i. ...

2. Expenses incurred for connection or purchase (in CFA)

- a. Electricity line _____
- b. Generator _____
- c. Kerosene _____
- d. LPG/Gas light _____
- e. Candle _____
- f. Solar power _____
- g. Voltage stabilizer _____
- h. propane gas _____
- i. ...

3. Expenses incurred (in CFA per month)

- a. Electricity line _____
- b. Generator _____
- c. Kerosene _____
- d. LPG/Gas light _____
- e. Candle _____
- f. Solar power _____
- g. Voltage stabilizer _____
- h. propane gas _____
- i. ...

4. level of service received

- a. Use electricity? Y _____ No _____
- b. If yes, electric energy used (in KWh per month) (please check the SBEE bill)
- c. How much does your household currently pay every month (maybe average of the past 6 months)?
- d. How is the bill paid?
 - i. Invoice from SBEE
 - ii. Included in rent
 - iii. Other (Specify)
- e. Number of days the household gets power per month _____
- f. Number of hours household get power in a day _____
- g. Number of time in a day supply is interrupted _____
- h. Longest duration for continuous power interruption _____
- i. Shortest duration for continuous power interruption _____
- j. Number of unprovoked drop in voltage per day _____
- k. Time of the day power is often interrupted _____

5. satisfaction

- a. How satisfied is your household with the number of hours during the day that electricity is provided?
 - i. Very unsatisfied
 - ii. Somewhat unsatisfied
 - iii. Neutral
 - iv. Somewhat satisfied
 - v. Very satisfied
- b. Prior information on power outage
 - i. Always know time of power outage
 - ii. Sometimes know about the timing of outages
 - iii. Usually don't know about the timing of outages
 - iv. Rarely know when an outage will happen
 - v. Power never goes off in my house
- c. Satisfaction with regularity of electricity supply (in the last year)
 - i. Very unsatisfied
 - ii. Somewhat unsatisfied
 - iii. Neutral
 - iv. Somewhat satisfied
 - v. Very satisfied
- d. Other electricity service attributes
 - i. Number of planned outages _____
 - ii. Number of non-planned outages _____
 1. Number of nonweather-related outages _____
 2. Number of weather-related outages _____
 - iii. Length of planned outages (minutes total) _____
 - iv. Length of non-planned outages (minutes total) _____
 1. Length of nonweather-related outages (minutes total) _____
 2. Length of weather-related outages (hour total) _____
 - v. When is an unplanned outage of uncertain duration most disruptive for your household?
 1. Rainy season _____
 2. Dry season _____
 3. Which month(s)? _____
- e. Undesirable effects of a power failure
 - i. Kitchen appliance(s) not useable _____
 - ii. Clothes care or home cleaning appliances not useable _____
 - iii. Hobby and leisure equipment not useable _____
 - iv. Fear of crime _____
 - v. Damage to equipment that is particularly sensitive to power failures _____
 - vi. Can't work from home _____
 - vii. Loss of lighting _____
 - viii. Other effects (please name them) _____

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6. Equipment and appliances used

- a. types of equipment and number (check all that apply):
 - i. light bulbs-GSL _____
 - ii. Light bulbs-CFL _____
 - iii. Light Bulbs-Tube lights _____
 - iv. Ceiling Fan _____
 - v. Standing/Wall/Table Fan _____
 - vi. TV _____
 - vii. Refrigerator _____
 - viii. Air Conditioning _____
 - ix. Emergency Kerosene stove _____
 - x. Electric Lantern (battery powered) _____
 - xi. Voltage Regulator _____
 - xii. Others (please name them) _____
- b. What the source of energy used for each type equipment and number (check all that apply):
 - i. light bulbs-GSL _____
 - ii. Light bulbs-CFL _____
 - iii. Light Bulbs-Tube lights _____
 - iv. Ceiling Fan _____
 - v. Standing/Wall/Table Fan _____
 - vi. TV _____
 - vii. Refrigerator _____
 - viii. Air Conditioning _____
 - ix. Emergency Kerosene stove _____
 - x. Electric Lantern (battery powered) _____
 - xi. Others (please name them) _____
 - xii. _____

7. Customer service quality

- a. Very unsatisfied _____
- b. Somewhat unsatisfied _____
- c. Neutral _____
- d. Somewhat satisfied _____
- e. Very satisfied _____

8. Billing accuracy (on average over the past 6 months)

- a. My bill is overestimated by a lot
 - i. How much you consume per month? _____
 - ii. By how much the bill is overestimate by how much on average? _____
- b. My bill is accurate
 - i. How much you consume per month? _____
 - ii. How much you pay per month? _____
- c. My bill is underestimate
 - i. How much you consume per month? _____
 - ii. By how much the bill is underestimate on average? _____



Section IV: Questions assessing willingness to pay (WTP) using “Cheap Talk”

Before moving forwards, clarify with the interviewees whether or not they are currently using electricity.

1. If they are not connected to the electricity grid (New Shoppers):

Introduction script: MCC and the Government of Benin are currently exploring projects that would improve electrical service in Benin. These projects may include infrastructure improvements as well as improvements to Benin’s maintenance system for the electrical grid. The level of investment and maintenance costs required to provide a service depends on the levels chosen for each of the attributes defined above. The MCC and the Government of Benin will pay for this investment and maintenance costs by collecting money from the electricity users. However, the money collected by the government may lower than your current cost you are currently paying for alternative sources of energy to satisfied your energy need.

1. Clarify with them whether or not they are using generators; if they are:
 - a. How many hours a day do they have to run the generator to meet the need of the household? _____
 - b. How many hours do they currently run the generator per day? _____
 - c. If less than what they need, what are the reasons?
 - i. Cost of fuel _____
 - ii. They don't need it _____
 - iii. Capacity of the equipment _____
2. Clarify with them what other alternative energy they are using (candle, kerosene,...), if they are
 - a. How much of they use
 - b. What they are currently using is meeting their needs Y_____ N _____
 - c. If not, why are they not using more to meet their needs?
 - i. Cost? _____
 - ii. Availability? _____

If the interviewee is to be connected to the grid which of the following scenarios may strongly convince him/her to shift from using alternative energy to being connected to the grid. Note here, because these are “new shoppers” with no experience with the grid, they will be presented with alternative packages that may lower their energy costs.

3. For whichever package they choose they will be asked to express how much more of energy they may be willing to consume in addition to what they are currently consuming.



	service 1	service 2	service 3	service 4	service 5
Connection fees		CFA 50,000.00	CFA 50,000.0	CFA 250,000	CFA 250,00
Frequency of outages	Prefer continue to use alternative sources for his or her supply	Two time a month	Two time a month	Two time a month	Two time a month
Duration of outages		Less than 2 hours	Less than 2 hours	Less than 6 hours	Less than 6 hours
Time of outages		night-time	day-time	night-time	day-time
Prior notification of outages		prior notification	prior notification	prior notification	prior notification
% reduction in monthly energy cost of		30%-40%	30%-40%	40%-50%	40%-50%

Note: these scenarios will be discussed in the country and with the infrastructure team

4. If he/she prefer to continue using alternative sources for his/her supply, can he/she explain why?

2. *If consumers are connected to the grid,*

The price they are currently paying is a subsidized price (0.20 US \$/kWh) in the sense the price they are paying is below SBEE cost recovery price (0.79 US \$/kWh). We make the assumption that with the MCC-GoB investment, more efficient electricity will be supplied, but at a higher price than what customers are paying today. While a higher price may negatively affect the consumer's surplus, it is possible that the consumer may still be willing to pay that higher price because he/she values reliability. For this consumer, what the survey wants to uncover is how much he/she values reliability. The average value of reliability can be calculated based both on the required interruption payment and on the willingness to pay to avoid an outage greater than four hours.

Introduction script: In order to provide improved electricity services, the MCC and the Government of Benin have agreed to make major capital investments and cover maintenance costs of the new project. The level of investment and maintenance costs required to provide a service depends on the levels chosen for each of the attributes defined above. The MCC and the Government of Benin will pay for this investment and maintenance costs by collecting money from the electricity users. For example, reducing the number of outages requires higher investment and maintenance costs and as a result the tariff charged to the users will also be higher. Supplying adequate electricity that meet the need of the users requires more generation and as a result the tariff charged to the consumers will also be higher.

First ask the respondent the following questions related to the current situation

9. How many hours do you receive electricity per day? _____
10. How many hours would you prefer to have electricity during a day? _____
11. What time of day do you most need electricity? _____
12. How much are you currently paying per month (in CFA)? _____
13. Frequency of outages: average number of outages
 - a. 1 to 2 times a month _____
 - b. 3 to 4 times and a month _____
 - c. 5 to 6 times a month _____
 - d. 7 to 8 times a month _____
 - e. More than 8 times a month _____
14. Duration of outages: average duration of an outage
 - a. Less than 2 hours _____
 - b. 2 to 3 hours _____
 - c. 3 to 4 hours _____
 - d. 4 to 5 hours _____
 - e. More than 5 hours _____
15. Time of outage: what time of the day the outage most often occurs
 - a. Daytime
 - i. Morning _____
 - ii. Afternoon _____
 - iii. Both (equally) _____
 - b. Night time
 - i. Before midnight _____
 - ii. After midnight _____
 - iii. Both (equally) _____



16. In general, do you usually receive prior notification of outage (at least one day before the outage)?

- a. With notification (a least one day before the outage) _____
- b. Without notification _____

17. Percentage change in monthly electricity bill when you compare what you were paying this year to what you were paying in the same month last year (see electricity bill if possible).

- a. 10%
- b. 20%
- c. 30%
- d. 40%
- e. More than 40%

Bob

To uncover the value of reliability for consumers who are already connected to the grid, ask to all respondents connected to the grid (*please INSAE to convert this into shorter questions*):

- i. The willingness to pay: asked respondents the amount they are willing to pay given the number of outages as illustrated by the table below

Prix du KWh (en FCFA)	Nombre de coupures par semaine										
	0	1	2	3	4	5	6	7	8	9	10 et plus
	I-Oui	I-Oui	I-Oui	I-Oui	I-Oui	I-Oui	I-Oui	I-Oui	I-Oui	I-Oui	I-Oui
50 à 70	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
71 à 90	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
91 à 100	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
101 à 120	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
121 à 150	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
150 à 170	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
171 à 190	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
191 à 210	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
211 à 230	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
231 à 250	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plus de 250	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- i. The willingness to pay: asked respondents the amount they are willing to pay given the drop in voltage as illustrated by the table below

Prix du KWh (en FCFA)	Chutes de tension		
	Aucune	inchangé	doublé
	I-Oui	I-Oui	I-Oui
50 à 70	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
71 à 90	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
91 à 100	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
101 à 120	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
121 à 150	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
150 à 170	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
171 à 190	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
191 à 210	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
211 à 230	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
231 à 250	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plus de 250	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Chab

Note: these scenarios will be discussed in the country and with the infrastructure team

3. "Cheap Talk" approach

A sub-sample of the respondents will be considered for the cheap talk approach to evaluate what could be the magnitude of the hypothetical bias. To do so, a cheap talk script which precedes the elicitation of WTP, and subjects are told what the hypothetical bias is, that it is a common problem in hypothetical valuation questions, and why it might occur. For example, for the "new shopper", that is consumers who are not currently connected to the electricity grid, before you present them the different packages you present and discuss with them the proposed cheap talk script: "Many similar surveys find that when respondents are asked how much they are willing to pay for improved electricity service of the kind MCC and the Government of Benin are planning to implement, in most of the cases, they overstate or understate their willingness to pay. Overstating or understating willingness to pay is seen as a serious problem in this kind of surveys and they are undesirable.

If you overestimate the amount you are willing to pay, the Government will fix a higher fee or bill. Some people say that they want to pay less than what they are currently paying. They often give reasons such as the bill is over charged or "I am a poor person". Some people can afford to pay a lot more, but they lie about being able to do so, thinking that the government will then charge less fee or no fee at all. If all households in your village agree to a fee or bill which is lower than what they can afford and are willing to pay, then the government will assume that the electricity improvement project is not important to people and may not undertake improvements in the sector.

If I were you, I would consider the effect of the stated amount of payment in my household economy. For example, if I pay some amount of money for this program, I will have to give up the money I was supposed to spend on other purposes. If I suggest I will pay an amount lower than what I can afford the investment may end up not being made and so my household budget may continue to be affected by the high cost of alternative energy I am currently using as a substitute or to fill the gap of the energy I need. So please assume that you are in a real situation where you are expected to make payment in cash, and answer the following question without any exaggeration."

Section V: Questions on the socioeconomic characteristics of households (income, expenditure, and assets)

1. household wealth

- a. household total monthly income _____ CFA_
- b. sources of the monthly income _____
- c. Types of assets own by the household (state the value of each asset owned)
- d. Monthly household expenditure _____ CFA
- e. Monthly household savings _____ CFA

Section VI: Questions to collect information on any shop or manufacturing unit operated inside their household

2. Type of shop and manufacturing activities inside the household
3. Describe the type of activity

3/10

4.)

B. SECTIONS FOR BUSINESSES SURVEY

In some cases, market data can provide enough information about businesses' willingness to pay for a more adequate and efficient electricity supply, however it only produces lower bound estimates for some but not all of the aspects of quality of supply (see for example Caves, Herriges and Windle 1992, Beenstock and Ephraim 1997, Morrison and Nalder 2009). Because of the shortcoming of the market based or revealed preference approaches, stated preference techniques have been used for determining businesses' willingness to pay for improved quality of supply.

As in case of households, suggested sections of the actual questionnaire are below, and in each section I suggest pieces of information to be collected.

Section I: Identification of households, informed consent, survey dates and others.

5. Household ID

- a. Region
- b. Zone
- c. Commune
- d. Village
- e. Full address (street, number, neighborhood...)
- f. ...

6. Informed Consent (Human Subjects Protection):

- a. Purpose and Benefits
- b. Procedures
- c. Safeguarding Privacy
- d. Risks and Benefits (if any)
- e. Rights as a Volunteer
- f. Respondent Agreement (if needed)
- g. ...

7. Survey dates

- a. Survey year
- b. Survey month(s)
- c. Survey start day
- d. Survey end day

8. Others

Section II: Businesses rostered with questions on age, sex, education, and occupation

4. Type of the business (belong to which industry)
5. Size of the business
 - a. Number of employee
 - b. income declaration
 - c. number of product or services

- d. production level (goods or customers serve during a given period) by type of product
- 6. Legal status
 - a. SPRL
 - b. SARL
 - c. ...
- 7. Owner of business
 - a. Age (Years)
 - b. Education
 - i. Owner of the business had attended school?
 - ii. If yes, years of education if any
 - c. Gender

Section III: Questions on access to electricity:

18. Sources of energy for the business for production, lighting and other activities that needs energy

- a. Electricity line
- b. Generator
- c. Kerosene lamp
- d. LPG/Gas light
- e. Candle
- f. Own solar power
- g. propane gas
- h. ...

19. Expenses incurred for purchase or connection (in CFA)

- a. Electricity line _____
- b. Generator _____
- c. Kerosene _____
- d. LPG/Gas light _____
- e. Candle _____
- f. Own solar power _____
- g. Voltage stabilizer _____
- h. propane gas _____
- i. ...

20. Expenses incurred (in CFA per month)

- a. Electricity line _____
- b. Generator _____
- c. Kerosene _____
- d. LPG/Gas light _____
- e. Candle _____
- f. Own solar power _____
- g. Voltage stabilizer _____
- h. propane gas _____
- i. ...

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21. level of service received

- a. Use electricity? Y _____ No _____
- b. If yes, electric energy used (in KWh per month) (please check the SBEE bill)
- c. How much does your business currently pay every month (maybe average of the past 6 months)?
- d. How is the bill paid?
 - i. Invoice from SBEE
 - ii. Included in rent
 - iii. Other (Specify)
- e. Number of days the business gets power from SBEE per month _____
- f. Number of hours business gets power in a day _____
- g. Number of time in a day supply is interrupted _____
- h. Longest duration for continuous power interruption _____
- i. Shortest duration for continuous power interruption _____
- j. Number of unprovoked drop in voltage per day _____
- k. Time of the day power is often interrupted _____

22. satisfaction

- a. How satisfied is your household with hours of electricity service?
 - i. Very unsatisfied
 - ii. Somewhat unsatisfied
 - iii. Neutral
 - iv. Somewhat satisfied
 - v. Very satisfied
- b. Prior information on power outage
 - i. Always know time of power outage
 - ii. Sometimes know about timings
 - iii. Power goes off at uncertain times
 - iv. Power never goes off in my house
- c. Satisfaction with regularity of electricity supply
 - i. Very unsatisfied
 - ii. Somewhat unsatisfied
 - iii. Neutral
 - iv. Somewhat satisfied
 - v. Very satisfied
- d. Other electricity service attributes
 - i. Number of planned outages _____
 - ii. Number of non-planned outages _____
 - 1. Number of nonweather-related outages _____
 - 2. Number of weather-related outages _____
 - iii. Length of planned outages (minutes total) _____
 - iv. Length of non-planned outages (minutes total) _____
 - 1. Length of nonweather-related outages (minutes total) _____



2. Length of weather-related outages (hour total) _____
- v. Which season is an unplanned outage of uncertain duration most disruptive for your business?
1. Rainy season _____
 2. Dry season _____
 3. Which month(s)? _____
- vi. What time during a day an unplanned outage of uncertain duration most disruptive for your business?
1. Morning _____
 2. Afternoon _____
 3. Night time _____
- e. Undesirable effects of a power failure
- i. Production equipments _____
 - ii. Losses on production _____
 - iii. Other equipments that are particularly sensitive to power failures (list them if possible) _____
 - iv. Fear of crime _____
 - v. Can't work from home _____
 - vi. Loss of lighting _____
 - vii. Other effects (please name them) _____

23. Equipment and appliances used

- a. types of equipment and number (check all that apply):
- i. light bulbs-GSL _____
 - ii. Light bulbs-CFL _____
 - iii. Light Bulbs-Tube lights _____
 - iv. Ceiling Fan _____
 - v. Standing/Wall/Table Fan _____
 - vi. TV _____
 - vii. Refrigerator _____
 - viii. Air Conditioning _____
 - ix. Emergency Kerosene stove _____
 - x. Electric Lantern (battery powered) _____
 - xi. Production equipments (name them if possible) _____
 - xii. Electronic equipments (name them) _____
 - xiii. Others (please name them) _____
- b. types of energy use for each type equipment and number (check all that apply):
- i. light bulbs-GSL _____
 - ii. Light bulbs-CFL _____
 - iii. Light Bulbs-Tube lights _____
 - iv. Ceiling Fan _____
 - v. Standing/Wall/Table Fan _____
 - vi. TV _____

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- vii. Refrigerator _____
 - viii. Air Conditioning _____
 - ix. Emergency Kerosene stove _____
 - x. Electric Lantern (battery powered) _____
 - xi. Production equipments (name them if possible) _____
 - xii. Electronic equipments (name them) _____
 - xiii. Others (please name them) _____
- c. Expenses on energy incurred each type equipment and number (check all that apply):
- i. light bulbs-GSL _____
 - ii. Light bulbs-CFL _____
 - iii. Light Bulbs-Tube lights _____
 - iv. Ceiling Fan _____
 - v. Standing/Wall/Table Fan _____
 - vi. TV _____
 - vii. Refrigerator _____
 - viii. Air Conditioning _____
 - ix. Emergency Kerosene stove _____
 - x. Electric Lantern (battery powered) _____
 - xi. Production equipments (name them if possible) _____
 - xii. Electronic equipments (name them) _____
 - xiii. Others (please name them) _____

24. Customer service quality

- a. Very unsatisfied _____
- b. Somewhat unsatisfied _____
- c. Neutral _____
- d. Somewhat satisfied _____
- e. Very satisfied _____

25. Billing accuracy (on average over the past 6 months)

- a. The Bill Overestimates
 - i. How much you consume per month? _____
 - ii. By how much the bill is overestimate by how much on average? _____
- b. Accurate
 - i. How much you consume per month? _____
 - ii. How much you pay per month? _____
- c. Underestimate
 - i. How much you consume per month? _____
 - ii. By how much the bill is underestimate on average? _____

Section IV: Questions assessing willingness to pay (WTP) using "Cheap Talk"

Before moving forwards, clarify with the interviewees whether or not they are currently using electricity.

4. If they are not connected to the electricity grid (New Shoppers):

Introduction script: In order to provide improved electricity services, the MCC and the Government of Benin have agreed to make major capital investments and cover maintenance costs of the new project. The level of investment and maintenance costs required to provide a service depends on the levels chosen for each of the attributes defined above. The MCC and the Government of Benin will pay for this investment and maintenance costs by collecting money from the electricity users. However, the money collected by the government may lower than your current cost you are currently paying for alternative sources of energy to satisfied your energy need.

5. Clarify with them whether or not they are using generators; if they are:
 - a. How many hours a day do they have to run the generator to meet the need of the household? _____
 - b. How many hours do they currently run the generator per day? _____
 - c. If less than what they need, what are the reasons?
 - i. Cost of fuel _____
 - ii. They don't need it _____
 - iii. Capacity of the equipment _____
6. Clarify with them what other alternative energy they are using (candle, kerosene,...), if they are
 - a. How much of they use
 - b. What they are currently using is meeting their needs Y_____ N_____
 - c. If not, why are they not using more to meet their needs?
 - i. Cost? _____
 - ii. Availability? _____

If the interviewee is to be connected to the grid which of the following scenarios may strongly convince him/her to shift from using alternative energy to being connected to the grid. Note here, because these are "new shoppers" with no experience with the grid, they will be presented with alternative packages that may lower their energy costs.

7. For whichever package they choose they will be asked to express how much more of energy they may be willing to pay in addition to what they are currently consuming.



	service 1	service 2	service 3	service 4	service 5
Connection fees					
Frequency of outages	Prefer continue to use alternative sources for his or her supply	CFA 500,000.00 Two time a month Less than 6 hours night-time prior notification 30%-40%	CFA 500,000.0 Two time a month Less than 6 hours day-time prior notification 30%-40%	CFA 1000,000 Two time a month Less than 6 hours night-time prior notification 40%-50%	CFA 1000,000 Two time a month Less than 6 hours day-time prior notification 40%-50%
Duration of outages					
Time of outages					
Prior notification of outages					
% reduction in monthly energy cost					

Note: ¹these scenarios will be discussed in the country and with the infrastructure team

²note also here the price of connection proposed is higher. This is because for businesses we assume that they mostly use mid-voltage electricity instead of low voltage used by household.

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5. *If consumers are connected to the grid,*

The price they are currently paying is a subsidized price (0.20 US \$/kWh) in the sense the price they are paying is below SBEE cost recovery price (0.79 US \$/kWh). We make the assumption that with the MCC-GoB investment more efficient electricity will be supplied, but at a higher price than what customers are paying today. While a higher price may negatively affect the consumer's surplus, it is possible that the consumer may still be willing to pay that higher price because he/she values reliability. For this consumer, what the survey wants to uncover is how much he/she values reliability. The average value of reliability can be calculated based both on the required interruption payment and on the willingness to pay to avoid an outage greater than four hours.

Introduction script: In order to provide improved electricity services, the MCC and the Government of Benin have agreed to make major capital investments and cover maintenance costs of the new project. The level of investment and maintenance costs required to provide a service depends on the levels chosen for each of the attributes defined above. The MCC and the Government of Benin will pay for this investment and maintenance costs by collecting money from the electricity users. For example, reducing the number of outages requires higher investment and maintenance costs and as a result the tariff charged to the users will also be higher. Supplying adequate electricity that meet the need of the users requires more generation and as a result the tariff charged to the consumers will also be higher.

First ask the respondent the following questions related to the current situation

26. How many hours do you receive electricity per day? _____
27. How many hours would you prefer to have electricity during a day? _____
28. If you were to choose one specific time of the day when you would like to have electricity what would that be? _____
29. How much are you currently paying per month (in CFA)? _____
30. Frequency of outages: average number of outages
 - a. 1 to 2 times a month _____
 - b. 3 to 4 times and a month _____
 - c. 5 to 6 times a month _____
 - d. 7 to 8 times a month _____
 - e. More than 8 times a month _____
31. Duration of outages: average duration of an outage
 - a. Less than 2 hours _____
 - b. 2 to 3 hours _____
 - c. 3 to 4 hours _____
 - d. 4 to 5 hours _____
 - e. More than 5 hours _____
32. Time of outage: what time of the day the outage often occurs
 - a. Daytime
 - i. Morning _____
 - ii. Afternoon _____
 - iii. Both (equally) _____
 - b. Night time
 - i. Before midnight _____
 - ii. After midnight _____

iii. Both (equally) _____

33. Prior notification of outage

- a. With notification (a least one day before the outage) _____
- b. Without notification _____

34. Percentage change in monthly electricity bill when you compare what you were paying this year to what you were paying in the same month last year (see electricity bill if possible).

- a. 10%
- b. 20%
- c. 30%
- d. 40%
- e. More than

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To uncover the value of reliability for consumers who are already connected to the grid, ask to all respondents connected to the grid (*please INSAE to convert this into shorter questions*):

- ii. The willingness to pay: asked respondents the amount they are willing to pay given the number of outages as illustrated by the table below

Prix du KWh (en FCFA)	Nombre de coupures par semaine										
	0	1	2	3	4	5	6	7	8	9	10 et plus
	I-Oui	I-Oui	I-Oui	I-Oui	I-Oui	I-Oui	I-Oui	I-Oui	I-Oui	I-Oui	I-Oui
50 à 70	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
71 à 90	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
91 à 100	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
101 à 120	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
121 à 150	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
150 à 170	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
171 à 190	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
191 à 210	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
211 à 230	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
231 à 250	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plus de 250	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- ii. The willingness to pay: asked respondents the amount they are willing to pay given the drop in voltage as illustrated by the table below

Prix du KWh (en FCFA)	Chutes de tension		
	Aucune	inchangé	doublé
	I-Oui	I-Oui	I-Oui
50 à 70	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
71 à 90	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
91 à 100	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
101 à 120	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
121 à 150	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
150 à 170	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
171 à 190	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
191 à 210	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
211 à 230	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
231 à 250	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Note: these scenarios will be discussed in the country and with the infrastructure team

6. "Cheap Talk" approach

A sub-sample of the respondents will be considered for the cheap talk approach to evaluate what could be the magnitude of the hypothetical bias. To do so, a cheap talk script which precedes the elicitation of WTP, and subjects are told what the hypothetical bias is, that it is a common problem in hypothetical valuation questions, and why it might occur. For example, for the "new shopper", that is consumers who are not currently connected to the electricity grid, before you present them the different packages you present and discuss with them the proposed cheap talk script: "Many similar surveys find that when respondents are asked how much they are willing to pay for improved electricity service of the kind MCC and the Government of Benin are planning to implement, in most of the cases, they overstate or understate their willingness to pay. Overstating or understating willingness to pay is seen as a serious problem in this kind of surveys and they are undesirable.

If you overestimate the amount you are willing to pay, the Government will fix a higher fee or bill. Some people say that they want to pay less than what they are currently paying. They often give reasons such as the bill is over charged or "I am a poor person". Some people can afford to pay a lot more, but they lie about being able to do so, thinking that the government will then charge less fee or no fee at all. If all households in your village agree to a fee or bill which is lower than what they can afford and are willing to pay, then the government will assume that the electricity improvement project is not important to people and may not undertake improvements in the sector.

If I were you, I would consider the effect of the stated amount of payment in my household economy. For example, if I pay some amount of money for this program, I will have to give up the money I was supposed to spend on other purposes. If I suggest I will pay an amount lower than what I can afford the investment may end up not being made and so my household budget may continue to be affected by the high cost of alternative energy I am currently using as a substitute or to fill the gap of the energy I need. So please assume that you are in a real situation where you are expected to make payment in cash, and answer the following question without any exaggeration."

Section V: Questions on the socioeconomic characteristics of households (income, expenditure, and assets)

5. household wealth

- a. household total monthly income _____ CFA
- b. sources of the monthly income _____
- c. Types of assets own by the household (state the value of each asset owned)
- d. Monthly household expenditure _____ CFA
- e. Monthly household savings _____ CFA

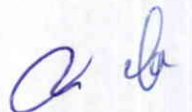
Annex 2

Official Electricity Tariffs Structure

Tariffs	Average Tension		Fixed Prime by KVA	Band 1		Band 2	
	Prix (in CFA)	Category of Customers		Quantity	Prix (in CFA)	Quantity	Prix
MT1	94	Hotels, Services, Commerce (the total consumption)					
MT2	94	Hotels, Services, Commerce (the total consumption)	4500 CFA/KVA Peak Subscription				
MT3	78	Industries only (the total consumption)					
MT4	78	Industries only (the total consumption)	4500 CFA/KVA Peak Subscription				
Low Tension							
Tariffs	Social Band		Band 1		Band 2		
	Quantity	Category of Customers	Prix (in CFA)	Quantity	Prix (in CFA)	Quantity	Prix
BT1	Consumption ≤ 20kwh	Household use (Light and airconditioning)	78	0-250 Kwh	109	The remaining consumption	115 CFA
BT2		Buness use (Boutique, hair salon, dressmaking salon, coffee shop, restaurants, hotel, carpenter shop,...)		Total consumption	111	-	-
BT3		Public light (municipality)		Total consumption	122	-	-

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ANNEX II
APPROVED EXPENSES AND PROCEDURES FOR PAYMENT

1. **Budget.** A summary of the overall expenditures for this Agreement is set forth below (the "**Budget**"). The Parties may modify the Budget in writing with the prior written approval of MCC.

N°	Rubriques	Montant (FCFA)	Montant \$US
1	Travaux préparatoires	3 825 000	7 650
2	Communication et sensibilisation	6 400 000	12 800
3	Enquête pilote	4 118 000	8 236
4	Fournitures de bureau et de terrain	750 000	1 500
5	Dénombrement	34 556 000	69 112
6	Traitement des données du dénombrement	3 450 000	6 900
7	Acquisition de PDA	16 000 000	32 000
8	Sous-total	69 099 000	138 198
9	Frais de gestion	-	-
9	TOTAL	69 099 000	138 198

SEE ATTACHED

2. **Procedures for Reimbursement of Expenses.** The agreed upon procedures below will be used in order for MCC to make payments of the Grant for expenses approved by the Agreement.

A. *UCF payment approval process*

This procedure applies for the purchase of goods and services that has been procured.

(1) The UCF shall insure that the goods have been received and the works and services have been provided in accordance with the terms of the contract. UCF shall also ensure that any invoices they receive clearly show the amount of Taxes paid by INSAE and the amount free of Taxes.

(2) The supplier/provider of the Implementing Entity shall send the original invoice to the "Responsable de l'Administration et des Finances" of UCF (RAF) for payment.

(3) The RAF Secretary shall enter the date of the invoice into its tracking system in order to comply with the 30 day (calendar) payment period. The date stamp is officially recognized as the start of the 30 days (calendar) payment period. Therefore, it is recommended that invoicing instructions to suppliers indicate that they present the invoice to the RAF. An invoice is valid unless it is specifically REJECTED by the RAF. If an invoice is rejected by the RAF, the 30 day payment deadline stops and does not begin until another invoice is

presented and the reason for rejecting the initial invoice has been corrected.

The RAF shall work with the Implementing Entity in this process because the Implementing Entity is required to submit to the RAF the supporting documentation that goods, works or services have (or have not) been received.

An example of a fair and transparent rejection includes, but is not limited to rejecting an invoice presented by a supplier for payment for goods, works or services which has not been received or which does not meet the standards, specifications or deliverables agreed upon in a contracting document. The RAF is required to reject the invoice no later than 5 days after such determination is made and shall notify the supplier no later than 10 days about the rejection and also inform the Implementing Entity.

(4) The RAF shall notify the Implementing Entity indicating the date when the 30 day payment period starts and request the set of documentation for that particular invoice. The Implementing Entity shall forward the requested documentation to the RAF by the 5th business day following the request in order to facilitate payment to the supplier/provider in order to comply with the 30 day (calendar) payment deadline. It is intended that payment of valid invoices shall be made within 15 calendar days after the receipt of the valid invoice and never later than 30 calendar days.

(5) The Implementing Entity shall submit a set of documentation (such as receiving and inspection reports) to the RAF or a rejection letter explaining the reasons for rejecting the invoice.

(6) The Accountant shall check the set of documentation and notify the RAF if any deviation or discrepancy is found. If the Accountant is satisfied, he shall prepare and sign a Payment Request Form ("PRF") and submit it to the RAF.

(7) The RAF shall check that the invoice complies with the contract and also check the completeness of the provided documentation on its face, as well as its compliance with all relevant conditions and all approvals required in the Agreement. If there are any discrepancies or the invoice has certain errors, the RAF shall notify the Implementing Entity and the supplier/provider.

(8) The RAF then signs the PRF, noting that the set of documentation is in order to the RAF's best knowledge and belief.

(9) The Accountant shall retain the original set of approved documentation and a copy of the set shall be kept by the RAF office. The Accountant shall make a corresponding entry in the accounting system and maintain the records.

(10) The Accountant shall prepare a bank payment order (transfer order or check) based on the approved set of documentation. After two signatures of the authorized UCF signatories are obtained, the payment order shall be transmitted to the Bank to make a transfer – or the check is remitted to the beneficiary, or the beneficiary is invited to collect the check. Once

money is transferred according to the payment order (or the check is paid), the Bank will send a confirmation to the RAF (bank statements).

As far as administrative expenses are concerned (payment, per diem, communication, etc.) they will be financed by UCF in accordance with the following disbursement plan:

First Disbursement: (upon MCC approval of the draft Methodology Report (which should include the interview guide, questionnaires, and the sample design) and the draft Report on the pilot testing of the surveyors/controllers/field staff, including the raw pilot survey data):

19,091,000 F CFA

Second Disbursement: (upon MCC approval of the final versions of the Methodology Report and the report on the pilot testing of the surveyors/controllers/field staff, including raw pilot survey data): 2,000,000 F CFA

Third Disbursement: (upon MCC approval of the complete datasets to MCC and UCF and the report on data entry and cleaning, including major issues encountered and how INSAE has addressed them): 13,195,000 F CFA

Fourth Disbursement: (upon MCC approval of the data analysis report): 1,849,500 F CFA

Fifth Disbursement: (upon MCC approval of the final survey report that summarizes all of the previous deliverables, including the report on training of Individual Enumerators, and the report on deployment of Individual Enumerators to the field): 1,849,500 F CFA

Disbursement of the last installment shall be made after the Implementing Entity has presented, to the satisfaction of UCF, the supporting documents of expenses made with the previous disbursement resources.

B. MCC reimbursement approval process

The procedure to be applied will be the following:

1. UCF will provide MCC with all necessary documentation and information to prepare the payment request.
2. The RAF will prepare a Non-US Bank Payment incorporating all necessary details to deliver payment to the final beneficiary.

The payment request form will be prepared and signed both by the RAF and the National Coordinator of UCF, and will be e-mailed by the RAF to MCC.

MCC will make a single reimbursement payment to UCF, at a time following MCC's receipt and approval of all deliverables.

To receive any reimbursement of funds from MCC, UCF must complete the following tasks:

- Provide MCC with a list of invoices or payments that have been paid to the Implementing Entity or its suppliers/providers, and such invoices shall clearly indicate the amount of Taxes associated with each invoice, as the Grant shall not be used to pay Taxes.
- Provide a summary invoice to MCC, which contains the total payments made that are to be reimbursed as well as proof of payments (e.g., cancelled check or wire transfer confirmation).
- The reimbursement request should include all of the relevant banking information, including: bank name and address, bank account name, bank account number, bank routing number or SWIFT code.
- Provide written confirmation to MCC that the reimbursement has been received into the BCA account.

MCC approval or rejection shall be provided in no more than 4 business days from MCC's receipt of each deliverable.

The remaining budget amount of 15,114,000 F CFA will be paid upon receipt of invoices from INSAE to UCF.

ANNEX III ACQUISITION PROCEDURES

While the Implementing Entity is not required to follow the MCC Program Procurement Guidelines for procurements of the specific items listed in this Annex III, the Implementing Entity agrees to follow and demonstrate open, fair, and transparent procurement processes, as specified in this Annex III.

Except as otherwise agreed by the Parties and approved by MCC, the Implementing Entity agrees to use the procedures specified below in the acquisition or procurement of any Office Supplies, or the Individual Enumerators (as such terms are defined below).

1. Acquisition Procedures for Office Supplies.

A. Office Supplies. The procedures in section 1(B) below will apply to the Implementing Entity's acquisition of the following items (the "*Office Supplies*"):

- Paper;
- Ink for copiers or printers;
- Vehicles rentals as required for the mission;
- Fuel for vehicles;
- Room rental facilities for training of Individual Enumerators;
- Fees for television or radio services to disseminate information regarding the Individual Enumerators;
- cell phone minutes; and
- Such other items as agreed by the Parties and approved by MCC.

B. Procedures.

CONSULTATION RESTREINTE

Conformément aux dispositions de l'article 4 du décret N° 2011-479 du 08 juillet 2011 fixant le seuil de passation, de contrôle et d'approbation des marchés public, les commandes en dessous des seuils de passation sont exécutées par la procédure de demande de cotation. Celle-ci constitue une procédure simplifiée de consultation de prestataires de services pour l'acquisition des biens, services et réalisation de travaux d'infrastructures. Mais en attendant, la prise de décret qui régit la demande de cotation, il est autorisé l'exécution desdites commandes par procédures actuellement en vigueur conformément aux lettres circulaires :

N° 962-C/MEF/DC/DGB/SP du 03 avril 2012 ;

N°968-C/MEF/DC/DGB/SP du 06avril 2012 ;

N°1018-C/MEF/DC/DGB/SP du 06avril 2012 et

N°1019-C/MEF/DC/DGB/SP du 06avril 2012 portant modalités d'exécution des commandes publiques en dessous du seuil de passation des marchés publics.

Les seuils sont

60 000 000 F CFA pour les travaux d'infrastructures ;

20 000 000 F CFA pour les fournitures de services et

10 000 000 F CFA pour les prestations intellectuelles.

A cet effet :

Le DAF crée un fichier fournisseur à partir des demandes d'agrément reçu

Montant inférieur au seuil conforme au code passation de marché public

La procédure d'approvisionnement mise en œuvre à l'INSAE, vise à pourvoir à temps, toutes les directions, services en moyens et en matériels nécessaires, et ce, dans le respect des textes et du rapport qualité / prix / délai de livraison.

Le système d'approvisionnement est à la charge de la direction administrative et financière. Les différentes phases de la procédure se présentent comme suit. Plusieurs cas peuvent se présenter :

Cas des fournitures et de matériels

Expression / Identification des besoins

Conformément au budget de l'activité un point des besoins en fournitures de bureau, matériel et équipement nécessaire au bon déroulement de l'activité est établi par le Chef service matériel et équipement en collaboration avec la Direction Technique utilisatrice. Ce point est transmis à la DAF pour son approbation. Ensuite une lettre de consultation est adressée à trois fournisseurs sélectionnés dans la base de données.

DEMANDES ET PROPOSITIONS DE PRIX

La DAF

- adresse des demandes de prix ou demandes de factures pro forma à trois fournisseurs au moins.

Un comité de dépouillement est mis en place par la DAF. Ce comité,

- reçoit les propositions des fournisseurs
- les examine
- récapitule les différentes propositions sur la fiche de choix des fournisseurs
- les compare
- détermine le choix du fournisseur

SELECTION DU FOURNISSEUR

Le Comité

Le Comité est composé du Chef Service Equipement et matériel, d'un agent du service bénéficiaire du bien, objet de la consultation restreinte, d'un agent de la Direction du Traitement de l'Information et de la Publication et du magasinier et / ou un agent du service comptabilité.

Le comité se réunit après le dépôt des offres et :

- examine les offres des fournisseurs et choisit la facture pro forma du fournisseur moins disant ;
- signe la fiche de choix du fournisseur ;
- établit un procès-verbal de dépouillement.
- le procès verbal de dépouillement est soumis à l'approbation de l'UCF/MCA Bénin (Responsable de la Passation des Marchés)

Le Chef Service matériel et équipement établit un bon de commande en trois (03) exemplaires sur la base du « choix du fournisseur » dûment approuvé, vise le bon de commande et le soumet à la DAF pour visa.

La DAF transmet le bon de commande au Directeur Général ou au Coordonnateur pour signature.

Le Directeur Général ou le Coordonnateur :

- reçoit le bon de commande
- signe le bon de commande
- le retourne à la DAF

La DAF :

- reçoit le bon de commande signé
- le transmet au service matériel.

La DAF :

- se charge de la ventilation des exemplaires du bon de commande dûment approuvé et enregistré :
- transmet l'exemplaire n° 1 (original) au fournisseur
- transmet l'exemplaire n° 2 à la comptabilité
- conserve l'exemplaire n° 3 qui est classé dans ses archives.

RECEPTION DES ARTICLES

La réception du bien commandé est effectuée par un Comité de réception composé du Chef Service matériel et équipement, d'un spécialiste du bien concerné et du magasinier. Ledit comité :

- effectue un contrôle de qualité et de quantité des articles reçus en rapprochant le bordereau de livraison du fournisseur au bon de commande ;
- effectue les tests nécessaires pour s'assurer du bon état ou du bon fonctionnement du bien livré ;
- en cas de tests concluants, signe le bordereau de livraison du fournisseur ainsi que le bon de commande que le fournisseur lui soumet pour attestation de réception ;

- en cas de tests non concluants, rejette l'article ou le bien défectueux et sollicite son remplacement avant la signature du bordereau de livraison du fournisseur ainsi que le bon de commande que le fournisseur lui soumet pour attestation de réception.

RECEPTION DE LA FACTURE

La facture est déposée au Secrétariat du Département de l'Administration et des Finances de l'UCF/MCABénin.

Le traitement de la facture et son règlement seront exécutés selon la procédure décrite en annexe II du Protocole d'Accord signé avec l'UCF/MCA Bénin.

2. Acquisition Procedures for Individual Enumerators.

A. Individual Enumerators. The Implementing Entity intends to hire up to 90 individuals to assist in distributing survey materials, the "**Individual Enumerators.**" The Individual Enumerators will be hired by the Implementing Entity exclusively to carry out the Responsibilities, and will not undertake any other work or projects. The Implementing Entity will use the procedures specified below in section 2(B) to identify and hire the Individual Enumerators.

B. Procedures.

Le service du personnel doit disposer d'une base de données où toutes les demandes d'emplois antérieurement adressées à l'INSAE doivent figurer avec les profils requis.

Le personnel occasionnel peut être recruté sur la base de profil requis par l'activité toutes les fois qu'un besoin ponctuel de personnel pour une opération spécifique (enquêtes, saisies études) se fait sentir.

Le Chef service personnel en collaboration avec le service utilisateur, établit le profil des candidats et l'avis de recrutement.

Le chef service du personnel en collaboration avec le service utilisateur exploite la base des demandes d'emplois antérieurement adressées à l'INSAE et identifie dans ce lot de demande toutes les personnes dont le profil correspond au poste, compte tenu des informations fournies. A l'issue de ce processus le DAF prépare un avis de convocation et leur faire subir un entretien en collaboration avec la direction concernée. La liste des personnes les plus aptes est proposée au DG pour approbation. Une note de service retenant la liste définitive est proposée à la signature du DG.

En cas de défaillance sur le terrain, le superviseur procède au remplacement de l'agent enquêteur défaillant en choisissant parmi les enquêteurs formés et inscrits sur la liste de réserve.