

INCEPTION REPORT

Household Socio Economic and Energy Use Baseline Survey, Bartica, Guyana



Prepared for Caribbean Community Climate Change Centre

The Consultancy Group Inc.
263 Earl's Avenue, Subryanville
Georgetown
Guyana
+592-225 8771, -225 8773

May 2018

Executive Summary

The purpose of the Inception Report is to outline for the CCCCC the likely direction that the consultancy will take within the framework of the contract signed and the related ToR. The consultancy will span a period of four months, from 1st May 2018 to 31st August 2018.

This inception report documents the proposed approach and methodology, and details the resources required of the client, as per contract, to enable the team of consultants to complete the assignment.

Background

The Consultancy Group Inc. has been contracted to conduct a Household Socio Economic and Energy Use Baseline Survey in Bartica, Guyana under the Italy Caribbean Community (CARICOM) Partnership program. The Office of Climate Change (OCC) in the Ministry of the Presidency (MoP) has received grant funding from the Government of Italy to support implementation of the Project entitled Transitioning to National Energy Security: Bartica as a Model Green Town. The project is being implemented by the OCC in partnership with the Caribbean Community Climate Change Centre (CCCCC).

The primary objective of this project is to establish a reliable point of reference for the existing state of energy use in Bartica from which the data generated will be used for future measurements and predictions for evidence-based decision making and pursuance of projects and programs. The secondary objectives listed below are the first tier interventions that are expected to stimulate and expedite a comprehensive and robust renewable energy uptake program in the New Bartica Township.

Bartica, has been designated the model town for Green Initiatives by the Government of Guyana. This project is considered critical to the stimulation and wider uptake of the much needed alternative energy solutions for Bartica, bearing important implications for its new developmental plans and transition towards a model “Green Town”, much for the greater good of a national Green Economy. The municipality of Bartica, although a relatively new will be seeking to seize the opportunity to lead this response at the local level by encouraging and helping other public entities, residents, businesses and organizations to reduce their energy consumption and transition to clean energy while improving their socio-economic status

Objective of the Consultancy

The objective of this consultancy is to gather baseline socio-economic and energy related data at the household level in Bartica that can be used as a reliable point of reference for the existing state of local energy use; for future measurements and predictions; for evidence-based decision making and pursuance of projects and programs

Suggested Changes to the Scope of Work

While the ToR is focused on conducting an energy baseline of households, we suggest the inclusion of a small sample of businesses. This provides some insights into the energy profile of businesses themselves, and in the instances, common across Guyana, where small businesses operate on a residential property e.g. a small store or vulcanizing shop, can provide insights into the energy profile of households.

Approach & Methodology

Our approach ensures high validity and applicability of the data that emerges from the baseline survey.

Our approach delivers this with reduced impact on the environment through:

- Extensive stakeholder participation in refining survey instruments, and refining the sample strategy
- Paperless data collection using Computer Assisted Personal Interviewing (CAPI)
- A strong emphasis on training data collectors and supervisors
- Collection of meta-data including GPS coordinates
- A two-stage quality control process before data enters the database
- A data analysis team that includes a PhD-level statistician

The advantages of CAPI in generating benchmark household energy statistics are broadly recognized; the EU Manual for Statistics on Energy Consumption in Households¹ recommends that “...it should be applied in all cases if possible (page 50).”

Questionnaire Development

Our team will work with the Client and other stakeholders to ensure that the survey instruments are appropriate and harmonised with the project’s M&E Framework.

We include an experienced statistician in our team to ensure survey questions are worded to be simple, avoid acronyms and abbreviations, ensure that questions are applicable, are specific to the nature of the project, avoids double-barreled and leading questions.

A typical survey instrument could comprise the following sections:

100. Characteristics of the House and Household

- 200. Characteristics of the Household Members
- 300. Sources of Energy
- *Section 1: Use of Electricity from Interconnected Grid and Isolated System*
- *Section 2: Use of Kerosene*
- *Section 3: Use of Candles*
- *Section 4: Use of Dry Cell Batteries*
- *Section 5: Use of Car Batteries*
- *Section 5: Use of LPG*
- *Section 7: Use of Solar PV Home System*
- *Section 8: Electric Generator Set*
- *Section 9: Use of Firewood*

¹ <http://ec.europa.eu/eurostat/documents/3859598/5935825/KS-GQ-13-003-EN.PDF/baa96509-3f4b-4c7a-94dd-feb1a31c7291>

- *Section 10: Use of Agriculture Residue*
- *Section 11: Animal Dung*
- *Section 12: Use of Cooking Stove and Cooking*
- 400. Productive Equipment
- *Section 1: Electric Pumps*
- *Section 2: Diesel Pumps*
- 500. Time Use
- 600. Household Income
- *Section 1: Income from Work*
- *Section 2: Income from Agricultural Activities*
- *Section 3: Income from Livestock Activities*
- *Section 4: Income from Fisheries*
- *Section 5: Other Income*
- *Section 6: Household Expenditures*
- 700. Attitude
- 800. Business Module
- *Section 1: Basic Characteristics of the Business or Establishment*
- *Section 2: Financing Sources for Business*
- *Section 3: Uses of Motors (Motive Power) in Business*
- *Section 4: Income from Business*
- 900. Opinion and Attitude on Energy and Business

Preparations for the Fieldwork

The preparations for the training of the interviewers will involve creation of the training manual and interviewer and supervisor guides. These manuals and guides will focus on key issues related to interviewing, the kind of data to be collected, issues related to confidentiality and ethics and guidelines for data entry and upload using the tablets and software (see Interviewer Training & Data Collection Mode below). Furthermore, each interviewer and each supervisor will be required to sign an agreement regarding the work to be done, confidentiality and ethics. The manuals and guides will also include elements of the selection methodology, the sample allocations to the various areas and identification of respondents within the households so that interviewers and supervisors can have these to refer to during the fieldwork.

Interviewer Training & Data Collection Mode

An important step in preparing for the survey is the training of the field staff. Field staff comprises (i) interviewers/enumerators who will collect the data and (ii) supervisors who will be responsible for ensuring that the fieldwork progresses according to the plan and for ensuring that data of the best quality are obtained.

TCG will recruit enumerators from within the Bartica community, and supplement with those enumerators and supervisors whom have conducted one or more surveys for TCG within the past 12 months.

The training of the field staff will include general issues related to conducting interviews, the protocols to be followed to identify households, contact individuals, request participation and conduct the interviews. It will also focus on protocols for handling the data following the interviews and the checks that will be done.

Understanding of the questionnaire is essential to data collection and much time in the training session will be dedicated to this. The interviewers and supervisors need to understand the intent of each item in order to ask the questions correctly and to assist them in providing clarifications whenever these become necessary.

Another important component of the training session will be the use of the tablets for data collection. On the one hand, individuals who lack enough general competence with the use of tablets will not be included among the interviewers who will conduct the fieldwork as there is the clear potential for adverse impacts on the quality of the data collected. Sometimes, low competence in the use of the devices can result in incorrect entries and other related problems. Such problems can also affect the flow of the interviews.

On the other hand, even individuals who are competent with the use of tablets need to be careful with survey questionnaires to ensure that the data are entered as expected. The training session will therefore focus on how to make correct data entries and especially on the codes for non-response and other responses such as don't know and no answer.

The training session will culminate in a piloting of the questionnaire and survey procedures. This pilot will realize collection of approximately thirty (30) entries into the database and is meant to facilitate:

- Some practice in the selection of households and respondents.
- Going through the questionnaire in the field setting to highlight potential difficulties.
- Real practice with the implemented questionnaire to highlight any remaining problems with the instrument both with respect to content and flow.
- Estimating the survey completion time.
- Practice with the data management tools and protocols

All in all, the piloting exercise will highlight any difficulties that may arise and problems that exist and provide an opportunity for adapting the approach or implementing corrective measures prior to commencement of the substantive survey.

The issues to be covered in the training sessions will be compiled into a training manual that will be given to each individual. Apart from taking the field staff through the steps that will be followed in the training session, this manual will function as a reference for the interviewers and supervisors in dealing with difficulties and situations that may arise in the field. However, whenever situations arise that are not addressed in the manual, the interviewers will first refer to their respective supervisors who can subsequently contact central management if necessary.

Management of Fieldwork

The field staff for the survey will be organized into teams for the fieldwork. A team will consist of three (3) interviewers and one (1) supervisor. TCG will activate two survey teams. The supervisor will be responsible for deploying the interviewers in the work area and for ensuring that the deployment follows the approach established for the survey. The supervisor will also check that the interviewers are conducting the interviews where they are supposed to conduct them and that the data collected meet the requirements.

Whenever issues arise in the field, the field supervisors will be the first point of contact for the interviewers. The supervisors may refer the problems to central management for a solution if the supervisor is unable to resolve it. The solutions to any problems that arise in the field need to be consistent with the goals of the survey and with the methodological underpinnings identified for the survey. For this reason, interviewers are not expected to and will be explicitly discouraged from determining solutions independently. At the same time, the expertise of the interviewers and especially their contextual knowledge given that they are the ones on the ground will be tapped into to find the best solutions to any problems that may arise.

Each supervisor will be responsible for assigning the interviewers to areas to conduct interviews and will liaise with central management on any issues that arise and on anything that requires clarification. We work with small teams to ensure effective supervision of enumerators. TCG supervisors never collect data; their role is to supervise and to execute a data quality control protocol.

Progression through Survey Area

Prior to entering Bartica to conduct the survey, the community will be sensitized about the survey effort so that the residents can expect interviewers to call on them. That notwithstanding, the interviewers will need to be properly identified and they will provide the households/individuals contacted with contact details of individuals at TCG and at the OCC whom they may contact for further checks or for verification of the authenticity of the survey effort

Quality Control

Controlling the quality of data collected proceeds in two steps. Supervisors will review each interview before the Team leaves an area. At the end of the day, after interviews have been uploaded to the server, a team of Reviewers will review each interview, either approving it, or returning it with comments to the enumerator. Comments will be summarized and available to each Supervisor so they are aware of issues that need to be clarified and addressed before moving to a new area.

Data Integrity & Data Upload

Apart from the checks that will be done by the supervisors, the completed questionnaires will also be time-stamped and GPS coordinates will be collected to give assurance that the interviews were conducted where they were expected to be conducted. This GPS information will be accessed only by central

management and will not be included in the data set to avoid potential breaches of confidentiality. This approach to ensuring the integrity of the data will need to be approved by the OCC before it is implemented. Apart from this, contact details will be collected from the persons interviewed and the telephone numbers in particular will enable calls to individuals to verify that they were indeed interviewed at the times indicated in the completed questionnaires. These calls will be done with a randomly distributed 10% of the data and these checks will be done on a daily basis to arrest any potential issues while there is still time to make adjustments.

After the data are collected, they will be checked/verified before they are admitted into the substantive database. These checks will be done by the supervisors. An important limitation on data checking that needs to be considered is that real time checking would require that all tablets are constantly linked to the internet. This limitation is difficult to overcome as it is well known that mobile data has reliability issues in Guyana. It would be prudent to not rely on mobile data a central requirement of the survey. Furthermore, the use of mobile data on the mobile devices has important implications for battery life and can determine whether or not fieldwork can continue uninterrupted throughout the day. Data checking can also be done on the handheld devices, but this is risky, non-transparent and would interrupt the flow of the fieldwork if it is to be done after each interview. It is therefore best that the checking of the data be done at the end of the day.

To facilitate this, the data collected will have to be uploaded to the database at the end of each day and the supervisors will be provided with an interface that facilitates such checks prior to admitting the data to the substantive database. To upload the data, the tablets will only need to be in proximity to an Internet access point with which it is permitted to interface. The data collected will be linked to the respective interviewers and if poor data are detected, the interviewer could be asked to return to the field or to hand in his/her device depending on the severity of the problem and the explanation provided.

Although there will be a piloting of the survey prior to substantive data collection, it is anticipated that most difficulties will arise in the early stages while some uncertainties may still exist or while unique circumstances pop up. The checking necessary in the early stages are therefore more likely to be more burdensome than that which will be required later. We will therefore begin the survey by doing a limited start-up to ensure that potential problems do not affect large sections of the data before they are identified at the end of the day.

Overall, data integrity is an essential issue that ultimately affects all results of the survey. It is therefore important to deal comprehensively with this aspect of the management and this is exactly what TCG intends to do.

Data Cleaning & Coding

The use of tablets for data collection eliminates a separate data entry phase from the survey effort and also eliminates the potential for the kinds of errors that can occur during a separate data entry. However, the accuracy of the data still relies on correct scoring by the interviewers in the field.

The data will be precoded by virtue of the coding applied to the questionnaire. The coding will therefore need to be sorted out during configuration of the questionnaire for use on the tablets.

For the purpose of data cleaning, the Stata software package will be utilized. This package is powerful and wills programs to be written to execute all the required tasks. It will also be used to apply labels to the data and finally to produce a codebook to guide subsequent use of the dataset. The codebook will contain the variable names, labels and the labels of the response categories. Although Stata will be used for the data cleaning and preparation, the data can be provided in several formats. A basic Excel file which can be imported into several programmes will be provided but additional formats can be submitted on request.

Sample Allocation & Representation

The Guyana Bureau of Statistics estimates the Bartica population as 8004 individuals. It also indicated that the Township has 2219 households. Given that the survey is to be done at the household level, the number of households is used as the basis for estimating the sample size. In order to make estimates with 95% confidence while maintaining a margin of error of at most 5%, a maximum sample size of 328 households is required.

Although the TOR alludes to households, we recognise that businesses will play a key role in any transition to sustainable energy consumption. We therefore propose to expand the sample to include businesses. In particular we propose to set the total sample size at 350 with the difference of 22 begin designated for businesses that are not linked directly to households by virtue of separate consumption of energy. Sampling will be done to facilitate identification of a representative subset of the population included in the programme.

To arrive at a representative sample, the selections need to be done at random. This will in the first place, necessitate availability of lists of households in the areas. If the lists are obtained, the random selection can be done in such as was that the random sample is distributed over the geographic terrain in each of the identified areas through stratification. This random selection is likely to be affected by the absence of a list of households in each area and as a contingency plan, household identification can be done based on a random walk process guided by the layout of the areas. Visits to the area will be necessary to determine the best approach to developing a random walk procedure and thereafter, maps of the area can be used to provide guidance during training of the interviewers and during the fieldwork itself. It is worth noting at this point, that the use of the GPS feature will highlight the geographic distribution of the interviews once they are completed.

Once a household is identified for inclusion in the sample, an adult in that household will be interviewed.

Dealing with Nonresponse

Nonresponse can occur in surveys for several reasons and this seems unavoidable in household surveys in general. The individuals may not be at home, may refuse, may be ill etc. Two popular approaches to handling non-response are the application of weights and replacement. Application of weights are done after data collection to return the totals in the data to what they were expected to be based on the population distribution and it does this base on the population data and the actual data collected. There are several ways of calculating weights but ultimately, the quality of both the data collected and the available population data will affect the weights applied. We will not use weighting for nonresponse in this survey.

Replacement on the other hand, is the process whereby the missing individual is replaced so that the data are collected from an alternative source. There are several ways of activating replacements with various merits. However, the first step should be a diligent effort at obtaining the data and to collect it from the source initially identified. For the survey, we will ensure that we exhaust the possibilities for collecting the data from the original source then make replacements where necessary and in a manner consistent with the sampling procedure.

Analysis & Reporting

A final report on the survey is required for completion of the work. This report will include elements of the methodology and logistics and summaries of the data collected. The data summaries will be interpreted and important issues highlighted and this will constitute the analysis of the data. It is important to indicate here that if any specific bits of analyses are required but not initially included, the need only be requested. The data set itself is expected to be large.

A codebook for the data and the questionnaire will also be inserted into the final report to ensure that third parties can understand and use the data set if necessary.

Deliverables

TCG will prepare the following outputs:

1. Inception report and work plan
2. Completed survey instruments
3. Baseline household data set
4. Preliminary Analysis of various aspects of the data
5. Report on the dynamics of household appliances and energy consumption and use.
6. Presentation of findings to:
 - i) National Steering Committee
 - ii) Bartica Consultation Committee
 - iii) Bartica Community Meeting
7. Final Survey Report
8. Final Consultancy Report

Support Required by the TCG Team

TCG suggests a Letter of appointment issued by the Office of Climate Change addressed “To Whom it May Concern” indicating that TCG has been appointed to conduct the “Household Socio Economic and Energy Use Baseline Survey in Bartica, and requesting the recipient accommodate any requests from TCG for assistance.

Additionally, access to documents relevant to the analysis as well as contact details for key stakeholders.

		May				June				July				August				
Week Beginning		7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27
	Submit Survey Pilot report																	
	Refine final survey instrument with input from pilot and OCC																	
	Submit Final Survey Instrument																	
D3 + D4	Survey Bartica																	
	Clean and analyse data																	
D5+D6	Prepare report on the dynamics of household appliances and energy consumption and use																	
	Submit report on the dynamics of household appliances and energy consumption and use																	
	Revise report on the dynamics of household appliances and energy consumption and use with feedback received from client																	
	Prepare presentation to Committees																	
	Presentation on findings to Committees																	
D7 + D8	Prepare final report																	
	Submit draft final report to client																	
	Revise final report based on feedback from the client																	
	Submit final report based on feedback from the client																	

Our Team

The core members of the team are detailed below.

Nicole Bowen (nbowen@theconsultancygrouppuyana.com) is the administrative point of contact.

<p>Ana Fuentes</p>	<p>Expertise: Renewable Energy Total Years of Experience: 10+</p> <p>Ms. Ana Fuentes is an energy expert with over ten years’ experience in this field. Her focus is on the renewable energy technologies and energy efficiency within the construction industry. Her vast knowledge of various technologies for heating and cooling along with her thermal modelling software skills are valuable in determining the best energy systems. Ana holds BSc. in Mining Engineering and Mechanical Engineering as well as a Master of Energy Engineering.</p> <p>Ms. Fuentes will be responsible for leading and coordinating technical team; designing the survey instrument; supporting data collection; verifying data; reviewing renewable energy options; analysing data and preparing reports</p>
<p>Troy Thomas PhD</p>	<p>Expertise: Statistician/Social Scientist Total Years of Experience: 10+</p> <p>Dr. Troy Thomas is a social scientist with over ten years’ experience in his field. He has a BSc. Mathematics, Master of Statistics; Quantitative Analysis in the Social Sciences track, a Master of Social Science in Development, Policy and Analysis and a PhD in Comparative Science of Cultures with a focus on survey methodological issues. He is a researcher with a core focus on methodological issues inclusive of instrument development, survey execution, data quality and data analysis. He has also been involved in many application type research projects, which focused on attitude measurement and evaluation. He acquired field knowledge through engagement in surveys and statistical consultancies for projects funded by the IDB (project evaluation), USAID (opinion survey) and UNICEF (Health and Family Life Education). Dr. Thomas specializes in both quantitative and qualitative data collection and analytical approaches. He has designed a broad range of survey instruments, managed complex data collection exercises and performed statistical analyses on large datasets using software such as SPSS, Stata and Mplus. He has conducted attitude surveys of various subgroups of the Guyanese population and surveys of secondary school students in Guyana for academic research; and has developed and monitored the implementation of a methodologies for nationwide surveys of the Guyanese population in the context of his PhD research and in relation to election monitoring. He has also examined questionnaires to evaluate various attitudes in the areas of quality assurance, usability evaluation and the measurement of response styles in survey research.</p>

	<p>Dr. Thomas will be responsible for developing the sample strategy and sample frame; formatting and uploading instrument and database; reviewing data; cleaning dataset and describing data as well as contribute to data analysis.</p>
<p>Lenandlar Singh</p>	<p>Expertise: Management Information Systems Total Years of Experience: 10+</p> <p>Mr. Lenandlar Singh is a Senior Lecturer in the Department of Computer Science at the University of Guyana and presently serves as the Head of Department. He joined the staff on September 1, 2000 after graduating with a BSc in Computer Science (2000). In 2005 he completed a Post Graduate Diploma in Education (2005) from the University of Guyana and in 2007 an MSc in Internet Applications Development from the University of Brighton, England. His main teaching areas are Computer Programming, Internet Technologies and Management Information Systems. In research he's interested in Computer Science Education, Mobile Learning and Web 2.0 and Learning Technologies, Internet Security, User Interface Design and Evaluation, ICT4D. Professionally he consults in Information Systems Design and Development and Data Collection and Surveys.</p> <p>During the project Len will be responsible for preparing the enumerator manual and training materials, training the field teams, supervising the survey pilot and prepare the pilot report.</p>

Appendix

Appendix-1: Consultancy ToR

ToR:

TRANSITIONING TO NATIONAL ENERGY SECURITY: Bartica as a Model Green Town

TERMS OF REFERENCE

HOUSEHOLD BASELINE SURVEY FOR BARTICA TOWN

1. INTRODUCTION AND BACKGROUND

The Office of Climate Change (OCC) in the Ministry of the Presidency (MoP) has received grant funding from the Government of Italy under the Italy Caribbean Community (CARICOM) Partnership program to support implementation of the Project entitled Transitioning to National Energy Security: Bartica as a Model Green Town. The project is being implemented by the OCC in partnership with the Caribbean Community Climate Change Centre (CCCCC).

The primary objective of this project is to establish a reliable point of reference for the existing state of energy use in Bartica from which the data generated will be used for future measurements and predictions for evidence-based decision making and pursuance of projects and programs.

The secondary objectives list below are the first tier interventions that are expected to stimulate and expedite a comprehensive and robust renewable energy uptake program in the New Bartica Township.

Bartica, has been designated the model town for Green Initiatives by the Government of Guyana. This project is considered critical to the stimulation and wider uptake of Office of Climate Change Guyana September, 2017

The much needed alternative energy solutions for Bartica, bearing important implications for its new developmental plans and transition towards a model “Green Town”, much for the greater good of a national Green Economy.

The municipality of Bartica, although a relatively new will be seeking to seize the opportunity to lead this response at the local level by encouraging and helping other public entities, residents, businesses and organizations to reduce their energy consumption and transition to clean energy while improving their socio-economic status. Furthermore, the sensitization and awareness building needs to be encouraged at all levels, from Government Ministries, i.e., Finance, Communities (inclusive of housing and water), Public Infrastructure, Education and Academia, Public Security; to households, all need to be aware of what the development paradigm is. It is therefore within this context that the messages being transmitted would need to be targeted and focused on the particular interest group. For instance, it would need to be gender sensitive and contextually relevant for the municipality. And lastly, it would also be important to make the business case in pursuing a green economy development framework versus the traditional fossil fuel driven development.

2. OBJECTIVE OF THE CONSULTANCY

2.1 Objective

The objective of this consultancy is to gather baseline socio-economic and energy related data at the household level in Bartica that can be used as a reliable point of reference for the existing state of local energy use; for future measurements and predictions; for evidence-based decision making and pursuance of projects and programs.

3. THE TASK

The OCC requires the services of a consultant to provide assistance in the design and conduct of a household baseline survey to capture baseline socio-economic and energy related data at the household level in Bartica. The selected consulting firm must demonstrate a thorough understanding of and familiarity with the subject matter, practical experience in the specific areas and fields and knowledge and familiarity with the OCC and the Bartica Municipality values and approach to the Green Economy and sustainable development.

3.1 General Tasks:

The selected consulting firm will at a minimum do the following:

1. Facilitate an inception meeting (virtual) with the OCC and Bartica Municipality where a plan of work will be presented that will guide the implementation of the consultancy.
2. Review all the relevant documents provided by the OCC and the Bartica Municipality including the project document, the project work plan and any other source documents deemed necessary to complete the consultancy.
3. Consult with the OCC and the Bartica Municipality personnel as required.
4. Develop the methodology to conduct the household survey and present it to the OCC and the Bartica Municipality for review.
5. Prepare a final report of the work undertaken in this consultancy.

3.2 Specific Tasks

Activities for output 1:

1. In consultation with the OCC develop and agree on sample size and the methodology to be used to conduct the survey
2. Prepare survey instruments
3. Identify and recruit the enumerators and provide appropriate training for them

Activities for output 2:

4. Pre-test and finalize research instrument
5. Coordinate and conduct the field surveys and related activities

Activities for output 3:

6. Organize and analyze data, and establish data management platform

Activities for output 4:

7. Prepare draft report and present findings at Stakeholders Forum
8. Finalize draft report and complete data package

4. OUTPUTS OF THE CONSULTANCY

The Household Energy Baseline Consultant will plan and effectively undertake the required surveys and preparatory field work, establishing dialogue and a working relationship with stakeholders (funding partners, national counterparts and local communities), on the timely delivery of the agreed documents. It is within this broad context that the project will seek to complete the following outputs below.

At a minimum the consulting firm must produce and deliver the following reports and outputs:

Outputs:

1. Inception report and work plan
2. Completed survey instruments
3. Baseline household data set
4. Preliminary Analysis of various aspects of the data
5. Report on the dynamics of household appliances and energy consumption and use.
6. Presentation of findings to:
 - i) National Steering Committee
 - ii) Bartica Consultation Committee
 - iii) Bartica Community Meeting
7. Final Survey Report
8. Final Consultancy Report

5. REQUIREMENTS

5.1 Level of effort

The level of effort required for the completion of the tasks should not exceed a total of one hundred and eighty (120) person days and is expected to commence on or about December, 2017 and be completed by March, 2018. The number of days assigned to each key expert should be stated in the technical proposal and the budget.

5.2 Personnel Key experts

The selected consultant should have specialist expertise and will possess demonstrated skills and experience in the field. Key expert selected leader will be responsible for the preparation and presentation of the draft and final survey reports and other required documents and reports to the OCC as well as the work towards achieving the objectives of this terms of reference. Qualifications and skills: University degree in electrical engineering or related field. Master's degree and specialist training in energy, environmental management or related fields will be considered an asset. General professional experience: At least five years (for BS) and three years (for MS) continuous working experience in the field. Specific professional experience: A minimum of three (3) years of experience with a proven professional record, preferably working in the field of Energy and Environment along with substantive technical experience with conducting energy efficiency surveys and modelling approaches, preferably in the Caribbean and Latin America Region. The consultant should also be familiar with the energy scenario in

Guyana or similar countries; have excellent record in human relations; and demonstrated evidence of successful project management, team coordination and reporting.

5.3 Other experts

CVs for experts other than the key experts will not be evaluated/scored during the tender evaluation but should be included in tenders.

The selected consulting firm shall select and hire other experts as required to complete the tasks identified in this Terms of Reference. They must indicate clearly which profile they have so it is clear which fee rate in the budget breakdown will apply. All experts must be independent and free from conflicts of interest in the responsibilities accorded to them.

5.4 Office accommodation

Not Applicable

5.5 Facilities to be provided by the Consultant

The selected consulting firm or consortium shall ensure that its experts are adequately supported and equipped. In particular it shall ensure that there is sufficient administrative, secretarial and interpreting provision to enable experts to concentrate on their primary responsibilities. It must also transfer funds as necessary to support its activities under the contract and to ensure that its employees are paid regularly and in a timely fashion.

5.6 Equipment

No equipment is to be purchased to support the implementation of the tasks outlined in the Terms of Reference.

5.7 Language

Consultants must be fluent in English and all reports and other documents must be in English.

6. IMPLEMENTATION SCHEDULE

The selected consulting firm will be responsible for the development of an implementation schedule for the consultancy with the OCC. This schedule should include but is not limited to the following:

- Inception meeting and the presentation of a work plan to the CCCCC
- Consultation with key stakeholders
- Review of documentation and preparation of draft plans and reports
- Presentation of deliverables
- Presentation of draft and final reports

7. SUPERVISION AND REPORTING

7.1 Supervision

The selected consulting firm will report to the Head of the OCC or her designee and will be responsible for the preparation and delivery of a comprehensive report of the activities undertaken within the terms of this consultancy including those outputs/reports described above. The OCC Project Manager will be

delegated responsibility for day to day liaison with the consulting firm to ensure that the expected outputs are achieved.

7.2 Reports

The draft inception report will be present by the consultant or consulting firm at the inception meeting. Following the meeting the consultant or the consulting firm will incorporate inputs made at the meeting and other inputs provided by the OCC into a final inception report which will be presented within one week after the meeting.

An electronic copy of the draft household baseline survey report and other documentation will be presented to the Head of the OCC for distribution and review within the OCC, the Project Execution Office and Bartica Municipality among other stakeholders.

The consulting firm will incorporate comments, feedback and inputs from the OCC, the Project Execution Office and Bartica Municipality among other stakeholders into the final expanded content manual and other documents.

8. DURATION OF THE CONSULTANCY

It is expected that the implementation of this activity will be completed over the period commencing on December, 2017 and ending March, 2018 and will not exceed one hundred and eighty (180) total working days.

9. BUDGET AND FINANCIAL PROPOSAL

The consulting firm must submit a budget detailing estimated cost of the expected implementation of this activity. This budget must be in the form of a complete breakdown detailing costs of personnel, transportation, materials and other items. A fixed price contract will be entered into with the selected consulting firm.