



Project number: 00067121

**HCFC PHASE-OUT MANAGEMENT PLAN – FIRST STAGE IMPLEMENTATION  
MID –TERM EVALUATION**

September 2017

## **ACKNOWLEDGEMENTS**

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## **ACRONYMS**

APR	Annual Progress Report
AWP	Annual Work Plan
BSS	Beneficiary Satisfaction Survey
CFC	Chlorofluorocarbon
CP	Country Plan
FGD	Focus Group Discussion
GoJ	Government of Jamaica
HCFC	Hydro Chlorofluorocarbons
HPMP	HCFC Phase-Out Management Plan
IP	Implementing Partner
JARVA	Jamaica Air, Refrigeration & Ventilation Association
Mt	Metric Tonnes
MTE	Mid-Term Evaluation
MoF	Ministry of Finance
MWLECC	Ministry of Water, Land, Environment and Climate Change
NC	National Consultant
NEPA	National Environmental Protection Agency
NOU	National Ozone Unit
ODS	Ozone Depleting Substances
PIOJ	Planning Institute of Jamaica
PSC	Project Steering Committee
QPR	Quarterly Progress Report
RAC	Refrigeration & Air Conditioning
SSS	Seal Sprayed Solutions
TT	Technicians' Training
ToT	Training of Trainers

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## 1. EXECUTIVE SUMMARY

The HPMP First Stage Implementation was initiated in 2012 with an overall Project duration of nine (9) years. Since the Project is at its mid-point, a mid-term evaluation (MTE) was executed to determine the level and quality of capacity building for the refrigeration and air-conditioning services sector, the extent to which the Project has achieved to date and/or is en route to achieving its objectives and if the Project outputs to date are relevant. In addition, the mid-term evaluation assessed whether outputs to date have been effective and are sustainable and to identify any possible early signs of impact and determine if the quality of implementation and management to date has been efficient.

The MTE reviewed the project for relevance, effectiveness, efficiency, sustainability, impact/potential to impact and gender responsiveness. For each of these evaluation criteria two or more questions were asked to support the assessment. The findings of each question provide a base for summarising the performance of the Project to date and assign it one of the following on a scale from 'More than Satisfactory' through to 'Unsatisfactory'.

The overall assessment is that the Project to date is "Moderately Unsatisfactory", and this is so primarily because Component I achieved all targets. The Project received a "Satisfactory" ranking for one evaluation criteria, namely 'Project Relevance'; this underscores that adequate due diligence was done prior to the start of the Project. The Project went off track for two primary reasons:

- ❖ Global changes in the Refrigeration and Air Conditioning industry prompted local suppliers to move to alternate which resulted in a significant drop in the importation level, an event which could not be easily predicted.
- ❖ Poor Project Management and an absence of oversight by the Project Sponsor

Ranking and summary of findings around each of the MTE Evaluation Criteria follows:

### RELEVANCE

Overall the assessment is that the Project was relevant at the time of design and start of implementation and is rated as "Satisfactory".

**Finding:** The project was aligned to GoJ and UNDP Policy position and commitment to related International Conventions.

**Finding:** Some of the issues raised in the HPMP background research are addressed in the Project. It acknowledged the need for a direct intervention and technical support to the primary importer of HCFC 141b would be the best approach to reduce importation.

**Finding:** The majority of the concerns and issues of Industry Stakeholders are addressed to some degree. The Project focused on providing training to RAC technicians at various levels in the industry. It however did not address or support efforts at rebuilding of JARVA an area of critical concern to the Industry.

## EFFECTIVENESS

Overall assessment was that the project was not effective and is rated as “Moderately Unsatisfactory”.

**Finding:** With the exception of Component I, targets have not been met for the sub-components of Component II. A team of Local Trainers have not been prepared to deliver training for technicians; the training manual is inadequate as a training toolkit, the anticipated number of technicians to be trained at the mid-point is 277 (Module 1) 277 (Module 2) and 111 (Module 3). At mid-point 65 Technicians have been trained and feedback from the quantitative and qualitative research is that Module 3 was not extensively covered.

**Finding:** There was inadequate management and oversight of the Project. Project targets re outputs were not reported on; decisions were taken to extend contracts without due diligence; changes were made to the Project without due diligence and/or sign off by all relevant stakeholders.

**Finding:** There were some M&E indicators and if tracked would allow for some level of monitoring and evaluation of the Project. The Implementing Partner (IP) established no system of tracking any of the Project outputs and had no tools to determine if they were aligned to Project targets.

## EFFICIENCY

Overall assessment indicates the project is not efficient and is rated as “Unsatisfactory”

**Finding:** With the exception of Component I, Project funds have not been spent in accordance with the budget and Project targets have not been achieved. The Project unit cost for training was set at an average of US\$171.83 per trainee per day. Unit cost during implementation was initially but moved to US\$433.61.

**Finding:** There have been changes in the use of the financial resources of the Project, however these changes have not increased the efficiency nor have they resulted in supporting the desired output of the number of RAC practitioners trained.

**Finding:** There has been minimal use of the risk matrix to manage the implementation of the Project. The Risk Matrix report was included in the all but two of the QPRs. The Risk Matrix did not cover key risk areas of implementing any of the elements of the capacity development Project. Nor did with future updates include areas of risk which begun to surface during the implementation of the Project

## SUSTAINABILITY

Overall assessment indicates that the Project has few elements to support sustainability and is rated as “Moderately Unsatisfactory”

**Finding:** Seal Spray Solution have indicated that following the conversion away from manufacturing foam for roof insulation using HCFC 141b, there is no economic reason to return to that product.

**Finding:** Only 25% of ToT trainees understood that they were to conduct training following the ToT Workshops. The ToT did not provide them with an appropriate tool kit to conduct training. Persons were not contacted to undertake any Training events.

## IMPACT

Overall assessment indicates that the Project has had low impact towards Project outcomes and is rated as “Moderately Unsatisfactory”.

**Finding:** The conversion of production of foam away from the use of a ODS has resulted in a 97% reduction of the importation of HCFC 141b; this is a direct result of the technical support provided under this Project in Component I.

**Finding:** The second component was intended to trigger and support the reduction of the importation of HCFCs. There is a significant reduction in the importation of HCFC, however this reduction has occurred outside of the Project output for the training of trainers and the expected cascading out of training for 500 technicians.

#### **GENDER RESPONSIVENESS**

This Project was developed prior to the UNDP 2014 Policy position on Gender Responsiveness for all Projects, therefore the project was not designed to consider this element.

**Finding:** There was no requirement for gender to have been a consideration in the design of the Project.

**Finding:** It is accepted that the RAC Industry is a male dominated industry. Notwithstanding that, there are female RAC Technicians. The IP had no strategy to ensure that during Project implementation there would be best efforts to include all. This would have been consistent with GoJ's policy position on Gender.

#### **CONCLUSION**

Overall while global trends and changes in technology could be considered to make elements of the intent of the Project redundant, there were clear gains from the successful implementation of Component I and nationally the short learning events for RAC technicians presented an opportunity to 'retrofit' the technicians, providing them with knowledge of emerging good practices, techniques for recycling, options for disposal and a guide and supporting equipment for retrofitting. However the Project suffered from an ineffective Project Steering Committee and an Implementing Partner which took action without due diligence. There was no accountability for Project targets and changes/adjustments were made without the necessary due diligence and sign off.

The Training of Trainers and the subsequent training of 500 technicians in good practice and the basics of recycling and an additional 200 advanced technicians in retrofitting is the major component of this project. There is inadequate evidence that the project partners were consistent in the monitoring during implementation which would allow for review ongoing assessment and review. At the mid-term of this project there is evidence that this has endangered the original established outcomes of the Project.

## **2. INTRODUCTION**

### **2.1 Evaluation Purpose & Objectives**

The purpose of the mid-term evaluation (MTE) is to determine:

- The level and quality of capacity building for the refrigeration and air-conditioning services sector
- If the Project has achieved to date and/or is en route to achieving its objectives and if the Project outputs to date are relevant.
- If outputs to date have been effective and sustainable and identify any possible early signs of impact.
- If the quality of implementation and management to date has been efficient.

The evaluation is expected to make recommendations for the implementation of the next phase of the project.

### **2.2 Evaluation Questions**

The MTE is guided by the six-evaluation criterion presented in the Terms of Reference. The Evaluation Matrix, Annex I presents indicators which would be used to measure Project relevance, effectiveness, efficiency, sustainability, gender sensitivity and impact.

### **2.3 Scope of Evaluation**

The Mid-Term Evaluation (MTE) focuses on assessing the implementation and the extent to which the programme achieved outcomes aligned to the stated objectives. The UNDP is seeking to have a clear understanding of the extent to which outputs to date will contribute to the desired outcome, a reduction in the importation of ODS. The HPMP is a nine (9) year project, it has established benchmarks for disbursements. This mid-point evaluation of the Project will be used to inform all stakeholders on the best strategic and programmatic direction to support the ongoing implementation of the HCFC Phase-Out Management Plan (HPMP). The MTE will involve the review of project background information, project reports and stakeholder interviews. It will seek to assess the outcomes of the first stage of implementation specifically the extent to which key project targets have been met and in instances where they have not been met what factors have impacted on the achievement of targets. A critical output of the MTE will be recommendations which:

- builds on and/or seeks to take corrective steps to ensure that the HPMP remains relevant to the goals of both the GoJ and UNDP;
- seeks to ensure that where necessary there is increased effectiveness and efficiency during the implementation and,
- in the event that the Project has not been gender responsive to date suggest changes which will result in improvements in this area.

The time period covered for this MTE are all activities of the Project since start up, June 2012, through to December 2016. The MTE focuses on the UNDP Components of the HPMP.



### 3. OVERVIEW OF INTERVENTION

The HCFC Phase-Out Management Plan - First Stage Implementation Project (HPMP) is funded by the Government of Jamaica and the Multilateral Fund which is intended to support the reduction of OR controlled use of the Ozone Depleting Substances (ODS), Hydro Chlorofluorocarbons (HCFC) and Chlorofluorocarbons (CFC). The First Stage Implementation sits within an overarching phase out strategy. The HPMP (UNDP Component) has two components which are intended to result in a reduction in the importation of HCFCs, they are:

**I. Component I – Conversion of HCFC Based Foam Production:** Seal Sprayed Solutions (SSS) a Jamaican owned company consumes 97% of HCFC 141b imported into Jamaica, this is an ODS. They use the substance in the manufacturing of foam for roof insulation. Under Component I SSS will receive technical support. The target was to have the firm convert to using a non-ODS technology which would eliminate the consumption of HCFC 141b. Funding was provided to support the conversion to the use of methyl formate to manufacture the foam.

**II. Component II – Technical Support to the Service Industry:** There are four sub-components:

- a. Develop the technical capability of refrigeration service personnel to make a comfortable transition away from HCFC based technologies to ozone friendly technologies with reduced carbon footprints;
- b. Develop national capability to reduce demand for virgin refrigerant through retrofitting and recovery schemes;
- c. Build an understanding of the choice of refrigerants for specific applications and,
- d. Provide the tools and equipment necessary to facilitate the transition.

These elements were to be achieved through a country wide training of RAC technicians in a series of workshops to be delivered by local trainers. The local trainers would have been trained to deliver TT workshops by a combined team of a National Consultant and an International Consultant. Targets were stated in the Project document, and included, the training of a total of 500 RAC technicians in two modules: the first focused on overall good refrigeration practices<sup>1</sup>, the second on recovery and recycling<sup>2</sup>. Training in a third module, a 2 day workshop would be delivered to 200<sup>3</sup> RAC technicians with a focus on the development of retrofit capabilities, for this module participants would also receive equipment.

The Project document stated that these interventions combined with elements implemented by UNEP would have the impact of assisting Jamaica in meeting its first stage implementation goals of freezing consumption at the baseline of 268.24 and subsequently reduce importation by 10% in 2015 and 35 % by 2020.

The HPMP (UNDP Component) is managed by an agency of the Government of Jamaica, the National Environmental Protection Agency (NEPA) and directly by the National Ozone Unit (NOU) within NEPA. A Project Steering Committee, chaired by NEPA with membership from UNDP, PIOJ, and the Ministry of Finance is charged with oversight of the Project. In addition the Project calls for the establishment of a Technical Committee to provide advice to NEPA and the PSC as required during the HPMP implementation.

The Project start date is June 2012 and the end date is 2020. The overall budget for the period is US\$673,900.00 (this is inclusive of US\$95,450 for Component I).

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<sup>1</sup> See Tables 18, 19 and 28 of the Project Document, in all instances which speaks to 500 Technicians Trained In “Good Practices

<sup>2</sup> For the Training in module 2, ‘Recovery and Recycling’, the Project document is not consistent. Table 20 and the text speaks to 400 being trained, however Table 21 and 28 state or imply 500.

<sup>3</sup> Tables 22, 23 and 28 of the Project Document in all instances that 200 technicians would be trained in Retrofitting Capabilities and provided with equipment.

## 4. EVALUATION APPROACH, METHODOLOGY & LIMITATIONS

### 4.1 APPROACH & METHODOLOGY

To support the MTE, the consultant utilized the following data collection/data retrieval methods.

- a. **Structured Interviews with Project Stakeholders** – Guided by the list submitted for the Inception Report the consultant confirmed and held interviews with eleven stakeholders – the Project Manager, PSC members, industry experts, project sponsors – were interviewed. A total of eleven (11) stakeholders were interviewed. The interviews were all done face to face with individuals. Both the UNDP and the PIOJ opted to have their team members interviewed together, where there were differences in their responses these were noted on the instrument. Interviews were done over the period April 4<sup>th</sup> – 20<sup>th</sup>, 2017. See Annex II for the list of persons interviewed. The questions sought to respond to the evaluation criteria and questions as presented in the scope for the MTE. It was not possible to conduct interview with employers as the IP has to date not produced a listing of contact persons. For a full report on the summary of the feedback see Appendix I which includes questions used to guide interviews with stakeholders.
- b. **Beneficiary Satisfaction Survey (BSS)** – The survey was administered to a representative sample of trainees who attended both the ToT and TT Workshops. The methodology is presented below.
  - i. Establishing a Database/Sample Population: The list of names of those attending the workshops has been received from NEPA however information needed to support the sampling process was missing. From April 7<sup>th</sup> – 12<sup>th</sup>, one-hundred and twenty-five (125) of the trainees were contacted by telephone for additional information including, the name of their company, the sector they worked in and their position/job title. Of those called 111 trainees provided the additional information to facilitate updating records. An electronic copy of the database is available.
  - ii. A stratified random sample of 33% of participants who attended both workshops through to December 2016, and for whom there was adequate data was selected. The sample was representative of gender, industry, employment category and training event. Each participant was assigned a unique number and one in every three on the list selected, those with incomplete profile information were not included. Twenty-eight (28) ToT trainees and sixteen (16 TT) trainees were selected.
  - iii. The survey instrument was administered to two persons to test the instrument determine the duration of the interviews.
  - iv. It was anticipated that the interviews would occur outside the traditional work hours. An initial call was made to set the best time for the interview, Most interviews were conducted and completed between the hours of 6:00 pm – 9:00 pm Tuesday to Thursday and on Saturdays. The interviews were conducted over the period April 13<sup>th</sup> – 22<sup>nd</sup>.
  - v. There were a total of 2 female trainees. The MTE Consultant located one of the two, and she was interviewed.

Appendix II presents an analysis of the results of the survey. Elements of the report will be used to support responses to the evaluation questions throughout the report. The summary report provides useful information on the profile of the RAC technicians which could also be used in moving forward with the implementation of the Project.

- c. **Beneficiary Focus Groups** – Two focus groups discussions (FGD) were scheduled. The sessions were intended to provide qualitative support to the findings from the Beneficiary Satisfaction Survey results. It was extremely difficult to confirm attendance for the FGD especially for rural Jamaica. One FGD was

held for those trained within the KMA. Despite a confirmation of 14 persons, 6 attended. On the morning of the planned session three responded to the reminder text message indicating unavailability, and two advised on the evening that they were unable to make the session. Attendees at the FGD included persons attending ToT and TT Workshops, employed and self-employed, supervisors and a trainer from an accredited training institution. The feedback at the session enriched the quantitative data collected. See Annex IV for the guide used to conduct the FGD and Appendix III for the summary of the FGD.

- iv. **Review of project records** – Both the IP and the UNDP provided project background documents. The Consultant undertook extensive review of minutes of the Project Steering Committee, the Quarterly Project Reports, Annual Work Plan and the Annual Progress Report. In addition the Consultant reviewed reports submitted on training events, expenditure on training.

There was some delay in receiving additional documents from the IP in a timely manner and it became clear that access to Project files would be the more efficient approach. The Project Manager initially indicated that it would be best for the Consultant to continue to request documents needed. Following a meeting with the Director of Planning, Projects, Evaluation and Research there was agreement that the Consultant could visit the NEPA offices and review all files related to the Project. This was done on May 10<sup>th</sup>, 2017.

## 4.2 LIMITATIONS

The Consultant presented risk to the evaluation exercise and recommended mitigation measures. See Table I below inclusive of the outcomes.

**Table 1: Data Collection Risk**

RISK	MITIGATION	OUTCOME
<b>STAKEHOLDER &amp; BENEFICIARY INTERVIEWS</b>		
While the Project Stakeholders remain the same, the resource in the organisation may no longer be engaged in the project and is therefore no longer available for an interview.	Both UNDP and NEPA have indicated and/or have given contact information for persons no longer with their respective organisations.	Requested access to NEPA files, agreement given by Director on May 2. Review scheduled for May 10.
There is a risk that for interviews with the employers of persons attending training events identifying the best fit person(s) to interview. For example, the HR person may have nominated a staff member to attend but it would be her/his immediate supervisor who will be able to speak to the gains.	Request of NEPA their process and listing to contact and invite trainees.  Use a snowball research approach and request of the first interviewee the name and contact of the best fit person to respond to other questions.	NEPA has not provided a systematic process for recruitment.  Trainees, knew the persons who recommend them, but had no contact information.
Persons who attended either the ToT and/or Technician Training events are not interested and/or unwilling to participate in a telephone interview with an 'unknown' person.	Where persons are employed to an organisation, communicate with the employer and request co-operation. This will be done prior to the first attempt interview.  With a small population, the intention is to interview a 30% sample of persons attending the Training. There will be a replacement to select an alternate in the event after two tries, the person is	With the exception of the Trainees representing training institutions and one private sector firm exception, employers were not aware that their team members attended the Training.  This was effected and the target achieved.

RISK	MITIGATION	OUTCOME
	unwilling/unavailable to do the interview.	
Self-employed persons not able to allocate the time during the traditional work day or work week to be interviewed.	Interviews can and will be scheduled at best available time and it is intended to interview persons outside of the traditional work hours.	Trainees were called and then a set time given for the interviews. Most were done on a Saturday or after 6:00 p.m.
<b>PROJECT RECORDS</b>		
Initial reports indicate that there may be inadequate information on trainees to provide a profile.	The survey instruments for trainees are designed to collect base information including age group, years as a practitioner and educational levels.	Prior to interviews calls were made to 100 Trainees and the data base built out.
Data – work experience, employment status, and employer information - collected, at training events over the period are inconsistent.	Use contact information to do calls and fill in data gaps. Survey instruments will collect this data for those included in the sample	Calls made to 125 trainees to update the database. 111 provided the MTE Consultant with updated information
There are no pre- and post- assessment reports to determine the effectiveness of the training.	The Consultant will rely on the data collected from the interviews of trainees during the MTE.	Done
Institutional Memory and/or inadequate maintenance of Project records	Interviews with former project team leaders.	The review of project files in addition to reviewing project documents and best efforts to triangulate.

Not captured in the evaluation risk matrix but which had an impact on the MTE process are the following:

- ✓ **Significant Deviation from Project Logic Framework:** Despite having a Project logic framework there was extensive deviation from the Project document that it presented challenges to assess progress towards stated project outcomes.
- ✓ **Adequacy of Project Reports:** Project reports – PSC Minutes, Quarterly Reports, Annual Work Plans and Annual Reports – presented alternate and in some instances conflicting updates on project elements. This required extensive review by the MTE Consultant to ensure that incorrect assessments were not made. Several follow up calls and e-mails were sent to the IP for clarification.
- ✓ **Quality of Reports:** Reports submitted by the NC and the PSC minutes required an alternate structure to be facilitate review, in the absence of this additional time was required.
- ✓ **Performance Data:** There was no master data base on performance of the project, and project beneficiaries, specifically as it related to Component II.

The above increased the level of effort for the assignment.

## 5. EVALUATION FINDINGS & ANALYSIS & ANALYSIS

This section presents the findings and analysis of the MTE.

### 5.1 PROJECT RELEVANCE

Relevance within this context is defined as the extent to which the project was and remains aligned to the agenda of the Government of Jamaica and the UNDP. In addition, relevance is defined by whether the design and project activities respond to the problem they are intended to address and reach the targeted beneficiaries.

#### 5.1.1 Project Alignment to Country and Project Sponsor Policy Agendas

Assessment was made using the following indicators:

- Aligned to a significant extent with CP and GoJ Policy;
- Some alignment with CP and GoJ Policy;
- There is limited alignment with CP and GoJ Policy and,
- There is no alignment with CP and GoJ Policy

**Finding(s):** The Project is aligned to a significant extent with both the UNDP and the GoJ Agenda

- a) The Project is aligned to the UNDP Country Plan: Specifically UNDAF Outcome #3 Ensuring Environmental Security, Reduction of Poverty and Increased Social Inclusion of the Poor.
- b) The Project is aligned to the GoJ 2030 Vision; Specifically Goal #4 – Jamaica has a Healthy Natural Environment and Output #14, Hazard Risk Reduction & Adaptation to Climate Change
- c) The Project is aligned to GoJ commitment to International Agreements: Jamaica has ratified the Vienna Convention for the Protection of the Ozone Layer and The Montreal Protocol on Substances that Deplete the Ozone Layer

#### 5.1.2 Project Relevance to Problem

Assessment was made using the following scale:

- Project Outputs aligned with issues raised in HPMP background research;
- The majority of the issues raised in the HPMP background research are addressed;
- Some of the issues raised in the HPMP background research are addressed and,
- There is no relationship of the Project Outputs to the issues raised in the HPMP background research

**Finding(s):** Some of the issues raised in the HPMP background research are addressed

- a) Component I is aligned with the issue of foam production using HCFC 141b which was presented in the background document. The Project targeted technical support to SSS which used 97% of the product imported in 2010. The expected outcome was intended to have SSS make a shift to a non ODS product.
- b) Component II places emphasis on “technology support to the service industry by developing the capacity of this sector to transition away from HCFCs”<sup>4</sup> the Project document further stated “this would *support the reduction of the importation of HCFCs*”. There is no conclusive evidence that training technicians would have been the best mechanism to impact change. Stakeholders had reservations. Technicians, while welcoming training

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<sup>4</sup> Section 3.2.2.1 of HMPM Project Document, March 2011 as per approved in the 64<sup>th</sup> EXCOM July 2011

underscored that change is usually made in the industry because it is mandatory and/or as a result of global trends including shifts to more energy efficient equipment.

Fifty percent (50%) of the stakeholders in response to the question *“In your opinion the design of the Project supports addressing some of the policy and programming challenges facing implementation of the HPMP?”* indicated that the design did not address the issues. Several supported their score by providing comments, some of which are listed below.

- *“Project size was too small to reach target number of technicians”*
- *“The project document did not speak to minimum requirements for the training”*
- *“There was no element in the design, nor steps to implementation which would allow for a follow on of a series of training events lead by multiple local trainers.”*

Supporting the view that the design did not completely address the issues, the National Consultant indicated that training of technicians would support their ability to be effective, however it would be the employers who would need to be convinced to make a change, adding that changes are made around energy consumption and not around environmental issues. Further some technicians did not see how they would be able to effect change and this is most effectively stated by a participant who attended a ToT Workshop:

*“I don’t think it is possible for me to go to my supervisor or employer and share with them all that I have learnt at the workshop with the intention of them limiting their use of a particular refrigerant despite its hazardous content. Especially since they were not the ones who sent me to the workshop”.*

**- Technician who attended Training of Trainers Workshop**

**c) Targets Reflected the Findings of the HCFC 2010 Background Research:** The targets established for the HPMP were guided by the 2010 HPMP background research which was prepared to define the trends in importation of HCFC and define a baseline. The project baseline importation level was set at 268.25 and a target to reduce this level of importation of HCFCs by 35% by 2020 was set with a mid-point reduction of 10% by 2015. The Project document stated *“.....meeting the HCFC phase out targets will be more challenging”.*

### **5.1.3 Project Relevance to Industry Stakeholders**

Assessment was made using the following scale:

- Project is fully aligned with the concerns and state of the industry;
- There is significant alignment with the industry concerns and current reality;
- The majority of the concerns and issues are addressed to some degree;
- There is limited alignment between the concerns of the industry and the Project and,
- There is no alignment of the Project with the concerns and issues of the industry.

**Finding(s):** The majority of the concerns and issues of Industry Stakeholders are addressed to some degree. Specifically:

**a) Phase out of use of HCFC 141b:** The conversion by SSS to a non-ODS product was indeed one of the key interventions on which the Project’s overarching strategy was based. SSS was aware of the need to phase out the use ODS products in their enterprise. The Project and funds of US\$95,450 allowed the firm to ‘fast forward’ the phase-out of the firm’s reliance on HCFC 141b. Without these funds the 97% reduction in importation could not have been achieved within the time frame.

**b) Workshops:** Practitioners in the RAC Industry who attended either/both the Training of Trainers (ToT) or Technicians’ Training (TT), a total of 144 trainees, confirm that the technical information provided was well timed as there has been no training offered at this level for ‘some time’. There was an issue with the limited training in retrofitting provided for those who attended the 1-Day Workshop. Participants at the 3-Day workshop expressed complete satisfaction. The sentiment shared by one trainee at a ToT Workshop reflected the opinion of many:

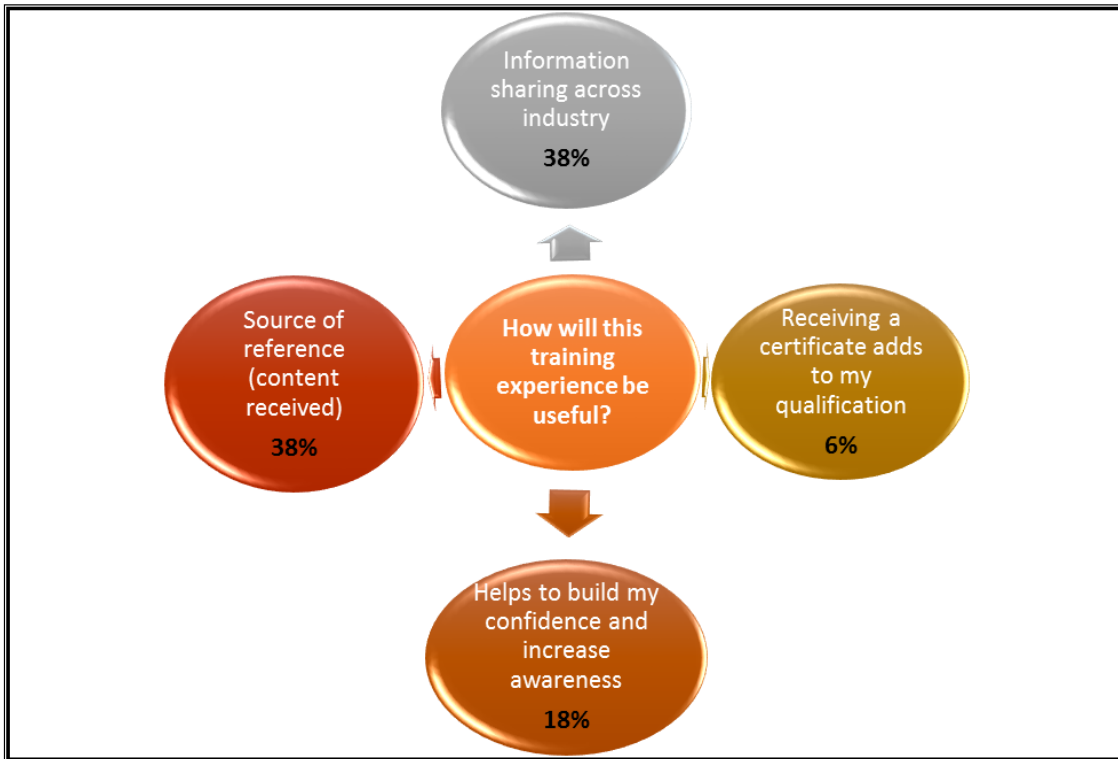
*“These topics were of interest to me because I learnt some valuable information such as how to retrofit a system, the importance of recovering the refrigerant and the best systems to use”.*

**- Technician who participated in a Training of Technician Workshop**

**c) Training of Technicians**

The results of the ‘Training of Technicians’ survey highlighted the relevance of the training experience. Trainees indicated that they are willing to attend courses if offered in the future and that this training experience will be useful in their work space. Trainees were asked to elaborate on the usefulness of the training and the results are presented in Figure I below.

**Figure 1: Trainees Feedback on Workshops (n=44)**



**d) Umbrella Organisation:** JARVA is the umbrella organization for the RAC industry. It was engaged during the research process which supported the design of the HMPM. However in recent years the organization has been dormant. Industry stakeholders consistently cited the need for the ‘rebuilding’ of the JARVA, and expressed concern that this was not included in the project. At several PSC Meetings this need was raised. The National Consultant raised the need to revitalize JARVA in several of his reports and during his verbal reporting to the PSC. This was a fundamental flaw in the design, a revitalized JARVA could have supported Project

objectives including 'targeted' recruitment for training events, general knowledge sharing and sustainability beyond the Project.

## 5.2 PROJECT EFFECTIVENESS

Project effectiveness is reviewed to determine the extent to which the project is on track to achieve the expected outcomes. The effectiveness of the Project was reviewed around four elements:

- i. Progress towards achieving outputs and impact on desired outcomes
- ii. Project Management, the role of stakeholders in the review and decision making process
- iii. Project Monitoring and Evaluation of Outputs
- iv. The delivery of training and the extent to which it is effective in achieving desired project outcomes

### 5.2.1 Progress Achieving Outputs and Impact on Outcomes

Assessment of project progress was made using the traffic light system:

- Green Light: Outputs at time of MTE are consistent with project targets
- Yellow Light: Some of the targets set have been met as a result of the project outputs;
- Red Light: There has been negligible or no progress towards targets.

**Finding(s):** With the exception of Component I, Project outputs receive a 'red light' in the traffic light scoring system. Table 2, and Table 3 present Progress towards Project Results and Project towards Outcome Analysis.

### Analysis – Project Impact

- a) **Project Component 1:** The successful implementation of this Component resulted in the desired outcome, negligible importation of an ODS. SSS also expressed their gratitude to the Project and felt that where issues existed they were speedily resolved.
- b) **Project Component II:** The importation of HCFCs in 2015 stood at 53.17 Mt well below the 241.41 Mt target for 2015. Of note in 2014 importation stood at 43.167 Mt, there was however no target set for 2014. The significant reduction in importation of HCFCs would imply that not only has the progress towards the project result been met as a result of the project but that it has been surpassed. However in interviews with industry experts they make clear that reductions in the importation of HCFC R22 were observed from as early as 2013. The Project Manager also reported this at the 2014 PSC Meeting. It is therefore not feasible to attribute the reductions to any outputs from the Project.

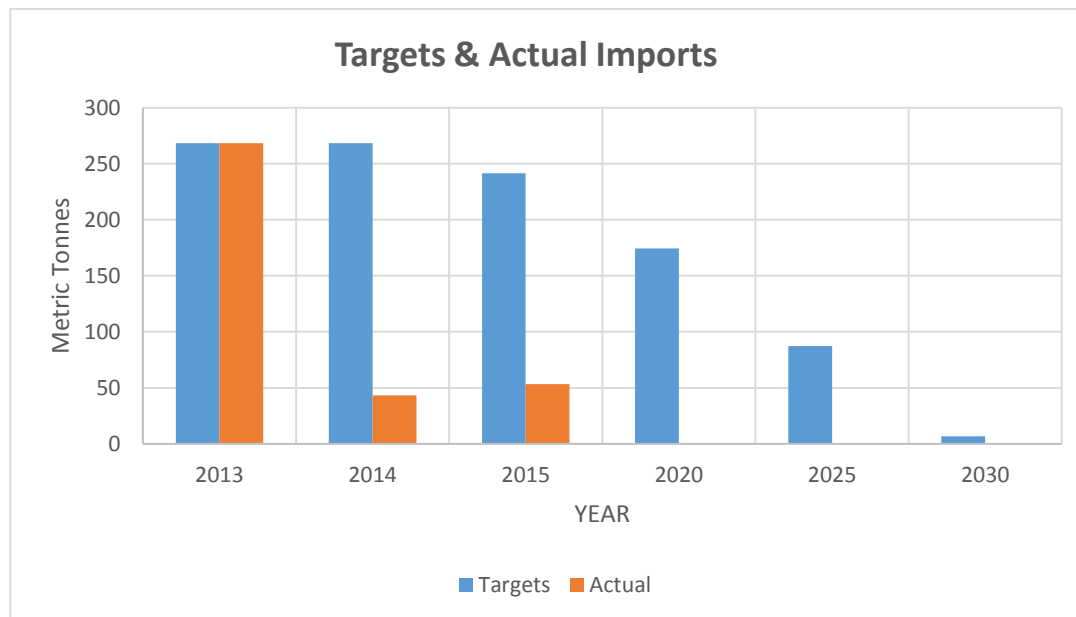
The build out of a team of Local Trainers and subsequent training of technicians was intended to achieve the project target of 10% reduction in the importation of HCFCs. However the timeline of delivery of training and the numbers trained does not allow this shift to be accredited in any significant way to the Project. Nineteen (19) persons trained as trainers in 2013 and a further 47 trained in 2014 there can be little correlation between the significant reduction in importation which is recorded in 2013 and subsequent years and the project's training outputs.



Three (3) industry experts including the consultant who led in preparing the 2014 and 2015 Importation of HCFCs Reports underscored that there was a significant shift in the RAC industry since the Project was designed. Specifically with the increased reliance on the inverter system, the industry was no longer focused on retrofitting units which required the HCFC R22 refrigerants. The inverter system uses HFC 410A. Participants of the FGD confirmed this position.

Figure 2 indicates the baseline as at 2013 – 2030. While there was not a stated target for 2014, the actual import levels for 2014 are reported in added to same for 2015.

**Figure 2: Targets and Actual Importation of HCFCs**



Sources: HPMP Project Plan and 2014 and 2015 Importation of HCFC Refrigerants Reports, prepared by Dr. Noel Brown, Submitted to NOU, NEPA

### Analysis - Project Results

a) **Training Manual:** A critical output would have been the development of a manual and accompanying tools which would be used by Local Trainers to conduct country wide ongoing TT. The Power Point presentation prepared by the NC, should not be considered adequate as a Training Manual, the PSC did however sign off on the PPP as a manual. The PPP content does not take into consideration the varying learning styles of adult learners, nor does it acknowledge the reality that some 30% of the technicians in the industry have not completed formal training in RAC and will need alternative tools to grasp some of the theoretical elements of the PPP. It is noted that the National Consultant stated the issue of the varying levels of persons attending training, however there is no evidence that adjustments were made to recruitment and or delivery.

b) **Training of Trainers:** A total of 97 practitioners were trained as trainers. However, 75% of those who attended ToT Workshops were not aware that they were expected to be trainers, the remaining 25% were participants from established training institutions. There was a follow on question, “*have you conducted any training since attending the ToT Workshop?*” 86% confirmed they had not. Those indicating that they have conducted training, were affiliated to training institutions such as the Caribbean Maritime Institute, HEART Trust/NTA, University of Technology and Northern Caribbean University. Of those who had not conducted any

training, 88% indicated that they were not aware they were to conduct training and the remaining 12% indicated that they were of the opinion that the National Consultant would be doing the training island wide.

**c) Training of Technicians:** Since inception of the Project through to the MTE a total of 65 technicians were have been trained at two TT Workshops. Guided by overall Project targets<sup>5</sup>, 277 technicians should have been trained in Module 1; 222 in Module 2, with an additional 111 or a subset of participants form Module 1 and 2 should have participate in the 2-Day Module 3 Workshop. An estimated 35 workshops should have been delivered at the project mid-point.

The Project had indicated a total of 4 days for all three modules to be delivered The TT was delivered in one day and the Consultant was advised that all three modules were presented. Trainees are however clear on the best model to deliver the material. Participants in the FGD who attended the 1-Day TT made it clear that the greatest negative to the training was that far too much was presented in one day around the three subjects. One participant stated *'I felt they were skipping parts to get to the end'*. The consensus from the FGD participants was that the Technician Training should be

*"..... like the Kingston a Five (5) day workshop this would be the ideal arrangement to share the volume of information that was presented. It does not have to be consecutive days but at least one day of every week over a 5 week period."*

**- Technician who attended a 1-Day Technician Training Workshop**

The sampling process for the BSS was deliberate to ensure that 25% of those technicians who attended both the ToT and TT were included. Once they had completed the established survey instrument there was a follow-on probing and the common theme for all was that the material was the same in both cases, but just more condensed, two volunteered the additional comment indicating that had they not gone to the 3-Day Workshop they would have been "lost" at the 1-Day session.

**d) Communication & Public Awareness:** The Project allows for communication with direct beneficiaries, inviting technicians to participate in training workshops and indirect beneficiaries to promote the overall GoJ commitment to phasing out HCFCs. For each training module there is an amount of US\$2,500 set aside for communication. There was no expenditure on a broad based promotion of the training opportunities. The IP and records of the PSC Minutes and the APR indicate that an advertorial was developed, the PSC minutes indicates that there was increased interest and calls following the airing of the advertorial, however there is no indication of the level of enquiries it is therefore not possible to determine effectiveness.

**e) Recruitment & Engagement of RAC Practitioners:** There are an estimated 1000-1200<sup>6</sup> RAC technicians, the target for the project was to provide at a minimum 1-Day workshops for 500 technicians, at the midpoint a total of 144 persons attended workshops. The IPs files indicate modest efforts via electronic mail to recruit persons for workshops. There was however no active and broad based recruitment of participants through traditional media.

The former President of JARVA indicated that the ideal option for recruitment would have been to post a notice at the thirteen (13) locations where all technicians source supplies. During the FGD one participant indicated that he was at the venue for the Workshop servicing a client's units and saw his colleagues, enquired why there were there and was surprised that he had not heard about it, he asked and was allowed to join the Workshop. When asked why there was no active recruitment for the Training given that there is a budget allocation to

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<sup>5</sup> The Project document indicates that 500 Technicians would be trained for Module 1; 400 for Module 2 and 200 for Module 3. These figures were used to estimate targets for the first five years of the Project.

<sup>6</sup> In stakeholder interviews, two industry experts independently estimated that the numbers in the industry was estimated at 1,100 and another indicated 1,000. For purposes of the MTE the lower of the two estimates is used.

support this, the IP indicated that it would then result in the training events being oversubscribed. This could have been resolved by establishing criteria, an application and screening process.

The IP for the most part relied on the NC to recruit for potential participants. Undoubtedly the NC an established practitioner in the RAC industry would have a network from which to draw a pool of trainees, however a more broad based recruitment process should have been implemented.

**Table 2: Progress towards Project Results**

- Mid-term targets were not formally established in the Project document. For the purposes of the MTE the average number for each has been used to establish a mid-term target.
- Each Impact or Result will be scored using the 'Traffic Light Scoring System'.

Project Impact & Results	Indicators	Baseline Data <sup>7</sup>	Mid Term Target	Midterm Assessment	Achievement Rating <sup>8</sup>	Justification for Rating
<b>IMPACT</b>	Conversion of HCFC based Foam Production	33 Mt HCFC	32 Mt HCFC <sup>9</sup>	32 Mt HCFC		PSC Minutes, APR and interviews with SSS confirm the full conversion away from use of ODS to ozone friendly products.
	Improved servicing, recovery practices, and retrofitting of equipment.	286.70 HCFC	241.12 Mt HCFC	53.17 Mt HCFC <sup>10</sup>		Report prepared by Dr. Brown indicates that the mid-term target has been surpassed. A shift in the RAC industry to alternative equipment that does not require the use of HCFC prompted reduction. Stated by 3 technical experts interviewed.
<b>RESULTS</b>  <b>Technical Support to the RAC Industry</b>	# of Trainers Trained	0	Not stated			75% of those attending ToT did not know that they were to conduct training following participation in the ToT. 2 trained at ToT have been used as technical assistance for further ToT and TT Workshops. Training is conducted by the NT
	# of Technicians trained Good Refrigeration Practices	0	277	65		a. # attending Technician Training, includes 18 attended ToT events. b. This is less than 1/3 of the estimated number to be trained. c. This was intended to be a stand-alone 1 Day training but was collapsed and was an element of a 1 Day and 2 other modules also delivered.
	# of Technicians trained in Recovery & Recycling	0	222	65		a. # attending Technician Training, includes 18 attended ToT events. b. This is less than 1/3 of the estimated number to be trained. c. This was intended to be a stand-alone 1 Day training but was collapsed and was an element of a 1 Day and 2 other modules also delivered.
	# of Technicians with knowledge of retrofitting	0	111	65		a. # attending Technician Training, includes 18 attended ToT events. b. This is less just over 50% of the estimated number to be trained. c. This was intended to be a stand-alone 2 Day training but was collapsed and was an element of a 1 Day and 2 other modules also delivered.
	# of Technicians equipped with specialized equipment	0	56	37		Distribution of equipment began in 2016. The consultant reviewed receipts signed by individuals confirming same. Trainees confirmed when interviewed.

<sup>7</sup> Taken from the Project Document, March 2011

<sup>8</sup> The progress towards each unique indicator listed is guided by target set in the Project Document and/or subsequent Project reports from the IP and AWP

<sup>9</sup> The company targeted used 32.0 Mt of HCFC 141b, therefore the assumed mid project target is stated as 1.0 Mt HCFC

<sup>10</sup> Extracted from the Importation Report, 2015, prepared by Dr. Noel Brown.

**Table 3: Progress towards Outcomes Analysis**

Project Strategy		Baseline <sup>11</sup> Data	Level reported in APR/QR	Mid Term Target	Midterm Level & Assessment	Achievement Rating	Justification for Rating
<b>INTERVENTIONS</b>	<b>Indicator and Means of Verification</b>						
<b>Intervention 1 Conversion of Foam Manufacturing Enterprise</b>	1.2 Procurement of Alternative Technology	0	1	1	1	Green	Equipment procured and provided to SSS primary importer of HCFC 141b
	1.3 Conversion to non-ODs technology	33.0 Mt of HCFC 141b	32.0 Mt of HCFC 141b	32.0 Mt of HCFC 141b	32.0 Mt of HCFC 141b	Green	Project Reports and Elite Interview with senior management of SSS confirm achievement.
<b>Intervention 2 Activity 1 &amp; 3 Training of Trainers (ToT) &amp; Training of Technicians</b>	2.1 ToT Manual Developed	0	1	1	0	Yellow	PPP developed but not an effective training tool. There is no integration of the PPP done by International Consultant
	2.2 Modules – Recovery, Reuse, Retrofitting of Equipment	0	1	1	0	Yellow	Some elements contained in PPP used for workshops, but does not exist as a stand-alone module
	2.3 # of Trainers Trained	0	97	Not stated	7	Red	97 persons attend one of the six events. 7, are trainers at training institutions indicated that they expected to use the information to in sessions with their students.
	2.4 # of Training events for Technicians	0	2	35 <sup>12</sup>	2	Red	Significantly below the target. Also Training event compressed into a 1 Day training event.
	2.5 # of Technicians Trained – Good Refrigeration Practices	0	277	139	65	Red	
	2.6 # of Technicians Trained – Recovery & Recycling	0	222	139	65	Red	
	2.7 # of Technicians in Retrofit Capabilities Workshops & received Equipment	0	111	56	65 (37)	Red	Participants indicate that this area was covered at length in the ToT Workshops, however in the TT Workshops this was not the case. (18 persons attended both, 4 were included in survey)
<b>Intervention 2 Activity 1 Communication &amp; Public Awareness</b>	2.8 # Radio Campaigns	0	1	Not stated	1	Green	PSC minutes indicate that advertorial was produced & aired
	2.9 Production & Placement of Advertorial	0	1	Not stated	1	Green	While this activity was complete, there is no data to assess the effectiveness.
	2.10 Promotion of HPMP on Social Media Platforms	0				Yellow	Information on the NOU link on the NEPA Website, there are no reports on visits. Further there was no public promotion of the Workshops.

<sup>11</sup> Extracted from Project Documents and estimated at an average annual amount guided by overall targets and length of Project

<sup>12</sup> A total of 70 workshops, 50 1-Day workshops and 20 2-Day workshops are stipulated in the Project document.

## 5.2.2 Project Management

Project Governance and Management (PGM) is the responsibility of the IP, the PSC and the Project Sponsors (UNDP). Their roles in the process vary but each is critical to ensure that a Project remains on track. Effectiveness of project oversight was assessed using the following scale:

- The PGM Team provided effective and responsive management of the Project
- The PGM Team provided adequate management and oversight of the Project
- The PGM Team provided minimal management oversight and of the Project
- The PGM Team provided inadequate management oversight of the Project

**Finding(s):** There was inadequate management and oversight of the Project.

### Analysis of Project Oversight and Management

There appears to have been minimal or no oversight and management to ensure the achievement of the stated Project outcomes for Component II. The implementation of the sub-components underscore this and are presented below.

**a) ToT Workshops:** The Project stated, the number of ToT events to be held, 1 5-Day ToT Workshop. However 5 additional ToT events were held, and these were signed off by the PSC and included in the AWP. There was no indication that the first cohort of Trainers were unavailable to conduct Technicians' Training and/or a justification for a total of five additional sessions. While there is sign off at the PSC and acceptance of Quarterly Reports there is no evidence of what guided the decision of roll out a series of 3 Day ToT sessions following the 5-Day ToT Workshop. Quarterly Reports stated targets for Trainers in both 2014 and 2015 at 47 and 87 respectively<sup>13</sup>. APR 2014 and 2015 report on the number trained as trainers and indicates a target to have 102 Trainers there is no indication from other Project records what informed this target and further how would 102 Trainers be deployed.

See Table 4 for a summary of the variance between Project stated targets and actual through to December 2016.

**Table 4: Variance between Project Planned and Actual Training Days and Trainees**

Workshop Focus	Training Days		Trainees	
	Stated in Project	Actual	Projected	Actual
Training of Trainers	5	20	ns	97
<b>Total for ToT</b>	<b>5</b>	<b>20</b>	<b>ns</b>	<b>97</b>
Training in Good Refrigeration Practice	1	0.34	277 <sup>14</sup>	65
Training in Recovery & Recycling	1	0.33	277 <sup>15</sup>	65
Retrofit Capabilities	2	0.33	111	65
<b>Total for Technicians Training</b>	<b>4x2=8</b>	<b>1x2=2</b>		<b>65</b>

<sup>13</sup> See QPRs April-June 2014 and April-June 2015.

<sup>14</sup> Annual Targets calculated by dividing overall numbers for project duration equally.

<sup>15</sup> Note that there is inconsistency in the number to be trained as presented in the Project Document. Table 20 speaks to 400 Technicians to be trained. However both Table 21 and Table 28 (Consolidated Budget and Cash Flow) speaks to 500 for this module. There are other references to 400 Technicians to be trained in Module 2 the MTE uses the number 500.

**b) Technicians' Training:** There is no evidence to support the decision or action by the IP with indication of sign off by the PSC, to collapse the Technician Training to a 1-Day event despite the approach sated in the Project document. Further the UNPD (Panama) resource made clear the number of days for the delivery of each of the 3 modules for training technicians. This was clarified by a flow chart<sup>16</sup> which according the project records was circulated at the July 2013 PSC Meeting. The National Consultant agreed with this and added that "the training of technicians in modules would be more effective"<sup>17</sup>. Despite this the Technicians' Training workshops were delivered in 'bulk' and as 1 Day learning events. A review of project documents provided little clarification, the findings are set out below:

The July 2013 PSC appears to have accepted a significant change to the Project approach by signing off on an extension of the National Trainers contract to allow him to undertake TT events. The UNDP representative at the PSC approved this change indicating that *"it was always envisioned that there would have been training of technicians in 2014"*. While it is correct that TT workshops are a sub-component of the Project, however the Project document makes clear that these were to be delivered by persons trained at the 5-Day ToT event. The minutes indicate that there was approval to this change. Subsequent AWP's, and Quarterly Reports reinforced this approach setting targets and reporting on achievements for this new direction.

At the PSC April 2014 meeting, the National Consultant advised the PSC that ***"some independent technicians are unable to lose three days of work and not be paid"***. He went on to suggest that the TT should be conducted in one day and not 3 days<sup>18</sup>. At the May 2015 PSC Meeting the National Consultant stated that ***"while it was easy to have training for three consecutive days for the technicians, it is not possible to do the same for Trainers"***.<sup>19</sup> He concluded that ToT sessions should be for 1 day and the material be condensed. It is apparent that despite Component II being a major element of the HPMP (UNDP Component) there remained 'confusion' on intent, scope and best method for delivery:

- The statement at the April 2014 PSC meeting, contradicts the entire premise of the Project, which is to provide 4 days of training for the completion of 3 modules. With 200 high level technicians attending the 2 day retrofitting module, 500 attending Module 1 and 400 attending Module 2.
- The statement to move the TT to 1 day contradicts the decision that delivering on technical areas in one day would not result in the gains anticipated by the project as was clearly stated at the July 2013 PSC Meeting.
- The statements above made by the National Consultant, and given at PSC Meetings are inconsistent. The National Consultant's report of November 2014 made clear a recommendation to move to 1-Day training for technicians, however at the meeting of the PSC of May 2015 the National Consultant makes an alternate recommendation, namely that it is the ToT which should be a 1-Day Workshop.
- It is not consistent with good practice to conduct a ToT in 1-Day for these Trainers to then go on to deliver a 3-Day workshop.

There is no indication in the minutes of the May 2015 meeting that there was a discussion or a decision on the recommendations from the National Consultant's November 2014 report and/or his recommendations presented and recorded in the minutes of the May 2015 PSC meeting.

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<sup>16</sup> The Consultant will make a follow-up request for a copy of the flow chart presented by UNDP Regional Office

<sup>17</sup> See minutes of PSC Meeting, July 2013 pp 2 of 9.

<sup>18</sup> See Minutes of PSC, April 29, 2014, pp 7 of 9

<sup>19</sup> See Minutes of PSC, May 7, 2015, pp 4 of 9

c) **Management of National Consultant (NC) Contract:** There is no evidence of a review of the work of the NC and the outputs from the ToT events which would have prompted the decision to do follow on contracts with the consultant hired to develop the manual and be a member of the team conducting the 5-Day Training of Trainers Workshop. During the interview with the Project Manager she indicated that a rationale for the follow on was that there was no “*negative feedback to his training*”, this is perhaps guided by the response of participants to a 10 question workshop evaluation. In addition the MTE Consultant was provided with one such request for a follow on, the correspondence of December 2015 supports the request stating that “[*name of consultant*]...is most suitable for the position based on his deliverables to date and well as his knowledge, experience and expertise gained of the local refrigeration and air-conditioning sectors”. This is the assessment that supported the follow-on contract.

d) **Project Governance:** The evidence indicates that there was limited oversight and governance by the PSC. Evidence which points to less than adequate supervision includes the following:

**PSC Meetings:** The PSC was scheduled to meet quarterly. However from the records, with the exception of the Project start year this was not adhered to. The most significant deviation from the requirement is for the period April 2014 through to April 2015, the PSC did not meet for a twelve month period. There is no indication why meetings were not held, the IP indicated that when key decisions were required documents were circulated. In the event that this is so, these decisions would have to be recorded at subsequent PSC Meeting. Of a total of 18 PSC meetings which should have been held during the review period there were only 9 PSC Meetings. See Table 5 for the schedule of PSC Meetings held and attendance by member agencies.

**Table 5: Dates & Attendance at PSC Meetings**

Project Steering Committee Meeting Date	# of Agencies In Attendance	Representative Absent	Action Sheet Generated
2012, September 25	3	2 (MoF and MWLECC/MD) <sup>20</sup>	No
2012 December 7	4	1 (MoF)	No
2013 April 10	4	1 (MoF)	No
2013 July 11	5	-	No
2014 April 29	4	1 (MoF)	No
2015 May 7	4	1 (MoF)	Yes
2015 November 26	3	2 (MoF and MWLECC/MD)	Yes
2016			Yes

While the lack of scheduled meetings would have had a clear impact on effectiveness and efficiency during Project implementation it should be noted that

- Sign off on the initial TOR was done at the September 2012 PSC
- Quarterly reports were presented at the PSC meetings.
- The support for the recommendation from the IP to have a follow on contract with the NC to conduct additional ToT events was supported at PSC Meeting

With the exception of the Ministry of Finance all other PSC members were represented at the meetings which were held.

➤ **PSC Action Sheet:** An Action List was not always generated. A read of the minutes of the PSC indicate that some members did have probing questions and did table suggestions and or make clear

<sup>20</sup> The MoF and MWLECC/EMD were added as PSC members following the inaugural meeting of the PSC



recommendations. On review of the discussions at the meetings held there are action items which are not recorded in the action sheet.

- **Project Reports & PSC Minutes:** There are noticeable inconsistencies within the minutes of the PSC meeting and between documents submitted to and signed off by the UNDP. It was for example difficult to reconcile numbers trained as reported in the QPR, the APR and recommended in the AWP. Despite the differences there is no evidence that these were addressed or corrected at subsequent meetings.
- **Request for Action:** There was no action on the part of the IP to the recommendation tabled at the PSC meeting to put in place some element of monitoring for training done by trainees who attended a ToT. The IP confirmed that they would review the budget. However, a critical element of a project of this nature it would be role of the IP to implement a basic monitoring system for these ‘trainers’. These trainers were expected to schedule training events, there was a budget ostensibly to pay for Local trainers out of pocket expenses in addition to venue and consumables. Therefore it is within the scope of the IP to ensure that there is some level of tracking.
- **Inappropriate Contract Extension Discussion:** The decision to divert from the Project design and, through a follow on contract, utilize a National Consultant was taken at a PSC, while the NC was in attendance. This was done without an assessment of the training and or the implications for effectiveness and efficiency. Both actions are inappropriate but there was no explanation given for why this was done.
- **Project Documents with Different Targets:** The AWP and ARPs are driven by the UNDP with support from the IP, the documents present alternative targets and activities outside the scope of the Project, it is unclear why the UNDP signed off on these changes and in fact reinforced them.

### 5.2.3 Effective Monitoring & Evaluation of Project

The following scale was used to assess the extent to which there was effective monitoring and evaluation of the Project:

- M&E indicators were established, appropriate and clear to support effective project monitoring;
- Some M&E Indicators were established, they were somewhat appropriate, and allowed for some level of monitoring;
- The M&E indicators were inadequate and did not allow for effective monitoring and evaluation of the project.

**Finding(s):** There were some M&E indicators and if tracked would allow for some level of monitoring and evaluation of the Project. The IP established no system of tracking any of the Project outputs and determining if they were aligned to Project targets.

#### Analysis

a) **Monitoring and Evaluation Indicators:** The following were not established in the M&E framework for the Project:

**Training of Trainers:** There were no targets set in the Project document for the number of trainers to be trained in the Project document. The IP did not seek to establish one and or be guided by earlier projects such as the CFC Phase out Programme. The PSC did not question the number to be trained as trainers.

**Monitoring Trainers:** There was no monitoring system to review the number of trainees who would go on to conduct training events for their peers.

**Monitoring of Trainees:** As the project was intended to build technical capacity of technicians to support the reduction of HCFCs through improved knowledge of good practice, knowledge of recycling and retrofitting the Project should have had targets to track changes in importation/use of assigned quota based on persons trained.

**b) Established M&E Indicators:** In areas where there were M&E Indicators there is no indication that there was an established reporting system which would update the PSC. The evidence is that Annual Progress Reports and Annual Work Plans for the project were not driven by the Project document but by the interpretation by the IP and/or the PSC of the Project. An example of this, the AWP for 2014, Action 7-12 are items which support the roll out of three additional ToT events in 2014, despite a project document which spoke to one 5-Day ToT event, which was executed in October 2013. In the QPRs the IP reported on results but not in relation to initial Project targets.

➤ **Importation of HCFC:** The project established a target - reducing the importation of HCFC from a baseline of 268.24 Mt to 241.12 Mt in 2015, a 10% reduction. The primary stated outcome of this project is to support achieving a 35% reduction of the importation by 2020 to 174.36 Mt. The 2014 and 2015 Importation reports indicate that importation levels stood at 43.16 Mt and 53.17 Mt for respective years. Mention was made at the PSC April 2014 meeting of reduction in importation in 2013, “[Project Manager] reported that in 2013, Jamaica imported HCFCs way below the baseline which means the companies are complying”.<sup>21</sup> An actual importation level nor a copy of the report was not tabled, nor were there any questions or feedback from the PSC.

The 2014 and 2015 Importation Reports were submitted to the Project Manager, they were completed by a consultant under contract for the UNEP component of the Phase out of HCFCs. During the interview with the Project Manager she indicated that she had not shared the reports with the PSC. In addition the Consultant in reviewing all PSC minutes, AWP and APRs saw no evidence that the significant changes had been officially tabled and there was need to review project targets.

➤ **Building Retrofit Capabilities of Technicians:** The Project sated target was that 200 technicians employed to the 37 large service agencies and/or more active technicians should be invited to attend a 2-Day Workshop on how to retrofit HCFC based equipment to ozone friendly refrigerants. There is no indication of any reporting to the PSC Board on the status of this activity and or recommendations on changes to this target. The Project reports, BSS and FGD all indicate the following:

- That the 2 day module was collapsed into the 1-Day TT.
- That the PSC interpreted this activity as the preparation of a Retrofit Plan and included this in the National Consultant’s contract. See Appendix IV for an extended discussions on this.

➤ **Training of Technicians by Local Trainers:** While the Project document did not establish a system to track the trainees who attended the ToT workshops, at the July 2013 PSC meeting the membership requested that a mechanism for monitoring the training being conducted by persons who attended the ToT should be introduced. There is no evidence that this was actioned, however NEPA had indicated that there could be a review of the budget to include the monitoring suggested. Subsequent PSC minutes do not indicate that this was explored and presented for a decision by the PSC.

➤ **Pre & Post Training Assessments:** Despite the inclusion of this in the work plan for the NC pre and post assessments were not conducted for the workshops delivered through to December 2016. The NC indicated that while there was an end of workshop assessment logistics did not allow for a pre-assessment. This meant that there was no tool to objectively assess the extent to which participants had increased knowledge based on the content and mode of delivery at the workshops.

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<sup>21</sup> Extracted from Minutes PSC Meeting, 29 April 2014.

- **Post Training Assessments:** These were included in the NCs annual reports but there was no discussion around the levels participants were scoring which would have signaled that i) there was need to review content and delivery of the workshop material and/or ii) there was need for some level of screening for persons attending the ToT events vis a vis the TT events.

### 5.3 PROJECT EFFICIENCY

#### 5.3.1 Use of Project Funds

The use of project funds is assessed using the following scale:

- Project funds spent to date are consistent with the budget and have achieved expected targets;
- Project funds spent to date are consistent with the budget but have not achieved the expected project targets,
- Project funds spent to date have been somewhat consistent with the budget and has resulted in achievement of project targets;
- Project funds have not been spent in accordance with the budget and projects may or may not have been achieved.

**Finding(s):** With the exception of Component I Project funds have not been spent in accordance with the budget and Project targets have not been achieved.

#### Analysis

**Unit Cost of Training:** The Project gave an indicative figure for conducting 25 1-Day workshops inclusive of consumables and promotion material to target potential trainees, US\$97,500.00,<sup>22</sup> or US\$195 per trainee for the Good Practice Module. Four modules delivered in three workshops should have been delivered, the average unit cost per trainee per day was projected at US\$170.83. See Table 6.

**Table 6: Project Budget for Training<sup>23</sup>**

	Local Trainers	Venue for Training	Material	Promotion of Events	Budget for Training	# to be Trained	Unit Cost/day for Training
<b>Good Practice</b>	\$ 75,000	\$ 20,000	\$ -	\$ 2,500	\$ 97,500	500	\$ 195.00
<b>Recycling</b>	\$ 25,000	\$ 25,000	\$ 12,500		\$ 62,500	500	\$ 125.00
<b>Retrofit (2days)</b>	\$ 30,000	\$ 30,000	\$ 15,000	\$ 2,000	\$ 77,000	200	\$ 192.50

The current strategy used by the IP and approved by the PSC resulted in a cost of US\$433.61 per trainee through to 2016<sup>24</sup>. See Appendix IV for an extended review of training cost. The increased unit cost for the delivery of training will have implications for achieving the targets in the Project. There is no indication that the PSC/IP/UNPD reviewed the implications for this change in unit cost.

<sup>22</sup> See Table No. 19 of Project document.

<sup>23</sup> Data taken from Project Document, see specifically Table Nos 19, 21 and 23.

<sup>24</sup> Developed from data on fees and venue cost for TT events, and adjusted to allow for an assumption that all 18 Trainees would have attended the St. Mary TT event had it not been for inclement weather.

### 5.3.2 Use of Project Resources to Increase Efficiency

- There have been consistent recommendations presented with a view to increasing both efficiency and project impact;
- There have been some (intermittent) recommendations presented aimed at increasing efficiency and impact;
- There have been some changes however they have had an adverse effect on efficiency and,
- There is no evidence that efforts were made to present changes which were likely to improve efficiencies and or impact of the Project.

**Finding(s):** There have been changes in the use of the financial resources of the Project however these changes have not increased the efficiency nor have they resulted in supporting the desired output of the number of RAC practitioners trained.

a) **Training of Trainers:** The Project design allowed for the Training of Trainers (ToT), while the number of persons to be trained as trainers was not specified, the IP along with the PSC could have made an informed decision on the number of persons to be trained and the minimum requirements to be considered eligible to attend the ToT event. In addition the IP should have ensured that there was indeed a Trainers Manual along with a toolkit for an effective ToT event. Without these decisions to frame the ToT, the process morphed from an initial training event with 17<sup>25</sup> persons in attendance, to an additional five 3-Day ToT events. Ninety-seven (97) persons ostensibly trained to be Trainers however 86% of those attending the ToT events indicate they have not conducted any training following their participation in the ToT workshop. Of this percentage 88% stated that they were not aware that they should conduct training while the latter explained that they thought the National Trainer was the person responsible for telling them who, when and where to conduct training.

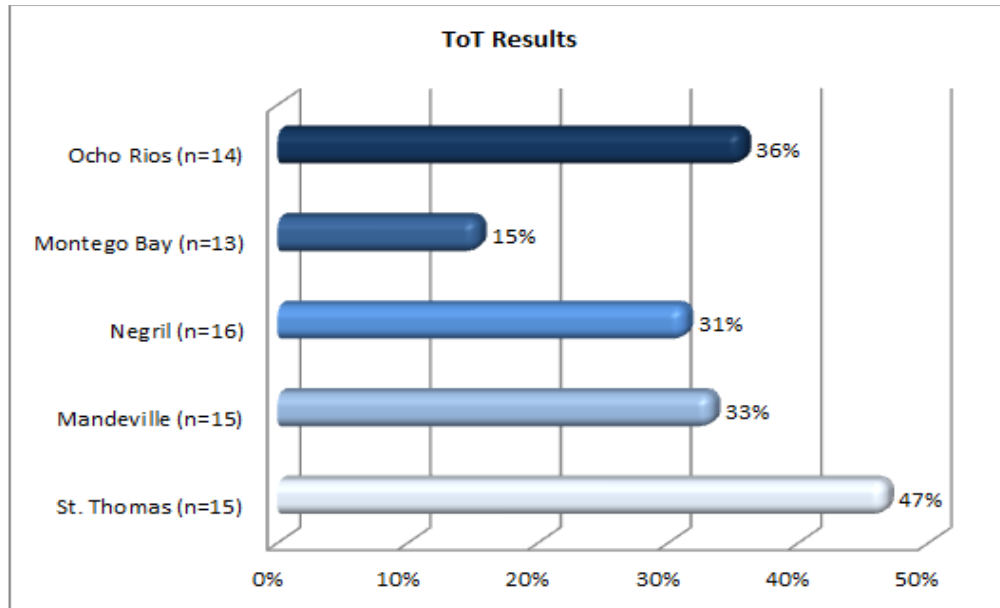
The MTE could find no evidence of any pre-screening for participants for the ToT events to determine suitability to be trainers. An indicator of the capacity of those attending the ToT workshop to execute follow on TT workshops could be their performance at the end of each ToT workshop. A review of the assessment scores indicate that an average of 30% of those attending the five 3 Day ToT workshops scored below 50%. This implies that just under a third of those who attended the ToT workshops may not have been best fit to deliver the technical content at a TT event.

During the FGD participants who had attended a ToT workshop noted that some of the participants struggled to understand the presentation but were good at the demonstration, they added that material presented needed to be more 'user-friendly'.

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<sup>25</sup> While the register indicates 22 persons in attendance, five persons attended only 1 day of the five day event and are therefore considered 'not attending'. Two of these persons were Lab Technicians at UTech the site of the 5 Day Training event.

**Figure 3: ToT Participants at 3 Day Workshops Scoring below 50% on Assessment**



c) **Technician Training (TT):** The decision to resort to the delivery of training by one resource, a National Consultant, and its implications have already been discussed. Utilizing a National Consultant to conduct the TT was an inefficient use of project resources. With one exception stakeholders interviewed concluded that .....

*“There have been delays in training, primarily because the reports were late; there was a dependency on one person only”.*

**- Project Stakeholder**

The interviewees are of the opinion that the actual use of one National Trainer was not an efficient way of sharing the knowledge.

In addition the decision of utilizing the National Consultant as the primary recruiter for participants, goes outside the Project scope and limits a broad based outreach to potential persons to attend the workshops.

**5.3.4 Project Risk Matrix**

The following scale was used to assess the extent to which the IP/PSC used the Project risk log to support the implementation of the Project.

- There is a robust risk monitoring process and the risk log is utilized to support the implementation of the Project;
- There is indication that occasionally the risk matrix is referenced;
- There is minimal use of the risk matrix to manage the implementation of the Project;
- The risk matrix is not used as a tool to manage the project.

**Finding(s):** There has been minimal use of the risk matrix to manage the implementation of the Project

At the September 2012 PSC meeting the UNDP representative advised that the Risk Log should be developed and be consistently reviewed by the PSC. At the following meeting the Risk Log was presented and the PSC noted that there was no analysis of possible risk linked to the ToT. The July- September 2013 QPR indicates

that the Risk Log had been submitted but this was not seen by the MTE Consultant. Subsequent Quarterly Project Reports from the July – September 2014 QPR through to the July – September 2016 QPR the Risk Log was an element of the QPR. There was no risk to the project identified in the QPR October – December 2015 and QPR July – September 2016.

The elements identified – timeliness of reimbursements to SSS and the threat to the execution of the training if venue and required equipment were not procured - could be considered a partial list of the risk the Project was and could experience. It may have been appropriate to consider other elements related to the Training activity, including risk to recruitment for optimum class size to ensure a realistic training unit cost; the extent to which there is diversity among the technicians and impact this would have on training; the willingness and/ability of those trained as trainers to execute TT workshops; inability to meet targets for TT sessions and numbers to be trained as specified in the Project document.

## **5.4 PROJECT SUSTAINABILITY**

### **5.4.1 Reducing Importation of ODS**

SSS has confirmed that with the conversion of their foam manufacturing process away from HCFC 141b there would be no economical reason to revert to using this product.

### **5.4.2 Local Trainers**

A team of Local Trainers would allow for ongoing delivery of the three modules both within the project duration and after the end of the Project. The following scale was used to assess if this has been achieved:

- All participants to the ToT were clear on their role post the training;
- The majority of the participants were clear on their role post the training event;
- A few of the participants were clear on their role post the training event and,
- The participants had no indication they were required to conduct any training post the workshop.

**Finding(s):** Only a 25% ToT trainees understood that they were to conduct training following the ToT Workshops. Further none were engaged as Trainers. One was engaged as a Technical Assistant to support the NC delivery of training sessions.

#### **Analysis**

As discussed earlier 75% of those attending ToT workshops had no knowledge that they were expected to conduct training of technicians following their attendance at the ToT Workshop.

### **5.4.3 Tracking Local Trainers & Technicians**

- There is a robust ongoing tracking of Trainees of the ToT and TT;
- There is an update on the majority of the ToT trainees and their activities;
- There is a monitoring of some of the ToT trainees and,
- There is no monitoring of any trainees.

**Finding(s):** There is no monitoring of trainees from the ToT or TT Workshops

#### **Analysis**

The IP indicates that there is no mechanism for tracking participants to either the ToT or the Technician Training workshops. This despite the recommendation at an early PSC meeting that this should be undertaken.

## 5.5 PROJECT IMPACT

The Project is at its mid-point with an additional four years left. The activities for Component I achieve the desired outcome, a 97% reduction in the importation of HCFC 14b. This will clearly have the desired impact on the environment.

The second component was intended to trigger and support the reduction of the importation of HCFCs. As indicated earlier this reduction has occurred outside of the Project output the training of trainers and expected cascading out of TT workshops for 500 technicians. While the training may not directly impact the project stated outcomes for a reduction in the importation of HCFCs there are possible gains to the RAC sector and to the environment. Ninety-three percent (93%) of those attending one of the six ToT workshops indicating that they have been using the knowledge gained there will be an impact on the environment. With 43% indicating that they no longer vent gases in the atmosphere they now recover this has implications for the environment. Another 19% indicating that they handle refrigerants properly, indicates increased safety practise in addition to a benefit for the environment. See Figure 4.

Of the trainees who participated in the FGD two had received equipment. One technician indicated that he took his equipment back to his organisation and was able to convince his supervisor to purchase additional equipment. The MTE Consultant was not able to confirm same. The second indicated that he received the equipment but had no need for it, he is in fact a technical assistant at a tertiary institutions which trains persons for the RAC industry.

**Figure 4: Impact of Training on Participants (n=44)**



## 5.6 GENDER RESPONSIVENESS

- There is no indication that gender was a consideration in the design and/or execution of this project;
- There is some indication that gender was a consideration in the design and/or the execution of this project and,
- There is strong evidence that there was a focus on ensuring during design and implementation that the project was gender responsive.

**Finding(s):** There is no indication that gender was a consideration in the design and/or execution of the Project.

### Analysis

The review report which set the stage for the HPMP indicated that there were some 1200 technicians, but there was no attempt to disaggregate by gender (if known at all). The Project document makes no reference to the need to make best efforts to ensure inclusion of women as Trainers and or that there is outreach to invite women to attend the TT workshops.



While it is understood that the UNDP Policy on Gender inclusion was introduced in 2012 and therefore it would not be appropriate to evaluate the design for responsiveness the Project implementation began in 2012, the UNDP could have, through the PSC.

There could have made a concerted effort to recruit women for both workshops as there is evidence that while this is a predominantly male industry there are female technicians. The former President of JARVA during his interview indicated that there are indeed few women in the industry, but was clear that they do exist. He confirmed that the greater challenge is not with their technical and analytical skills but the heavy lifting required which may keep women out of the RAC industry. However he believes that more women will be an asset in the industry especially using their strong analytical skills, especially as cryogenics technicians. Supporting the position of JARVA was the feedback from the CMI who attended the 5 Day ToT and also the Focus Group session, he stated during the FGD that each year more and more women are enrolled in the technical courses. Another participant at the focus group noted that he has four interns at his organization and the young lady has outperformed the young men which has led him to consider offering her a permanent position. He was very impressed with her performance in all areas.

## 6. LESSONS, RECOMMENDATIONS & GOOD PRACTICES

### 6.1 LESSONS

- a. A Project which requires a mix of inputs and resulting outputs to achieve desired outcomes should define the extent to which a Component will realistically contribute to achieving the desired outcome. Inferred but stated clearly is that there were other elements to be considered including the adjustments to the policy and legislative framework, however the target of reduction was ascribed in the UNDP Component of the HPMP
- b. The PSC is a critical component of any project. The PSC members did not fully understand the technical elements of the project to ensure accountability for the dated deliverables impacted severely on the project achieving the targets for Component II. The project manager should have brought to the attention of the PSC that the 10% target of reduction in HCFCs by 2015 was achieved in advance and a decision was required on whether or not there should have been changes to project implementation and/or set a new target.
- c. Changes to the mode of implementation should only be effected following a thorough analysis to cost and through output indicators. Neither of these were done prior to the decision to have a sole resource implement all TT events.
- d. There must be a decision on all project targets prior to the start of a project. In the event that these are not stated in the project document it is the responsibility of the IP along with the PSC to establish these and make recommendations to the Project Sponsor. The IP and PSC are accountable for the achievement of targets and it is in their best interest to ensure that these are confirmed prior to start.
- e. Conducting ToT guided by good practice including the second phase of the ToT model –role playing - and build this into the 5-Day ToT event. It will have three results important to the next step:
  - Participants will have an opportunity to do simulation demonstrations and become more comfortable in their role as trainers and not as learners
  - The IP would be in a position to assess the skills and determine which of the Participants are best suited to be Local Trainers for the TT Workshops
  - There can be little doubt in the minds of the participants that they are attending a ToT event and their next step will be to roll out TT events.

### 6.2 GOOD PRACTICES

Engaging with a private sector entity and establishing the protocols for the engagement through a series of MOUs increases the accountability of both partners.

### 6.3 RECOMMENDATIONS

- a. There is clearly a demand for ongoing training and upgrading of RAC practitioners which makes the key component of this Project relevant, however the delivery of short term workshops should be guided by a review of the landscape. The IP could with an appropriate facilitator:
  - Conduct a series of focus group sessions to determine the critical training needs of the target population, best times of the week and day to conduct training and if there is any scope for shared cost of training and/or training material.
  - Have a working session with major employers, many who would have already shifted to alternative technology which resulted in a reduction in the importation levels for HCFCs, determine what they see as training needs for technicians and their willingness to be partners in the process.

- Hold a conversation with major technical training facilities who offer short and/or long term training for the RAC industry. Confirm their understanding of training demands.

This will leave the Project with a better understanding of both demand and supply, the IP along with the Technical Committee can review the outputs from these consultations and make recommendations for any adjustments to the current content, delivery mode and scheduling.

- b. Develop an M&E Framework, inclusive of all reports which must be reviewed by the PSC at its quarterly meetings, establish the criteria for consideration for change to any element of the redesigned programme.
- c. In the event that the content developed and currently being used for workshops will be utilized for follow on training contract a resource with appropriate skills to ensure that the material takes into consideration the learning style of adult learners in the Jamaica context, this is primarily tactile and/or visual. The end result is likely to be two sets of Workshop Kits.
- d. Assess the model implemented by Canada and UNEP for training of technicians, there was an initial training of 25 local technicians, they were the corps of trainers and were affiliated to technical training facilities. In the second stage they went on to train 127 technicians by conducting 8 3-Day workshops with certificates being issued through HEART Trust/NTA VTDI. This is likely the model which guided the design of Component II of the HPMP.
- e. Identify 15 master trainers and provide a 'refresher' including techniques on how to deliver training to adult learners. Provide a stipend to meet out of pocket cost, which is consistent with the current design of the Project. Develop a toolkit for the trainers to allow for similarity in data collected at each training site, to include - Pre-screening applications which are submitted at the time of application and guided a decision on the Workshop the applicant should attend; Pre and Post Test Tools; Standard attendance register and a template for preparing post training reports for submission
- f. Utilize island wide training facilities of HEART Trust/ National Tool Engineering Institute (NTEI), National Caribbean University, Caribbean Maritime Institute and similar Organisations as the hub for scheduled training over a period of time which ensures maximum attendance.
- g. To increase the participation of female practitioners in the RAC industry participating in workshops, there must be a specific and targeted campaign.

## 7. CONCLUSIONS

- 1) Global trends and changes in technology made the intent of the Project redundant. Notwithstanding that the introduction of short learning events for RAC technicians presented an opportunity to 'retrofit' the technicians, providing them with knowledge of emerging good practices, techniques for recycling, options for disposal and a guide and supporting equipment for retrofitting. This output cannot be ignored.
- 2) The Project suffered from an ineffective Project Steering Committee and an Implementing Partner which took action without due diligence. The PSC did not meet as scheduled, did not ask the 'hard' questions of the IP regarding performance, targets and changes being presented.
- 3) The IP was not held accountable for Project targets. The PSC and the UNDP consistently signed off on changes without any information on the source of changes, and/or without noting that the changes could impact negatively on Project outputs.
- 4) The IP appeared to leave the National Consultant to lead the implementation and direction of the Project rather than execute under the direction of the IP. The NC made recommendations for changes without presenting evidence, and in one significant instance the recommendations not only conflicted with the project but also with his own recommendations.
- 5) There were a series of changes in Project scope initiated without any evidence of justification and/or without an understanding of the implications of the changes. The Project that is currently being implemented has little to align it to the original Project document. Training modules intended for a duration of up to 4 weeks were delivered in one day, there was no effort to empower ToT participants to become trainers, the Project has moved to a model where the unit cost for training far outstrips the budgeted amount.
- 6) There was inadequate monitoring and assessment during implementation. A review of performance scores of trainees attending the ToT and TT could have been a red flag, indicating that either the content and/or the participants attending some of the workshops and would have prompted a review. While not placing the responsibility for the performance of participants solely on the feet of the National Consultant, prior to a second and then a third roll over and extension of his contract to deliver additional ToT events and then subsequent TT workshops there needed to have been some performance assessment.
- 7) Overall the absence of the use of ongoing structured monitoring by the IP endangered the possible outcomes of the Project and there are likely to have been missed opportunities to present options to the Project Sponsor through the PSC.

## Annex 1:

### LOCAL EVALUATION CONSULTANT FOR 'HCFC Phase-out Management Plan – First Stage implementation' PROJECT (Mid-Term EVALUATION)

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<b>Location :</b>	Kingston, Jamaica
<b>Application Deadline :</b>	
<b>Type of Contract :</b>	Individual Contract
<b>Post Level :</b>	National Consultant
<b>Languages Required :</b>	English
<b>Starting Date :</b> (date when the selected candidate is expected to start)	5 December 2016
<b>Duration of Initial Contract :</b>	30 working days (over 2 months)

#### 1. Background and Context

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Jamaica has an operational licensing system to monitor and control ODS (Ozone Depleting Substances). The Montreal Protocol (Trade in Ozone Depleting Controlled Substances) Order, 2014, under the Trade Act (1955) was promulgated. It not only regulates the import and export of Hydro-chlorofluorocarbons (HCFCs) but also other Ozone Depleting Substances.

As a result of surveys conducted during the preparation of the HCFC Phase-out Management Plan (HPMP), it was found that the main HCFCs consumed in the country are: HCFC-22 used for servicing refrigeration and air-conditioning systems; and HCFC-141b used as a blowing agent in the manufacturing of foam products. Based on the consumption data reported under Article 7 for 2009 and 2010 (18.2 ODP t and 14.4 ODP t, respectively), the HCFC baseline for compliance has been established at 16.3 ODP t. About 67 per cent of the total consumption of HCFC-22 is used for servicing domestic and split air-conditioning systems and 27 per cent for servicing commercial and industrial refrigeration equipment. The remaining 6 per cent is for servicing other HCFC-based refrigeration equipment including chillers and containers.

In total, 33 Mt (3.6 ODP t) of HCFC-141b are used by only one enterprise, Seal Sprayed Solutions, for the production of sprayed polyurethane foam used in roofing systems, general insulation and water proofing and sealing. The amount of chemicals used by the enterprise varies considerably depending on customer demand. No other HCFC-141b-based foam manufacturing enterprise was identified in the country.

The preparation of the Hydro-chlorofluorocarbons Phase Out Management Plan (HPMP) was supported by a wide consultation process that included the public and private sector. All consumption except HCFC-141b is in the refrigeration and air conditioning service sector. Considering the data between 2008 and 2010, inclusive, there is an increase in consumption of about 11% between 2008 and 2010. However, it was decided to use an annual consumption growth of 6% to determine future demand.

The 2009 and 2010 consumption data submitted to the Ozone Secretariat (the Secretariat for the Vienna Convention for the Protection of the Ozone Layer and for the Montreal Protocol on Substances that Deplete the Ozone Layer) were used to extrapolate demand up to 2020. In doing this analysis, only consumption in

the servicing sector was subjected to annual escalation because the HCFC 141b based foam manufacturing enterprise will be converted to use methyl formate thereby removing its consumption permanently. The baseline consumption of HCFC-141b was then added to the refrigeration baseline to provide an accurate starting point for determining future consumption reductions. The Government of Jamaica has decided to follow a staged approach to meeting its HCFC phase out obligations. In this first implementation stage, Jamaica pursued its HCFC phase out commitments in line with Decision XIX/6 up to 2020, at which time it will re-assess its readiness to accelerate the phase out based on the successes of this stage as well as on the state of the technology options which may become available by that time. The overall strategy is based on four key interventions:

**(a) Conversion of the HCFC-141b based Foam Manufacturing Enterprise to use methyl formate, an ODS alternative and climate friendly alternative**

Seal Sprayed Solutions Limited consumed 33.0 Mt of HCFC 141b in foam manufacturing in both 2009 and 2010, thereby adding 3.63 ODP t to the baseline. Conversion of this operation to a non-ODS technology will therefore permanently eliminate this consumption and move the country that much towards meeting its phase out targets. To this end, a conversion project to transform the manufacturing process to use methyl formate was prepared and included in the HPMP which was approved by the ExCom at its 64<sup>th</sup> meeting.

**(b) Technology Support to the Refrigeration and Air Conditioning (RAC) Servicing Sector**

Whereas technical support to enhance the skills of service personnel to transition away from HCFC technologies is necessary to achieve compliance with the Protocol's HCFC phase out schedule, it will not be sufficient to achieve this goal. Other supportive measures proposed under this first stage include further strengthening of the policy, legal and institutional framework to support the phase out goals. RAC is the largest consumer of HCFCs in Jamaica. As such, achievement of the target consumption reductions will depend heavily on the ability of this sector to reduce consumption levels. In this regard, this HPMP places emphasis on technology support to the service industry by developing the capacity of this sector to transition away from HCFCs to other, particularly Hydrocarbon refrigerants through a cluster of initiatives.

**(c) Policy, Legal and Institutional Framework**

The goal of this intervention is to create an enabling environment to support the phase out of Annex C Group 1 HCFCs in accordance with the agreed phase out schedule. As noted earlier, the regulatory framework established to support the phase out of CFCs was effective in enabling the country to phase out the use of these chemicals ahead of the Montreal Protocol's schedule. Already the importation of HCFCs requires an import permit issued by the Ministry of Health. Although necessary, this provision alone is not sufficient to create an effective legal framework to monitor and control HCFC consumption. The Trade (Montreal Protocol) (Trade in Ozone Depleting Controlled Substances) Order, 2014 under the Trade Act, 1955 not only regulates the import and export of Hydro-chlorofluorocarbons (HCFCs) but also other Ozone Depleting Substances such as CFCs.

In addition to the legal framework, the policy environment is also being strengthened to support the phase out effort. Under the supervision of the Bureau of Standards Jamaica labelling Committee and its attendant Labelling-ozone depleting substances sub-committee, 'JS 1: Part 29: 2015- Jamaican Standard Specification

for the Labelling of Commodities Part 29: Labelling of products and equipment containing or manufactured using ozone depleting substances and/or their substitutes' was gazetted. The Standard for Transportation, Handling and Storage of Refrigerants was drafted by the Refrigerants Technical Committee convened by the Bureaux of Standards, Jamaica (BSJ). Market based incentives/disincentives will be pursued to encourage importation of non- ODS and procedures developed for monitoring consumption (use) of controlled substances on Jamaican flagged ships.

UNDP Jamaica and National Environment and Planning Agency (NEPA) developed a project titled, 'HCFC Phase-out Management Plan – First Stage implementation' with the following objectives:

- a. Development of the technical capability of refrigeration service personnel to comfortably make the transition away from HCFC based technologies to ozone friendly technologies with reduced carbon footprints;
- b. Develop national capability to reduce demand for virgin refrigerant through retrofitting and recovery schemes;
- c. Build understanding of the choice of refrigerants for specific applications; and
- d. Provide the tools and equipment necessary to facilitate the transition.

UNDP is seeking to hire a qualified and experienced consultant to conduct the evaluation of the '*HCFC Phase-out Management Plan – First Stage implementation*' project.

## 2. Evaluation Purpose

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This HCFC Phase-out Management Plan – First Stage Implementation' evaluation will assess the efficiency and effectiveness of the project in achieving its intended results. It will also assess the relevance and sustainability of outputs as contributions to medium term and longer term outcomes<sup>26</sup>. This evaluation will determine:

- The level and quality of capacity building for the refrigeration and air-conditioning service sector (technicians and trainers)
- Whether the project achieved its objectives and whether outcomes were relevant, efficient, effective, sustainable, and what are the early signs of impact. If there is a variance in actual and target, the reasons for such difference
- The quality of implementation and management arrangements of the project and make recommendations/suggestions for implementation of the next phase of the project based on lessons learned and/or best practices.

### a. Evaluation Scope and Objectives

The mid-term evaluation will focus on the project period (July 2011- March 2016) and should embody a strong results-based orientation. The scope of the evaluation includes the main areas of the project and has the following criteria:

- a. *Relevance*: The Consultant will assess the degree to which the project takes into account the local context and development problems. The evaluation will also review the extent to which the project design was logical and coherent, and it will assess the link between activities and expected results, and between results and objectives to be achieved.

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<sup>26</sup> 2012-2017 Country Programme Document, Outcome 7

- b. *Effectiveness*: The evaluation will assess the extent to which the Project's objectives have been achieved, compared to the overall project purpose. In evaluating effectiveness it is useful to consider: 1) if the planning activities were consistent with the overall objectives and project purpose; 2) the analysis of principal factors influencing the achievement or non-achievement of the objectives.
- c. *Efficiency*: This area measures how economically resources and inputs (such as funds, expertise and time) are converted to results and the cost effectiveness of the efforts, whether the results achieved are worth the monies spent. A project is efficient when it uses resources appropriately and economically to produce the desired outputs.
- d. *Sustainability*: The evaluation will assess the project capacity to produce and to reproduce benefits over time. In evaluating the project sustainability it is useful to consider to what extent intervention benefits may continue even after the project is concluded and the principal factors influencing the achievement or non-achievement of the project's sustainability.
- e. *Impact*: The evaluation will assess any credible evidence of impact effectively achieved/or potentially achieved by the Project in the context of reference.

### **Key questions to be answered by the evaluation**

#### ***Relevance:***

- Are the project outputs relevant to the purpose/objectives of the project intervention?
- How does the project relate to the main objectives, mandates and priorities of the 2012-2016 CPAP?
- Does the project address needs of policy makers, state or/and non-state practitioners active in the field of energy efficiency?
- Does the project respond to key needs of primary/secondary beneficiaries? Does it differ for sexes?
- Were the project indicators relevant to the designed outputs?
- Were the intended results (outputs and outcomes) adequately defined, appropriate and stated in measurable terms, and are the results verifiable?

#### ***Effectiveness***

- To what extent have the expected project objectives/outputs been achieved?
- What were the success factors for the achievement or reasons for non-achievement of project outputs?
- What were the major challenges, opportunities and obstacles encountered by the project generally?
- What are the potential intended and unintended, positive and negative, long term effects of the project on direct beneficiaries?
- What, if any, progress toward the outcomes has been made?

#### ***Efficiency***

- Was project funding spent as planned? Were all activities addressed with the respective budget?
- Did the project M&E systems and practices allow for in-time corrective actions and tracking of the progress towards the expected results (outputs)? (As stated in the document, periodic reviews shall be conducted every quarter to assess the performance of the project and appraise the Quarterly Work Plan (QWP) for the following period. Of importance is also the fact that the management of the project, including all reporting, is in itself an output of the project. The time for the production of quarterly reports is the respective indicator).
- Were project risks identified during project development? Were other risks identified during the course of the project and were mitigation measures implemented?



- Were management arrangements appropriate and to what extent did they support the efficiency of the project? What financial management barriers/challenges were experienced during the project period?
- Are the benefits identified in the evaluation worth the cost?

### ***Sustainability***

- Has a sustainability plan developed? Is it expected to be implemented?
- Are the beneficiaries committed to continuing working towards project objectives after the project ended?
- Are services developed under the project likely to continue, be scaled up or replicated after the project funding ceases?

### ***Evidence of Impact/potential impact***

- Is there any evidence of project impact? If not, does the project have the future potential in impacting the relevant sector(s)? In what ways? How should it be measured?

### ***Gender responsiveness***

- Did the project identify gender issues in the design or implementation phase of the project? How did it deal with these issues?
- Could the project have been more gender-sensitive? In what ways?
- Have the project benefits distributed between men and women disproportionately?

### ***Partnerships***

- Were coordination mechanisms among the relevant partners successfully established?
- What were the opportunities, achievements and/or challenges of the partnerships?

## **b. Methodology**

The project evaluation will be undertaken following the UN evaluation norms and guidelines including the UNDP Handbook on Planning, Monitoring and Evaluation for Development Results and in particular the UNDP project-level evaluation, and the UN Standards and Norms for Evaluations. The overall evaluation approach and the selected methodology should be suitable to the evaluation questions and the feasibility of data collection, given the constraints of time and resources. The evaluation should include an analysis of source of information including desk review as well as interviews with project partners and beneficiaries.

### **3. Evaluation Ethics**

The evaluation should be conducted in accordance with the principles laid out in the UNDP Evaluation Policy (<http://www.undp.org/evaluation>, <http://www.undp.org/evaluation/handbook>) as well as in accordance with the principles outlined in the UNEG 'Ethical Guidelines for Evaluation'<sup>27</sup>. Evaluators must address evaluation ethics and enact safeguards to protect the rights and confidentiality of information providers,

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<sup>27</sup> UNEG, "Ethical Guidelines for Evaluation", June 2008. Available at <http://www.uneval.org/search/index.jsp?q=ethical+guidelines>

provisions to store and maintain security of collected information and protocols to ensure anonymity and confidentiality. The evaluator will remain impartial and will not act as representative of any party throughout the evaluation process. The evaluation process will be managed by UNDP's Monitoring and Evaluation Team and the evaluation reports will undergo the standard evaluation review process.

#### 4. Duties and Responsibilities

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##### **Planning and Implementation Arrangements**

The evaluation should be planned and conducted in close consultation with UNDP Jamaica CO. The evaluation tools and methodology must be also be agreed with the CO. Although the evaluator should be free to discuss all matters relevant to this assignment with the authorities concerned, the evaluator is not authorized to make any commitment on behalf of UNDP. The evaluator reports directly to UNDP Jamaica CO. To the extent possible, the draft report will also be circulated to the relevant stakeholders for review. While considering the comments provided on the draft, the evaluators would use their independent judgment in preparing the final report. The final draft will be an independent and impartial evaluation of the project.

##### **Indicative timeframe for the evaluation process**

The evaluation is expected to start on 21 November 2016 and the expected duration is 30 working days within 2 calendar months. The final work plan will be confirmed by the UNDP M&E/Programme Team.

##### **Evaluation Products (Expected Deliverables)**

Expected deliverables:

1. Evaluation inception report – This report allows the programme unit and the evaluator to have a shared understanding about the evaluation. This report should detail the evaluators' understanding of what is being evaluated and why, showing how each evaluation question will be answered by way of proposed methods, proposed sources of data, and data collection procedures. The inception report should include a proposed schedule of tasks, activities and deliverables.
2. Draft evaluation report that include preliminary findings – the purpose of this report is to demonstrate progress on the assignment and adherence to the TOR and will identify any issues that may need further clarification before completion of the assignment.
3. Power point presentation with main evaluation findings and recommendations - The purpose of this session is to provide opportunity for initial validation and support further elaboration of the evaluators' findings and recommendations. Consultant is responsible for organizing and presenting the findings to stakeholders.
4. Final evaluation report - within a week of receiving the consolidated comments from projects' stakeholders, the Consultant will submit a final document and power point presentation that addresses relevant comments and provides comprehensive reporting on all elements of the assignment.

The Evaluation report should not be longer than 35 pages, excluding the annexes and the executive summary. The report should be developed with respect to the following chapters:

- List of acronyms and abbreviations
- Table of Contents, including list of annexes
- Executive summary (maximum 4 pages)
- Introduction (including evaluation purpose, objectives and scope)
- Description of the Intervention
- Evaluation approach and methodology
- Evaluation findings (including limitations)
- Summary and explanation of findings and interpretations
- Conclusions
- Recommendations, lessons learned and best practices (Recommendations should be related to the specific actions that might be used to improve the efficiency, effectiveness, and impact and management arrangements of similar projects in the future).

In addition, the final report should contain the following annexes:

- Terms of reference for evaluation
- List of persons interviewed
- List of key reference documents
- Any other relevant material

## Outputs and Deliverables

Deliverable	Percentage of Payment	Estimated Duration	Target due date
Deliverable 1: Inception report and work plan	20%	2 day	9 December 2016
Deliverable 2: Draft evaluation report	30%	15 days	27 January 2017
Deliverable 3: Validation session and powerpoint presentation of findings (based on draft report)	20%	2 day	15 February 2017
Deliverable 4: Final evaluation report and presentation	30%	11 days	1 March 2017
<b>Total</b>	<b>100%</b>	<b>30 days</b>	

### 5. Competencies

The consultant should be familiar with and use the results based monitoring approach of UNDP.

- Strong evaluation skills and use of evaluation methodology (in-depth interviews, focus groups, data analysis/synthesis)
- Excellent analytical skills
- Excellent communication and report writing skills
- Understanding of gender/gender mainstreaming

### 6. Required Skills and Experience

#### Academic Qualifications/Education

- University degree in Social Sciences or other related area
- Certificate in Research Methodology including Evaluation, Monitoring & Evaluation, or Results Based Management (RBM) would be an asset

#### Desirable Skills and Experience

- Solid knowledge of Monitoring & Evaluation (evaluation of at least 3 projects)
- Experience in research analysis
- Strong report-writing skills
- Good oral and written communication skills
- Familiarity of UN programming and evaluation principles.
- Experience with national/ project stakeholder engagement using participatory methodologies (including quantitative, qualitative methods)
- Knowledge of energy sector and/or renewable energy issues preferably through country experience in Jamaica and/or Caribbean an asset

## Language skills

- Excellent working knowledge of English

## Application procedure

Qualified and interested candidates are requested to apply no later than 21 November 2016.

Please submit the following to demonstrate your interest and qualifications by explaining why you are the most suitable for the work:

- **Cover letter** explaining why you are the most suitable candidate for the advertised position.
- **Completed P11 form** (Personal History Form) for Service Contracts and Individual Contracts, including past experience in similar projects and contact details of referees. A resume/CV should also be included.
- **Technical Proposal** – should include (a) detailed proposed strategy/methodology, work plan timeline; risks/limitations; consideration of a gender approach for assignment; (b) detailed profile of the expertise of the consultant, especially as it relates to experience in the evaluation; (c) an evaluation matrix that describes what the most appropriate questions and feasible data collection methods are for each of the questions identified in your evaluation plan
- **Financial Proposal** - specifying a total lump sum amount for the tasks specified in this announcement. The financial proposal shall include a breakdown of this lump sum amount (number of anticipated working days and any other costs such as per diems, travel and incidental expenditures in project sites). It should include all potential expenditures to complete work. This financial proposal should include costs to deliver the work plan.

Incomplete applications will not be considered. Please make sure you have provided all requested documents.

UNDP applies a fair and transparent selection process that would take into account both the technical qualification of Individual Consultants as well as their financial proposals. The contract will be awarded to the candidate obtaining the highest combined technical and financial scores. UNDP retains the right to contact references directly. In cases where a large number of applications are received, we are able to inform only the successful candidates about the outcome or status of the selection process.

## Evaluation of Applicants

Individual consultant will be evaluated based on a cumulative analysis taking into consideration the combination of the applicant's qualifications and financial proposal.

The award of the contract will be made to the individual consultant whose offer has been evaluated and determined as:

- Responsive/acceptable
- Having received the highest score out of a predetermined set of weighted technical and final criteria specific to the solicitation

- Only the highest ranked candidates who would be found qualified for the job for the job will be considered for the Financial Evaluation.
1. *Technical Criteria* - 70% of total evaluation – max points: 70
  2. *Financial Criteria* - 30% of total evaluation – max points: 30

**UNDP is committed to achieving workforce diversity in terms of gender, nationality and culture. Individuals from minority groups, indigenous groups and persons with disabilities are equally encouraged to apply. All applications will be treated with the strictest confidence.**

## **Annex I: Key Stakeholders**

It is suggested that the Consultant conduct consultations with representatives of the following persons/institutions:

- Dr. Earle Wilson, University of Technology (Consultant who conducted the training)
- Mr. Derick Goulbourne – Heart/National Tool and Engineering Institute (Technical Assistant at training workshops)
- Ruben Marchand – International Consultant
- Mr. Terence Lyn - Heart/National Tool and Engineering Institute
- Jamaica Air-conditioning, Refrigeration and Ventilation Association
- Project Steering Committee (PSC) members (Planning Institute of Jamaica, UNDP, National Environment and Planning Agency, Ministry of Finance)
- Seal Sprayed Solutions – Vaughn Morris (project beneficiary)
- Jamaica Customs Agency
- Pharmaceutical and Regulatory Affairs Division/Ministry of Health
- Bureau of Standards Jamaica, Training of Trainers and Training of Technicians workshop participants

## **Annex 2. Preliminary List of key documents**

- a) 'HCFC Phase-out Management Plan – First Stage implementation' project document
- b) Annual Work Plan (2012-2016)
- c) Quarterly Work Plan (January – March 2014)
- d) Quarterly Progress Reports (2012-2016)
- e) Annual Progress Report 2012
- f) Annual Progress Report 2013
- g) Annual Progress Report 2014
- h) Annual Progress Report 2015
- i) UNDP Jamaica Country Programme Action Plan 2012-2016
- j) Country Programme Document for Jamaica 2012-2016
- k) Importation of HCFC Refrigerants for the period January 2014 to December 31, 2014 by Noel Brown, 2015
- l) Importation of HCFC Refrigerants for the period January 2015 to December 31, 2015

- m) Final Report on Implementation of Scope of Work including Lessons Learnt and Recommendations with respect to 3-3 Days Train the Trainers Workshops by Earle Wilson, November 2014

Project Board Meeting Minutes, 2012-2015



## Beneficiary Satisfaction Survey (Trainers) - Draft

The purpose of this survey is to gather information from participants who attended the "Training of Trainers" workshop funded by United Development Programme (UNDP) and managed by the National Environmental Protection Agency (NEPA). Only aggregated data for all participants will be reported. The Consultant will comply with all applicable data protection legislation in respect of the information and personal data provided in this form. We are specifically asking you for information for a workshop you attended on \_\_\_\_\_.

### SECTION A: BACKGROUND INFORMATION

First Name: \_\_\_\_\_ Surname: \_\_\_\_\_

Were you employed at the time you attended the training? Yes  No

Are you currently employed? Yes  No

Name of Company & Location: \_\_\_\_\_

Position in your Company: \_\_\_\_\_ Year of Participation: \_\_\_\_\_

What is your Gender? Male  Female

What is your age?

20-24  25-29  30-34  35-39  40-44  45 - 54  55 & Over

How long have you been working in the RAC Industry?

0-1 year  2-5 years  6-10 years  above 10 years

### SECTION B: EDUCATION & TRAINING

I will read a list to indicate what education level you achieved, please indicate all that apply

CSEC/CXC <input type="checkbox"/>	Associate Degree <input type="checkbox"/>	NCTVET Certificate? _____
Bachelor's Degree <input type="checkbox"/>	Certificate/Diploma <input type="checkbox"/>	Other _____
Master's Degree <input type="checkbox"/>	CAPE <input type="checkbox"/>	CMI <input type="checkbox"/>

Are you a certified RAC Technician? Yes  No

Where did you receive Training to become a Technician?

HEART/JAGAS  On the job  Self trained  family member  Other \_\_\_\_\_

How did you become aware of this Training?

Employer  Co-worker  Family  NEPA Representative  Advertisement  Other \_\_\_\_\_

Prior to this Project, were you familiar with the impact the use of “HCFC” has on the environment?

Yes  No

Prior to the Project, were you aware of the NEPA’s Plan for the Phase out of HCFC? Yes  No

Have you ever engaged in any “training of trainers” workshop prior to this project? Yes  No

Have you ever conducted any training with adults prior to this Project? Yes  No

If “yes” how many? 1  2  3  4  5  6  7  over

You attended the workshop to become a trainer for this initiative, you have not done any training before could you say how confident are you to be a trainer for this Project?

Very confident  Confident  Neutral  Not confident  Was not aware I was to conduct Training

Why were you interested in this project? To get a certificate  To find out more about HCFC  To be able to teach others  Other \_\_\_\_\_

## SECTION D: PROJECT EFFECTIVENESS

How many Training sessions were you invited to? 1  2  3

How many Training sessions did you attend? 1  2  3

Why did you attend the training sessions? \_\_\_\_\_

Were the objectives of the training clearly defined? Yes  No

Why do you believe you were selected to attend this Training? Because:

I am an Employer/Supervisor  I was recommended  I work in an environment that uses HCFC

I don’t know  Other \_\_\_\_\_

How would you rate the Training sessions? Excellent  Good  Neutral  Poor  Very Poor

What is the single most important thing you got for the training session you attended?

\_\_\_\_\_  
\_\_\_\_\_

Identify Three (3) topics of interest that were presented at the training and please indicate why was it of interest to you?

Good Practices In Refrigeration  Why? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Environmental Issues & Natural Refrigerant Technology  Why? \_\_\_\_\_

\_\_\_\_\_

Retrofitting of HCFC based Equipment  Why? \_\_\_\_\_

\_\_\_\_\_

Provision of recovery equipment  Why? \_\_\_\_\_

\_\_\_\_\_

General Equipment Retrofits  Why? \_\_\_\_\_

\_\_\_\_\_

Specific Equipment Retrofits  Why? \_\_\_\_\_

**SECTION E: PROJECT EFFICIENCY**

Were you given any equipment during training? Yes  No

What type of equipment did you receive?

Name of Equipment \_\_\_\_\_

Purpose of the Equipment \_\_\_\_\_

\_\_\_\_\_

Did you understand the equipment was for your individual use? Yes  No

Did you understand how to use the equipment? Yes  No

Were you able to use the equipment after training? Yes  No

**SECTION F: PROJECT SUSTAINABILITY**

Did you use any knowledge gained from the training? Yes  No

If yes, how did you use the knowledge that you have gained outside of training? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

How many training sessions on the same area have you conducted since being trained? None  1   
2  3

If yes, please indicate target group(s) for which the training was done? Technicians  Electrical Engineers  Business Owners  Hotel Workers  Anybody  Others \_\_\_\_\_

If yes, approximately how many people have you trained? \_\_\_\_\_

If None, why? Busy  No longer interested  Did not remember  Not sure how to mobilize participants  I thought the National Trainer was the person responsible for telling me who and when to train participants  Other \_\_\_\_\_

Did you receive training materials and content to conduct training? Yes  No

**SECTION G: INTERNAL USE**

Project Code: CD-ME-17-95

Administered By: \_\_\_\_\_ Date Administered: \_\_\_\_\_ Data

Entered By: \_\_\_\_\_ Date of Data Entry: \_\_\_\_\_

## Beneficiary Satisfaction Survey (Technicians) - Draft

The purpose of this survey is to gather information from participants in the “One Day Training of Technicians” workshop funded by United Development Programme (UNDP) with United Nations Environment Programme (UNEP) and managed by the National Environmental Planning Agency (NEPA). Only aggregated data for all participants will be reported. The Consultant will comply with all applicable data protection legislation in respect of the information and personal data provided in this form. We are specifically asking you for information for a workshop you attended on \_\_\_\_\_.

### SECTION A: BACKGROUND INFORMATION

First Name: \_\_\_\_\_ Surname: \_\_\_\_\_

Were you employed at the time you attended the training? Yes  No

Are you currently employed? Yes  No

Name of Company & Location: \_\_\_\_\_

Position in your Company: \_\_\_\_\_ Year of Participation: \_\_\_\_\_

What is your Gender? Male  Female

What is your age?

20-24  25-29  30-34  35-39  40-44  45 - 54  55 & Over

How long have you been working in the RAC Industry?

0-1 year  2-5 years  6-10 years  above 10 years

### SECTION B: EDUCATION & TRAINING

I will read a list to indicate what education level you achieved, please indicate all that apply?

CSEC/ CXC  Associate Degree  NCTVET Certificate? \_\_\_\_\_  
 Bachelor's Degree  Certificate/Diploma  CMI   
 Master's Degree  CAPE

Are you a certified RAC Technician? Yes  No

Where did you receive Training to become a Technician?

HEART/JAGAS  On the job  Self trained  family member  Other \_\_\_\_\_

### SECTION C: PROJECT DESIGN & RELEVANCE

How did you become aware of this Training?

Employer  Co-worker  Family  NEPA Representative  Advertisement  Other \_\_\_\_\_

Were you aware of the dangers of "HCFC" prior to this project? Yes  No

Were you aware of the UNDP's Action Plan for the Phase out of HCFC prior to the project?

Yes  No

Prior to this project, have you ever engaged in any training on refrigeration? Yes  No  When was that training? \_\_\_\_\_

What was your expectation of the Training? Please select one. To have a better understanding of UNDP's Plan  to learn more about HCFC  To learn how to use the equipment to reduce HCFC  I had no expectation  Other \_\_\_\_\_

### SECTION D: PROJECT EFFECTIVENESS

How many Training sessions were you invited to? 1  2  3

How many did you attend? 1  2  3

Why did you attend the training session/s? \_\_\_\_\_

Were you clear on the reason for the training you attended? Yes  No

Why do you believe you were selected to attend this Training? I am a technician  I repair and install AC units  I work in an environment that uses HCFC  I am not sure  I don't know  Other \_\_\_\_\_

How would you rate the Training session you attended? Excellent  Good  Neutral  Poor  Very Poor

What is the single most important thing you got for the training session you attended?

\_\_\_\_\_  
\_\_\_\_\_

Identify Three (3) topics of interest that were presented at the training and please indicate why the training was of interest to you?

Good Practices for Refrigeration Servicing  Why? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Recovery and reuse of Refrigerants  Why? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Retrofitting HCFC based equipment  Why? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Converting AC systems to HC  Why? \_\_\_\_\_

Basic concepts in RAC  Why \_\_\_\_\_

### SECTION E: PROJECT EFFICIENCY

Did your training include Hydrocarbon Service Kits? Yes  No

If yes, name the instruments found in this kit? \_\_\_\_\_

Did you understand how to use the equipment? Yes  No

Were you able to use the equipment after training? Yes  No

How did you use the equipment that you received? \_\_\_\_\_

### SECTION F: PROJECT SUSTAINABILITY

How did you use the knowledge you gained at the training? \_\_\_\_\_

Will this Training experience be useful in your future engagements? Yes  No

If yes, how? \_\_\_\_\_

If No, why not? \_\_\_\_\_

If courses are offered in the future would you wish to attend? Yes  No  Maybe

If there is a cost for future training would you be willing to pay? Yes  No  Maybe

### SECTION G: INTERNAL USE

Project Code: CD-ME-17-95

Administered By: \_\_\_\_\_ Date Administered: \_\_\_\_\_ Data

Entered By: \_\_\_\_\_ Date of Data Entry: \_\_\_\_\_

## Beneficiary Satisfaction Survey (Employers) - Draft

The purpose of this survey is to gather information from employers of participants who attended both the ToT and the One Day Technician Training delivered under the “UNDP HCFC Phase-Out management Plan” Project funded by United Development Programme (UNDP) which is managed by the National Environmental and Protection Agency (NEPA). Only aggregated data for all participants will be reported. The Consultant will comply with all applicable data protection legislation in respect of the information and personal data provided in this form. We are specifically asking you for information for a workshop you attended on

First Name: \_\_\_\_\_ Surname: \_\_\_\_\_

Name of Company & Location: \_\_\_\_\_

Position in the Company: \_\_\_\_\_ Year(s) of Participation: \_\_\_\_\_

What is your Gender? Male  Female

Age: 20-24  25-29  30-34  35-39  40-44  45 - 54  55 & Over

### SECTION B: PROJECT DESIGN & RELEVANCE

How did you become aware of the Training offered to your employee?

Colleague  Co-worker  Family  NEPA Representative  Advertisement  Other \_\_\_\_\_

Were you familiar with the term “HCFC” prior to this project? Yes  No

Are you aware of the HMPM and its objectives Yes  No  Not sure

Were you aware of the NEPA’s Plan for the Phase out of HCFC? Yes  No

Why were you interested in this project?  To find out more about HCFC  Employees could gain training  Plan to Phase Out use of HCFC  Other \_\_\_\_\_

### SECTION C: PROJECT EFFECTIVENESS

Did you understand the role of your organisation in the Project? Yes  No

If yes, please share with me your understanding of your role?

\_\_\_\_\_  
\_\_\_\_\_

Were the objectives of the Project clearly defined? Yes  No



Why do you believe your company was selected to participate in this project? We were recommended by our Association  We were involved in Stakeholder Sessions before the Project was developed  Because of the level of usage of HCFC by my firm  I don't know

Other \_\_\_\_\_

In your estimation please identify three achievements of the Training for your employee(s):

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

Have you reduced your use of HCFC in your organisation? Yes  No

Would you share with us the reasons for this reduction?

1) \_\_\_\_\_

2) \_\_\_\_\_

3) \_\_\_\_\_

## SECTION D: PROJECT EFFICIENCY

Were you aware of the contents of the Training? Yes  No

How many of your employees did you nominate to attend the Training? 1  2  3  4

Who were selected? Technicians  Electrical Engineers  Others \_\_\_\_\_

Why did you send your employees to this training? \_\_\_\_\_

What was your expectation? \_\_\_\_\_

Was an evaluation done to identify your use of HCFC prior to the project? Yes  No  Not sure

If yes, were you notified of the amount? Yes  How much? \_\_\_\_\_ No

**SECTION E: PROJECT SUSTAINABILITY**

Did your employees share with you what they have learnt? Yes  No

Did trained employees share their HCFC knowledge with the other employees? Yes  No

Did the Trainer or Yes  No  any representative from NEPA visit your company to evaluate your use of HCFC after the training? Yes  - Who? \_\_\_\_\_ No  Not sure

Since the project, when purchasing products do you ensure that there is little or no HCFC or CFC contents? (e.g air freshner) Yes  No

Have you taken any measures to reduce you use of HCFC?

If there is further training offered, would you be willing to send your employees? Yes  No

If there is further training would you have your employees attend if there is a cost? Yes  No  Not Sure

**G: INTERNAL USE**

Project Code: CD-ME-17-95

Administered By: \_\_\_\_\_ Date Administered: \_\_\_\_\_ Data


Entered By: \_\_\_\_\_ Date of Data Entry: \_\_\_\_\_

## PLA Guide for Programme Beneficiaries

Below is an outline of the Consultant's Participation Learning and Action (PLA) guide. This process is key in planning and implementing the assessment.

PROCESS	
Implementation Time	Approximately 2 hours
Audience	<ul style="list-style-type: none"> <li>• 10 – 15 Trainers Including:               <ul style="list-style-type: none"> <li>○ A mix of employed and self employed</li> <li>○ A mix of employment by sector</li> <li>○ Mixed male and female (if possible)</li> </ul> </li> </ul>
Preparation Time	30 – 45 minutes
Suggested Preparation Steps	<ul style="list-style-type: none"> <li>• Read through PLA Guide</li> <li>• Gather materials</li> <li>• Make adjustments, if necessary</li> <li>• Assign Moderator and note-taking roles</li> </ul>
Materials	<ul style="list-style-type: none"> <li>• Tape, Recorder, Flip chart paper, cartridge paper, markers</li> </ul>
PLA Tools	<ul style="list-style-type: none"> <li>• Power ball</li> <li>• HCFC Molecule image</li> </ul>

### PART A. INTRODUCTION (10-15 mins)


 **SAY** *“Let me start by welcoming you to this focus group and thanking you for your participation. We are \_\_\_\_\_ and \_\_\_\_\_ from Development Options Limited. We are here to learn about your experience of participating in the HCFC Phase- Phase-Out Project. We are aware that there are two components of the programme that targeted individuals like yourself; the Training of Trainers and/or the Training of Technicians. In our opinion, the best way to identify the impact of the training sessions is to learn from you the trainees themselves!”*

*“During our conversation, you will see us taking notes, but we will not repeat your names or answers to anyone else. We are not telling secrets, but we want the information to be kept private so that you are comfortable in sharing with us.”*



**SHOW** the facilitation/power ball.



 **SAY** *“We have this **ball**. We will use to symbolize us passing the power to you to guide the process as we go along. We will also use it to invite participation, and the person who has the ball is the only one with the*

right to speak/ share knowledge. You can call for the ball if you want to say something or pass it to someone else in the group if you want to invite them to speak.

*“We look forward to this being a lively and energetic group and hope that these tools will help us all feel safe, supported and encouraged to speak.”*

*“Now, let’s get started.”*

## PART B. RELEVANCE (20 mins)



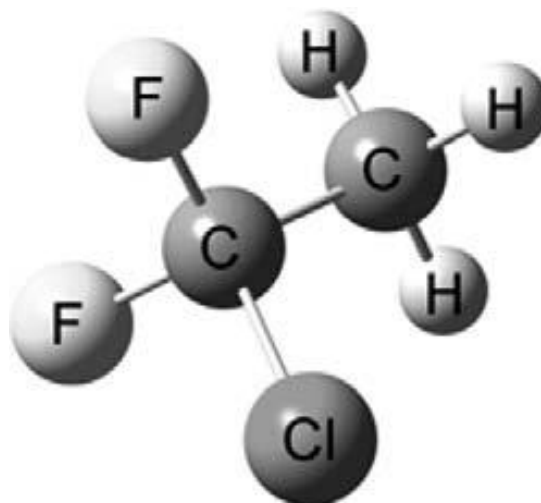
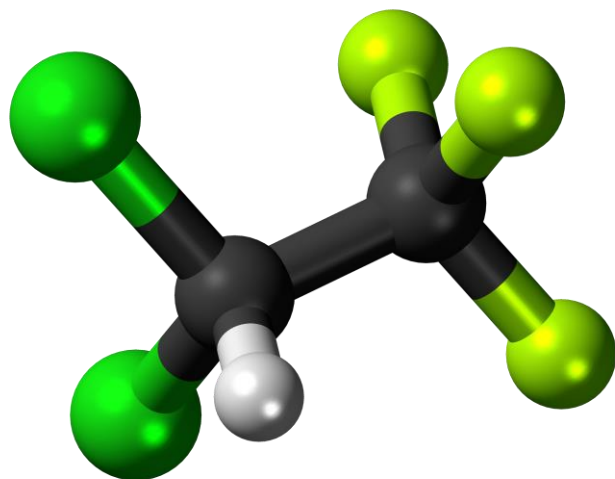
### ASK

- Tell me about this HCFC substance, what is it?
- Why is it important to you?
- How do you think this knowledge of HCFC is linked to your work life, to your everyday life?
- Why did you attend the training?

## PART C. EFFECTIVENESS (35 mins)



**SAY** *“I would like us to start our next conversation with an activity. My colleague will give you a sheet of paper with an image on it. I want you to write on it the name of the image and if possible label the image.”*



**INVITE** everyone to share their image. This is the participants’ opportunity to share with the team what they have remembered from the session. Pay attention to what they describe as well as what they omit.

**ASK**

- *What do you remember from the training session?*
- *What were the topics?*
- *In what way/s did the information you receive helped you?*
- *Do you think you can actually control the reduction of HCFC?*
- *If “Yes” how?*
- *If “No” why?*
- *Were your expectations of the training met?*
- *If “Yes” how?*
- *If “No” why*

**PART D. EFFICIENCY (15 mins)**

**SAY** *“Now, let’s talk about the practical aspect of the training. I want you to tell me if you were taught how to use various equipment and tools that will reduce levels of HCFC.”*

**ASK**

- *List the names of the equipment that you used?*
- *Prior to the training have you ever used those type of equipment?*
- *For those who have used them before, did you learn anything new about their purpose?*

**PART E. SUSTAINABILITY (20 mins)**

**INVITE** *a) everyone to share how they have used their HCFC knowledge at work; b) What challenges they have faced and c) would they be willing to pay for follow up training.*

**ASK**

- *List some ways or give a situation where you had to share your HCFC knowledge?*
- *List some steps and measures that you have taken to ensure that you use little or no HCFC products?*
- *What do you think can be done to get more Jamaicans aware of this project and the importance of phasing out the use of HCFC?*

**PROBE** and ask **FOLLOW-UP** questions to understand the impact and the importance of the training sessions.

## Project Sponsors, Project Implementation, Project Clients – Interview Guidelines

### Part A: QUESTIONS ABOUT CONTEXT & RELEVANCE

*I will ask you to indicate the extent to which you agree or disagree with the following statements, where 1 is Strongly Agree and 5 is Strongly Disagree.*

Question 1	SA					SD
	1	2	3	4	5	
A. You are clear on the objectives of the Project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
B. From the design of the Project, there is an indication that the challenges facing the implementation of the HPMP were addressed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
C. In your opinion, the design of the Project will addresspub some of the policy and programming challenges facing implementation of the HPMP	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
D. You are clear on the role of your Organisation in achieving the objectives of the Project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
E. You are clear on the role of the NEPA	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
F. In your opinion, you are clear on the role of your organisation in relationship to other organisations involved in the Project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
G. The timeframe is adequate/sufficient for the Project to ensure the objectives were achieved	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
H. In your opinion, your Organisation was a critical partner for the Project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
I. In your opinion, the Project is appropriate to the current situation of the implementation of the HPMP <sup>28</sup>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

### Question 2: Please give me any general comments you may have guided by the following questions:

- a) Guided by your response to 'C' above please indicate in 3- 5 words what are some of the policy and programme challenges facing the implementation of the HPMP, and then indicate if they have been addressed by the Project.

Policy/Programme Issue	Resolved		
i) _____	Yes [ ]	No [ ]	Note Sure [ ]
ii) _____	Yes [ ]	No [ ]	Note Sure [ ]
iii) _____	Yes [ ]	No [ ]	Note Sure [ ]
iv) _____	Yes [ ]	No [ ]	Note Sure [ ]

<sup>28</sup> Asked to reinforce the response to 'C' and to check for validity.

b) The Relevance of the Project as you understand it.

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c) The relevance of your Organisation to achieve the Project outputs

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d) What changes occurred on the social/political/economic landscape which could have and/or has impacted on the relevance of the Project

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**Part B: QUESTIONS ON THE EFFECTIVENESS**

*I will ask you to indicate the extent to which you agree or disagree with the following statements, where 1 is Strongly Agree and 5 is Strongly Disagree.*

Question 3	SA					SD
	1	2	3	4	5	
A. As a primary stakeholder, you are of the opinion that the Project is on track to meeting the objectives of the 2020 and 2030 Targets	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
B. The training of technicians, as a result of the Project, is critical to achieving the 2020 HPMP of the GoJ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
C. The establishment of a team of Trainers, as a result of the Project, is critical to achieving the 2020 HPMP of the GoJ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
D. The support to SSS has resulted in the achievement of a critical target of the Project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
E. The use of NEPA as the IA has resulted in an improved co-ordination of the GoJ HPMP efforts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
F. In your opinion, there has been an effective public awareness campaign on the HPMP	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
G. In your opinion, there was full engagement of all public sector stakeholders during implementation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

H. In your opinion, there was full engagement of all private sector stakeholders during implementation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I. In your opinion, there was full engagement of all practitioners in the RAC sector.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Question 4: Please give me any general comments you may have guided by the following questions:**

a) What is in your opinion the single most effective component of the Project as it relates to the HPMP?

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b) If you indicated that any element above will not contribute to/support the implementation of the HPMP, please share why.

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c) If you indicated that any element above has not contributed to the implementation of the HPMP, please indicate, if in your opinion, it will do so in the future.

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d) General Comments.



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**Part C: QUESTIONS ON EFFICENCY<sup>29</sup>**

*I will ask you to indicate the extent to which you agree or disagree with the following statements, where 1 is Strongly Agree and 5 is Strongly Disagree.*

Question 5	SA					SD
	1	2	3	4	5	
A. The procurement requirements allowed for ease of hiring/procuring best fit services and/or equipment for the Project.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
B. There was prompt turnaround by the Project Sponsors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
C. The PSC was critical and reacted to Project issues in a timely manner recommending and ensuring changes to implementation if necessary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
D. The Project was able to deliver on the number required of ToT workshops within the stated timeframe.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
E. The Project was able to deliver the required technician training within the stated timeframe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
F. The actual use of one National Trainer was the most efficient way of sharing the knowledge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

**Question 6: Please give me any general comments you may have guided by the following questions:**

- a) From your vantage point what challenges did the IA face in executing training workshops? Please list 3, with the greatest challenge listed first?

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- b) From your vantage point what challenges did the MPROJECTA (PPDCU) face in facilitating and or engaging local resources to build Local Tourism Committees?

<sup>29</sup> Note that the first few questions will relate primarily to those involved in the contracting of resources under the Project.

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- c) Is there any other arm of the GoJ which could have been more effecting in implementing the HPMP?
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**Part D: QUESTIONS ON SUSTAINABILITY & PARTNERSHIPS**

*I will ask you to indicate the extent to which you agree or disagree with the following statements, where 1 is Strongly Agree and 5 is Strongly Disagree.*

Question 7	SA					SD
	1	2	3	4	5	
A. The Project has allowed for the development of a Tool Kit needed to support the implementation of the HPMP	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
B. SSS is committed to the maintenance of HCFC-141b free foam manufacturing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
C. As a Stakeholder, I anticipate that there will be ongoing national training for the RAC sector on HCFC Phase Out	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
D. The ToT has created a cadre of trainers to conduct ongoing training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
E. Practitioners will be willing to pay for further training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
F. There is already budgetary evidence that the GoJ is committed to scale and expansion for the next 5 years in the face of reduced project funds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
G. The NOU/NEPA is collaborating with 'You' to develop a long-term plan for this ongoing support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
H. The Project has facilitated the building of an inter-ministerial team to monitor and address issues related to the phasing out of Ozone Depleting substances	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
I. The IA has collaborated with the JRAC and there are indirect benefits indicating a stronger organisation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

**Question 8: Please give me any general comments you may have guided by the following questions:**

- a) From your vantage point please state specific challenges which may be faced in expanding the project? Please note that budgetary constraints are a known variable, we are interested in other constraints.

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- b) Other thoughts on sustaining and building project gains?

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## Consultants/Providers of Technical Assistance to Project – Interview Guideline

### Part A: QUESTIONS ABOUT CONTEXT & RELEVANCE

*I will ask you to indicate the extent to which you agree or disagree with the following statements, where 1 is Strongly Agree and 5 is Strongly Disagree.*

Question 1	SA					SD
	1	2	3	4	5	
A. You are clear on the objectives of the Project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
B. You are clear on the objectives of the HPMP	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
C. You are clear on the fit of your engagement with the objectives of the Project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
D. You are clear on the role of the IA	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
E. You are clear on the role of related assignments to your output	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
F. The timeframe for your assignment was relevant to the Scope	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
G. In your opinion, your assignment was a critical input for the PROJECT	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
H. In your opinion, the program is appropriate to the current situation of the implementation of the HPMP	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

**Question 2: Please give me any general comments you may have guided by the following questions:**

- a) The Relevance of the Project as you Understand it.

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- b) The relevance of your assignment to achieve the Project outputs

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### Part B: QUESTIONS ON EFFECTIVENESS

*I will ask you to indicate the extent to which you agree or disagree with the following statements, where 1 is Strongly Agree and 5 is Strongly Disagree.*

Question 3	SA					SD
	1	2	3	4	5	
A. The Scope of Work provided an optimum road map to respond to the Project's need.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
B. The structure of the elements was logical to derive an output which would respond to the needs of the Project.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
C.						

**Question 4: Please give me any general comments you may have guided by the following questions:**

- a) What elements would you have removed from your TOR which would have made your output provide an even greater contribution to PROJECT desired project outcomes?

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- b) What elements would you have added to you TOR which would have made your output provide an even greater contribution to the PROJECT desired project outcomes?

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**Part C: QUESTIONS ON EFFICENCY**

*I will ask you to indicate the extent to which you agree or disagree with the following statements, where 1 is Strongly Agree and 5 is Strongly Disagree.*

Question 5	SA					SD
	1	2	3	4	5	
A. The contracting period was consistent with international good practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
B. The contracting process was transparent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
C. The response and turnaround time from the IA was good	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
D. The IA provided adequate required background data to support my assignment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	