

PROJ 52323

SIGNATURE PAGE

Country: St. Kitts & Nevis

UNDAF Outcome(s)/Indicator(s): Support economic development and promote job Creation.

(Link to UNDAF outcome, if no UNDAF, leave blank)

Expected Outcome(s)/Indicator (s): Refrigeration and air conditioning sectors compatible with global standards

outcomes linked to the SRF/MYFF goal and service line)

Expected Output(s)/Indicator(s): Technicians trained and industries retrofitted

(CP outcomes linked to the SRF/MYFF goal and service line)

Implementing partner: _____
(designated institution/Executing agency)

Other Partners: _____
(formerly implementing agencies)

Programme Period: <u>2006 to 2009</u>
Programme Component: _____
Project Title: <u>Terminal Phase-out Management Plan</u>
Project ID: <u>000 52323</u>
Project Duration: _____
Management Arrangement: _____

Budget	<u>\$50,000</u>
General Management Support Fee	_____
Total budget:	_____
Allocated resources:	_____
• Government	_____
• Regular	_____
• Other:	_____
○ Donor	_____
○ Donor	_____
○ Donor	_____
• In kind contributions	_____
Unfunded budget:	_____

Agreed by (Government): [Signature]

Agreed by (Implementing partner/Executing agency): [Signature]

Agreed by (UNDP): Rosina Wiltshire, Resident Representative

Date: 10/10/2006

UNDP-GEF PROJECT DOCUMENT

Government of St. Kitts and Nevis

United Nations Development Programme

Montreal Protocol Unit

Terminal Phase-out Management Plan for CFCs in St. Kitts and Nevis

PROJECT SUMMARY

The Terminal Phase-out Management Plan (TPMP) for CFCs in St. Kitts and Nevis will be implemented through three annual implementation phases beginning June 2006 and will result in the complete phase-out of CFCs in St. Kitts and Nevis in December 2009. The TPMP will ensure timely, sustainable and cost-effective phase-out of CFCs through a combination of training, technical support and policy/management support components. The total requested grant for the project is US\$ 252 000. It is proposed that this grant be allocated over the next 3-year period, as St. Kitts and Nevis current regulations mandate a total phase-out of CFCs by the end of 2009.

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Acronyms

APR	Annual Progress Report
CFC	Chloro Fluoro Carbons
LVC	Low Volume Consuming Country
MAC	Mobile Air Conditioning
MLF	Multi Lateral Fund
MP	Montreal Protocol
NOU	National Ozone Unit
ODS	Ozone Depleting Substance
ODP	Ozone Depleting Potential
RMP	Refrigeration Management Plan
TPMP	Terminal Phase Out Management Plan
UNEP	United Nations Environmental Programme
UNDP	United Nations Development Programme
NAP	National Action Plan
NGO	Non-governmental Organization
OECS	Organization of Eastern Caribbean States
SIDS	Small Island Developing States

Section 1. Brief Narrative

Part I. Situation Analysis

1. St. Kitts and Nevis is a net consumer of CFCs. The country does not manufacture CFCs nor is it involved in any manufacturing activity that entails the use of CFCs. Consequently, St. Kitts and Nevis is classified as a low volume consuming country. St. Kitts and Nevis ratified the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer on August 10th, 1992. The country also Acceded to the London and Copenhagen Amendments in July 1998, and the Montreal Amendment in February 1999. Accession of the Beijing Amendment is pending. With an annual per capita consumption of ODSs of less than 0.3 MT, the country is classified as an Article 5 Country under the Protocol. In addition, with a total annual consumption of less than 360 ODP tonnes, the country is further classified a Low ODS Volume Consuming country (LVC). The Country Programme, incorporating the national strategy and action plan to phase out ODS in line with the Montreal Protocol schedule was approved by the Executive Committee of the Multilateral Fund (MLF) in December 1996. The Country Programme identified activities and initiatives Government and industry would undertake to achieve ODS phase-out, including institutional strengthening, public awareness activities, development and enforcement of regulations and recovery and recycling of CFCs
2. As St. Kitts and Nevis is neither a producer nor an exporter of ODS, consumption, as defined under the Montreal Protocol, is equal to imports. Between 1999 and 2004, with the assistance of the MLF, St. Kitts and Nevis implemented a number of projects and activities to reduce its consumption of CFCs in the refrigeration and air-conditioning (R&AC) servicing sector, the main sector where ODSs are consumed in the country. The projects and activities were incorporated into St. Kitts and Nevis's Refrigerant Management Plan (RMP), which was approved by the Executive Committee at its 25th Meeting in January 1998, and represented the country's strategy for achieving CFC phase-out in the R&AC servicing sector. All of the activities identified in the Plan are completed or nearing completion and the country is now ready to proceed with a Terminal Phase out Management Plan.
3. In May 2004 St. Kitts and Nevis adopted a comprehensive legislative framework in the form of the Substances that Deplete the Ozone Layer (Control) Regulations No. 6 of 2004 to support the ODS phase-out in the country, including a Licensing System for the importation of CFCs and bans on imports of equipment and products containing CFCs. With the implementation of the Licensing System, consumption (imports) of CFCs is to be completely phased out by December 2009, consistent with the Montreal Protocol schedule.
4. The Regulations placed an immediate ban on the importation of equipment and appliances which use or contain CFCs. The Regulations also prohibit the importation of certain aerosols, foams, solvents and fire-fighting equipment which depend on, or contain CFCs. Under the Regulations, any appliances or vehicles incorporating CFC-based technology imported into the country must be retrofitted at the importer's expense before it is released by the Customs.

Part II. Strategy

1. The primary goal of this project will be to develop the individual, institutional and systemic capacity of the government of St. Kitts and Nevis and the ozone technician association to successfully complete the phase out of ozone depleting substances by 2009. In this regard, the ozone officer will work with the refrigeration technician association to provide training for technicians and assist in accessing appropriate equipment to perform their task. The Customs and Excise Department has been trained and equipped to control the entry of ODS in to the country. The Environment Division in the Ministry of Finance, Development and Planning now has the legal mandate to issue license based on a quota system. The national Ozone Unit is therefore at the centre of the ozone education and phase out process that aims to make St. Kitts and Nevis Ozone Free by 2009.
2. The UNDP CO in Barbados as the cooperating implementing agency will implement the investment component of the TPMP (Component 4) while UNEP as the lead implementing agency will implement the non-investment component of the TPMP (Components 1, 2, and 3). This project will be executed by the national Ozone Unit acting on behalf of the government of St. Kitts and Nevis. The Permanent Secretary in the Ministry Finance, Development and Planning in her capacity as administrative head will have administrative oversight of the project. She will be supported by the Director of Planning, the national ozone unit and the UNDP representative. Together they will serve as a steering committee to ensure orderly, timely and efficient implementation of the project.
3. The key to success of this project is the full involvement and commitment of key stakeholders namely, technicians, importers, customs and the Ministry of Finance, Development and Planning. The consumer will also be key since an informed and supportive consumer determines the market. To this end frequent stakeholder consultations will be a feature of the project coupled with high media visibility.

Part III. Management Arrangements

4. The Government of St. Kitts and Nevis represented by the Ozone Unit in the Ministry of Finance and Development and Planning will be the executing agency for this project. The Ozone Unit will liaise with all stakeholders as the overall coordinating entity. A Steering Committee comprising UNDP, PS Ministry of Finance Development and Planning, the Director of Planning, and the ozone officer will guide the project implementation and review TOR.
5. A Technical Review Group will be selected by the Steering Committee and will be responsible for reviewing the project's technical reports and other documents required intended for submission to the MLF and the Ozone secretariat. The Ozone Officer will be responsible for the day-to-day running of the project. The officer will organize meetings, collect data, manage project accounts and recruit staff. The Ozone Officer will report to the PS, UNEP and UNDP on all matters affecting the running of the project.

6. Project implementation will begin with an inception workshop. There will be a quarterly, midyear and final review in keeping with the MP reporting cycle. Stakeholder involvement will occur at every stage through a feedback mechanism as well as by being part of the knowledge network for project implementation.

7. Periodic Coordination meetings will be conducted with importers, technicians and customs to ensure project cohesion, adherence to project output and time lines thus ensuring a smooth and timely phase out.

8. In order to accord proper acknowledgement to the MLF and the Ozone Secretariat, reference will be made to their support and involvement in all document and media releases connected to this project. UNDP and UNEP logos will appear in published documents where applicably.

1. MONITORING AND REPORTING

1.1. Monitoring responsibilities and events

9. Coordination meetings amongst identified stakeholders will be conducted on a quarterly basis to assess the overall progress of preparation work and the timely provision of expected output deliverables. The UNDP CO will collaborate with UNEP and the National Steering Committee to ensuring the required degree of quality and substance.

10. *Day to day monitoring*. The Environmental Unit will be the responsibility of the day to day monitoring of the project. This Unit houses the Ozone Unit and the ozone officer who is responsible for the day to day execution of the project. A detailed monthly work plan will be developed at the inception workshop against which the Ozone officer can measure the progress of the project.

11. UNDP-CO will undertake through quarterly monitoring missions with the project proponent, or more frequently as deemed necessary. This will allow parties to take stock and to troubleshoot any problems pertaining to the project's development in a timely fashion to ensure smooth project preparation and design of project activities.

1.2. Project Monitoring Reporting

12. The Ozone Officer will be responsible for the preparation and submission of reports and updates or reports to the Ozone Secretariat, MLF, UNEP, and UNDP-CO as necessary.

(a) *Inception Report (IR)*

13. A project Inception Report will be prepared immediately following the Inception Workshop. It will include Monthly Work Plan detailing the activities and specific related outputs expected as part of project preparation work, as well as a revised Terms of Reference for expertise (as appropriate), and any additional details and information pertaining to execution and implementation arrangements and coordinating structures. To the extent possible, the workplan would include the dates of specific

field visits, project design support missions from the UNDP-CO or UNEP or project development consultants. The Report will also include the detailed budget for the duration of the project..

(b Progress Reports

14. Short reports outlining main updates on project outputs, challenges or successes will be provided to the UNDP Country Office. The need and frequency of these reports will be agreed upon with the steering committee team and the UNDP-CO prior to the implementation of preparation work.

(c) Quarterly Progress Reports

15. Short reports outlining main updates in project progress will be provided quarterly to the local UNDP Country Office and the standard ozone reports to UNEP and the Ozone Secretariat.

(d) Technical Reports

16. Technical Reports are detailed documents covering specific areas of analysis or scientific specializations within the overall project. As part of the Inception Report, the project team will prepare a draft Reports List, detailing the technical reports that are expected to be prepared on key areas of activity during the course of the Project, and tentative due dates. Where necessary this Reports List will be revised and updated, and included in subsequent APRs.

(e) Project Publications

17. Project Publications will form a key method of crystallizing and disseminating the results and achievements of the Project. These publications may be scientific or informational texts on the activities and achievements of the Project, in the form of journal articles, multimedia publications, etc. These publications can be based on Technical Reports, depending upon the relevance, scientific worth, etc. of these Reports, or may be summaries or compilations of a series of Technical Reports and other research. The project team will determine if any of the Technical Reports merit formal publication, and will also (in consultation with UNDP, UNEP, the government and other relevant stakeholder groups) plan and produce these Publications in a consistent and recognizable format. Project resources will need to be defined and allocated for these activities as appropriate and in a manner commensurate with the project's budget.

Audit Clause

18. The Government will provide the Resident Representative with certified periodic financial statements, and with an annual audit of the financial statements relating to the status of the UNDP implemented component. The Audit will be conducted by the legally recognized auditor of the Government, or by a commercial auditor engaged by the Government.

Part V. Legal Context

19. This project document shall be the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement between the Government of St. Kitts and Nevis and the United Nations Development Programme, signed by the parties on 30th January 1985. The host country implementing agency shall, for the purpose of the Standard Basic Assistance Agreement, refer to the government co-operating agency described in that agreement.

20. The following types of revisions may be made to this project document with the signature of the UNDP Resident Representative; provided he or she is assured that the other signatories of the other project document have no objections to the proposed changes:

- Revisions or additions to the UNDP PRODOC only;
- Mandatory annual revisions, which rephrase the delivery of agreed, project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility.

Section II. Total Work Plan and Budget

Award: tbd

Award Title ; Terminal Phase-out Management Plan for CFCs in St. Kitts and Nevis

Project ID : tbd

Project Title: Terminal Phase-out Management Plan for CFCs in St. Kitts and Nevis

MLF Outcome/Activity	Responsible Party	Source of funds	PLANNED BUDGET AND WORK PLAN			
			Activity Code	Budget Program (General)	Year 1 (US\$)	Total (US\$)
Provision of Equipment and Retrofit demonstration	Government of St. Kitts and Nevis	MLF 63080	71300	National Staff	4,000	50,000
			71200	International Consultant	8,000	
			72200	Equipment	33,000	
			71600	Travel	3,000	
			74500	Miscellaneous	2,000	
<i>Subtotal by source</i>			<i>MLF</i>		<i>50,000</i>	<i>50,000</i>
			<i>Government (In kind)</i>			
Grand total					50,000	50,000

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Country: St. Kitts and Nevis

UNDAF Outcome(s)/Indicator(s):

(Link to UNDAF outcome., If no UNDAF, leave blank)

Expected Outcome(s)/Indicator (s):

(CP outcomes linked to the SRF/MYFF goal and service line)

Complete phase out of CFC's
Establishment of Technicians Association

Expected Output(s)/Indicator(s):
of CFCs

(designated institution/Executing agency)

Yearly ozone report showing decrease use

(CP outcomes linked to the SRF/MYFF goal and service line)

GEF

Other Partners:

(formerly implementing agencies)

[Redacted]

[Redacted]

Programme Period 2006-2008
Programme Component: _____
Project Title: _____
Project ID: 00036430
Project Duration: ten months
Management Arrangement: NEX

Budget	US\$ 101,000
General Management Support Fee_NA	
Total budget:	US\$ 101,000
Allocated resources:	_____
Government	_____
• Regular	
• Other:	
○ Donor	_____
○ Donor	_____
○ Donor	_____
• In kind contributions	_____
Unfunded budget:	_____

Agreed by (Government):

Agreed by (Implementing partner/Executing agency):

Agreed by (UNDP):

PROJECT DATA		2006	2007	2008	2009	2010	Total
ODS #1	Montreal Protocol limits	1.85	1.85	0.56	0.56	0.56	6.67
CFCs	Annual phase-out from ongoing projects	0.0	0.0	0.0	0.0	0.0	0.0
(ODP tonnes)	Annual phase-out newly addressed	0.0	1.29	0.28	0.28	0.0	1.85
)	Annual unfunded phase-out	0.0	0.0	0.0	0.0	1.81	0.0
ODS #2	Montreal Protocol limit	0.0	0.0	0.0	0.0	0.0	0.0
(ODP tonnes)	Annual consumption limit	0.0	0.0	0.0	0.0	0.0	0.0
)	Annual phase-out from ongoing projects	0.0	0.0	0.0	0.0	0.0	0.0
TCA and CTC	Annual phase-out newly addressed	0.0	0.0	0.0	0.0	0.0	0.0
)	Annual unfunded phase-out	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL ODS consumption to be PHASED OUT		0.75	1.29	0.56	0.56	1.81	7.54

Project costs (US \$):							
Funding for lead agency [UNEP]		40,000			14,000	0.0	144,000
Funding for [UNDP]			60,000	30,000			
Total project costs		50,000	45,000	10,000	3,000	0.0	108,000
Support costs (US \$)							
Support cost for lead agency [UNEP]		5,200	7,800	3,900	1,820		18,720
Support cost for [UNDP]		4,500	4,050	900	720		9,720
Total support costs		9,700	11,850	4,800	2,540		28,440
TOTAL COST TO MULTILATERAL FUND (US \$)		99,700	116,820	44,800	19,090	0	280,440

FUNDING REQUEST:

Project costs:	\$252 000.00
Support costs:	\$ 28 440.00
TOTAL:	\$280 440.00

Prepared by: UNEP DTIE & UNDP
2006

Date: February

**PROJECT OF THE GOVERNMENT OF ST. KITTS AND NEVIS
TERMINAL PHASE-OUT MANAGEMENT PLAN FOR CFCs**

1. PROJECT OBJECTIVES

The objectives of this project are:

- a) To enable St. Kitts and Nevis to meet its obligations related to phasing out the use of Annex A CFCs under the Montreal Protocol; and
- b) To ensure timely, sustainable and cost-effective CFC phase-out through the development and implementation of a combination of investment, training, technical and policy/management support components; and

2. BACKGROUND

St. Kitts and Nevis is a twin-island state in the north of the Eastern Caribbean. It has a total land area of 160.9 sq. km. and a total population of 46 111 (2002 Census). The key sectors in the economy are tourism and agriculture. The main population and business concentrations are in St. Kitts, the larger of the two islands, and in particular, in Basseterre, the Capital city.

St. Kitts and Nevis ratified the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer on August 10th, 1992. The country also Acceded to the London and Copenhagen Amendments in July 1998, and the Montreal Amendment in February 1999. Accession of the Beijing Amendment is pending. With an annual per capita consumption of ODSs of less than 0.3 MT, the country is classified as an Article 5 Country under the Protocol. In addition, with a total annual consumption of less than 360 ODP tonnes, the country is further classified a Low ODS Volume Consuming country (LVC). The Country Programme, incorporating the national strategy and action plan to phase out ODS in line with the Montreal Protocol schedule was approved by the Executive Committee of the Multilateral Fund (MLF) in December 1996. The Country Programme identified activities and initiatives Government and industry would undertake to achieve ODS phase-out, including institutional strengthening, public awareness activities, development and enforcement of regulations and recovery and recycling of CFCs

As St. Kitts and Nevis is neither a producer nor an exporter of ODS, consumption, as defined under the Montreal Protocol, is equal to imports. Between 1999 and 2004, with the assistance of the MLF, St. Kitts and Nevis implemented a number of projects and activities to reduce its consumption of CFCs in the refrigeration and air-conditioning (R&AC) servicing sector, the main sector where ODSs are consumed in the country. The projects and activities were incorporated into St. Kitts and Nevis's Refrigerant Management Plan (RMP), which was approved by the Executive Committee at its 25th Meeting in January 1998, and represented the country's strategy for achieving CFC phase-out in the R&AC servicing sector. All of the activities identified in the Plan are completed or nearing completion and the country is now ready to proceed with a Terminal Phase out Management Plan.

In May 2004 St. Kitts and Nevis adopted a comprehensive legislative framework in the form of the Substances that Deplete the Ozone Layer (Control) Regulations No. 6 of 2004 to support the ODS phase-out in the country, including a Licensing System for the importation of CFCs and bans on imports of equipment and products containing CFCs. With the implementation of the Licensing System, consumption (imports) of CFCs is to be completely phased out by December 2009, consistent with the Montreal Protocol schedule.

This TPMP was prepared by UNEP, with the support of UNDP and an international consultant. Assistance was also provided by the National Ozone Unit and a local consultant hired to undertake data collection and analysis. The project was approved by the Executive Committee at its 44th Meeting as an RMP update, but the government of St. Kitts and Nevis agreed to convert it into a Terminal Phase our Plan, as suggested by UNEP.

3.0 Institutional and Regulatory Framework

The activities related to ozone layer protection and the implementation of the Montreal Protocol is coordinated by the National Ozone Unit which is located within, and is part of the Department of Physical Planning and the Environment. Some of the key initiatives undertaken by the NOU to date include:

- a) implementation of projects and activities funded by MLF in the RMP and Country Programme;
- b) Implementation of the Action Plan to return to compliance
- c) formulating guidelines and regulations as necessary for policy implementation;
- d) organizing and executing public awareness initiatives and campaigns to promote ozone layer protection at the consumer level;
- e) interactions with other ministries, departments and industry representatives on matters related to the national phase out strategy and its impact on consumption.
- f) participation in regional and international Montreal Protocol meetings; and
- g) Chairing and providing secretariat services to the National Ozone Committee

3.1 Licensing system for the import of CFCs.

The Substances that Deplete the Ozone Layer (Control) Regulations No. 6 of 2004 (the Regulations) were approved in May 2004 as Regulations under the National Conservation and Environmental Protection Act No. 5 of 1987 which, in turn, brought both the Vienna Convention and the Montreal Protocol into the laws of the state through their inclusion in its 5th Schedule. Together this suite of instruments forms the legal basis for the import/export licensing system. They represent a key element of the overall plan to enable the country to comply with its Montreal Protocol obligations to phase out the use of CFCs. The legislation provides a schedule for phasing out importation of CFCs through the administration of import quotas.

The granting of licenses to import ozone depleting substances (ODSs) and the assignment of annual quotas to importers is the responsibility of the Minister with responsibility for the Environment, acting on the advice of the National Ozone Officer. The quotas are based on the baseline consumption adopted by the Government of St. Kitts and Nevis and are assigned to importers based on a percentage calculated on the basis of their historic market share.

3.2 Controls on imports of products and equipment containing or using ODS

The Regulations placed an immediate ban on the importation of equipment and appliances which use or contain CFCs. The Regulations also prohibit the importation of certain aerosols, foams, solvents and fire-fighting equipment which depend on, or contain CFCs. Under the Regulations, any appliances or vehicles incorporating CFC-based technology imported into the country must be retrofitted at the importer's expense before it is released by the Customs.

3.3 Other regulatory measures

Other notable Government measures pertaining to the regulation of ODS and ODS-based products include the labeling requirements set out in Part IV of the Regulations, and the "Order to Retrofit" provisions in Section 7. In addition to these, the Comptroller of Customs will continue to exercise the powers already conferred upon him under the Customs (Control and Management) Act of 1992 and will, in effect be conferred with additional powers under the Regulations.

4.1 Industry Structure

St. Kitts and Nevis neither produces nor exports CFCs and there are no manufacturing or assembly operations that use CFCs as an input. Hence all consumption, which is equal to imports, is entirely in the R&AC sector for the servicing of existing CFC-based appliances, systems and equipment. It should also be noted that the country does not consume the substances listed in Annex B Group II (Carbon tetrachloride) and Annex B Group III (Methyl chloroform).

4.2 Upstream suppliers

Production

As indicated, there is no production of CFCs in St. Kitts and Nevis. The entire domestic demand is met through imports mainly from St. Marteen. There are also occasional imports, from Antigua & Barbuda, the USA, Europe and Asia.

Imports

The Government of St. Kitts and Nevis has identified four major importers for CFCs who supply the local market. However, there are also some occasional importers who import for their own use. Any of these may apply for a license to import CFCs. However, the total of the licenses to be issued in any one year will not exceed the quantities allowed under the Protocol, less the amount authorized by the Regulations to be withheld for special uses.

Distribution

The CFCs imported are sold to the users directly by the importers or indirectly through secondary distributors or retailers.

4.3 Downstream users

Manufacturing

There is no manufacturing activity in St. Kitts and Nevis involving the use of CFCs as intermediate products or process inputs.

Servicing

There are about 8 service establishments in the mobile air conditioning (MAC) sub-sector and about an additional 20 persons who service MACs on an occasional basis. In the domestic and commercial sub sectors, there are about 10 service establishments and an additional 40 occasional service providers offering services. Some of the MAC service establishments also service fixed systems, but it appears that the occasional service providers service both fixed (mainly domestic) and mobile systems. The larger hotels have in-house services. It is estimated that there is a total of 100 technicians operating in the formal and informal sectors, of which about 33 have been trained in either good practices in refrigeration servicing, or recovery and recycling of refrigerants, or both.

End-users

The end-users of products containing CFCs are in the domestic, commercial, and mobile air conditioning sub-sectors. The few chillers in operation do not use CFCs and the scale of industrial operations does not merit separate consideration from the commercial sub sector.

5.0 Description of Refrigeration and Air Conditioning Sector, Use and Demand for CFCs

In order to assess the status and results of the implementation of the RMP and to identify constraints and needs for further assistance for ODS phase-out, UNEP commissioned a comprehensive survey of the R&AC sector in St. Kitts and Nevis with assistance from a local consultant, during August and November 2005. Questionnaires designed to assess the baseline conditions related to the usage of CFCs were circulated within the industry and supplemented with visits to facilities of service establishments and end-users. There was also a mission by an international expert on behalf of UNEP to St. Kitts and Nevis in September, 2005. The CFC use figures obtained from the survey and interactions were correlated with the CFC import data from the relevant government departments. The results of the survey and interactions are summarized as below.

5.1 Domestic refrigeration equipment

According to the 2002 census, there are 17440 households in St. Kitts and Nevis, and the government estimates that this figure has increased by 5% up to 2004, giving an estimate of 18312. Given that some households have no refrigeration equipment, while some have more

than one, a figure of 18000 will be used as the estimate of the population of domestic refrigeration equipment. About 30% of these appliances are CFC-based. With an average CFC-12 charge of 0.2 kg in each appliance, the total in-situ stock of CFC in this sub sector is 1.08 MT. The CFC-based equipment is generally the older stock, requiring service on average once every two years. With an average recharge of 0.2 Kg per service and with 70% of service operations requiring a recharge, the annual consumption in this sub sector is estimated at 378 kg. No recovery of refrigerants is practiced in the domestic sector. It must also be noted that R-12 compressors for domestic appliances are readily available on the local market for prices ranging from US\$100 - \$150, depending on their capacity, while similar R-134a compressors cost on average 30% more than their R-12 equivalents. The average life of domestic appliances in St. Kitts and Nevis is estimated to be 10 years.

5.2 Commercial & industrial refrigeration equipment

There are about 4 major importers of commercial and industrial refrigeration equipment and components in St. Kitts and Nevis. The current population of commercial refrigeration equipment, excluding cold rooms is estimated at 550 with an average initial charge of 2.0kg. Of these, 15% are estimated to contain R-12 refrigerant. These are the older stock, requiring service annually and in 60% of the service operations, a full charge is required. Based on these estimates, the current demand for R-12 in this sub-sector is 115 kg. The average life of these equipment is 15 years.

In addition, there are about 60 cold rooms/ walk-in freezers, each containing an initial charge of 6.8kg. 12% of these are estimated to use R-12 and 40% require a full service, including a full recharge of the system annually. These estimates yield a current annual demand of 20 kg. The average life of this type of equipment is estimated to be 20 years.

It is estimated that the islands have 600 water fountains and display cabinets, each using 1 kg of refrigerant and 15% of these are estimated to still use R-12. 40% of these require service incorporating a full recharge of the system annually. These estimates point to an annual demand of 36 kg. This type of equipment has an average useful life of 15 years.

An estimated 30 refrigerated trucks are in operation in the islands. They are charged with 10 kg of refrigerant, and 10% of them still use R-12 refrigerant. With an annual service cycle, and 80% of the services requiring a full recharge of the system, the annual demand in this sub sector is estimated to be 24 kg. Refrigerated trucks are estimated to have a useful life of 20 years in St. Kitts and Nevis.

Based on the above, the estimated demand for R12 refrigerant in the commercial and industrial sector is 195 kg.

5.3 MAC sector

According to the St. Kitts and Nevis Licensing Department's 2004 figures, there were 15474 licensed vehicles on the islands, of which 14000 are estimated to be cars, buses, passenger vehicles SUVs and small trucks. The Department further reports that as of 2004, 40% of these vehicles contained R-12 air conditioning systems. Industry practitioners estimate that 50 % of these require a service involving a full recharge of the system annually. Based on these estimates, the annual demand for R-12 in the MAC sub sector in 2004 was 2800 kg. The average scrap age for vehicles in St. Kitts and Nevis is estimated at 15 years,

5.4 Summary

A summary of the calculated CFC consumption for 2004 in servicing by sub-sectors, in the R&AC Sector in St. Kitts and Nevis is tabulated below:

Table 1: Summary of Calculated CFC Consumption for 2004

Sub-sector	CFC use (ODP T)
Domestic refrigeration appliances and equipment	0.387
Commercial/Industrial refrigeration equipment	0.195
MAC equipment	2.800
Total	3.382

5.5 Prices of refrigerants

A summary of prevailing average market prices (including taxes) in 2005 of various refrigerants in St. Kitts and Nevis is tabulated below:

Table-2 St. Kitts and Nevis – Prices of selected refrigerants

Refrigerant	Price (US\$/kg)
CFC-12	8.17
HCFC-22	7.90
R-502	21.80
HFC-134a	16.20

As compared to the situation in many other Article 5 countries, the price of CFC-12 is lower than for HFC-134a. However, importers indicated that new shipments are likely to see a 50% increase in the price of CFC-12 and a smaller (between 10% and 20%) increase in the prices of other refrigerants. If these increases occur, the prices of CFC-12 and HFC-134a are likely to become more comparable.

6.0 Results from the Refrigerant Management Plan projects

The Refrigerant Management Plan for St. Kitts and Nevis was approved by the Executive Committee of the Multilateral Fund in January 1998. Funding was provided by the Government of Canada through the Multilateral Fund and Environment Canada was responsible for the implementation of the projects contained there-in. It represented the actions the Government of St. Kitts and Nevis considered necessary to be compliant with the phase out schedule of the Montreal Protocol as it relates to Annex A Group I CFCs at least up to 2005, when the 50% reduction in consumption comes into force. In this regard, the RMP included four main components, and these are discussed below.

6.1 Training in Good Practices in Refrigeration:

The technicians training included two sub-components, viz, the Train-the-Trainers programme in Good Practices in Refrigeration, under which 18 "trainers" were trained in May 1999, and Phase 2 under which the Clarence Fitzroy Bryant College included relevant elements of the course in its Refrigeration and Air conditioning Technicians training programme. The College has trained an average of five technicians per year since 2000. Both training components included exposure to fixed and mobile systems.

6.2 Training of Custom Officers

This project was completed in October 2004 following the three-day approach developed by UNEP and resulted was the training of 23 "trainers" by an international trainer. This followed the entry into force of the Substances that Deplete the Ozone Layer (Control) Regulations in May of the same year, and provided the trainers with information critical to the effective implementation of the Regulations. There are additional 75 customs officers to be trained.

Under this component of the RMP, five refrigerant identifiers and three electronic scales were provided. One refrigerant identifier was placed at the College and the others provided to the Customs department following the training o customs officers in 2004. The projected impact of this project was a 10% reduction in CFC-12 consumption after technicians have completed training on how to minimize leaks. Interviews with trained technicians indicate improved service practices. However, given the consumption pattern shown in Table 3.1, and in particular, the increase in consumption reported between 2000 and 2002, it is difficult to assign any emissions reduction to this project.

6.3 Training in Policy and Economic Instruments

In 2003 the NOU convened a consultation involving all the key stakeholders in the national ozone protection issue to discuss and agree on the policy directions to be pursued to help the country meet its obligations under the Montreal Protocol. This

consultation was held against the background of the country being in non-compliance for over consumption of Annex A CFCs, and as such was considered both timely and serious. The key outcome of the consultation was agreement of the key issues to be included in the Regulations to be proposed to bring the import/export licensing system, as required under the Montreal Amendment into being.

6.4 Recovery and Recycling Programme

This project was initiated in October 2004 when 15 technicians were trained in Recovery and Recycling (R&R) by an international consultant. The training included R&R for both fixed and mobile systems. As part of this project, 4 recovery units were provided. One was placed with a large service agency on the island of Nevis, one at the Clarence Fitzroy Bryant College and the others at two of the larger service establishments on St. Kitts. The equipment arrived in St Kitts in August 2005 and were distributed in late September, and to date, the NOU has collected the following data on quantities of refrigerants recovered:

Table 3: Refrigerants recovered and reused since October 2005 (in kilograms)

Refrigerant	October	November	December	Total Recovered	Amount Reused
R-12	0.45	1.36	0	1.81	1.81
R-22	15.45	65.91	31.82	113.18	110.91

6.5 RMP Budget:

The RMP was approved with the following budgetary allocation:

a.	Train the Trainers for Good Practices in Refrigeration	US\$45 000.00
b.	Training of Customs Officers	
	US\$20 000.00	
c.	Training in Policy and Economic Instruments	US\$20 000.00
d.	Recovery and recycling Programme	
	US\$25 000.00	
	Total value of all projects	
	<u>US\$ 110 000.00</u>	

7.0 CFC CONSUMPTION TRENDS AND STRATEGY FOR PHASE-OUT

The reported consumption for all CFCs in Annex A Group I, Annex B Group I and Annex B Group II for the period 2000 – 2004 is shown in Table 4.1. With a baseline of 3.7 ODP tones, the country was in non-compliance for over consumption between 2000 and 2002, but has returned to compliance from 2003. It should also be noted in the Table that the country has ceased consuming Annex B Groups I and II substances.

The calculated consumption of Annex A CFCs for 2004 (see Table 1 above) was 3.382 ODP tonnes, while the reported consumption for the same year was 3.33 ODP tonnes. These figures are sufficiently close to allow us to consider the assumptions used in Section 5 to be fairly reliable. Using these assumptions as well as the reported average life of each type of equipment, the unconstrained demand for subsequent years was calculated by adjusting for avoided refrigerant use due to the retirement of CFC based equipment and their replacement with non-CFC technology. Further, given that the recovery machines were only recently commissioned and the data set not extensive enough to project future recovery activities, the assumption of a 10% reduction in consumption due to better practices generally during servicing, which was set as a target in the RMP, was also applied. Further, with the regulations in place, and the government issuing quotas for imports of Annex A Group 1 CFCs in accordance with the Protocol limits, the latter and import quotas are assumed to be the same. Based on the above, the calculated future demand is shown and compared with the Protocol limits in Table 4.2 below.

Table 4.1 Reported Consumption (MT)

Year	2000	2001	2002	2003	2004
All Annex A CFCs	7.00	6.60	5.30	2.78	3.33
Protocol Limits	3.70	3.70	3.70	3.70	3.70
Annex B II	0	0	0	0	0
Annex B III	0	0	0	0	0

Table 4.2 Projected consumption (MT)

Year	2005	2006	2007	2008	2009	2010
Calculated consumption (do nothing scenario)	2.82	2.60	2.42	2.22	2.02	1.81
Protocol Limits (and Quotas to be allocated)	1.85	1.85	0.56	0.56	0.56	0
Gap between Protocol limits and unconstrained demand	0.97	0.75	1.86	1.66	1.46	1.81

An examination of Table 4.2 reveals the challenge the country faces. St. Kitts and Nevis has returned to compliance as of 2003, and will remain in compliance because the quotas to be issued for imports of CFCs, as stipulated under Section 6 of the Regulations will not exceed the Protocol limits for the country. However, if free market forces were allowed to operate, the country would have returned to non-compliance from 2005, when the 50% cut in consumption came into force, and would have remained in non-compliance because from 2005, the calculated consumption is above the allowable consumption levels. The challenge of this Terminal Phase Out Management Plan, therefore, is to implement activities which will reduce demand by the amounts indicated in the last row of Table 4.2. There were a number of recommendations from stakeholders on how to achieve this, and these are expanded further below. However, the Government is of the view that the project should have some flexibility to allow for

the reallocation of resources, within the limits of the funds to be approved, to areas of greatest need and/or those likely to achieve the greatest impact on emissions reduction.

The reductions in consumption achieved since 2003 could be attributed to a number of factors, including:

- The retirement of older equipment, which are replacement with non-CFC technologies;
- The increasing availability of non-CFC technologies on the local market;
- The public education and awareness efforts of the NOU; and
- Emissions reduction resulting from the application of the skills acquired during the training programmes under the RMP.

Notwithstanding these reductions, the achievement of the planned reductions between 2005 and 2009 will depend on a number of additional measures being put in place. Key among these is the enforcement of the quota system and other provisions of the Substances that Deplete the Ozone Layer (Control) Regulations, which gives the Minister the legal authority to issue import quotas in keeping with the planned reductions and the Customs department the authority to enforce the quotas.

8.0 DESCRIPTION OF TERMINAL PHASE-OUT MANAGEMENT PLAN

8.1 TPMP projects and activities

The projects and activities proposed in this TPMP are based on consultations involving St. Kitts and Nevis's NOU, UNEP, refrigeration technicians, service workshop operators, end-users and CFC distributors, as well as an analysis of the completed RMP projects included in Section 6 of this document. Through these consultations and analyses, it became evident that in order to facilitate the complete phase-out of CFCs and to achieve compliance with the Licensing System, a number of key activities will need to be undertaken, including:

- Further training of technicians by extending training in good practices to those technicians, mostly in the informal sector, who did not participate in the initial training provided, or the one available at the College;
- Developing skills in retrofitting of existing equipment, especially MACs, emphasizing on the use of drop-in replacement refrigerants;
- Further training of customs officers in the enforcement of the Regulations;
- Implementation and enforcement of the ODS import/export licensing system;
- Prevention of illegal trade;
- Establishment of an Association of Refrigeration Technicians;
- Mandating the licensing and certification of technicians through legislation;
- Promoting recovery and reuse practices and the use of R&R equipment through awareness-raising and promotion;
- Development of a Code of Good Practice;

- Providing additional recovery equipment, particularly for the MAC sub-sector, with obligations by selected owners of the equipment to report regularly on quantities of CFCs recovered, recycled and re-used;
- Financing retrofitting in the MAC, and where feasible, in the fixed systems sectors; and
- Monitoring, evaluation and reporting on implementation of all the projects included in this TPMP.

The activities proposed above are grouped into three project proposals with associated implementation schedules and budgets in Annexes 1 - 4. This approach was taken because the Government sees these activities as occurring under three broad areas of intervention. These are:

- Creating and/or strengthening the enabling environment to facilitate the smooth transition to a CFC-free economy;
- Investment interventions and technical support to achieve specific consumption reductions; and
- Monitoring, evaluation, and reporting on implementation of the proposed projects, reassessments of the impacts of interventions and realignment of interventions based on the monitoring and reassessment exercises.

In this regard the Government views this TPMP and the projects contained there-in as a set of integrated activities designed to be mutually supportive of each other, but with built in flexibility to allow for a refocusing of the specific interventions to achieve maximum impact on consumption reductions. The Government proposes to undertake the monitoring, evaluation, assessments and refocusing activities through a monitoring and evaluation mechanism to be established, and in collaboration with UNEP, who is the lead Implementing Agency for the implementation, monitoring and reporting on this TPMP. In this regard, the government of St. Kitts and Nevis requests the Executive Committee to permit some flexibility in the implementation of the project activities, with the understanding that the total budget remains fixed at the level to be approved. The government also undertakes not to request further financial support to phase the use of Annex A Group I CFCs. Against this background, the activities proposed under this TPMP are grouped into four projects, each incorporating synergistic activities designed to help the country achieve the objectives stated in Section 1.

As noted above, the Government will establish a monitoring, evaluation and reporting mechanism to monitor and report on the execution of the projects in the TPMP as well as on the impacts achieved. To this end, opportunities to accomplish this through a regional cooperation mechanism will be pursued with the two implementing agencies as this approach will build synergies and achieve more effective results. Should this approach be embraced, funding will come from the monitoring and evaluation project described in Annex 1 below.

8.1.1: Component 1: Establishment of a Monitoring, Evaluation and Reporting Mechanism

Based on the experiences gained and lessons learnt during the implementation of the RMP, the NOU capacity needs to be strengthened. This is because the NOU does not have adequate staff (both in numbers and capacities) to effectively execute a project of this nature. Therefore, a project management unit (PMU) will be established with responsibility to monitor project implementation, report on progress, monitor the impact of projects and recommend remedial actions if project implementation is delayed or impacts not achieved. This will allow for the timely and effective implementation of the TPMP and the attainment of the expected impacts. Against this background, the PMU will:

- a. Manage the implementation of the TPMP on a daily basis;
- b. Assist UNEP/UNDP to conduct the verification of the CFC consumption and demands
- c. Monitor the implementation of each sub project component against the milestones set;
- d. Prepare Annual Implementation Programmes;
- e. Provide input into the preparation of Annual Implementation Plans;
- f. Provide periodic reports on all sub projects to the National Ozone Office, the Implementing Agencies and the Multilateral Fund Secretariat;
- g. Conduct annual performance audits;
- h. Prepare Annual Progress report;
- i. Identify and report on deadlines missed, and recommend remedial action;
- j. Assess and report on the impact of projects against anticipated impacts; and
- k. Make recommendations on adjustments to projects to maximise impact on consumption reduction

As the lead Implementing Agency, UNEP will be responsible for this activity, for which a budget of US\$ 45 000.00 is requested.

8.1.2 Component 2: Enforcement of the Licensing systems and Prevention of Illegal Trade:

With the entry into force of the Regulations, the NOU, the Customs department and other enforcement agencies have a legal basis on which to monitor and control trade in ozone depleting substances and related technologies. The Customs training completed in 2004 under the RMP was conducted in preparation for this. During that training a total of 23 persons (13 Customs officers, 3 Police officers, 2 Coast Guard Officers, 2 technicians/importers and 3 public officers) were trained as trainers. However, there are approximately 100 Customs officers in St. Kitts and Nevis, many of whom are stationed at ports of entry on both islands that form the Federation of St. Kitts and Nevis, and given the policy to rotate officers to different duty stations, it will be necessary to expose as many of them as possible to the training. In addition, the ports of entry on both islands should be provided with CFC identification equipment to ensure effective enforcement of the regulations. Further, given the scenario that through the enforcement of the quota system there will be a shortfall in supply when compared to demand, and the fact that there are several ports of entry as well as other points on the coastline through which goods can, and do enter the country undetected, the conditions will be conducive to illegal trade practices. Under this

component, special activities will be undertaken to address this threat. Hence, under this component, the following activities will be undertaken:

- Training of about 75 Customs officers and other stakeholders, including the Coast Guard, Customs Brokers, Trade Officials and Standards Officers in the monitoring and control of trade in ozone depleting substances;
- Provision of detection equipment; and
- Design and Implementation of an Illegal Trade Prevention Network.

The cost of this sub project will be US\$42 000 and will be implemented by UNEP.

8.1.3 Component 3: Training and Certification of Technicians and Establishment of an Association of Refrigeration Technicians

This project will aim to strengthen good refrigeration practices, including recovery and recycling, and retrofitting of fixed and mobile systems using drop in replacement refrigerants by building on the progress that has already taken place under the related training programmes under the RMP. The specific activities to be undertaken are:

- providing training in good practices to an additional 60 refrigeration technicians, mostly from the informal sector, using the local expertise developed under the RMP;
- mandating the certification of technicians through the Substances that Deplete the Ozone Layer (Control) Regulations;
- establishing an Association of Refrigeration Technicians;
- developing, publishing and distributing to refrigeration technicians a Code of Good Practice;
- promoting Recovery, Recycling and Reuse, and good practices through an awareness-raising campaign;
- develop skills in retrofitting of fixed and MAC systems, with emphasis on the use of drop-in replacements for CFCs;

This component of the TPMP is to be implemented by UNEP at a total cost of US\$ 57 000.00 between June 2006 and December 2009. It is expected to achieve a reduction of 2.80 ODP tonnes of CFCs up to the end of 2010.

8.1.4 Component 4: Provision of Equipment and Retrofit Demonstration

The objectives of this component are two fold, viz:

- a) To provide qualified service technicians with the tools and equipment necessary to improve servicing practices, thereby reducing on emissions of CFCs; and
- b) to demonstrate and promote the use of non CFC drop in replacement

refrigerant blends to retrofit both mobile and fixed refrigeration systems.

These objectives will be achieved through:

- i) The provision of multi refrigerant recovery equipment to qualified technicians in the MAC and fixed systems sub sectors on a case by case basis as well as basic servicing tools such as brazing equipment, vacuum pumps, scales, leak detectors, storage cylinders, pressure gauges etc, to enable them to better implement the skills to be acquired under the training component; and
- ii) Two small retrofit demonstration projects to encourage the use of drop in refrigerant replacement blends in the MAC and fixed systems sub sectors to demonstrate the use of these blends. Replacement blends to be decided upon (e.g. R413a) will be provided to undertake the demonstration projects as well as to introduce them to the market.

In addition, to the extent to be determined, incentives will be provided to end users to retrofit existing CFC-based equipment which have a useful life beyond 2009.

The total cost of this component, to be implemented by UNDP is US \$108 000. It will be implemented between July 2006 and December 2009 and is expected trigger the voluntary retrofitting of CFC-based equipment, resulting in the elimination of 1.8 ODP tonnes of CFCs by the end of 2009.

8.2 Expected impact of TPMP on total demand and consumption

The expected impacts of each of the TPMP components are further discussed in Annexes I to III of this document. However, the following table provides a summary of these expected impacts on an annual basis and, cumulatively up to the end of 2010. The figures are obtained by adjusting the gap between the projected demand calculated in Table 4.2 and adjusting each year's totals by subtracting the permanent demand reduction achieved through the retrofit incentive scheme.

Table 5: Expected impacts of TPMP projects (ODP T)

Project component	2006	2007	2008	2009	2010	Total
Calculated consumption	2.60	2.42	1.92	1.12	1.81	
Permanent reductions from retrofit incentive programme	0	0.30	0.60	0.90	0.90	2.70
Strengthening of Recovery and Reuse, training and promotion of good practice	0.75	1.56	0.76	0.22	0.91	4.20
Net annual demand	1.85	0.56	0.56	0.56	0	

As indicated in Table 5, the total phase-out required between 2006 and 2010, over and above quotas to be assigned under the Licensing system is estimated to be 7.54 ODP tonnes. The retrofit incentive programme targets 300 retrofits to be undertaken each year from 2007 and the impact recorded in Table 5 reflects the reduction in demand for

servicing the retrofitted equipment. The gap between the total consumption reduction and the impact of the retrofit incentive programme reflects the impact of the technicians' training as well as the recovery and reuse initiatives.

9.0 TOTAL COST AND FINANCING OF TPMP

Based on the guidelines of the Executive Committee, St. Kitts and Nevis is entitled to receive a total of US\$205 000.00 plus 50% of the amount approved under its RMP to fund its TPMP. Hence the total available to the country is US\$ (205 000 + (110 000/2)) = US\$ 260 000.00. However, the total requested to fully fund the projects in this TPMP is US\$ 252 000.00. The specific activities will be undertaken by UNEP or UNDP, based on their expertise and experiences as Implementing Agencies. The funding is to be disbursed in 4 annual tranches shown in Table 6 below, with the value of each determined on the basis of the milestones set for the particular year.

Table 6-Proposed disbursement schedule (USD)

Project	1 st tranche (June-Dec 06)	2 nd tranche (Jan-Dec 07)	3 rd tranche (Jan-Dec 08)	4 th tranche (Jan-Dec 09)
Component 1 (UNEP)	10000	12000	12000	11000
Component 2 (UNEP)	17 000	15 000	8000	2000
Component 3 (UNEP)	13000	33000	10000	1000
Component 4 (UNDP)	50 000	45 000	10 000	3 000
Totals	90 000	105 000	40 000	17 000

10. TPMP MILESTONES

Consistent with the approach taken under the MLF for TPMPs, the disbursement of the second, third and fourth funding tranches would be contingent on the achievement of certain milestones. UNEP and UNDP will be responsible for verifying the achievement of the milestones at the end of each year prior to, and as a condition for the release of funding for subsequent years. The milestones to be achieved and verified are as follows:

December 2006

- Establishment and activation of a project management unit;
- Preliminary discussions on the establishment of an Association of Refrigeration Technicians;
- Commencement of training in Good Practices, Recovery, Recycling and Reuse of Refrigerants and Retrofitting, including the use of drop-in replacements for fixed and MAC systems;
- Promotion of the Programme;
- Design of the retrofit demonstration projects;
- Training of 15 Customs officers and other stakeholders;
- Initial discussions on designing of the Illegal Trade Prevention Network

- Monitoring and Evaluation reports

December 2007

- Further training of technicians and distribution of equipment;
- Promotion of R&R Programme;
- Establishment of an Association of Refrigeration Technicians
- Develop Code of Good Practice
- Execution of the retrofit demonstration projects and incentive programme;
- Further training of Customs Officers;
- Amendment of the Montreal Protocol Regulations to require licensing of technicians;
- Implementation of the Illegal Trade Prevention Network
- Monitoring and Evaluation reports

December 2008:

- Continuation of retrofitting incentive programme
- Further training of technicians;
- Further training of customs officers
- Meetings of Illegal Trade Prevention Network
- Monitoring and evaluation reports

December 2009:

- Continuation of retrofitting incentive programme
- Meetings of Illegal Trade Prevention Network
- Final monitoring and evaluation reports

Based on the expressed wish of the Government of St. Kitts and Nevis to have some flexibility in the implementation of the projects under this TPMP, the above milestones may require some adjustment if either the order or scope of any of the sub-activities are varied to achieve greater impact on reducing consumption. In all such cases this will be done in collaboration with the relevant Implementing Agency.

ANNEX 1

TPMP COMPONENT 1

ESTABLISHMENT OF A MONITORING AND EVALUATION PROGRAMME

PROJECT COVER SHEET

COUNTRY	St. Kitts and Nevis
SECTORS COVERED	Refrigeration servicing sector
PROJECT TITLE	TPMP Monitoring and Evaluation Programme
PROJECT IMPACT	Ensuring the effectiveness of all projects proposed within the TPMP
Remaining unfunded consumption	5.38 ODP tonnes
Current (2004) consumption	3.33 ODP tonnes
Refrigeration sector consumption	3.33 ODP tonnes
Servicing sector consumption	3.33 ODP tonnes
Project cost	US\$ 45 000
Government Contribution	In kind
Amount requested from the MLF	US\$ 45 000
Implementing Agency Support Cost (13%)	US\$ 5 850
Total Cost of Project to the MLF	US\$ 50 850
Implementing Agency	UNEP
National Coordinating Agency	National Ozone Unit

Project Summary: The TPMP monitoring programme will ensure the effectiveness of all the projects proposed within the TPMP through constant monitoring and periodic evaluation and reporting of the impacts of the projects against agreed milestones, as well as recommendations on corrective measures when milestones are not met.

Impact of Project on the Country's Montreal Protocol Obligations: This project will contribute to the country meeting its phase out schedule by ensuring that the projects are executed on time and the impacts are realized.

PROJECT DESCRIPTION

1.0 Objective:

To ensure the effectiveness of all projects within the TPMP through constant monitoring of project implementation, verification of project results, analysis of problems encountered and application of corrective measures.

2.0 Background:

2.1.1 The Government of St. Kitts and Nevis proposes within this TPMP to undertake a number of projects to meet its obligations under the Montreal Protocol. In order to achieve the targets and milestones set, it will be necessary to ensure that the annual work plans are executed in a timely manner, appropriate analyses of the impacts conducted and remedial actions taken as necessary. However, based on the experiences gained and lessons learnt during the implementation of RMP, it was realized that the NOU does not have adequate staff (both in numbers and capacities) for project implementation and data reporting. As a result, the planned implementations were not realized on time. This TPMP is more demanding than the RMP and as such it is necessary to have resources dedicated to ensure the timely and effective implementation of all components of the TPMP. To this end it is proposed to establish a separate project management unit to, inter alia, oversee the implementation of all components of the project.

3.0 Approach:

Immediately following the approval of the TPMP, a monitoring, evaluation and reporting protocol will be designed for all components of the project. This will be done under the guidance of UNEP and will be informed by the following functions of the project management unit to be established under this component:

- Manage the implementation of the TPMP on a daily basis;
- Monitor the implementation of each sub project component against the milestones set;
- Provide periodic reports on all sub projects to the National Ozone Office, the Implementing Agencies and the Multilateral Fund Secretariat;
- Identify and report on deadlines missed, and recommend remedial actions;
- Assess and report on the impact of projects against expected impacts;
- Make recommendations on adjustments to projects to maximize their impact on consumption reduction;
- Assist UNEP and UNDP to conduct the verification of the CFC consumption and demand;
- Provide input into, and assist with the preparation of Annual Implementation Plans;
- Conduct annual performance audits; and
- Prepare Annual Progress reports.

3.1 In addition to the design of the monitoring and evaluation protocol, a Project Management Unit (PMU) will be established to implement the M&E protocol. The PMU will manage and coordinate the TPMP implementation and manage the day to day activities under guidance and support of the NOU, UNEP and UNDP. The PMU

will be designated with the tasks listed above and will have clearly defined the performance indicators. To this end, appropriate staff will be recruited and its management and reporting arrangements set in consultation with UNEP and the Department of Physical Planning and the Environment, under which the National Ozone Unit is housed

4.0 Expected impacts

The establishment of the Project Management Unit along with the M&E protocol it will be required to follow will ensure the timely completion and effectiveness of all projects proposed within this TPMP, thus contributing to the efforts of the government to meet its 2007 and 2009 obligations under the Montreal Protocol.

5.0 Milestones:

The milestones below are based on the TPMP being approved by the Executive Committee at its 48th Meeting in April 2006 and funding made available through the Implementing Agencies by the start of the third quarter of 2006.

Table 7: Milestones for Project Monitoring Evaluation and Reporting

Activity	2006				2007				2008				2009			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Establishment of M&E protocol and unit			X	X												
Reporting on sub projects			X	X	X	X	X	X	X	X	X	X	X	X	X	X
Assess impacts of projects			X		X		X		X		X		X		X	
Verification of consumption and demand						X			X				X			
Preparation of annual implementation plans			X				X					X				X
Annual performance audits					X				X				X			
Annual progress reports					X				X				X			
Terminal report																X

6.0 Budget:

The budget for this project, which will be implemented by UNEP is as follows:

Table 8: Budget breakdown

	Budget (USD)
Design of monitoring and evaluation protocol	5000
Project staff (based on an average fee of \$2500 per quarter, commencing July 2006 to December 2009)	35000
Operating costs	5000
Total budget	\$ 45000

ANNEX 2

**TPMP COMPONENT 2:
CONTINUED ENFORCEMENT OF THE IMPORT/EXPORT LICENSING
SYSTEM AND PREVENTION OF ILLEGAL TRADE**

PROJECT COVER SHEET

COUNTRY	St. Kitts and Nevis
SECTORS COVERED	Refrigeration servicing sector
PROJECT TITLE	Continued Enforcement of the Import/ Export Licensing System and Prevention of Illegal Trade
PROJECT IMPACT	Ensuring that consumption does not exceed Ptr Limits
Remaining unfunded consumption	5.38 ODP tonnes
Current (2004) consumption	3.33 ODP tonnes
Refrigeration sector consumption	3.33 ODP tonnes
Servicing sector consumption	3.33 ODP tonnes
Project cost	US\$ 42 000
Government Contribution	In kind
Amount requested from the MLF	US\$ 42 000
Implementing Agency Support Cost (13%)	US\$ 5 460
Total Cost of Project to the MLF	US\$ 47 460
Implementing Agency	UNEP
National Coordinating Agency	National Ozone Unit

Project Summary: This project develop the ability of customs officers and other enforcement personnel to monitor and control trade in ozone depleting substances and related technologies and help to prevent related illegal trade

Impact of Project on the Country's Montreal Protocol Obligations: Through this project, the importation of CFCs will be kept to within the Protocol limits for the

PROJECT DESCRIPTION

1.0 Objective:

The objectives of this sub project are to train the remaining Customs Officers and other stakeholders in the enforcement of the Montreal Protocol Regulations and to prevent illegal trade.

2.0 Background:

With the passage into law of the Substances that Deplete the Ozone Layer (Control) Regulations, the legal conditions for the enforcement of the licensing and quota system as well as the prohibition of imports of equipment incorporating CFC technology are in place. Enforcement of these measures will require a Customs department whose officers are aware of the issues and are capable of enforcing the regulations. Under the Customs Training undertaken in October 2004 as part of the RMP, 23 Customs Officers and other enforcement personnel were trained as "trainers". However, there are some 100 Customs officers stationed at various ports throughout the islands and those who were not involved in the original training will require training in the enforcement of the Regulations if the country is to meet its commitments. In addition to the Customs Officers, an additional 20 other stakeholders, including the Coast Guard officers, Customs Brokers, Trade officials and Standards Officers will be included in this training programme. Also, given that the projected demand for CFCs will be above the quotas to be allocated, pressures will be brought to bear on supply streams. This can encourage illegal trade, particularly as St. Kitts and Nevis is a twin-island state in close proximity to other island states, and with unprotected borders accessible by small crafts. Therefore the prevention of illegal trade is considered to be an important component in the overall phase out strategy for the government.

This sub project is designed to address both issues described above.

3.0 Approach:

3.1: Training of the remaining customs officers:

Approximately 100 Customs Officers and other stakeholders have not had training in the monitoring and control of trade in ozone depleting substances and as such are not equipped to enforce the licensing system. Under this sub component these persons, who includes Customs officers mainly, but will also include other relevant stakeholders such as Customs Brokers, the Coast Guard, Trade Officials and Standards Officers will be exposed to the one day training programme designed during the Train the Trainers component of the original training programme conducted under the RMP in 2004. This training will be conducted by the "Customs trainers" who were trained in 2004 and will require 5 – 7 workshops to ensure that all officers receive the training. Given that some two years would have elapsed since

they received their training, a determination will be made at the appropriate time as to whether they will require a refresher course prior to the start of this training.

3.2: Prevention of Illegal trade:

As indicated earlier, there is concern that demand pressures may encourage illegal trade in CFCs through the many points of entry, particularly those without Customs presence throughout the islands that comprise St. Kitts and Nevis. To address this, an Illegal Trade Prevention Network will be established with nodes connecting the islands and involving both the Customs and Coastguard services. In addition, to the extent possible, coordination will be established with neighboring island states to establish an information network to cover the cluster of island states that form the northern Lesser Antilles. Its function will be to establish and maintain linkages to share information on the movements of crafts into and between the islands forming the network as well as to devise and implement strategies for search and seizure as necessary. The activities will include:

- Organisation of meetings with high ranking Customs, Police and Coastguard representatives to design the information sharing network, agree on operational details and procedures and decide on cooperation arrangements;
- Collaboration with similar personnel from neighbouring island states to become a member of, and support the network;
- Creation of an Ozone Protection Information Network; and
- Organisation of two annual planning and review meetings to discuss the effectiveness of the systems and make adjustments, as may be needed.

3.3: Milestones:

- Planning and design of the Illegal Trade Prevention Network completed by December 2006
- Creation of the Ozone Protection Information Network by March 2007
- Inter-island dialogue initiated to expand the network to island states in the northern Lesser Antilles by July 2007
- Two planning and review meetings in 2007, 2008 and 2009.

3.4 Time Frame and Budget:

Table 9: Time frame for Project Components

ACTIVITY	Time frame
Further training of Customs officers and other stakeholders	Jul 06 – Dec 08
Provision of Refrigerant identifiers	Dec. 06- Sep.07
Negotiations with neighbouring islands	March 2007
Design of Illegal Trade Prevention Network	Jul. - Dec. 06
Design and review meetings	Sep. 06 – Dec. 09

The cost of this sub project, which will be implemented by UNEP, is as follows:

Table 10: Budget Breakdown by Line Items

Item	Budget (USD)
<i>Further Customs Training</i>	
4 – 7 training workshops (organization and Training materials)	\$15 000
Travel and DSA (for participants from Nevis islands)	\$4 000
Refrigerant identification equipment (6)	\$ 6 000
<i>Sub-total</i>	<i>\$25 000</i>
<i>Establishment of Illegal Trade Prevention Network</i>	
Local expert for project design and implementation	4 000
Establishment of information network	8 000
Three meetings (Initial planning meeting and 2 review meetings)	5 000
<i>Sub-total</i>	<i>17 000</i>
TOTAL	\$42 000

ANNEX 3

TPMP COMPONENT 3 TECHNICIANS TRAINING AND CREATION OF AN ENABLING ENVIRONMENT TO PHASE OUT THE USE OF CFC USE

PROJECT COVER SHEET

COUNTRY	St. Kitts and Nevis
SECTORS COVERED	Refrigeration servicing sector
PROJECT TITLE	Technicians Training and Creation of an Enabling Environment to Phase out CFC use
PROJECT IMPACT	This project will assist the country to meet its targeted consumption reductions by developing the skills of technicians to avoid the use of virgin CFCs through the employment of better servicing techniques, including the recovery and reuse of refrigerants and the retrofitting of CFC based equipment.
Remaining unfunded consumption	5.38 ODP tonnes
Current (2004) consumption	3.33 ODP tonnes
Refrigeration sector consumption	3.33 ODP tonnes
Servicing sector consumption	3.33 ODP tonnes
Project cost	US\$ 57 000
Government Contribution	In kind
Amount requested from the MLF	US\$ 57 000
Implementing Agency Support Cost (13%)	US\$ 7 410
Total Cost of Project to the MLF	US\$ 64 410
Implementing Agency	UNEP
National Coordinating Agency	National Ozone Unit

Project Summary: This project will train technicians in good practices in refrigeration servicing, including recovery and reuse of refrigerants and the retrofitting of CFC based equipment. It will also enhance the environment in which technicians operate by establishing an Association of refrigeration Technicians, developing a Code of Practice for the industry and mandate the certification of technicians for entry into the profession.,

PROJECT DESCRIPTION

1.0 Objective

The objectives of this project are to:

- a) Upgrade the skills of technicians to reduce emissions of CFCs during the servicing of refrigeration equipment
- b) Train technicians to undertake the retrofitting of CFC based equipment through the use of drop in replacement refrigerant blends; and
- c) Create an enabling environment to ensure that the skills acquired through the training are applied.

2.0 Background

In May 1999, 18 technicians were trained in good practices in refrigeration servicing and in October 2004 an additional 15 technicians received training in Recovery and Recycling of refrigerants under the RMP. Unfortunately the recovery equipment to be provided to technicians to allow them to recover refrigerants was not supplied until September 2005. As a consequence, data on refrigerants recovered and reused is available from October 2006 only, and is presented in Table 3 above. The technicians indicate that the low rate of recovery of CFC-12 is because of the little opportunities for doing so with fixed systems. There are, however, significant opportunities for recovering refrigerant in the MAC sector, and this would be the primary focus of this component of the TPMP.

The following factors are taken into consideration in designing this project:

- It is estimated that about 60 technicians, mostly in the informal sector, have yet to receive any training in good practices;
- Retrofitting of refrigeration equipment is not generally practiced and technicians are not aware of the use of drop in replacement refrigerant blends;
- Although the local College provides training, there are no refrigeration servicing/management standards for CFCs;
- While the technicians who successfully completed training under the RMP project were certified by the government, there is no mandatory certification regime at this time;
- Most technicians working in all sub sectors do not have access to any recovery equipment;
- In the MAC sub-sector, it is estimated that about 15 - 20 technicians who provide service mostly on a free-lance basis did not receive any training or equipment;
- In the domestic sub sector there is a large number of free lance service providers with only hands-on training and therefore with no knowledge of R&R or retrofit techniques.

3. Approach

The activities to be undertaken under this component of the TPMP are designed to strengthen good refrigeration practices in the country by directly addressing the shortcomings identified in the section above. This will be achieved through the following sub projects:

3.1

Additional training for technicians

Approximately 60 technicians who did not receive training under the original RMP will be identified and recruited for training sessions to be conducted by local experts, using the facilities of the Clarence Fitzroy Bryant College. While the College's training programme for Refrigeration Technicians contains a module on Good Refrigeration Practices, it is only available to students who register for its courses. Hence, in order to reach the additional 60 technicians (mostly from the informal sector) special workshops will be organized, similar to those which were set up under the RMP.

The proposed training will cover a comprehensive package, including:

- Good Practices in Refrigeration Servicing;
- Recovery, Recycling and Reuse of refrigerants; and
- Retrofitting of CFC-based fixed and mobile equipment, with emphasis on the use of drop-in replacements and factors that determine the suitability of the replacements.

The above exercises will cover both fixed systems and MACs, with greater emphasis on the latter, and will be coordinated with Component 4 below, under which the requisite equipment, tools and materials to put the newly acquired skills into practice will be made available to qualified technicians on a case by case basis.

As can be seen from Table 1, the use of CFC-12 for servicing of domestic and small commercial equipment is estimated at 0.387 ODP Tonnes. This consumption is due to leakage and compressor burn out and is at the moment new CFCs. While Recovery and Recycling, particularly from commercial systems being decommissioned, will provide some refrigerant to reduce the demand, the impact will not be sufficient to meet the entire demand. The option of replacing the entire refrigerator because CFC-12 is not available is not an acceptable one for the Government and the citizens of the country as the refrigerator ranks amongst the top 5 most expensive items in a household. In addition many small businesses derive their livelihood from selling refrigerated products including soft drinks.

A cost effective approach to deferring the retirement of otherwise serviceable refrigerators and small commercial appliances when they need refrigerant due to leakage or compressor burn out, is to have them retrofitted with drop in substitutes. This ensures the continued use of the equipment and reduces the demand for new CFCs.

3.2

Certification and licensing of technicians:

In order to support the training of the country's remaining technicians, the Government will introduce a mandatory licensing regime for all practicing technicians as well for new entrants into the profession. The Regulations already include a provision for the licensing of Retrofitters. This will be extended to include provisions requiring technicians to be licensed in order to practice their trade. In addition to reducing emissions and ensuring quality standards to customers in the refrigeration servicing sector, this initiative also supports ongoing efforts within the Caribbean Ozone Officers Network to have all technicians in the

Caribbean region achieve a desirable common standard. With the phased entry into force of the CARICOM Single Market and Economy (CSME), beginning in January 2006, under which restrictions on the movement of services across the region will be facilitated, the setting of such standards will eventually allow technicians to offer their services throughout the region at standards consistent with those of the Montreal Protocol. This certification will also be done in coordination with the College, thereby ensuring continuation of the standard of training new students will be receiving.

3.3 *Development and publication of Code of Good Practice:*

Using examples from UNEP and other agencies, a Code of Good Practice establishing standards for the management and servicing of refrigeration and air-conditioning equipment will be developed, published and distributed to the country's technicians. The proposed Association of Refrigeration Technicians will be the key partner in helping to develop and implement the Code.

3.4 *Establishment of an Association of Refrigeration Technicians:*

For some time now, technicians in St. Kitts and Nevis, in consultation with the NOU have been trying to establish an Association with little success. During the data gathering mission to the country under this project, interest in this was revived. In addition, the NOU is of the view that such an association will serve a number of purposes, including to:

- a) help regulate industry practices to ensure that minimum standards are set and maintained;
- b) set minimum standards for entry into the profession;
- c) assist in the development and implementation of codes of good practices in the industry;
- d) coordinate dialogue on matters that affect the industry, including those related to compliance with the Montreal Protocol, with the Government;
- e) assist the Government with data collection and verification;
- f) provide a formal point of contact between the Government and industry to discuss matters related to the implementation of the Montreal Protocol;
- g) provide a formal forum where emerging local and international issues, including technological advances can be addressed; and
- h) assist the NOU in Sector specific education and awareness activities

Given the above, the Government sees the establishment of the Association as an integral part of the enabling framework being established to assure its compliance with its obligations with the Montreal Protocol. This activity will require a small budget to help catalyze the establishment of the Association. The funds will be used to hire a legal consultant to prepare the Articles of Association and Rules of Procedure for the Association, fund an exchange visit by a representative of a similar Association from the region and meet the logistical costs of the first few meetings.

4.0 *Project Impact:*

This project will assist the country to meet its targeted consumption reductions by developing the skills of technicians to avoid the use of virgin CFCs through the employment of better servicing techniques, including the recovery and reuse of refrigerants and the retrofitting of CFC based equipment. In quantifying the consumption

reduction of borne this project, which is estimated at 1.85 ODP tonnes up to the end of 2009, it must be in mind that the actual reductions will be achieved in conjunction with Component 4 below, under which the required tools and equipment will be provided to practice the new skills and the retrofit demonstration projects executed.

4.0 Time Frame:

The following timeframe for the completion of the components of this project is based on the TPMP being approved by the 48th meeting of the Executive Committee:

Table 11: Time frame for Project Components

Activity	Time frame
Establishment and operations of the Association of Refrigeration Technicians	July 2006 onwards
Development of Code of Good Practice	Jan 07
Training of technicians	Jan 07 – Dec 09
Amendment of the Montreal Protocol Regulations to require licensing of technicians	Dec. 07

5.0 Budget:

The budget for this project, which will be implemented by UNEP, is as follows:

Table 12: Budget breakdown by Line Items:

Item	Budget (USD)
<i>Training of technicians and good practices</i>	
Local organization and local experts for training of additional 60 technicians in Good Practices, R&R and Retrofits for all sub sectors	40 000
Development of Code of Good Practice	6 000
Promotion of R&R and good practices	6,000
Establishment of Association of Refrigeration Technicians	5 000
Total	57 000

ANNEX 4

TPMP COMPONENT 4

PROVISION OF EQUIPMENT AND RETROFIT DEMONSTRATION
USING DROP IN REFRIGERANT REPLACEMENT BLENDS

PROJECT COVER SHEET

COUNTRY	St. Kitts and Nevis
SECTORS COVERED	Refrigeration servicing sector
PROJECT TITLE	Provision of Equipment and Retrofit Demonstration drop in replacement refrigerant Blends
PROJECT IMPACT	This project will assist the country to meet its targeted consumption reductions by contributing to elimination of 1.85 ODP tonnes of CFCs by the end of
Remaining unfunded consumption	5.38 ODP tonnes
Current (2004) consumption	3.33 ODP tonnes
Refrigeration sector consumption	3.33 ODP tonnes
Servicing sector consumption	3.33 ODP tonnes
Project cost	US\$ 108 000
Government Contribution	In kind
Amount requested from the MLF	US\$ 108 000
Implementing Agency Support Cost (13%)	US\$ 9 720
Total Cost of Project to the MLF	US\$ 117 720
Implementing Agency	UNDP
National Coordinating Agency	National Ozone Unit

Project Summary: This project will provide technicians with the equipment and tools they require to avoid emissions of refrigerants during the servicing of refrigeration equipment *and* demonstrate to technicians how to undertake retrofits of CFC based equipment using ozone friendly drop in replacement refrigerants.

Impact of Project on the Country's Montreal Protocol Obligations: This project will contribute to the elimination of 1.29 ODP tonnes of CFCs by the end of 2009.

PROJECT DESCRIPTION

1 **Objective:**

The objective of this project is to assist the refrigeration servicing sector in its efforts to reduce the use of virgin CFCs by:

- providing multi refrigerant recovery machines, tools, consumables and spares to selected service agencies on a case by case basis; and
- promoting the retrofitting of CFC based equipment using drop in replacement refrigerant blends.

2 **Background:**

Under the RMP, 18 technicians were trained in good practices in refrigeration servicing in 1999 while 15 technicians received training in recovery and recycling in 2004. These training experiences will be strengthened under Component 3 of this TPMP, under which further training of technicians will be provided. However, the technicians will require appropriate equipment, including multi refrigerant recovery machines and related spares and equipment, as well as tools to upgrade their ability to apply the skills to be acquired under Component 3. This component will address this need, thereby ensuring that the skills acquired under Component 3 are practiced.

Another cause for concern is the continued availability of CFC based equipment on the island, particularly those likely to have a useful life beyond 2009, and the demand they continue to create for refrigerants. The population of CFC-based equipment in St. Kitts and Nevis in 2004 is shown in the Table 13 below:

Table 13: Equipment Stock

Type of equipment/ install	Total population	CFC-based population	Contained CFCs
Domestic/ Small-sized	18 000	5 400	1.08
Commercial/Industrial	1 240	182	0.334
MACs	15 474	5 600	5.60
Total			7.014

Unless the CFC based equipment, particularly those likely to be in service beyond 2009 are retrofitted or retired, they will place additional pressures on the country's ability to meet its targeted reductions in consumption.

Retrofitting is generally not practiced in St. Kitts and Nevis. However, based on data from other countries in the Caribbean, the cost of retrofitting a MAC system is in the order of US\$ 370.00 and owners of such systems are unlikely to meet this cost if the system can be repaired. The same argument holds true for fixed (domestic and commercial/industrial) systems, for which the cost of a retrofit is estimated to be in the range of US\$150.00 - \$ 450.00. The result will be that demand reductions will not be in keeping with the level required for supplies to satisfy the market, and this can cause hardships for owners of such equipment and may even encourage illegal trade.

This project will also encourage owners of CFC-based equipment in all sectors, but with special emphasis on the MAC sub sector, to undertake early retrofits of their equipment through the incentives to be offered. This is considered necessary to avoid the projected excess demand for CFCs that is unlikely to be met through the recovery and recycling of refrigerants.

3 Approach:

As noted earlier, there are two sub components to this project, the approach to the delivery of which are described below:

i) Procurement and distribution of equipment:

Under this component a national needs assessment will be conducted to determine what basic servicing tools and the number and specifications of the multi refrigerant recovery units, including spares parts will be required. In addition, criteria for selecting service agencies to receive the equipment and conditions for the donations will be determined. Following these determinations, the tools and equipment will be acquired for distribution. The actual placement of the equipment and tools will be done on a case by case basis, by applying the criteria developed for this purpose. It must be noted that since the number and nature of the equipment to be acquired will depend on the outcome of the national assessment, a pre determination of these equipment and their numbers cannot be made at this time. However, an indicative list of the equipment and tools is:

- 8 MAC machines and related parts;
- 6 recovery machines and related equipment (cylinders, recovery kits, recovery bags, pumps etc.)
- 10 portable recovery pumps for small appliances;
- 48 additional storage cylinders;
- Brazing equipment, pressure gauges, piercing pliers etc
- Scales
- Leak detectors;
- Vacuum pumps
- Consumables and spare parts.

Execution of this Component will require collaboration and cooperation with UNEP, who will be responsible for the related training as elaborated in Component 3 above to ensure that the supporting activities such as the training of technicians, the promotional campaign and the development of the Code of Good Practice are completed in time to support this Component.

ii) Retrofit Demonstration project:

Under this component, ozone friendly drop in refrigerant replacement blends will be used to demonstrate the cost and performance effectiveness of retrofitting CFC-based equipment. Through these demonstrations, owners of CFC based equipment will be encouraged to have them retrofitted as soon as possible so as to avoid the future demand these equipment will create if they are simply repaired when serviced next. This will lead to a direct reduction in the use of CFCs required for servicing such equipment, avoid any future demand for their servicing and contribute to the country's overall phase out strategy. The emphasis will be on the use of the

more cost effective use of drop in replacement refrigerant blends in all sub sectors and two demonstration sub components will be designed and executed for the MAC and fixed system sub sectors respectively. To this end, a survey will be conducted to determine the types of equipment available for retrofitting and the drop in refrigerant blends that will meet the performance criteria to ensure at least similar performance characteristics.

Prior to the launch of this initiative, local experts and the NOU will design the retrofit demonstration project by:

- developing criteria for qualification for retrofits in the sub-sectors to be targeted,
- quantifying the level of support to be provided for each sub sector, which should be either the cost of the replacement refrigerant or the labour cost for the retrofit;
- deciding on administrative and operational procedures for the scheme, including the method and timing of payments;
- identifying record keeping and reporting requirements; and
- Designing and executing a promotional campaign for the initiative.

Following the above preparatory activities, appropriate ozone friendly replacement refrigerant blends will be purchased and demonstration retrofits, targeting both service technicians and equipment owners conducted at appropriate locations around the islands. For CFC phase out to be truly successful, end users have to be convinced and facilities have to be available. The import of drop in replacement refrigerants blends such as R-413a has to be in sufficient quantity to have any impact. The service companies do not have the financial strength to be able to do that. Once the "seed" drop in refrigerant is imported and distributed across the country, and the retrofit projects pick up, the demand for the drop in refrigerant will be established, prompting importers to look at it as a business opportunity. This pilot project combined with the training to be provided by Component 3, will prove the technical and economical feasibility of the new drop in replacement blends and make them more attractive to ends users. However, it is vital for the project to have the initial support of the Multilateral Fund.

4 Expected Impact:

The use of existing R&R equipment, the provision of additional equipment, and the retrofit demonstration projects are expected to work in a synergistic relationship to allow the service sector to meet local demand for CFCs. In an environment where under the licensing system supplies are below demand, the recovery and reuse of refrigerants and the avoidance of new demand through retrofits will contribute to permanent demand reductions. The actual reductions expected is 1.29 ODP tonnes in 2007 and 0.28 ODP tonnes in 2008 and 2009 respectively.

5 Milestones

The following milestones are set for this project:

Activity	Time-frame
Survey of equipment needs	July – Sep 2006
Development of criteria and mechanism for selection of beneficiaries	Sep – Oct 2006
Agree on incentives to be provided to undertake retrofits	Sep – Oct 2006
Identification of appropriate drop in replacement refrigerants	Sep – Oct 2006
Design and promote retrofit projects	Oct – Nov 2006
Retrofit demonstration projects	Jan 07 – Dec.09
Monitoring, evaluation and reporting	Dec. 06 – Dec. 09
Trainers' workshop (for MACs and fixed systems)	Nov. 06 – Dec 08

6 Budget

Item	Budget (USD)
Equipment	
8 MAC machines and related parts	20 000
6 recovery machines and related equipment (cylinders, recovery kits, recovery bags, pumps etc.)	10 000
10 portable recovery pumps for small appliances	6 000
Storage cylinders	6 000
Vacuum pumps, electronic scales, leak detectors, brazing equipment and tools	10 000
Consumables, spare parts, freight	6 000
Expert to conduct survey and develop guidelines and criteria for distribution of equipment	6 000
Equipment sub total	64 000
Retrofit Demonstration	
Project design	6 000
Project implementation	38 000
Retrofit demonstration sub total	44 000
TOTAL	108 000



Annual Work Plan

St. Kitts and Nevis - City Pgmm

Award Id: 00044471

Award Title: Terminal Phase out Management Plan for CFC in St.Kitts

Year: 2006

Report Date: 16/7/2006

Project ID	Expected Outputs	Key Activities	Timeframe		Responsible Party	Planned Budget				
			Start	End		Fund	Donor	Budget Descr	Amount US\$	
00052323	Terminal Phase out Management	Equipment for Retrofit Demo	29/6/06	31/12/09	BAR-Government of St. Kitts/Ne	63080	MPU	71200	International Consultants	8,000.00
				31/12/09	BAR-Government of St. Kitts/Ne	63080	MPU	71300	Local Consultants	4,000.00
				31/12/09	BAR-Government of St. Kitts/Ne	63080	MPU	71600	Travel	3,000.00
				31/12/09	BAR-Government of St. Kitts/Ne	63080	MPU	72200	Equipment and Furniture	33,000
				31/12/09	BAR-Government of St. Kitts/Ne	63080	MPU	74500	Miscellaneous Expenses	2,000.00
TOTAL										50,000.00
GRAND TOTAL										50,000.00