

# Signature Page

Country: **Suriname**

**Project Title** Terminal phase out management plan for annex a group 1 substances for Suriname SUR/PHA/56/INV/16

**UNDAF Outcome(s):** Outcome 1: By the end of 2011, pro-poor policies in place to ensure that vulnerable groups in society benefit from growth and have equitable access to opportunities, assets, resources and decent work.

**Expected CP Outcome(s):** Country Programme Outcome 1.4.: A sustainable natural resources planning and management system is in place

**Expected Output(s):** Responsible organizations have acquired demonstrable and enhanced capacities to: manage the conservation and sustainable use of biodiversity; implement measures on the adaptation and mitigation of the effects of climate change; establish a mechanism for Sustainable Land Management (SLM) with particular emphasis on reducing the vulnerability of the poor and expanded opportunities for sustainable livelihoods.

**Implementing partner:** National Institute for Environment and Development in Suriname

**Project Summary:** Service tools and equipment will be provided to about 55 service agencies and technicians to equip them to practice good refrigeration servicing, including the retrofitting of CFC based equipment. This will be supported through the training of selected technicians in retrofitting of CFC based equipment and a public awareness programme to encourage the retrofit of CFC based equipment.

Programme Period:	2010
Atlas Award ID:	00059350
Start date:	1 January 2010
End Date:	31 December 2010
PAC Date:	17 December, 2009
Management Arrangements:	NEX

Total allocated resources:		
	MLF	US\$ 125,000
• Total budget		US\$ 125,000

Agreed by Government of Suriname:		Date
Dr. Ricardo van Ravenswaay; Minister of Planning and Development Cooperation		
Agreed by Implementing partner:		Date
Mr. Marlene Harris; General Director National Institute for Environment and Development in Suriname (NIMOS)		
Agreed by UNDP:		Date
Dr. Thomas Gittens; UNDP Country Director		

## **PART 1: ELABORATION OF THE NARRATIVE**

### **1.1 Situation Analysis**

#### **1.1.1 Background**

The Republic of Suriname is located on the north east coast of South America. It shares borders with Brazil to the south, French Guyana to the east and Guyana to the west. Its northern boundary is the Atlantic Ocean, where its coastline measures 386 km. The country is a low lying developing country with a land mass of 163 265 km<sup>2</sup> and a population of 492 829 (2004 census). There are some 130 000 households in Suriname. The economy is fairly well diversified, with the key sectors being mining, agriculture (including fisheries), forestry and tourism.

#### **1.1.2 Status**

Suriname acceded to the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer on October 14<sup>th</sup>, 1997 and subsequently acceded to the London, Copenhagen, Montreal and Beijing Amendments to the Protocol on March 9<sup>th</sup>, 2006. With a baseline consumption of 41.3 ODP tonnes, the country is classified under Article 5 of the Protocol. The country does not produce Ozone Depleting Substances or products containing them.

Suriname's Country Programme (CP) was approved by the Executive Committee at its 41<sup>st</sup> Meeting in December 2003. The CP included an Institutional Strengthening (IS) project, which was funded at a level of US\$ 110,000.00 over a three year period, with UNEP serving as the Implementing Agency and included:

- Institutional Strengthening (IS)
- Refrigerant Management Plan
- Implementation of the RMP: Technical Assistance Project for the MAC and Refrigeration Service Sectors
- Public Education and Awareness
- Import/Export Licensing System
- Technicians Training
- Customs training
- Establishment of an Association of Refrigeration and Air conditioning Technicians

#### **1.1.3 Institutional Framework**

National Ozone Unit (NOU) was established in August 2004 following the approval of the Country Programme and Refrigerant Management Plan. It is headed by the National Ozone Officer (NOO) who is the technical focal point for all Ozone related issues within Suriname. The NOU is situated within the National Institute for Environment and Development in Suriname (NIMOS), whose primary task is to initiate and enforce environmental legislation for the Government of Suriname. Furthermore, the NOO is also Chairman of the National Program Team (NPT).

## Industry Structure

- **Importers:** CFCs or equipment containing CFCs is not produced in Suriname. All consumption is through imports and is restricted to the servicing of CFC-based equipment. All refrigeration equipment is fitted with non-CFC systems. This includes mobile air conditioning equipment.
- **The Service Sector** comprises about 55 service agencies in the formal sector providing services for the repairs and maintenance of fixed systems and an additional 25 service agencies specializing in Mobile air conditioning. The number of technicians in the formal sector is estimated at 350 and an estimated 150 persons in the informal sector.
- Skills levels vary from formal training at the local college (NATIN) or overseas, to the unskilled persons who learned the trade while working in workshops in the formal sector. Under the RMP, some 210 technicians, all of whom are from the formal sector, received training in Good Practices and Recovery and Recycling and 20 technicians were also trained as trainers.
- **Solvents:** No CFC based solvents are being used in Suriname.
- **Halons:** No Halons are imported into Suriname.
- **Foams:** There are two flexible foam production operations which use water and Methylene Chloride (CH<sub>2</sub>Cl<sub>2</sub>) as blowing agents respectively. There is no production of rigid foams.
- **Fumigation:** Methyl Bromide is not being used.
- **Metered Dose Inhalers (MDIs):** There is no evidence of CFC based MDI use in Suriname.

### 1.1.4 Consumption Trends

#### **Historic and Projected Consumption:**

Whereas Suriname ratified the Montreal Protocol in 1997, the country was slow in coming on board to meet its obligations to phase out the use of Annex A CFCs. Activities started after approval of the Country Programme, the Institutional Strengthening Project and Refrigerant Management Plan in December 2003. Since 2003 the country returned to, and maintained compliance with respect to consumption levels.

**Refrigerant Prices:** There is no evidence that the price of refrigerants is influencing the choice of refrigerants for servicing and retrofit applications.

**Imports:** Production trends in supply countries have forced technology imports towards non-CFC products and equipment. As a consequence, many products and equipment imported into the country are CFC-free. In addition, the prohibition of imports of used vehicles over eight (8) years old means that MACs imported into the country are also CFC-free.

### 1.1.5 Demand Forecast

Given the unavailability of CFC based new equipment, it is safe to conclude that all equipment is replaced with non-CFC technology. This implies a natural decline in the calculated demand as the CFC based equipment is put out of commission.

### Calculated future demand for Annex A. CFCs

Year/ Sector	Natural rate of decline	2007	2008	2009	2010
MACs	-10%	4.56	4.104	3.693	3.324
Buses	-6.7%	0.525	0.490	0.457	0.426
Refrigerated trucks	-6.7%	0.200	0.187	0.174	0.162
Commercial Sector	-6.7%	0.250	0.233	0.218	0.203
Industrial	-5%	0.726	0.690	0.655	0.622
Domestic	-10%	0.480	0.432	0.389	0.350
<b>Total</b>		<b>6.741</b>	<b>6.136</b>	<b>5.586</b>	<b>5.087</b>

## 1.2 Strategy

### 1.2.1 The Terminal Phase out Management Plan (TPMP)

#### Key Considerations Shaping the TPMP

There is fairly widespread retrofitting taking place by technicians who have not had the requisite training or the tools to undertake the operation. In addition the reported likelihood of illegal trade across the border with Guyana can potentially undermine the gains made. Against this background, the Government of the Republic of Suriname proposes to execute a Terminal Phase out Strategy for Annex A. CFCs which has the following key elements:

- Further training of technicians by extending training in good practices as well as alternative refrigerants, mostly in the informal sector;
- Developing skills of as many technicians as possible in retrofitting of existing equipment, especially MACs;
- Provision of basic service tools to a selected set of trained technicians in the informal sector to better equip them to practice good refrigeration servicing techniques;
- Upgrade the refrigeration training facilities at NATIN and The Foundation for Labour Mobilization and Development to support better training experiences during TPMP execution and beyond;
- Promoting recovery and re-use practices and the use of R&R equipment through awareness-raising and promotion;
- Further training of customs officers in the enforcement of the Regulations;
- Development of a Code of Good Practice;
- Promote the registration of refrigeration technicians;
- Compile an inventory of remaining uses of CFCs and stocks
- Monitoring, evaluation and reporting on implementation of the projects included in TPMP.

## **Project Objectives**

The objectives of this project are:

1. To enable Suriname to meet its obligations under the Montreal Protocol for the complete phase-out of Annex A. CFCs by the end of 2010; and
2. To ensure timely, sustainable and cost-effective CFC phase-out through the development and implementation of a combination of investment, training, technical support and policy/management support components;

The activities proposed above are grouped into three integrated components with associated implementation schedules and budgets, designed to be mutually supportive of each other

1. Facilitating the Sustained phase out of CFCs beyond 2010 through Training and Enforcement of the ODS Regulations;
2. Technical Assistance to provide tool kits for service technicians and strengthen training facilities;
3. 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.

**Component 2 will be implemented by UNDP and the components 1 and 3 by UNEP**

### **Technical Assistance to provide tool kits for service technicians and strengthen training facilities;**

This component of the project will upgrade the facilities at NATIN and the Foundation for Labour Mobilization and Development (SAO) to train technicians during the execution of the TPMP and beyond. For this purpose, a budget of US\$40,000 is proposed. It will also provide as many technicians as possible who participate in the evening programmes to be offered by NATIN and The Foundation for Labour Mobilization and Development with the basic service tools required to service refrigeration equipment. The budget for providing the tools is arrived at by setting a target number of recipients at 100 and making an indicative allocation of US\$ 800.00 per technician. An Additional USD 5,000 is budgeted for shipment and handling. Total cost are US\$125 000.00

### **Expected impact of TPMP on total demand and consumption**

Given that importers have decided to cease importing CFCs, the country has virtually achieved zero consumption. However, this status is artificial because of the residual demand for CFCs to service related equipment. Based on this argument, no specific consumption reduction is associated with this TPMP because no consumption, as defined in the Protocol is expected. However, the interventions will avoid the calculated consumption (in Annex A) through the creation of a supporting environment and equipping technicians with the skills and tools necessary to substitute such demand by using alternative refrigerants.

### 1.3 Annual Workplan

EXPECTED OUTPUTS	PLANNED ACTIVITIES	TIMEFRAME				RESPONSIBLE PARTY	PLANNED BUDGET		
		Q1	Q2	Q3	Q4		Funding Source	Budget Description	Amount
<p>Output 1 <b>Tool kits available for service technicians and strengthen training facilities</b></p> <p><i>Baseline:</i> Fairly widespread retrofitting taking place by technicians who have not had the requisite training or the tools to undertake the operation.</p> <p><i>Indicators:</i> Report on the purchase of the equipment. The number of trainees who receive a basic tools and equipment. Training facilities upgraded and used for training.</p> <p><i>Targets:</i> 55 - 100 service agencies and technicians equipped to practice good refrigeration servicing, including the retrofitting of CFC based equipment</p> <p><i>Related CP outcome:</i> A sustainable natural resources planning and management system is in place.</p>	<p>1. Acquisition of service tools and Upgrading the training facilities at NATIN and the Foundation for Labour Mobilization and Development</p>	x	x	x		Ministry of ATM/NIMOS	UNDP	PERINT PERLOC EQUIP TRAV SECRT MISC	15,000 5,000 85,000 10,000 5,000 5,000
<b>TOTAL</b>									125,000

## **1.4 Management Arrangements**

The project will be implemented through the National Implementation Modality (NEX/NIM) by the National Institute for Environment and Development in Suriname (NIMOS) acting as the Designated Institution, with execution occurring through the National Ozone Unit (NOU), which is located within NIMOS.

### **Institutional Framework for Project Implementation**

The Ministry of Labour, Technological Development and Environment (ATM) is responsible for the development of an overall environmental policy and the coordination and monitoring of all activities regarding environmental policy.

The National Institute of Environment and Development in Suriname (NIMOS) of the Ministry of Labour, Technology and Environment, whose primary task is to initiate and enforce environmental legislation for the Government of Suriname. The National Ozone Unit (NOU) was established in August 2004 following the approval of the Country Programme and Refrigerant Management Plan. It is headed by the National Ozone Officer (NOO) who is the technical focal point for all Ozone related issues within Suriname. The NOU is situated within NIMOS. Furthermore, the NOO is also Chairman of the National Program Team (NPT).

Members of the NPT and their responsibilities are:

- a) Ministry of Trade & Industry:- issuance of permits;
- b) Ministry of Agriculture, Animal Husbandry & Fisheries:- issuance of permits for agro-chemicals;
- c) Customs:- control of imports and exports;
- d) Bureau of Public Health:- advises the Ministry of Trade & Industry on the import and exports of ODS or ODS dependent technologies;
- e) Firefighting Brigade:- advises the Ministry of Trade & Industry on the import and exports of firefighting equipment (e.g. Halon containing extinguishers) and monitors the use of these equipment on a yearly basis; and
- f) NIMOS:- administers the import, exports and use of ODS and ODS dependent technologies.

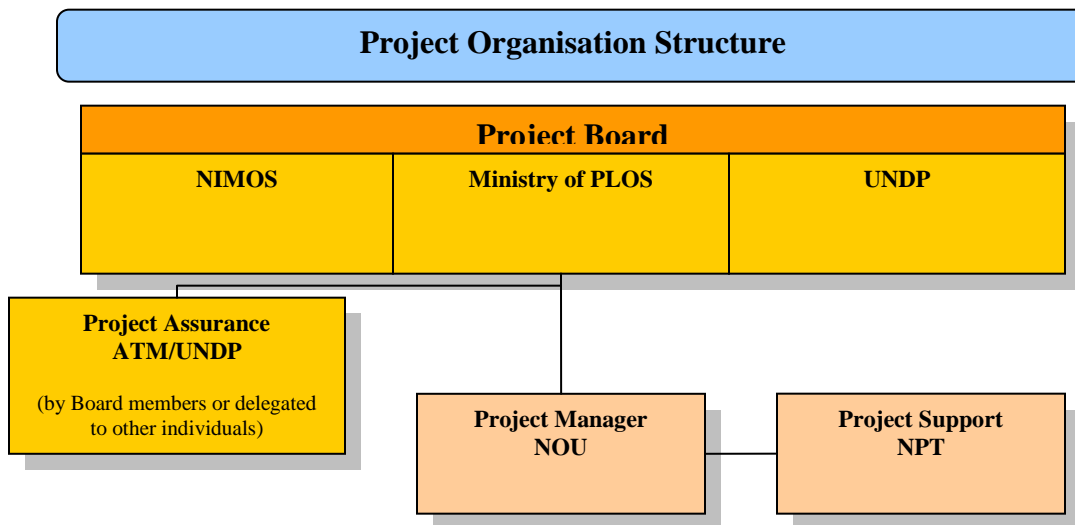
The National Ozone Unit (NOU) will manage and coordinate the TPMP implementation and manage the day to day activities under guidance and support of UNDP.

## **1.5 Monitoring and evaluation**

Monitoring and evaluation will take place as part of the quarterly implementers meeting and the Monitoring and Evaluation meeting of the Annual Workprogramme 4 Sustainable Natural Resource Planning and Management.

### ***Quarterly Progress Reports***

Short reports outlining main updates in project progress will be provided quarterly to the local UNDP Country Office by the NOU, according to a given and agreed format.



## 1.6 Audit Clause

The Government will provide the Resident Representative with an annual audit of the financial statements relating to the status of UNDP funds according to the established procedures set out in the Programming and Finance manuals. The Audit will be conducted by the legally recognized auditor of the Government, or by a commercial auditor engaged by the Government.

## 1.7 Legal context

This Project Document shall be the instrument referred to as such in Article I of the Standard Basic Assistance Agreement (SBAA) between the Government of Suriname and the UNDP.

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.

The UNDP Resident Representative is authorized to effect in writing the following types of revision to this Project Document, provided that he/she is assured that the other signatories to the Project Document have no objection to the proposed changes:

- a) Revision of, or addition to, any of the annexes to the Project Document;
- b) Revisions which do not involve significant changes in the immediate objectives, outputs or activities of the project, but are caused by the rearrangement of the inputs already agreed to or by cost increases due to inflation;
- c) Mandatory annual revisions which re-phase the delivery of agreed project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility; and



Inclusion of additional annexes and attachments only as set out here in this Project Document

*Intellectual property rights:* All data, study results, information, reports, etc, generated with UNDP project funds will be the property of GoS and UNDP.

## ANNEX 1

### PROJECT DESCRIPTION

#### 1. Objective

The objectives of this project are to:

- a) Provide about 100 technicians from the informal sector with basic tools necessary to practice good refrigeration servicing techniques; and
- b) To upgrade the training facilities at NATIN and the Foundation for Labour Mobilization and Development

#### 2. Background

The background to this component is presented in Section 5.3 above, where it was noted that the service sector in Suriname comprises about 55 service agencies in the formal sector providing services for the repairs and maintenance of fixed systems and an additional 25 service agencies specializing in Mobile air conditioning. It was further noted that the aggregate number of technicians in the formal sector is estimated at three hundred and fifty (350) and an additional one hundred and fifty (150) persons are operating in the informal sector, providing services to mainly domestic and MAC customers.

Under the Technical Assistance project, UNDP is in the process of acquiring recovery equipment for 10 MAC and 22 Fixed Systems service workshops. The package also includes basic servicing tools and consumables for 8 service agencies/technicians operating in the fixed systems sector and 48 retrofit kits for MAC technicians, and is expected to arrive in the country in late September, following which they will be placed with selected recipients. It should be noted that the retrofit kits comprise components and materials necessary to retrofit MAC systems and do not include servicing tools. The list of equipment to be acquired is finalized and tenders have been invited to supply the equipment. Given that the equipment is not yet in-country, it is not possible to assess the impact they will have on the overall phase out effort. What is already clear however is that given the unavailability of CFCs on the local market, it is necessary to develop skills in, and provide tools and equipment necessary to undertake retrofits of both fixed and mobile systems.

All technicians, including those in the informal sector are aware of ozone depleting issues and the country's commitment to phase out the use of ODSs. In the formal sector, trained technicians are applying good service practices when possible. The constraint is the inadequacy of the tools they work with as well as the unavailability of recovery equipment to prevent venting. In addition, most of these technicians are responding to the inadequate supply of CFC refrigerants by retrofitting the systems. However, in the absence of training in this operation and the unavailability of appropriate servicing tools, the quality of the service is wanting.

A further cause for concern is the inadequacy of the training facilities at NATIN and the Foundation for Labour Mobilization and Development. This will have implications for the quality of the training to be provided as well as for the sustainability of the programme beyond Multilateral Fund support. To address this, the training facilities at these two institutions will be upgraded to enable them to provide up to date training experience at an estimated cost of US\$20,000.00 each.

### 3. Approach

#### 3.1 Technical Support:

This component will address the poor capability of technicians in the informal sector to provide basic equipment servicing by providing approximately 100 technicians with the basic tools necessary to conduct their trade. This will be done in conjunction with the training programme described in Component 1 above and will involve the provision of the required service tools and A typical package will contain the tools and equipment listed in Table 1 below.

**Table 1: Indicative list of tools and equipment**

<b>Tools and Equipment</b>	<b>Indicative Unit Cost (US\$)</b>
Telescopic mirror	\$10
Aluminum Brazing kit	\$30
Piercing pliers	\$40
Pinch off pliers	\$10
Crimping pliers	\$50
Swaging tools	\$8
Small pipe benders;	\$35
Flaring Kits;	\$80
Tube cutters;	\$20
Tube benders	\$30
Capillary cutters	\$15
Oil acidity testers	\$20
Digital multi meters	\$75
Storage cases/Tool boxes	\$100
Gauge manifold (R 12; R 22; R 502)	\$120
Gauge manifold (Automotive)	\$135
Miscellaneous tools (Gloves, wrenches, screwdriver sets, goggles)	\$240
Set of 3 hoses	\$60
<b>Total</b>	<b>\$ 958.00</b>

Each technician will not necessarily receive all the tools and equipment in the list above. Rather, the contents of each kit will depend on the level of tooling of the targeted technician or service agency, which, in turn, will depend on criteria such as level of training and volume of business conducted. The final criteria will be agreed to in collaboration with the Technician's Association being established under the Refrigerant Management project . However, based on current prices quotes (see Table 12 above) an indicative allocation of US\$800.00 per technician is budgeted and the intention is to provide as many technicians as possible who complete the evening training programme with some basic tools to help them practice what they would have learned during the training. In this regard, the budgetary allocation of US\$80,000.00 is made to provide tools to as many of the trainees as the funding will allow, with the indicative number of beneficiaries being 100 technicians. (USD 5,000 is also allocated for shipping and handling)

### 3.2 Upgrade of Training Facilities

There are two training facilities in Suriname, viz. The Nature Technical Institute (NATIN) and The Foundation for Labour Mobilization and Development. Whereas the facilities at NATIN are better than that at the Foundation, both facilities need to be upgraded to facilitate the training to be provided. The upgrade of both facilities will be undertaken under this component based on a survey of current tooling levels and a comparison of the findings with the requirements to enable the institutions to undertake the training to be conducted under Component 1 as well as beyond the end of the TPMP, to be undertaken at the local level. Based on the experience of the Fund in tooling training institutions, an allocation of US\$20,000 is made for each institution. However, there will be some flexibility in these allocations, as both institutions will not require the same level of support.

### 4. Project Impact

This project will assist the country to meet its targeted consumption reductions by providing servicing tools and upgrading the country's training facilities and to achieve zero consumption from 2010. This will be done in concert with Component 1 under which the requisite training will be delivered. Bearing in mind that no imports of CFCs are anticipated in 2009, the impact will, in effect be to enable the service sector to avoid this usage of CFCs through the use of more appropriate tools and the employment of better servicing techniques.

### 5. Time Frame

The following timeframe for the completion of the components of this project is based on the TPMP being approved by the 56<sup>th</sup> meeting of the Executive Committee:

**Table 2**

Activities/Year/Quarter	2010			
	Q1	Q2	Q3	Q4
Acquisition of service tools and Upgrading the training facilities at NATIN and the Foundation for Labour Mobilization and Development	x	x	x	

## 6 Budget

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

**Table 3: Budget breakdown by Line Items:**

<b>Item</b>	<b>Budget (USD)</b>
Acquisition and Distribution of basic servicing tools to about 100 technicians from the informal sector	\$85,000
Upgrade of training facilities	\$40,000
<b><i>Total</i></b>	<b><i>\$125,000</i></b>

**Annex 2 TPMP COMPONENT 2: Technical Assistance to provide tool kits for service technicians and strengthen training**

COUNTRY	Suriname
SECTORS COVERED	Refrigeration servicing sector
PROJECT TITLE	Technical Assistance to provide tool kits for service technicians and strengthen training facilities
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 new CFCs through the employment of better servicing techniques, including the recovery and reuse of refrigerants and the retrofitting of CFC based equipment. As a result, current consumption levels will be maintained and eventually reduced to zero by 2010.
Remaining unfunded consumption	5.6 ODP tones
Current (2007) consumption	6.5 ODP tonnes
Refrigeration sector consumption	6.5 ODP tonnes
Servicing sector consumption	6.5 ODP tonnes
Project cost	US\$ 125,000
Government Contribution	In kind
Amount requested from the MLF	US\$ 125,000
Implementing Agency Support Cost (8%)	US\$ 11,250
Total Cost of Project to the MLF	US\$ 136,250.00
Implementing Agency	UNDP
National Coordinating Agency	National Ozone Unit