## EXECUTIVE SUMMARY

### INTRODUCTION

Solomon Islands acceded to the Vienna Convention [1985] for the protection of the Ozone layer and the Montreal Protocol [1987] on the Substances that deplete the Ozone layer on 17 June 1993, the London Amendment [1990], the Copenhagen Amendment [1992] and the Montreal Amendment [1997] on 17 August 1999. Solomon Islands is classified as an Article 5 Country.

In fulfillment of its obligation, Solomon Islands enter into agreement with UNEP – DTIE through which assistance is received to prepare a National Strategy and Action Plan for Monitoring, controlling and phase – out of Ozone Depleting Substances (ODS).

### PRODUCTION OF ODS

Solomon Islands does not produce any Ozone Depleting Substances.

### IMPORTS, EXPORT AND CONSUMPTION OF ODS

Of substances listed in Annexes A and B of the Montreal Protocol and its London, Copenhagen and Montreal Amendments, Solomon Islands imported; CFC 11, CFC 12, R 502 and halon 1211. Solomon Islands is not a major supplier of CFC to the neighbouring Islands states, but does some bulk import for re-exporting. Over the recent years the country have an increasing consumption of HCFC 22, which is listed as ODS in Annex C of the Montreal Protocol.

In 1999 consumption of ODS was as follows:

| Substances | Consumption (ODP) |
|---|---|
| **Annex A** | |
| ***Group I*** | |
| ***CFC – 11*** | *0.105* |
| *CFC – 12* | *5.984* |
| *CFC – 115 (contains R – 502)* | *0.0695* |
| **Subtotal** | ***6.1625*** |
| ***Group II*** | |
| *Halon 1211* | *0.015* |
| *Halon 1301* | *0* |

| | |
|---|---|
| ***Subtotal*** | ***0.015*** |
| **Total** | **6.1775** |

In 1999, Solomon Islands imported 11.832 and re-exported 2.720 metric Tonnes of HCFC 22.

**USE of ODS**

The refrigeration and air conditioning sector accounts for almost all of the volume of ODS Consumption. In 1999, it accounts for 99.7 % of the total consumption. CFC 12 is the main chemical used. It is used in the assembly of new refrigeration equipment, for servicing refrigeration and air conditioning units as well as in automotive air conditioning systems.

A number of residences, offices and hotels used HCFC 22 in their air conditioning systems.

Halon was no longer imported, nor serviced, those listed in 1999 were for civil aviation and serviced in Australia.

**FORECAST CONSUMPTION**

Based on the data and observed trend it is projected that ODS consumption in the unconstrained scenario will slowly decline to 1.666 ODP in 2010. This decline is due to market forces in the supplier countries where ODS equipment and product is being replaced by non - ODS respectively. However, through the implementation of the phase out activities contained in this National Strategy and Action Plan Paper, the consumption is projected to decline to zero by the year 2007. This decline will fall within the required limit of the Montreal Protocol.

**PHASE OUT STRATEGY**

The government of Solomon Islands is committed to the phasing out of the Ozone Depleting Substances in a shortest possible time that is technically and economically viable. It is envisaged that the total phase out will be by the end of 2007.

These target goals will be achieved in collaboration with the private sector and Environmental Non-Government Organization, with the support of the Multilateral Funds and the respective bilateral governments.

The major components of the Strategy are:

- Amend the Custom and Excise Act (cap 121) to include all ODS as a restricted imports and exports.
- Establish the import and export licensing system through the usage of the Harmonizing System and the provision of relevant training for the Customs Officers.
- Minimize the country's consumption by providing the appropriate training to the technician on methods of serving and maintaining refrigeration and air conditioning equipment and alternative technology.
- Training of service technician on the environmental impact, use of the recovering and recycling equipment and techniques.
- Inform the local customer of the environment consequences of ODS, alternative technology and the government commitment phase out the ODS.
- Take an appropriate fiscal and regulatory measures that encourage the customer to change to ODS free alternatives.
- Introduce mandatory licensing scheme for service technician to purchase and sell CFCs either locally or internationally.
- Avoid and prevent future dependence and dumping of outdated and ODS technology.

Education, Inducing, incentives and regulation will ensure the islands to meet its obligations under the Montreal Protocol.

Existing equipment will be maintained by recovery and recycling of ODS and new alternatives.

**ACTION PLAN**

The government has established the National Montreal Protocol Implementing Committee as its advisory body on the issues related to Montreal Protocol. The committee is consists of the public and private sector, Environment Non-Government Organization and institution. However, the composition of the committee may changes to address the issues. The Ozone Unit will be responsible for calling the meeting of the committee as it sees fit to facilitate the implementation of the country programme.

**PROJECTS**

An amount of USD 37,250 is being requested from the Multilateral Fund over three years to fund the operations of the National Ozone Unit, which will be responsible for the managing the phase out of ODSs in Solomon Islands. Amount of USD 78,500 for the implementation of Refrigeration Management Plan.

The National Ozone Unit will be established within the Department of Energy, Water and Mineral Resources, out of which the programme will be implemented and coordinated.

**CONCLUDING REMARKS**

Certain level of awareness about the Montreal Protocol issue and the phase out of the ODS were observed among both the importers and users. Companies involved in bulk importation have shown their commitment towards government's policies and strategies to systematically reduces in the consumption of these products as suitable alternatives becomes available. It had been observed that some importers have imported HFC 134a for substitutes.

Solomon Islands is committed to making its contribution towards the global initiative to prevent further destruction of the ozone layer. With the willingness indicated by the private sector, the implementation of ODS consumption will occur evenly earlier than end of 2007.

# 1. INTRODUCTION

## 1.1 Background

*Geographical Area*

Solomon Islands is independent state, which forms a part of Melanesia. It is situated about 1,800 km north east of Australia. It is the third largest archipelago in the South Pacific and stretches from 154°E to 172°E in longitudes and from 5°S to 13°S in latitudes. Solomon Islands is a member of the South Pacific Community.

It is comprise of a double of some 990 islands, of which six of them namely Choiseul, New Georgia, Santa Isabel, Guadalcanal, Malaita and San Cristobal are large islands.

*Land Area*

The total land area of the islands is 28,400sq km. The islands are steep rugged mountains. The are also several atolls and reef islands. The river are fast flowing and not navigable.

*Population*

According to the 1999 census, the population of Solomon Islands is 409,042, the population growth rate of 2.8 %. In comparing with the 1986 census, the growth rate has declined. However, the growth rate is still one of the fastest in the world. 41.5 % of the population is under the age of 15.

*Gross Domestic Product*

In 1998 the Gross Domestic Product of the USD 300 Million. It has an average growth rate of 3.2 % per annum over the 1985 – 1995.

The main predominant sector of the economy that is contributing to the GDP is fishing, copra, oil palm, timber, cocoa, and gold.

There is no local production of the Ozone Depleting Substances (ODS) in Solomon Islands. All consumption of ODS, which is amounted to 2.400 ODP tonnes in average of 1995 – 1997 imports. The imports were mainly from Australia, Singapore, PNG and recently India.

Also there is little exporting of Ozone depleting Substances to neighboring Islands, especially to Samoa and PNG.

*Article 5 of the Montreal Protocol*

Thus, Solomon Islands is qualifies as a developing country under Article 5 of the Montreal Protocol.

*Ratification*

Solomon Islands acceded to the Vienna Convention (1985) and the Montreal Protocol (1987) on 17 June 1993; London Amendment (1990), Copenhagen Amendment (1992) and the Montreal Amendment (1997) on 17 August 1999.

***Objectives of the National Strategy and Action Plan***

*The objectives of the National Strategy and Action Plan are:*

1. *To reflect the commitment of the government of Solomon Islands to achieve compliance with its obligations under the Montreal Protocol.*
2. *To provide an assessment of the consumption of ODS in Solomon Islands from 1995 to 2010.*
3. *To identifies the actions and government intention to fulfil its obligation under the Montreal Protocol.*
4. *To identify the nature and extent of the assistance sought by the Government of Solomon Islands from the Multilateral Fund to support its effort to protect the Ozone layer.*

In considering the phase out of ODS, it is important that the demands of the fishing timber and tourism industries, which contributed a lot to the local economy should not be compromised.

**1.2 Status**

The ***Energy Division, Department of Mines, Energy & Water Resources*** is the national agency that initiated the activities with respect to the Vienna Convention and Montreal Protocol.

***Legislation***

In 1998, the National Parliament passed an ***Environment bill,*** which encourage the country to "comply and give effect to the regional and international conventions and obligations relating to environment."

To effectively control and monitor the imports and exports of the ozone deplete substances, the government were in the process of amending the ***Custom and Excise Act*** to include the ozone deplete substances as ***restricted and prohibited imports and exports***.

The Research Division of the Ministry of Agriculture and Primary Industries use the ***Pesticides Regulation of the Safety at Work Acts*** to control all the pesticides imported into the country.

Labour division of the Ministry of Commerce, Employment and Tourism use Safety at Work Acts to control the activities regarding safety at work places and regulate any practice in Solomon Islands.

***Interim Contact Person***

In the interim, the Director of Energy will serve as the contact person with respect to the preparation of the National Strategy and Action Plan. The ODS Officer will be

appointed as soon as National Strategy and Action Plan paper is approved and funding is available.

Preliminary ODS data surveys were carried out in Solomon Islands to collect data and provide respective information to the Ozone Secretariat as obligation to the Montreal Protocol.

*Methodology*

The methodology employed throughout allowed for the direct contacts with industry personnel. These opportunities were also used to gauge the level of awareness about the Ozone Deplete Substances and the understanding of their effects on the stratosphere and knowledge of the substitute and the alternative technology.

**1.3 Assistance Received**

Financial and technical assistance was received from the Multilateral Fund through UNEP IE to produce this National Strategy and Action Plan.

*National Montreal Protocol Workshop*

In 1999, a UNEP Consultant was requested and run a National Montreal Protocol Workshop and a seminar at the USP Solomon Islands Centre. This workshop was the opportunity to review and assist the government in the collection relevant data and information for the formulation of this National Strategy and Action Plan report.

*Memorandum of Understanding*

The MOU, which was established between UNEP DTIE and the Department of Mines, Energy and Water, Energy Division is to collect the data and information and compile the National Strategy and Action Plan for Solomon Islands.

# 2 CURRENT SITUATION

## 2.1 Current and Forecast Consumption

The preliminary survey have confirmed that no ODS are produced in the islands. Private companies are involved in importation, domestic retails and export of Ozone Deplete Substances to the neighboring islands.

### 2.1.1 Current Consumption

The importation and consumption of Ozone Deplete Substances in Solomon Islands varies over the years. These variations in importation have affected the base data level of the period of 1995 - 1997. Therefore to use the average imports data between 1995 - 1997 will not reflect the usage level.

Table 2.1 and figure 2.1 shows the variation of the imports of ODS in Solomon Islands between 1992 – 1999.

**Table 2.1:**

Imports of Ozone Deplete Substances in Solomon Islands between 1992 – 1999

| Years | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|
| Group I | | | | | | | | |
| CFC - 11 | 0.54 | 0 | 0 | 0 | 0 | 0 | 0 | 0.109 |
| CFC - 12 | 2.448 | 5.066 | 0 | 1.89 | 1.755 | 2.025 | 0.675 | 5.984 |
| CFC - 115 * | 0.723 | 0 | 0.275 | 0.365 | 0.33 | 0.413 | 0.138 | 0.139 |
| Group II | | | | | | | | |
| Halon 1211 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.005 |
| Halon 1301 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Halon 2401 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | | | |
| | | | | | | | | |
| Total | 3.711 | 5.066 | 0.275 | 2.255 | 2.085 | 2.438 | 0.813 | 6.237 |

* Contained in R502

Of the substances listed in Annexes A and B of the Montreal Protocol and its amendment, three were identified as being imported by Solomon Islands over the years: CFC - 11, CFC - 12, R - 502 and Halons.

Solomon Islands is not the major distribution point. However, it has exported substances to other countries in the South Pacific Region. This matter will be closely attended to in the effort to phase out the Ozone Deplete Substances.

A company in the Country serviced halons in the past. However, they have returned the filling rig to the manufacturer. All hand held BCF were removed and replaced with the dry powder.

Most of the major companies visited usage $CO_2$. During the visit a hand held BCF was found inside the craft. Discussion held with the company confirm the findings and that the BCF were serviced from Australia.

**Figure 2.1**

Variation of imports of ODS in Solomon Islands (Average 1992 - 1999)

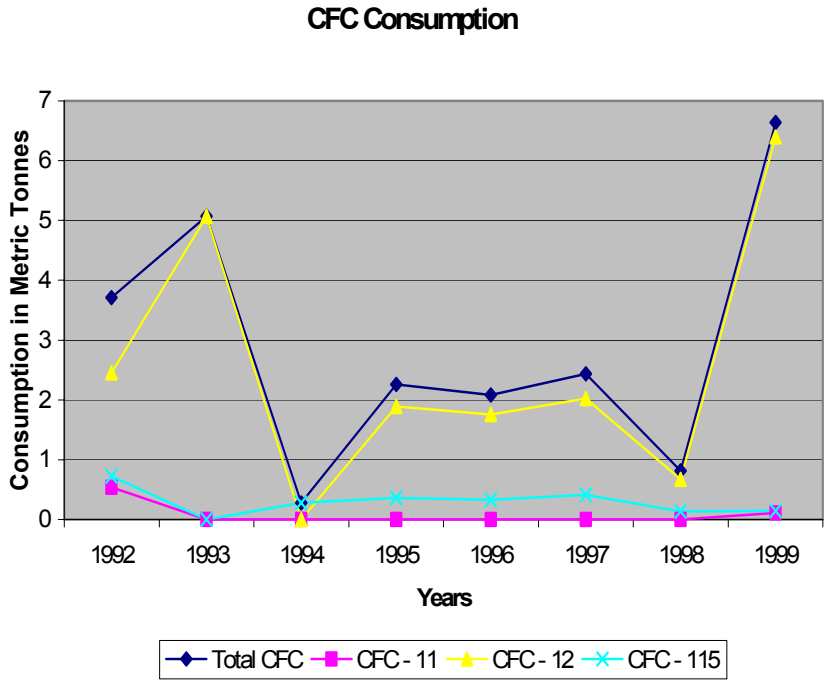



**Figure 2.2**

**Total ODS Consumption (Metric Tonne) by Products between 1992 – 1999**

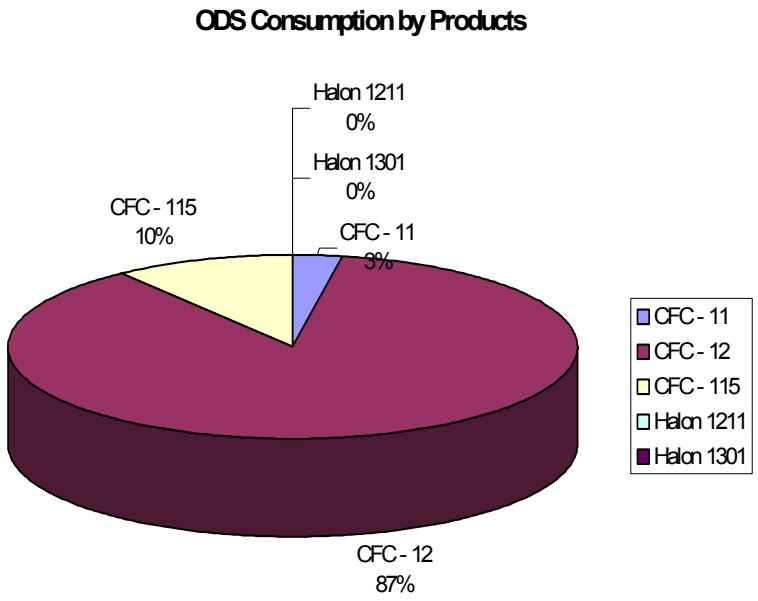


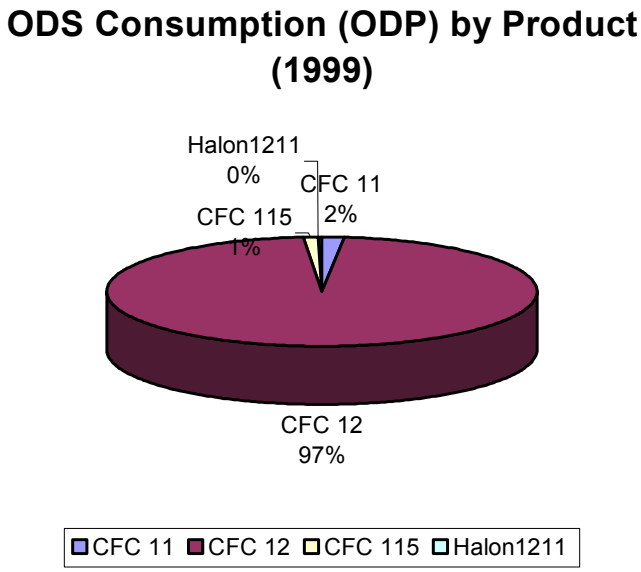
**TABLE 2.2:**

ODS Imports, Exports and consumption in Solomon Islands (1999)

| SUBSTANCE | PRODUCTION (MT) | IMPORTS (MT) | EXPORTS (MT) | CONSUMPTION (MT) | CONSUMPTION (ODP Tonnes) |
|---|---|---|---|---|---|
| **Annex A** | | | | | |
| **Group I** | | | | | |
| CFC - 11 | 0 | 0.109 | 0 | 0.109 | 0.109 |
| CFC - 12 | 0 | 6.392 | 0.408 | 5.984 | 5.984 |
| CFC - 115 * | 0 | 0.139 | 0 | 0.139 | 0.0695 |
| Subtotal | 0 | 6.64 | 0.408 | 6.232 | 6.1625 |
| **Annex A** | | | | | |
| Group II | | | | | |
| Halon 1211 | 0 | 0.005 | 0 | 0.005 | 0.015 |
| Halon 1301 | 0 | 0 | 0 | 0 | 0 |
| Subtotal | 0 | 0.005 | 0 | 0.005 | 0.015 |
| Grand Total | 0 | 6.645 | 0.408 | 6.237 | 6.1775 |

**Figure 2.2:**

ODS Consumption (ODP) by Product (1999)




The prices of these substances are reported to be increase. In 1999 the local retail prices SBD 21.36/kg for CFC – 11; SBD 21.90/kg for CFC – 12 and SBD 191.10/kg for R – 502. Consumption tax applied to CFC and Halon is 15 % and import duty is 15 %

In Solomon Islands, 99 % of ODS are consumed in the refrigeration and air conditioning sector. The substances are used in the surveys of equipment, in flushing systems during repairs and in the initial charge of equipment assembled on the islands.

**Uses of Ozone Depleting Substances**

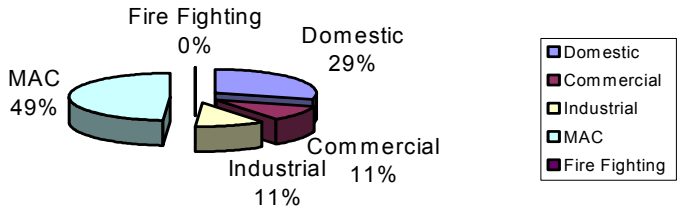



**Table:2.3**

Estimated ODS consumption by end use and application for 1999

| User Sector | Substance | Application | Consumption | |
|---|---|---|---|---|
| | | | **Metric Tonnes** | **ODP Tonnes** |
| **Domestic Refrigerator** | CFC – 12 | Servicing of Refrigerators and Freezers | 1.795 | 1.795 |
| | CFC – 11 | Flushing | 0.027 | 0.027 |
| **Commercial Refrigeration and Air Conditioning** | CFC – 12 | Servicing of Container | 0.598 | 0.598 |
| | R – 502 | Servicing | 0.070 | 0.042 |
| **Industrial Refrigeration and Air Conditioning** | R – 502 | Servicing | 0.069 | 0.041 |
| | CFC – 12 | Servicing | 0.598 | 0.598 |
| | CFC – 11 | Flushing | 0.027 | 0.027 |
| **Mobile Air Conditioning** | CFC – 12 | Servicing of Mobile Air conditioner | 2.992 | 2.992 |
| | CFC – 11 | Flushing | 0.055 | 0.055 |
| **Fire Fighting** | Halon 1211 | Recharge of Portable Fire extinguisher | 0.005 | 0.015 |
| | | | 0 | 0 |
| **Total** | | | 6.236 | 6.19 |

*Source of Imports*

Bulk supplies of CFC are directly imported mainly from Australia, New Zealand, Singapore and now India. They are generally imported in 13.6 kg cylinders and sold on the local markets and have also exports to other neighboring islands.

The surveys also identified five major importers of ODS on the Islands. These importers are also involved in local sales and uses. Only one of these four involves with re-export-imported substances. Below were the detail activities of the importers and service agents.

**Table 2.4**

**Importers and Service Companies of ODS in Solomon Islands**

| Companies | Imports | Exports | Local Sales | Servicing | MAC Servicing |
|---|---|---|---|---|---|
| BOC Gases | √ | √ | √ | | |
| Northfreeze | √ | | | √ | √ |
| Centatherm | √ | | | √ | √ |
| NFD | | | | √ | |
| SI Govt. Fisheries Division | √ | | | √ | |
| Ela Motor | | | | | √ |
| Honiara Refrigeration and Air Conditioning | | | | √ | √ |
| Central Refrigeration & Air Conditioning | | | | √ | √ |
| Sol Electric | | | | √ | √ |
| Solomon Taiyo | | | | √ | |
| Guadalcanal Electric | | | | √ | |

Distributors

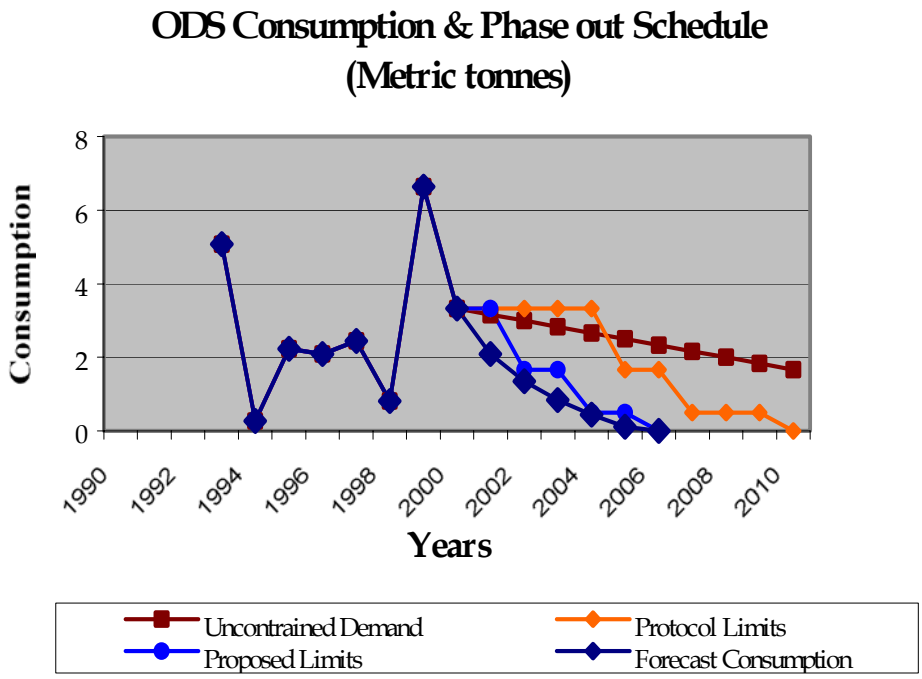
BOC Gases were the main distributor of the ODS as well as retail sales and re-exporting to the neighboring islands. Most of the importers were importing for retail usage only

### 2.1.2 Forecast Consumption

| | |
|---|---|
| Domestic Refrigerators and Deep Freezers | The future unconstrained demand for ODS in Solomon Islands is determined by the end use assessment. It is mainly taking into account the forces at work in the local industry brought by changes in the international markets.<br><br>The forecast of this sub-sector is based on the future demand for refrigerant for the servicing of CFC - based refrigerators and deep freezer in use and expected to come to use. Because Solomon Islands is not a manufacturing country, the market trends in Australia and New Zealand for new technology equipment have direct effect to the local market.<br><br>The preliminary survey of the importers of ODS equipment shows the increase awareness among the industry of the Ozone and its related issues. |
| Mobile Air Conditioning (MACs) | The estimated of ODS consumption on this sub-sector will depend on the vehicles on the Islands. The state of the roads in the island had contributed to the forecast on this demand. The trend of second hand import vehicle has increased in the last few years. However, this has become a concern, especially when the vehicle uses CFC substances.<br><br>The information from the vehicle licensee department shows an increase in number of car registration; other relevant details were not specified. Generally, the MAC's is not very clear at this stage, because there is unknown of so called "Backyard" services agent that is also service MACs. But it has been witnessed and that 40 % of cash sale of CFC from 1999 data to unknown user, it is presumed that it is the "Backyard" agents. |
| Commercial / Industrial Refrigeration | This sub-sector refrigeration is general serviced by a known services agent or by a qualified personnel of the companies. Generally, it will depend on the economic parameters and the life expectancy of the brand of equipment used. However, there some move in this sector to change to alternative substances, due to the control measure that occur in the neighbouring developed countries. |
| Fire-fighting | Survey of the fire extinguisher shows that most of the portable and hand extinguishers have been change from the Halon to alternative substances such water, $CO_2$ etc…However, little imports of Halon 1201 were mainly for civil aviation, especially small craft were serviced in Australia. However, foam is still in user, however, with very little quantity. |

**Table 2.5**

| Year | ODS Consumption in ODP Tonnes | | | |
|---|---|---|---|---|
| | Unconstrained Demand | Protocol Limit | Forecast Consumption | Proposed Limits |
| 1986 | | | | |
| 1988 | | | | |
| 1990 | | | | |
| 1992 | 3.720 | | | |
| 1993 | 5.066 | | | |
| 1994 | 0.275 | | | |
| 1995 | 2.255 | | | |
| 1996 | 2.083 | | | |
| 1997 | 2.438 | | | |
| 1998 | 0.813 | | | |
| 1999 | 6.232 | | | |
| 2000 | 3.326 | 3.326 | 3.326 | 3.326 |
| 2001 | 3.160 | 3.326 | 2.804 | 3.326 |
| 2002 | 2.994 | 3.326 | 1.357 | 1.663 |
| 2003 | 2.828 | 3.326 | 0.842 | 1.663 |
| 2004 | 2.662 | 3.326 | 0.442 | 0.499 |
| 2005 | 2.496 | 1.663 | 0.115 | 0.499 |
| 2006 | 2.330 | 1.663 | 0.000 | 0.0 |
| 2007 | 2.164 | 0.499 | 0.000 | |
| 2008 | 1.998 | 0.499 | | |
| 2009 | 1.832 | 0.499 | | |
| 2010 | 1.666 | 0 | | |




## 2.2 Industry Structure

The Energy Division, Department of Mines, Energy and Water, Ministry of Natural Resources is the national point for Vienna Convention for protection of the Ozone Layer, and Montreal Protocol on substances that deplete the Ozone Layer.

The Solomon Islands Meteorological Services is responsible on the issues related to climate changes and is the focal point.

The Environment and Conservation Division, Department of Forestry, Environment and Conservation, Ministry of Natural Resources is the National Focal point for all the environment programme, activities and initiatives.

Energy Division initiated the activities to develop this country programme and the Refrigerate Management Plan with the assistance from the Multilateral Fund and UNEP.

Under the Jurisdiction of the Environment and Conservation, the Government enacted the Environment Act, which encourage the Government to "comply and give effect to the regional and international conventions and obligations relating to environment."

In implementing the Montreal Protocol Treaty, the National Ozone Unit will be established within the Department of Mines, Energy and Water, to implement the Action Plan in the National Strategy and Action Plan as the Refrigerant Management Plan.

The Unit will assume all the responsibilities for data reporting to the Ozone secretariat and the multilateral fund as well as all reporting requirements for project implementation and will be responsible for the co-ordination of inputs from the following agencies in implementing the National Strategy and Action Plan:

- Environment and Conservation Division, Department of Forestry, Environment and Conservation.
- Custom and Excise Division, Department of Finance.
- Attorney General Chambers.
- Various Service Industries.
- Solomon Islands College of Higher Education.
- Development Exchange Services.
- Agriculture Division, Department of Agriculture and Fisheries.
- Fisheries Division, Department of Agriculture and Fisheries.
- Local Media
- ODS importers and exporter

The unit is also responsible for the coordinating of the National Implementing Committee.

## 2.3 Institutional Framework

The framework for supporting activities under this National Strategy and Action Plan Programme will require further consideration. The Environment Act ensures that the Montreal Protocol as International Treaty is given effect in Solomon Islands. However, there is other regulation that covers some of the action proposed. In this regard, the Ozone Unit will collaborate with the office of the Attorney General and the related ministries or department to ensure that consistent exist with all the relevant regulations; Custom and Excise Act, Safety at Work Acts, Environment Act and the Melanesian Free Trade Agreement, failing which, amendment is necessary.

With regard to the monitoring of imports and exports, the government is working on the amendment of the Custom and Excise Acts to include the ODS as restricted imports and the revised Harmonized Customs Code, which will allow for the

identification of ODSs. This will pave the way for more effective collaboration between the Ozone Unit and the Department of Custom to monitor trade in Ozone Depleting Substances.

Given the contribution of fishing and tourism to the island's economy and the reliance of this sector on refrigeration and air conditioning, the government is working on involving all major sector to be part of the Montreal Protocol team.

Solomon Islands Chamber of Commerce is well placed to identify concern members and will act a liaison between the Ozone Units and the private sector.

The Solomon Islands College of Higher Education, School of Marine Engineering offers two weeks training in refrigeration and air conditioning for the service technician. However, a need arise for the training of trainers in the new technology and environment aspect of the refrigeration sector.

## 2.4 Policy Framework

The economy of Solomon Islands is heavy depends on the fishing industry. The fishing sectors have provided a steady growth of export over the last few years.

As party to the Montreal Protocol, Solomon Islands has accepted the responsibility to phase out ODS in the Country. The provision of training on the new technology and the alternative substances will create awareness to the new equipment and encourage changes.

There are a number of laws relating to trade and environment; some may only need a minor amendment to include Montreal Protocol issues. Some of this regulation is as follows:

- Pesticides Regulation (Safety at Works)
- Safety at Work Act
- Custom and Excise Act (cap 121), Second Schedule, Prohibited and Restricted Imports, Third Schedule, Prohibited and Restricted Exports
- Trade Acts?
- Business Licenses Acts?

## 2.5 Government and Industry Response

The Government of Solomon Islands first responded to the Montreal Protocol by its signatory to the Treaty in 1993. Since the change of staff, the Montreal Protocol has been left behind, because of lack of know - how. However, in 1999 the Department of

Mines, Energy and Water seek the assistance of the UNEP and organized a seminar for the awareness of the Montreal Protocol issues. This seminar have help the Government, make further respond by the ratification of the London Amendment (1990), Copenhagen Amendment (1992) and Montreal Amendment (1997) in 1999. With assistance of the UNEP Consultant an initial assessment was done and public awareness seminar was done in associated with the University of the South Pacific, Solomon Islands Centre.

During the preliminary survey, most of the private sectors seem to be aware about the existence of the Montreal Protocol issues.

The government had also re-established a National Advisory Committee to provide an advisory to the government on the issues that affects the country's economy. Most of the service industry and importers of ODS were members of the Advisory Committee.

Solomon Islands have been actively participating in several meetings to regional approach to tackle the Montreal Protocol issues in the South Pacific Region. The country has also attended a regional workshop for the Refrigeration and Air Condition Service Technician, provided under the bilateral assistance by NZODA.

Most of the important sectors have slow responding to changes. Solomon Airlines in the local flights uses small propeller driven craft with no fixed systems on craft. All hand held BCF extinguishers have been removed and replaced with new dry powder units.

According to one major General trading company, they serviced halons in the past, but sent filling rig back to manufacturer because they do not supply halons and halons extinguishers which pass their testing dates they are replaced with dry powder or $CO_2$.

Most of the service company were aware of the reducing availability of the ODS and ODS products. This is mainly because of the influence of market from Australia and New Zealand.

In the Service Sector, one of the major service agencies and the only institution have acquired recovery and recycling equipment. Most of the services agencies a moving away from the practice of flushing systems with CFC 11.

## 3. Implementing the Phase Out Strategy

### 3.1 Strategy Statement by the Government

The government of Solomon Islands is committed to the phasing out of the Ozone Depleting Substances in a shortest possible time that is technically and economically viable. It is envisaged that the total phase out will be by the end of 2007.

These target goals will be achieved in collaboration with the private sector and Environmental Non-Government Organization, with the support of the Multilateral Funds and the respective bilateral governments.

The major components of the Strategy are:

- Amend the Custom and Excise Act (cap 121) to include all ODS as a restricted imports and exports.
- Establish the import and export licensing system through the usage of the Harmonizing System and the provision of relevant training for the Customs Officers.
- Minimize the country's consumption by providing the appropriate training to the technician on methods of serving and maintaining refrigeration and air conditioning equipment and alternative technology.
- Training of service technician on the environmental impact, use of the recovering and recycling equipment and techniques.
- Inform the local customer of the environment consequences of ODS, alternative technology and the government commitment phase out the ODS.
- Take an appropriate fiscal and regulatory measures that encourage the customer to change to ODS free alternatives.
- Introduce mandatory licensing scheme for service technician to purchase and sell CFCs either locally or internationally.
- Avoid and prevent future dependence and dumping of outdated and ODS technology.

Education, Inducing, incentives and regulation will ensure the islands to meet its obligations under the Montreal Protocol.

Existing equipment will be maintained by recovery and recycling of ODS and new alternatives.

## 3.2 Action Plan

### 3.2.1 Government Action

The government has established the National Montreal Protocol Implementing Committee as its advisory body on the issues related to Montreal Protocol. The committee is consists of the public and private sector, Environment Non-Government Organization and institution. However, the composition of the committee may changes to address the issues. The Ozone Unit will be responsible for calling the meeting of the committee as it sees fit to facilitate the implementation of the country programme. Shown below are the main component of the plan of action.

### 3.2.2 Training

With the so-called "Backyard Technician" exist in this country. Training of Service Technicians in Good Practices is very critical in the reduction of CFC emission. Training of Custom Officers in the identification of Ozone Depleting Substances and the equipment containing ODS is crucial in the monitoring and reporting of the imports and exports of these substances and equipment. Training of Trainers is purposely to make the programme sustainable. This training programme is geared for the trainer at the institution and the supervisors of various major companies that employ 10 or more employees.

### 3.2.3 Licensing System

The licensing system will be established under the amendments of the Custom and Excise Acts, to enable the government to monitor and control all trading of controlled substances and equipment containing ODS.

### 3.2.4 Public Awareness Education

According to survey done, there exist some understanding about the controlled of ODS amongst the service industry. However, it was also noted that the consumer were not aware about the issues, nor do they aware about the alternatives that is available in the market. The purpose of this component is to inform the consumer about the environmental impact of the Substances and present alternative replacement. Because it is the choice of the consumer that will ensure that ODS consumption ceases. The Ozone Unit and the Environment Non-Government Organization will embark on the Public Awareness and Education targeting the specific group.

### 3.2.5 Recovery and Recycling

The recovery and recycling is very important in the controlling of Ozone Depleting substances. It will be part of the training programmes for the technician and the trainers. As an incentive to the industry, the government will provide remission to the industry that purchase a recovery and recycling equipment for its company.

**3.2.6 Regulations**

The implementation of the Action Plan, especially the licensing system, labeling of product and equipment, licensing of technicians, banning of new installation of equipment that contains ODS and eventual banning of the imports of the Ozone Depleting Substances will requires regulatory changes. The Ozone Unit will pursue with the Attorney General Chamber through relevant and respective Ministries and Departments these reforms.

**3.2.7 Monitoring Programme**

Consumption of ODSs in Solomon Islands is purely imports; there is no local ODSs production. Therefore, to monitor trade and consumption of these products quotas. License will be issued for control of imports and exports. This will be done in collaboration with the Custom and Excise Division, Department of Finance.

Under Article 7 of the Montreal Protocol, the annual report of the consumption will be submitted to the Ozone Secretariat. Followed the decision of the 10th meeting of the executive committee, the annual progress report of the implementation of the Country Programme will be submitted to the Multilateral Funds and the Implementing Agency (UNEP in this case)

The Ozone Unit shall be responsible for the reporting of the annual reports.

**3.2.8 Institutional Strengthening**

The implementation of this Action Plan will require a commitment and dedication of the human and financial resources. Therefore, the government will require financial support from the Multilateral Funds to establish the Ozone Unit within the Energy Division of the Department of Mines, Energy and Water, to take the leading role in implementing the Action Plan.

Attached is the project proposal of the Institutional Strengthening Project in Annexure 1 for consideration by the Executive Committee.

**Table 3.2.1:**

**PLAN OF ACTION**

| Action | Details | Schedule | Impact | Implementing Organization |
|---|---|---|---|---|
| 1 | Establishment of Ozone Unit | July 2001 | Enabling Activity | Department of Mines, Energy and Water |
| 2 | Public Awareness and Education | July 2001 ongoing | Enabling Activity | Ozone Unit<br>Media<br>ENGO |
| 3 | Establishment of Licensing System to monitor and regulate trades of ODS and Products | 2001 | Regulation on restricted Imports and Exports | Ozone Unit<br>Customs and Excise<br>Attorney General Chambers |
| 4 | Training of Custom Officers | 2002 | Appropriate vigilant of activities related to ODS | Ozone Unit<br>Customs and Excise<br>Attorney General Chambers |
| 5 | Training of Trainers | 2002 | Reduction of Consumption | Ozone Unit<br>SICHE |
| 6 | Training of Service Technician | 2002<br>2003<br>2004 | Reduction of consumption | Ozone Unit<br>SICHE |
| 7 | Imports concession to encourage recovery and recycling and promote use of substitutes and alternative technologies | January 2002 | Reduction of imports and usage of CFC | Ozone Unit<br>Customs and Excise<br>Attorney General Chambers<br>Department of Finances |
| 8 | Ban on new installations and equipment using ODSs | January 2002 | Elimination of new demands | Ozone Unit<br>Customs and Excise<br>Attorney General Chambers<br>SI Chamber of Commerce |
| 9 | Total Ban on Imports of CFCs | January 2010 | Elimination of demand beyond 2010. | Ozone Unit<br>Customs and Excise<br>Attorney General Chambers |

**3.2.9 Projects**

The government of Solomon Islands requests support from the Multilateral Funds for the its projects in order to carry out its action plan.

| Years | Description | Sectors | Effect | Estimated Cost USD |
|---|---|---|---|---|
| June 2001 – June 2004 | Institutional Strengthening | All | Management of ODS<br>Phase out of ODS | 37,250 |

| Years | Description | Incremental Cost | Project Cost | Implementing Agencies |
|---|---|---|---|---|
| 2001 | Training of Trainers | 38,500 | 38,500 | Government of Australia & New Zealand |
| 2001 | Training of Custom Officers | 20,000 | 20,000 | UNEP |
| 2001<br>2002<br>2003 | Training of Technician | 20,000 | 20,000 | UNEP |
| | | | **78,500** | |

**3.3. Roles in Implementing the Strategy**

**3.3.1. Ozone Units**

The proposed Ozone Unit to be established within the Energy Division, Department of Mines, Energy and Water will be the coordinating agency to implement the Country Programme and Refrigeration Management Strategy. With the complexity and integration of the issues. The Ozone Unit will collaborate with the major agencies, Departments and Ministries, so that all sectors of the issues are dealt with accordingly.

**3.3.2. National Montreal Protocol Implementation Committee**

The implementing committee is the advisory body to the government on the issues on the Montreal Protocol. They are to offer policy guidance to government and assist in the implementation of programmes and projects to meet the objectives of the protocol.

**3.3.3. Department of Finance**

The Department of Finance also the crucial department to implement the Action Plan, especially that Custom and Excise part of the Department and incentives for remission can only be grant by the Minister responsible for the finances.

**3.3.4. Solomon Islands College of Higher Education**

Solomon Islands College of Higher Education is the only technical college in the country that can run the training programme and certification of refrigeration and air conditioning technicians. The module will include environment, recovery and recycling and other good refrigeration management practice.

**3.3.5. Solomon Islands Chamber of Commerce**

The Chamber of Commerce will be heavily involved on the determination and implementation of programmes, which have impact on its members.

**3.3.6. Office of the Attorney General.**

The office of the Attorney General will review and drafting regulations and amendments necessary to implement the Action Plan. The regulatory support to the Action Plan is very crucial in this programme.

**3.4. Timetable and Consumption Implication.**

The implementation of this Country Programme is prerequisite by the establishment of the Ozone Unit, within the Energy Division, Department of Mines, Energy and Water.

The timetable of the implementing activities to meet the national strategy and the objectives of the Montreal Protocol and its effect on the ODS consumption in Solomon Islands were shown in the Plan of Action Programme above Table 3.2.1.

The Action Plan that will lead to the direct reduction of the consumption levels are:

- Monitoring of ODS imports and exports through licensing system.
- Training of Custom Officers.
- Training of Technicians and Supervisor / Trainers in good refrigeration practices.
- Fiscal policy measure to make the use or development free ODS technologies economically viable and attractive.
- Ban any new installation of ODS based technologies.

**3.5. Budget and Finance Programme**

The Institutional Strengthening Project attached in Annexure 1 is submitted as part of this National Strategy Programme, with a total cost of USD 36,500 spread over the periods of three years and to commence in the July 2001.

The government of Solomon Islands is also requesting the amount of $ 100,000 (as

bilateral cooperation with the government of Australia and New Zealand) to implement the Refrigeration Management Plan.

**ANNEXURE 1**

| | |
|---|---|
| **Project - One** | **Institution Strengthening Project**<br><br>Sector: All<br><br>Project Duration: 3 years<br><br>Total Incremental Cost: US $ 37,250<br><br>Implementing Agencies: UNEP<br><br>National Implementing Agency: Ozone Unit |
| **Institutional Strengthening for the Phase Out of Ozone Depleting Substances under the Montreal Protocol** | The implementation of the Montreal Protocol treaty and all other related is vested with the Energy Division of the Ministry of Mines and Energy.<br><br>This project proposal is for the establishment of the National Ozone Unit within the Energy Division of the Ministry of Mines and Energy to implement all the activities that is contained in the Action Plan of the National Strategy paper and the implementation of the Refrigeration Management Plan. Through this project, Solomon Islands will be able to meet its commitment under the Montreal Protocol and in the process, eliminate the consumption as required by the treaty. |
| **Project Summary** | To successfully implement the National Strategy and Action Plan, a concrete approach will be necessary to:<br><br>➢ Develop and deliver public awareness programmes;<br>➢ Implement activities in the National Strategy and Action Plan;<br>➢ Monitor the ongoing developments in the efforts to protect the Ozone layer;<br>➢ Assist in the preparation of budgets and advice on the release of funds from the Multilateral fund;<br>➢ Coordinate the identification and quantification of controlled substances at the point of entry (customs);<br>➢ Assist training bodies in setting up technical training programmes;<br>➢ Report annually to the Ozone Secretariat on the ODS consumption in the |

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| **Project Description** | country as per Article 7 of the Montreal Protocol Treaty; and<br>➢ Prepare annual report to the Executive Committee of the Multilateral Fund and the implementing agency on the progress of the implementation of the National Strategy Paper.<br><br>The Ozone Unit will be managed by a person with the relevant experience in refrigeration and air conditioning and necessary knowledge and organizational skills to implement projects requiring inputs from a variety of sources.<br><br>Currently the matter related to the Montreal Protocol, including the preparation of this National Strategy and Action Plan paper is with the Energy Division, Department of Mines, Energy and Water. The government has no specific legislation on the issues related to the Montreal Protocol. However, the Environment Act of 1998 encourage the country to comply with the international and regional obligation on the environment and that Solomon Islands Government ratify the Montreal Protocol on the 17 June 1993.<br>The government of Solomon Islands has decided to establish the Ozone Unit within the Energy Division will be responsible for the implementation of the National Strategy and Action Plan.<br>Implementation of these action programme and plan will require a fulltime competent person in order to bring up-to-date the islands commitment and achieve full compliance with the Protocol. The following activities were the main activities:<br><br>➢ Acting as the focal point of all the matters related to the Montreal Protocol.<br>➢ Coordinate the implementation of all activities as per the National Strategy and Action Plan Programme.<br>➢ Coordinate the formulation of any project that deems necessary in order to accomplish the compliance to the Protocol.<br>➢ Act as the Secretary to the National Montreal Protocol Implementation Committee.<br>➢ Coordinate the inter-ministerial and inter-departmental activities for proper implementing the administration countermeasure, information gathering and dissemination, especially on the availability of alternative products and technology changes.<br>➢ Monitoring and reporting of the ODS consumption.<br>➢ Develop and implement an appropriate licensing scheme to regulate imports and exports as per Custom and Excise Acts.<br>➢ Develop an appropriate code of practice to regulate the practice in the refrigeration and air conditioning industry. |

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| | While the government will provide office space and organization supports. The unit will require necessary financial and equipment support to implement the plan of action. The fund is for travel expense in dealing with Montreal Protocol matters, public awareness, communication costs and office supplies. |
| **Project Time Frame** | The initial time frame of the institutional strengthening project is for 3 years (July 2001 - June 2004). However, this may extend to implement the phase out schedule by the Montreal Protocol. |
| **Increment Cost** | The incremental cost of establishing and operating the Unit to perform its activities for the initial period of 3 years is USD 35,750. Most of the activities of the action plan should be completed by require three (3) years. The major component of the total cost were the salary of the personnel required minding the Ozone Unit Office. |
| **Impact** | The impact of this project will result in the total phase out the Ozone Depleting Substances in Solomon Islands. It will also encourage and promote the use of ODS free technologies and will reduce the consumption of ODS between the 2001 and 2010. |
| **Table: Budget for Institutional Strengthening Project** | |

| **Activity** | **Annual Cost (US $'000)** | | | |
|---|---|---|---|---|
| | **2001/2002** | **2002/2003** | **2003/2004** | **Total** |
| Staffing: Salary Support | 7 | 7 | 7 | **21** |
| Travel: Transportation, per diem (Outer Islands) | 1.25 | 1.25 | 1.25 | **3.75** |
| Equipment: Computer, Printer | 3.5 | 0 | 0 | **3.5** |
| Public Awareness: Broadcasting and Media Campaign | 1 | 1 | 1 | **3** |
| Communications: Telephone, Email/Internet connection | 1.5 | 1.5 | 1.5 | **4.5** |
| Office Supplies etc | 0.5 | 0.5 | 0.5 | **1.5** |
| | | | | |
| **Total Cost for Activities** | **14.75** | **11.25** | **11.25** | **37.25** |

**ANNEXURE 2**

| **Refrigeration Management Plan** | **Phase Out the use of ODS in the Refrigeration and Air Conditioning Servicing Sector** |
|---|---|
| **1. Current Situation** | The economy of Solomon Islands was very much depended on the resources development. Fishing has been the major and consistent contributor to the economy. The total phase out on the substances by our neighboring developed countries have clearly affected the market of the equipment products and the sources of importing the CFCs Substance during the transitional period. According to survey done by the Department of Mines, Energy and Water, the sale of more 40 % of CFCs has been uncounted. The department has physical witness several so-called "Backyard Mechanics" changing refrigerant of vehicles.<br><br>The major fishing industries have change to alternative HCFC for their refrigeration but were experiencing problem in the piping system that required transfers of technology and awareness of the programme.<br><br>The current consumption of CFCs varies it year depend very much on the demand. However, it was obvious that the Mobile Air conditioning were the major used mainly done at the back yard<br><br>The Environment Acts provides for the protocol to give effect in Solomon Islands. There are also other regulation exist in the country that will also be used as proposed in the National Strategy programme |
| **1.1. Sector Analysis** | Solomon Islands has about 100 technicians working in the Refrigeration and Air conditioning sector. The skill level of the service technician varies considerably. The industrial users and large service organizations have a reasonably well trained, While the large component of a number of informal workshops with unskilled and untrained technicians, who service household refrigerators and small electrical and mechanical equipment.<br><br>Large industrial systems are well maintained, due the company on the job-training programme.<br><br>The MAC sub-sector is the major concern, especially the automobile mechanics that are not trained to service MAC. It is very likely that more of the mechanics, when servicing |

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|---|---|
| | MACs, would have release CFC substances into the atmosphere before refilling them. Most of the Second Hand Vehicles import into this country were manufactured before 1994, therefore would have contain CFC - 12.<br><br>All this automobile mechanics will have little understanding of the environmental implication of CFC - 12 and would not be aware of the available alternatives. |
| **2. Justification** | Given the contribution of the refrigeration and air-conditioning industries to the island economy. The government is extremely concern that the brisk change will affect the ability of the industries to perform and provide the required services. Any drastic restriction may also increase cost and will also affect the output.<br><br>The impact of the changes in the neighbouring developed countries have also shown in the local refrigeration and air-conditioning agent, especially the availability of CFC free freezer and refrigerators. However, the biggest problem the skilled personnel to service this new technology.<br><br>With the current suspicious that there is a very high number of unaccounted unskilled personnel that is doing various servicing, especially the MACs. The government feels that to reduce and control the phase out of ODS, it should be done in a coordinated, planned and a more cost-effective ways.<br><br>This can only be achieved with the combination approaches of awareness program, Training of Trainers and Technicians in good management practices, Training of Custom officers for border control, with sound tax incentives to encourage recovery and recycling to ease the economic consequences of the phase out of ODS.<br><br>A good industry practice can be attained, if consumers, public and service agent are ware of the alternatives, and know the consequence of ODS.<br><br>Once the Ozone Unit is set up, the government will develop and implement the control measure as expounded in the Action Plan of the Country Programme to meet the phase out requirement of the protocol, inclusively training, legislature and regulatory and economical instrument.<br><br>The government is committed as party to the Montreal Protocol on the control of substances that deplete the Ozone layer. This is clearly stipulated in this RMP. |

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| **3. Assistance Received** | The funds for the preparation of this National Strategy and Action Plan Programme for Solomon Islands is provided by the Multilateral Funds under the implementing agency UNEP. The government had also received technical assistance from UNEP. Various government departments, companies and users were consulted in the preparation of the National Strategy and Action Plan Programme and Refrigeration Management Plan. |
| **4. Components of Phase Out Strategy and Action Plan** | The critical components of the monitor and phase out strategy are:<br><br>**1. Policy Framework.**<br>Develop and implement necessary control measures such as:<br>➢ Banning of new installations and equipment using ODS<br>➢ Encourage recovery and recycling through tax initiatives.<br>➢ Set up license system in servicing agent or skilled personnel to practice good industry practices.<br>➢ Establish license system to control and monitor and regulate imports and exports of ODS and ODS containing products.<br>➢ Increase awareness of substitute and alternative technologies.<br>➢ Total ban of imports and exports of CFC as stated in the Country Programme.<br><br>**2. Emission Reduction and Training**<br>➢ Encourage service agent and train personnel in recovery and recycling of ODS.<br>➢ Retrofit equipment were feasible<br>➢ Training of trainers on good management practice to create sustainability.<br>➢ Training of Technician for good industry practices.<br>➢ Training of Custom officers, on ODS as restricted imports and exports, licensing system and identification of Ozone Depleting Substances and equipment and products that contains ODS.<br><br>**3. Legislation and Regulation**<br>➢ Amend or develop appropriate legislation and regulation to implement controls required. |

**5. Timetable**

| **Activity** | **2001** | | **2002** | | | | **2003** | | | | **2004** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** |
| Establish Ozone Unit | | | | | | | | | | | | |
| Public Awareness and Education | | | | | | | | | | | | |
| Setting up of Licensee Systems | | | | | | | | | | | | |
| Training of Trainers in Good Refrigerant Management Practices | | | | | | | | | | | | |
| Training of Technicians | | | | | | | | | | | | |
| Training of Custom Officers | | | | | | | | | | | | |
| Banning of new Installation and products containing ODS | | | | | | | | | | | | |

**6. Institutional Framework**

The Ozone Unit will be responsible for the monitoring, coordination and successful implementation of the phase out activities proposed in the Refrigeration Management Plan.

Various government ministries and departments and other organization will also participate in implementing the country programme.

**7. Projects, Costs and Financial Assistance Needed**

The following is the summary of the project of action plan submitted for financial assistance from the Multilateral Funds. The details of each project are attached as Appendix 2A, 2B & 2C respectively.

| **Activity** | **Budget (USD)** |
|---|---|
| Training of Trainers in Good Refrigerant Management Practices | **38,500** |
| Training of Technicians in Good Refrigerant Management Practices | **20,000** |
| Training of Custom | **20,000** |
| **Total** | **78,500** |

| **8. Impact** | The successful implementation of the various component of RMP will leads to an effective control, monitor and phase out of ODS in the Country and also will enable the country to meet its obligate requirement of the Montreal Protocol Treaty. | |
|---|---|---|
| | **Component** | **Expected Impact** |
| | Institutional Strengthening | Effectively coordinate and monitor all controls and phase out activities. |
| | Training of Trainers in Good Refrigerant Management Practices | Create a sustainable programme that will allow for continuos change of technology and alternatives |
| | Training of Technicians in Good Refrigerant Management Practices | Effectively reduce the usage of CFC and increase the awareness of the technology changes and alternatives available. |
| | Economical Activities | Reduced importation and encourage recycling and recovery |
| | Training of Custom Officers | Effectively implement the licensing system for import and export of ODS |

**ANNEXURE 2A**

| | |
|---|---|
| **Project - Two** | **Training of Trainers in Good Industry Practice**<br><br>**Sectors Covered:** Refrigeration and Air conditioning<br><br>**ODS Consumption:** 2.9 ODP Tonnes<br><br>**Project Duration:** 2 years<br><br>**Total Cost:** USD 38,500 (Bilateral cooperation with the government of Australia and New Zealand)<br><br>**Amount to be contributed by:**<br><br>**Solomon Islands Government**: Nil<br><br>**Multilateral Funds:** USD 38,500<br><br>**National Coordinating Body:** National Ozone Unit<br><br>**Implementing Agency:** UNEP in cooperation with the Government of New Zealand and Australia. |
| **1.1. Background** | The background to this project is detailed in the Country Programme document and also in Refrigeration Management Plan, of which this project is a part. |
| **1.2. Project Objectives** | The main objective of this training is to train the trainers of the environment implication, recovery and recycling methods and the new alternative free ODS technologies that is available in the market. The training will also address the following objectives:<br>➢ Increase the awareness of the participant in various issues and related matters regarding the Montreal Protocol Treaty.<br>➢ Introduction and demonstrate methods and procedures that reduce the emission of refrigerants during routine and unscheduled maintenance.<br>➢ Stimulate the development and establishment of networks for sharing of information through out the sector. |

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| **1.3. Expected Outcome** | Reduce the usage of CFC 12 on Mobile Air Conditioning and eliminate the usage of CFC 11 on flushing.<br>It is anticipated that there will be a 10 % reduction in the consumption of CFC after this training programme within the 2001 - 2002. |
| **1.4. Target Audience** | The participants for the workshop will be 15 - 20. These participants will be lecturers of the School of Marine Engineering, supervisors of various major fishing industries and services agencies and senior officers of government department responsible for maintenance of refrigeration and air conditioning and rural fisheries. |
| **1.5. Project Activity** | The project is the 10 working days trainers training programme, which shall consist of the classroom presentations practical demonstrations and hands on training, especially with specific emphasis on the environment issues, substitute and alternative technologies and recovery and recycling.<br><br>The broad emphasis of the workshop is to train trainers who will be responsible for the hand on training of service technicians. Generally the supervisor of various major companies will be responsible for their services technicians, where the college will be responsible to provide continuous training programme and possibly encourage those unaccounted technician. |
| **1.6. Time Frame** | The tentative timing of the training program will be first quarter of 2002. |
| **1.7. Organizers** | Ozone Unit will co-ordinates the local organization of the workshop, including invitation of participants. UNEP TIE will provide the equipment.<br><br>The main target of this training is the usage of ODS in the refrigeration and air conditioning sector.<br><br>The training programme will be held at the School of Industrial Development, Solomon Islands College of Higher Education. |
| **1.8. Support and Follow Up Actions** | National Ozone Unit will be responsible to coordinate and organize the training programme; this is inclusively of waiver of tax and duties and custom clearances of all the training equipment.<br><br>The Follow up Action are:<br>➢ Development of an appropriate curriculum for the training of services technician |

- Appropriate dissemination of information about training programme for service technician by the Ozone Unit.
- On going follow up with the supervisor that trained as trainers for good management in industrial practice. [Network of key Personnel]
- Implementation of import concession and tax incentives to promote use of substitutes and alternative technologies at the earliest.

**1.9. Budget**

Below provided is a detailed breakdown budget for the training programme for the trainers.

| Item | Budget (USD) |
|---|---|
| | **2002** |
| **International Expert (Travel, DSA and Fees)** | 12,000 |
| **Travel /Accommodation / DSA for Provincial Participants** | 2,000 |
| **Local Organization** | 3,000 |
| **Training Materials** | 4,000 |
| **Basic Equipment *** | 15,000 |
| **Miscellaneous** | 2,500 |
| | **38,500** |

* These basic equipment will also be used as equipment for the training of services technician, therefore they will be placed at the School of Marine Engineering, School of Industrial Development, Solomon Islands College of Higher Education.

**Basic Equipment**

- 1 Small Vaccum pump
- 2 Recovery Unit
- 2 Recycling Unit
- 2 Gauge manifold with hose.
- 3 type of leak detector (Halogen Torch, Electronic, Ultrasound)
- 3 Thermometers
- 1 MAPP Gas + Torch
- 2 Simulator
- Miscellaneous hoses and couplings

Miscellaneous tools.

**ANNEXURE 2B**

| | |
|---|---|
| **Project - Three** | **Training of Custom Officers**<br><br>Country Solomon Islands<br><br>**Sectors Covered:** All<br><br>**ODS Consumption:** 2.9 ODP Tonnes<br><br>**Project Duration:** 2 years<br><br>**Total Cost:** USD 20,000<br><br>**Amount to be contributed by:**<br><br>**Solomon Islands Government**: Nil<br><br>**Multilateral Funds:** USD 20,000<br><br>**National Coordinating Body:** National Ozone Unit<br><br>**Implementing Agency:** UNEP |
| **1.1. Background** | Various background of this project is detailed above in the preceding strategy document and in Annex 2 of the Refrigeration Management Plan, which this project is a part.<br><br>Since most of the ODS and ODS containing product is imported, the training of custom officers to identify these substances and equipment will greatly ease any difficulties in implementing the border control requirement for the restriction of imports and exports of ODS and ODS containing products. |
| **1.2. Project Objectives** | The primary objectives of this training programme is to implement the proposed license system of imports and export and any new import and export policies and recognizing ODS and ODS containing equipment to control and ensure that only acceptable substances or product enters the country. |

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|---|---|
| **1.3. Expected Outcome** | Appropriate vigilance on entry of ODS and ODS containing equipment into the country. More accurate database of ODS consumers, ODS imports and consumption, which will assist in meeting data reporting requirements of the Montreal Protocol. |
| **1.4. Target Audience** | The anticipated participants at the workshop will be approximately 20; They will be mostly drawn from the Custom Department, other enforcement agencies and from government. Also private sector [importers] will also be invited, so that they can also be aware of the policy and licensee system for restriction of imports and exports of ODS and ODS contained equipment. |
| **1.5. Project Activity** | A 3 - day "Training of Customs" Seminar will mainly be a class room presentation; to train the enforcement officers in the ODS imports/exports licensing system in placed and also in identifying ODS and ODS containing equipment and product to control and ensure that only acceptable product enter the country. |
| **1.6. Time Frame** | The training program is tentatively scheduled for the first quarter of 2002. By then the government should all the appropriate regulation and license system mechanism amend and established respectively to implement an imports and exports system as required to restrict the ODS usage. |
| **1.7. Organizers** | The Ozone Unit will be responsible for organizing the workshop in collaboration with the Custom Department. UNEP will arrange for the international expert, legal officer will be responsible to explain the legal application and Ozone Unit will provide the explanation of license system and issue of permits. |
| **1.8. Support and Follow Up Actions** | ➢ Follow up by the Ozone Unit with the implementation of Imports and export license system.<br>➢ Monitor the on-the-Job training programme for the local custom officials by the Customs Department.<br>➢ Implementation of Imports / exports license system in placed by December 2002. |

| **1.9. Budget** | Detailed breakdown budget for the "Training of Customs" Seminar : | |
|---|---|---|
| | **Item** | **Budget (USD)** |
| | **International Expert (Travel, DSA and Fees)** | **12,000** |
| | **Local Organization** | **3,000** |
| | **Training Materials** | **2,500** |
| | **Technical Assistance, Monitoring and Evaluation** | **2,000** |
| | **Contingency** | **1,500** |
| | | **20,000** |

**ANNEXURE 2C**

| | |
|---|---|
| **Project - Four** | **Training of Service Technician for Good Industry Practice**<br><br>**Sectors Covered:** Refrigeration and Air conditioning<br><br>**ODS Consumption:** 2.9 ODP Tonnes<br><br>**Project Duration:** 3 years<br><br>**Total Cost:** USD 20,000 (Bilateral cooperation with the government of Australia and New Zealand)<br><br>**Amount to be contributed by:**<br><br>**Solomon Islands Government**: Nil<br><br>**Multilateral Funds:** USD 20,000<br><br>**National Coordinating Body:** National Ozone Unit<br><br>**Implementing Agency:** UNEP in cooperation with the Government of New Zealand and Australia. |
| **1.1. Background** | According to a recent survey done by the Department of Mines, Energy and Water shows that there is more than 40 % of sales of CFCs were an unknown cash sale. There is an unknown amount of technician that is using these substances was suspected amount of "backyard mechanic" that exist in this country that this were used in the Mobile Air Conditioning, especially on the recondition vehicles that were imported.<br><br>Most of the background to this project is provided in details in the preceding National Strategy document and in Annex 2, Refrigeration Management Plan, of which this is a part. |
| **1.2. Project Objectives** | ➢ Reduce the usage of CFC, especially the CFC 11 & CFC 12<br>➢ Increase awareness of the impact of ODS in terms of the environment.<br>➢ Eliminate refrigerant emission |

| | |
|---|---|
| | ➢ Establish a network for information dissemination throughout the sector. |
| **1.3. Expected Outcome** | ➢ Elimination of CFC - 11 for flushing<br>➢ Reduction of CFC - 12 through good industrial practices.<br>➢ Increased awareness of alternatives and substitute technologies.<br>➢ Curriculum for refrigeration and Air conditioning programme at the School of Marine Engineering. |
| **1.4. Target Audience** | The anticipated participants of these workshop will be approximately 20 -30 per session. They will be drawn from major commercial companies, various services agent and also individuals, especially those who have hand on experiences with the Refrigeration and Air Conditioning servicing. |
| **1.5. Project Activity** | A 10-day "Training of Service Technician" workshop will be held at the School of Industrial Development, Solomon Islands College of Higher Education. It will consist of classroom presentations, practical demonstrations, and hand -on training.<br><br>The emphasis of the workshop will be on training of the service technician on good industrial practice.<br><br>The agenda of the training will also include the discussion of the policy issues and a curriculum that have the input of the people from the Industries. |
| **1.6. Time Frame** | The tentative timing for the first training programme will be at the second quarter of 2002 and the other two sessions will be at the first quarter of the preceding years. |
| **1.7. Organizers** | The National Ozone Unit will be responsible for coordinating the organization of the training workshop, includes the invitation of participants, with collaboration with the School of Industrial Development.<br><br>The experts for this training will be sorted locally from the Solomon Islands College of Higher Education and the local major industries and services agents. |
| **1.8. Support and Follow Up Actions** | ➢ National Ozone Unit will ensure that the local expert is available, especially those that have formal qualification and been trained as trainers.<br>➢ National Ozone Unit will notify intended participants in advances.<br>➢ National Ozone Unit will make the necessary local arrangement for the successfully running of the workshop. |

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| **1.9. Budget** | ➢ Development of the Curriculum by the School of Industrial Development for the training of technicians for trade certificate.<br>➢ Appropriate dissemination of information for additional two training programmes.<br>➢ On going follow up the train technician on the good industrial practices<br>➢ Follow up that CFC 11 is discontinued for purging. | | | |
| | **Item** | **Budget (USD)** | | |
| | | **2002** | **2003** | **2004** |
| | **Expertise personnel** | 2,000 | 2,000 | 2,000 |
| | **Miscellaneous Equipment*** | 2,000 | 1,000 | 1,000 |
| | **Provincial Participants** | 1,000 | 1,000 | 1,000 |
| | **Training Materials** | 500 | 500 | 500 |
| | **Local Organization** | 1,000 | 1,000 | 1,000 |
| | **Contingency** | 1,000 | 1,000 | 1,000 |
| | | | | |
| | **Total** | **7,500** | **6,500** | **6,500** |
| | **Miscellaneous Equipment**<br>All the equipment using for the Training of Trainers programme will be used for the Training of Technicians. The additional is mainly other specific materials that will be required for the training of technicians. | | | |

REPORT ON WORKSHOP ON NATIONAL STRATEGY AND ACTION PLAN FOR THE CONTROL, MONITOR, and PHASE OUT OF OZONE DEPLETING SUBSTANCES – 23 July 2001.

SUMMARY:

The above Workshop was held on the 23 July 2001 at the Solomon Islands Ports Authority conference room. It was held purposely to finalise the draft National Strategy and Action Plan for the control, monitor, and phase out of the ozone depleting substances in Solomon Islands. The draft National Strategy and Action Plan was formulated after the Workshop held in Honiara in 21-22 April 1999. The recent Workshop was attended by industries that trade and use ODS, Solomon

Islands College of Higher Education and government officials especially from Customs & Excise department and the Ministry of Mines & Energy. Unfortunately, representatives from Department of Fisheries and other organizations failed to attend despite being invited.

The resolution reached at the end of the Workshop was the consensus endorsement of the draft National Strategy and Action Plan for the control, monitor and phase out of ODS as final for formal submission to the Cabinet of Solomon Islands government for approval.

INTRODUCTION:

The Workshop commenced with the introduction by Mr. John Korinihona, Deputy Director of Energy, Ministry of Mines & Energy on the background scientific knowledge on the depletion of the ozone layer by the emission of the ozone depleting substances. The background information covered the discovery by scientists of the ozone hole in the 1970's up to the formalization of the Montreal Protocol by heads of Governments around the world under the Vienna Convention and the ratification of the Montreal Protocol and its subsequent Amendments by Solomon Islands. The effects of the ozone layer depletion on health of the human kind and the economy of the countries in the world especially on predicted low production in agriculture was highlighted.

Copies of the Montreal Protocol Agreement and the Data reporting forms & instructions (UNEP/OzL.Pro/Dataform97) were distributed to the participants as reference materials. Deliberations were done on the requirements Solomon Islands is obliged to meet as a signatory to the Montreal Protocol. Being an Article 5 country, Solomon Islands has now reached the end of the transition period under the Protocol and has to implement the eventual phasing out process of the ODS in the next 10 years.
Participants went thoroughly over the list of the controlled substances under Annex A, B, C, D & E.

It seems that although some of the participants are aware of the Montreal Protocol, there were others even in the industries especially clerical staff who are not well acquainted with it. The participants were grateful to have a copy of the Montreal Protocol and have agreed on the importance of data reporting and implementation of the programmes to control, monitor and phase out the ODS. Representative of Centatherm Refrigeration Co. Ltd revealed that he was grateful to have learnt during the Workshop the bad effects on human kind as a result of the depletion of the ozone layer.

TRAINING:

*Technicians:* It was discovered during the Workshop that there is little knowledge among some of the refrigeration technicians from the companies on the danger imposed on the environment by discharging of ODS into the atmosphere. It was highlighted by a representative from Honiara Refrigeration & Air-conditioning Company Ltd that a curriculum be developed and full-time Refrigeration course be included as a field of study at the Solomon Islands College of Higher Education – School of Industries. This is to ensure that all technicians are well taught on the theory of refrigeration such as the harmful effects of ODS on the human kind and the environment as a back-up to their present knowledge gained through practical experience. He said that there are technicians out in the field that were shown only the hands-on practical side of installation but are not aware of the importance of safe handling of the gases. It was stressed that employers should conduct in-house training to employees and must promote the further formal training of their technicians. Other training topics suggested are alternative technologies and equipment and other substitutes to the ODS's.

*Customs Officers:* Although there was an amendment to Customs and Excise Act prepared for the inclusion of the Ozone Depleting Substances, it has yet to be gazetted. The Comptroller of Customs highlighted the importance of training his officers on the identification of the substances to effectively control the import of these ODS once the amendment is gazetted.

PUBLIC AWARENESS EDUCATION:

The representative from Solomon Islands College of Higher Education underlined the importance of educating the general public through public awareness programmes. This could be through media both newspapers and the radio, publishing of leaflets, brochures and posters and distribution to schools and the wider community. Even dramas by NGO theatre groups in the country could be used for the dissemination of information to the wider population especially those who do not listen to radio and do not read. He emphasized that the target of the public awareness is to make everybody be responsible to even tell off whoever is seen discharging ODS's unnecessarily into the atmosphere.

RECOVERY & RECYCLING UNIT:

It was highlighted during the Workshop that all refrigeration and air-conditioning companies be it importers or service firms must have access to a recovery & recycling unit and the government to provide some incentive through tax remission to encourage companies to own such units or even becoming a seller in the country of these units.

DUMPING GROUND:

The Workshop was told by the SICHE representative that most of the imported used motor vehicles, used passenger ships and second-hand freezers and machineries have in them air-conditioning and refrigerating equipment that use ODS's. He stressed that the importation of these equipment must be discouraged. The education of the population through public awareness programmes should assist in discouraging people purchasing these equipment.

NATIONAL COMMITTEE:

It was recommended in the meeting by representatives from the private companies that their membership in the above committee should include the Managing Director and one employee. This is to avoid situations like employer not disseminating information to his employees.

CONCLUSION:

It was a successful meeting with a lot of contributions from the participants. The importance of controlling and monitoring of the imports and use of the ODSs was expressed by the participants. The workshop approved the draft National Strategy & Action Plan produced in December 2000 and recommended it be presented to the Cabinet of Solomon Islands for endorsement before it is finally submitted to UNEP-Paris.