REPUBLIC OF THE MARSHALL ISLANDS

NATIONAL COMPLIANCE ACTION PLAN

FOR

THE PHASING OUT OF OZONE DEPLETING SUBSTANCES (ODS)

December 2001

Prepared by

RMI EPA
with assistance from
the South Pacific Regional Environment Programme (SPREP)

1.0 INTRODUCTION

The Republic of the Marshall Islands Environmental Protection Authority (RMI EPA) is the government department responsible for the oversight and implementation of the Montreal Protocol and the National Compliance Action Plan (NCAP) in the RMI.

The Republic of the Marshall Islands lies scattered in an archipelago consisting of two roughly parallel island chains, the western "Ralik" (sunset) and eastern "Ratak"(sunrise) chains. There are twenty nine atolls and five reefs without lagoons which are made up of about 1,225 islands and 870 reef systems. Twenty-two of the atolls and four of the islands are inhabited. The atolls extend about 700 miles (1130km) north to south, from 14º 43"N to 4º 34"N, and about 800 miles (1290km) east to west, from 160º48" E to 172º10" E. Majuro and Kwajalein are the two most populated atolls.

While some of the islands are several kilometers long they rarely exceed a few hundred meters in width and are often considerably narrower. Land elevations are very low, with a mean height above sea level of only two meters (7 feet). The combination of small land areas and low land elevations contributes to the ecological vulnerability in the Republic. There is concern that any change in sea-level could seriously upset the fragile balance between the land and the sea.

RMI's GDP was estimated to be US$97.31 million in 1999, the most recent year that data is available for. Virtually all economic activity is in the government and service sector, with tourism and fishing also being significant. There is a large international fishing fleet based in Majuro. US rent and aid, as well as aid from other sources are used to buy most of the country's needs from overseas while its primary income source, domestic production of goods from domestic resources, has remained limited.

Isolated by ocean, the Republic is more than 2,000 miles (3230km) from the nearest trading centres, Honolulu and Tokyo. Geographically, the RMI's nearest neighbours are Kiribati to the south and the Federated States of Micronesia to the west. The Republic's Exclusive Economic Zone (EEZ) encompasses over 750,000 square miles (1.2 million sq km) of the Central Pacific. The population is concentrated on Majuro and Kwajalein Atolls. The US army maintains a large installation on Kwajalein Atoll. This is discussed separately below.

Official Population of RMI

Majuro	26,603
Kwajalein Atoll (excluding US Army Kwajalein Atoll)	9,311
Outer Islands	14,404
Total	50,318

Source 1999 Census of Population and Housing.

RMI has strong trading relations with the United States (including Guam), Singapore, Taiwan, Japan and, to a lesser extent, the Philippines. Most consumer goods, such as white-ware, come from the US or Japan.

Because RMI is a small group of islands, corrosion from salt air is a serious problem. Accordingly steel products, such as cars and also refrigerators and air-conditioners, suffer

from severe corrosion problems. The average life of a car in RMI is in the order of ten years after arrival in the country because of the corrosion.

The most common ozone-depleting substances in RMI are CFCs. They are commonly referred to as "Freons" in RMI. However, Freon is a trademark of the Dupont Corporation, so the generic term "CFC" is used in this report.

The Montreal Protocol requires reporting of all data in metric units. So although RMI uses the imperial system of measurements, this report uses metric units.

Kwajalein Atoll

The US Army operates the "US Army Kwajalein Atoll/Kwajalein Missile Range (USAKA/KMR)" on Kwajalein Atoll. This is a restricted facility. As part of its agreement with the RMI Government it submitted its "biennial ozone-depleting chemical report as specified in the UES Section 2-6.2.1(b)" to the RMI EPA on 23 May 2001. This report includes a full inventory of the equipment at the base using the refrigerants CFC-11, CFC-12 and CFC-502. The report does not include information on annual consumption (imports) of any of the controlled substances onto the Kwajalein facility.

The RMI EPA has submitted a letter to the appropriate authorities requesting information on annual consumption between 1993 (the year RMI became a party to the Montreal Protocol) and the present. The letter also requests information on the consumption of ODS solvents (e.g, CFC-113 and 1,1,1-trichloroethane (methyl chloroform)) and the fumigant methyl bromide, which are not mentioned in the Report. It also requests data on consumption of HCFC (in particular HCFC-22), which the RMI Government is also required to submit for each year from 1993 to the present.

This data has not been received at the time of preparing this NCAP. However as the RMI Government does not treat material used on the Kwajalein facility as being imported into the RMI and the facility is not eligible for assistance to phase-out its ODS use, the NCAP will not consider the Kwajalein facility as part of the RMI's consumption or as part of the NCAP.

1.1 Purpose

As part of the process of meeting its obligations under then Protocol, the government of RMI, in close collaboration with an outside consultant, has developed this National Compliance Action Plan (NCAP). The NCAP was prepared to reflect the commitment of the Government of RMI to comply with its obligations under the Montreal Protocol.

For that purpose, data on consumption of ODS is presented and analysed, as well as a strategy containing concrete actions to achieve timely phasing out. A detailed Action Plan for phasing out ODS has been elaborated and the specific projects to achieve it identified. This document provides the basis for monitoring progress of implementation of the Montreal Protocol in RMI

The RMI intends to be actively involved in the regional strategy to implement the Montreal Protocol in the Pacific region. Most of the activities outlined in this strategy will be funded through the Regional Strategy even though they are included in the NCAP. The budget is therefore presented as part of the Regional Strategy and not this NCAP.

The development of the NCAP is important in determining the level of ODS consumption in the country. More specifically the NCAP:

- Is a reflection of the commitment of the government of RMI too achieve compliance with its obligations under the Montreal protocol
- Provides an assessment of the consumption of ODS in RMI from 1993 to 2010
- Identifies the actions that the government intends to take in order to fulfil its obligations under the Protocol, and
- Identifies the nature and extent of the assistance sought by the government of RMI from the Multilateral Fund to support its efforts to protect the ozone layer and meet the Protocol's objectives

1.2 Status

The Republic of the Marshall Islands (RMI) became a Party to the 1995 Vienna Convention on the Protection of the Ozone Layer, the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer and the 1990 London Amendment on 11 March 1993. It became a party to the 1992 Copenhagen Amendment shortly after on 24 May 1993. Accordingly it is required to control the consumption of CFCs, halons, methyl chloroform (1,1,1-trichloroethane), carbon tetrachloride, HCFCs, HBFCs, "other halogenated CFCs" and methyl bromide at this time.

The RMI is not a party to the 1997 Montreal Amendment; and the 1999 Beijing Amendment to the Montreal Protocol. It is currently considering ratification of these amendments.

The RMI is classified as operating under Article 5 of the Montreal Protocol and as such is entitled to assistance from the Multilateral Fund to comply with its obligations.

According to the data presented in this NCAP and submitted to the Ozone Secretariat, RMI must freeze its consumption of CFCs at 1.16 ODP tonnes from 1 July 1999. According to the same data, by 2000 the RMI had reduced imports of CFCs to 0.53 ODP tonnes. It is therefore in full compliance with its obligations.

Table 1.1 Maximum allowable consumption in RMI under Montreal Protocol

Year	Montreal Protocol percentage reduction	Maximum consumption (ODP tonnes)
Base Year	0%	1.16
2000	0%	1.16
2001	0%	1.16
2002	0%	1.16
2003	0%	1.16
2004	0%	1.16
2005	50%	0.58
2006	50%	0.58
2007	85%	0.17
2008	85%	0.17
2009	85%	0.17

2010	100%	0.00

In 1999, the most recent year data is available for, the population was 50,318. Accordingly the per capita consumption in 2000 (assuming the same population as 1999) is 0.011kg per capita. The is under the threshold to receive assistance under the Montreal Protocol Multilateral Fund

The RMI does not produce ODS. All ODS are imported.

1.3 Assistance Received

The RMI has not received any financial assistance from the Multilateral Fund or any other agency for phase-out activities.

The South Pacific Environment Programme (SPREP) through its regional programme for the implementation of the Montreal Protocol in the Pacific region employed a regional consultant to assist with the development of the NCAP in RMI. RMI has also received assistance to take part in other activities and to develop its NCAP. This assistance includes:

- A one-day workshop for government departments and small industrial enterprises conducted by the SPREP Regional Consultant, Mr. Iain McGlinchy . Findings and data from the report on the consultant's visit were used to develop the NCAP.
- Representatives from RMI participated in the three day workshop in Apia, Samoa in April 2001 on implementation of the Montreal Protocol in the Pacific with the assistance of the NZ Government.
- A representative from RMI attended the Open Ended Working Group (OEWG) held in Montreal Canada, in July 2001 with assistance from the Ozone Secretariat.

2.0 Current Situation

2.1 Current forecast and Consumption

2.1.1 Current Consumption

Only three types of ozone depleting substances are known to have been imported into RMI in bulk form: chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) which are used for refrigeration and air-conditioning, and methyl bromide used for quarantine fumigation. Other than the use of methyl bromide for fumigation, consumption of ODS in RMI is exclusively in the refrigeration and air conditioning sector.

Chlorofluorocarbons (CFCs)
Consumption of CFCs has remained reasonably constant in RMI since 1993. The data set out in table 2.1 was collected by the international consultant on his visit to RMI.. Data before 1995 is not considered reliable and is only an estimate of consumption at that time.

CFCs are primarily imported from the US, although more recently they have been imported from Asia – usually through Singapore. CFC-502 is now reported to be very difficult to

obtain and their was some stock piling of CFC-502 in early 2000. Prices for CFC-12 are reported to be rising because of the difficulty of obtaining supplies.

Table 2.1 Consumption of Chlorofluorocarbons (CFCs) in RMI (Metric tonnes)

Substance	ODP	1993	1994	1995	1996	1997	1998	1999	2000
CFC-11	1	0.227	0.227	0.227	0	0	0	0	0
CFC-12	1	0.871	0.871	0.871	0.998	0.962	0.499	0.935	0.281
CFC-115[1]	0.6	0.235	0.235	0.235	0.235	0.235	0.235	0.263	0.423
ODP tonnes[2]		**1.239**	**1.239**	**1.239**	**1.139**	**1.103**	**0.64**	**1.0928**	**0.5348**

[1]CFC-502 is a mixture of 51.2% CFC-115 and 48.8% HCFC-22. The HCFC-22 component is reported separately.

[2]An ODP tonne is a metric tonne, multiplied by the substances' ozone-depleting potential (ODP). It is a measure of relative environmental damage, not physical quantity and is used by the Montreal Protocol to allow comparisons between substances of different ODPs.

Hydrochlorofluorocarbons (HCFCs)

The use of HCFCs is generally increasing in RMI, corresponding to the rise in use of the HCFC-22 in air conditioning and refrigeration equipment. As discussed below most of the consumption is for the foreign fishing fleet operating from the port in Majuro. Although this HCFC is not used in RMI, it must be counted as consumption by RMI as it is not being formally exported. Use by the fishing fleet can fluctuate significantly depending on the size of the fishing fleet that year.

Table 2.2 Consumption of hydrochlorofluorocarbons (HCFCs) in RMI (metric tonnes)

Substance	ODP	1993	1994	1995	1996	1997	1998	1999	2000
HCFC-22	0.055	1.080	1.080	1.080	1.307	1.307	1.330	2.338	2.389
ODP tonnes		**0.059**	**0.059**	**0.059**	**0.072**	**0.072**	**0.073**	**0.129**	**0.131**

In addition to the import of HCFC-22 there may be a small amount of HCFC being imported as components of mixtures used to service equipment that once used CFCs, but so far this is negligible and none was identified in the survey by the international consultant.

Other ODS Consumption

There is no known consumption of bulk halon in RMI as there are no fire extinguisher servicing facilities in RMI. BCF extinguishers are uncommon. These are reportedly either not serviced or sent off island for servicing.

The National Telecommunications Authority (NTA) has two halon 1301 systems: one at their Majuro centre and the other at Ebeye on Kwajalein Atoll. There is no need for the NTA to take any action at this time. However, because of the international shortage of halon 1301 and the difficulty they may have in obtaining a future supply in event one of their systems is discharged the EPA should advise the NTA to look at long term options to replace the system.

There is no reported use or consumption of any other ODS, i.e. methyl chloroform, carbon tetrachloride, "other CFCs" and HBFCs. It is extremely unlikely that anyone would wish to export any of these substances to RMI, as there are no facilities likely to use them.

2.1.2 Forecast CFC consumption

Unlike virtually all other Pacific Islands, RMI laws do not allow the import of the right hand-drive vehicles. This has prevented the trade in second hand Japanese vehicles from developing. Accordingly the demand for CFCs is not rising as sharply as it has in some of the other Islands. However, in recent years there have been large scale imports of left-hand-drive second-hand Korean vehicles which still contain CFC- mobile air-conditioners (MACs) when they arrive. There is an ongoing demand for CFCs to service these.

The lack of ongoing supply of CFC-502 globally suggests that the relatively high level of imports of this will cease in 2001. On going demand will therefore be exclusively for CFC-12 and most will be for servicing of MACs.

The number of private, registered motor vehicles in RMI in1999 was 2,575 vehicles. It is assumed that 90% of all vehicles registered in RMI before 1995 (the year most car manufacturers switched to HFC-134a in MACs) were fitted with CFC-12 MACs. This is equivalent to 1,600 vehicles. Virtually all of the second-hand imports were manufactured before 1995 (the year Korean manufactures switched to HFC-134a in their car air-conditioning). There is no data on the number of second-hand vehicles imported, but official records show that the vehicle fleet grew by more than 600 vehicles from 1,939 in 1998 and 2,575 in 1999. It is reasonable to assume that most of these were second-hand. So the actual population of vehicles fitted with CFC-12 MACs is therefore likely to have increased since 1995 to around 2000 vehicles. Based on international averages, each vehicle normally requires the equivalent of a full charge of refrigerant every two and a half years. The average charge is around 800 grams (approx 1.75 lb). NB 800 grams is greater than the average size for a car to account for use by larger vehicles such as buses. Given these assumptions the demand for CFC-12 in the MAC sector should be around 0.64 tonnes (1,411 lb).

It is reasonable to assume that in the absence of regulations to control the quantity of CFC able to be imported or of vehicles with CFC MACs, the demand for CFC-12 for servicing MACs would remain at around 0.64 tonnes per year at least until 2005, when the vehicles with CFC-MACs being imported would be a minimum of ten years old. After that time demand would decline slowly as the vehicle fleet aged.

Table 2.3 Forecast ODS consumption in ODP tonnes

Year	Montreal Protocol Maximum consumption (ODP Tonnes)	Forecast consumption if no other intervention (ODP tonnes)
2000	1.16	0.64
2001	1.16	0.64
2002	1.16	0.64
2003	1.16	0.64
2004	1.16	0.64
2005	0.58	0.64
2006	0.58	0.64
2007	0.17	0.576
2008	0.17	0.512
2009	0.17	0.448
2010	0	0.384

It is clear from table 2.3 that assistance to reduce the use of CFCs in RMI's MAC sector will be the highest priority of RMI's NCAP.

2.2 Industry Structure

There are no manufacturing facilities using any ozone-depleting substance in RMI. Aside from methyl bromide, all use of the controlled substances is for servicing of existing refrigeration and air-conditioning equipment.

2.2.1 Importers of ODS in RMI

The largest importer of refrigerants in RMI is reported to be Ace Hardware. As well as selling refrigerants to customers in the refrigeration service sector, the parent company (Robert Reimers Enterprises (RRE)) owns a hotel and a supermarket and imports refrigerants for their own use.

In total, six companies were identified that import CFCs and other refrigerants. These are:

- Jane's Corporation
- Marshalls-Japan Construction Company (MJCC)
- Pacific International Inc.(PII)
- Robert Reimers Enterprises Inc (RRE)/Ace Hardware
- Skyline Enterprises

which are all on Majuro and

- Tripple J

which is on Ebeye

There are also reported to be a number of smaller companies that may import one-off shipments. It was not possible to identify the consumption of these one-off shipments in past years and an allowance has been made for these shipments in the estimates of consumption

Refrigerants are imported from a wide range of countries: Singapore, USA, (including Guam and Hawaii), and China. Most non-ODS refrigerants were being imported from the mainland United States.

2.2.2 Users of refrigeration and air-conditioning equipment

There is only a limited amount of industry in RMI and there are no manufacturing facilities using ODS. The only use of ODS is in the refrigeration and air-conditioning servicing sector. There are no reports of any new equipment being installed using CFCs as the refrigerant.

There are only a few four large refrigeration and air-conditioning workshops in Majuro and a number of smaller operations, including "back yard" operations. The number of these smaller operations has not been confirmed at this time. In addition, the newly established fishing company, the major hotels and the larger supermarkets have fulltime staff working on refrigeration and air-conditioning equipment. At least four private companies and several Government agencies were identified that were involved in servicing their own refrigeration and air-conditioning equipment. They may occasionally use local contractors for larger jobs.

Air conditioning sector: Mobile (MACs)
Because of the small size of the islands that make up RMI, there is a relatively small vehicle fleet for the size of the population. More than 90% of the 2575 vehicles registered in 1999 were in Majuro and Kwajalein.

As noted above, unlike virtually all other Pacific Islands, local laws do not allow the import of the right hand-drive second-hand Japanese vehicles. However, in recent years there have been imports of left-hand-drive second-hand Korean vehicles. There are also many new and used US assembled vehicles imported into RMI as well. Residents returning from overseas also bring some vehicles to RMI.

Working mobile air-conditioning units are reasonably common. According to the service shops, the loss of refrigerants from vibrations due to the poor state of the roads, combined with corrosion from the sea air, means that the use of refrigerants in this sector is relatively high. Accordingly this sector represents the largest use in RMI using 70- 80% of the use of CFC-12 in RMI.

Air-conditioning sector: Stationary
Outside of the US military facility on Kwajalein there are no large centralised air-conditioning equipment (chillers) that use CFCs as refrigerants. Although a number of large hotels, public buildings have centralised air-conditioning systems, all use HCFC-22 as the refrigerant.

Air-conditioning using window units, split systems and in some cases, larger water-cooled units, is common in Majuro and Kwajalein, but rare elsewhere. The 1999 census reported that 36% of buildings on Majuro had air-conditioning, but outside of Majuro and the US Military facility it is very rare.

These air-conditioning units are imported from a wide range of countries and all are using HCFC-22 as the refrigerant. There is no obligation for RMI to control the imports of HCFCs or equipment using HCFCs at this time.

Commercial refrigeration
There are four large supermarkets in Majuro and one in Kwajalein. Smaller convenience stores are widespread. Newly installed units in the supermarkets are using HFC-134a and HCFC-22. There are some Servicing of older equipment is still usually done with CFCs.

There are still a relatively large number of pieces of refrigeration equipment at the supermarkets using CFC-502 as the refrigerant. (NB CFC-502 is a mixture of CFC-115 and HCFC-22. It must be phased-out as a CFC). Globally the supply of CFC-502 is now very small and many counties can no longer obtain imports of this. Many companies, including those in RMI have already replaced their older equipment with new equipment using non-ozone-depleting refrigerants. There are gases that can be used in existing CFC-502 refrigeration systems to allow them to continue to operate. Training in the use of these gases may be necessary to ensure that industry is not disrupted.

Most new commercial refrigeration equipment now uses the zero-ozone-depleting refrigerants R404A. HCFC-22 was also in widespread use for low temperature refrigeration.

There are a large number of international fishing companies based in the port at Majuro. There are currently no local fishing companies, but the Marshall Islands Marine Resources Authority (MIMRA) is establishing a new Government owned fishing company called the Marshall Islands Fishing Venture. This will use established infrastructure, such as shore-based freezers, cool store operations and ice-making equipment. It was reported that all refrigeration equipment both onshore and in the fishing boats is are now CFC free, with most now using HCFC-22 as the refrigerant. Some of the foreign owned boats are reported to have ammonia based freezer systems.

Because of the large international fishing boats based in Majuro the consumption of HCFC-22 in RMI is relatively high. These factory ships may require amounts of HCFC-22 over 500kg (1000 lb) in event of a catastrophic failure of an on board refrigeration system. It was reported that it was not uncommon for a fishing boat to purchase all stocks of HCFC-22 in Majuro at that time.

Domestic refrigeration

Outside of Kwajalein and Majuro, refrigerator ownership is rare. The only exception to this was on Kili Atoll, which is where the former residents of Bikini Atoll have been re-housed by the Americans. More than 95% of the 88 dwellings on Kili Atoll have a refrigerator and an air-conditioner!

Most refrigeration units are imported from the US or Japan and have therefore been CFC-free since 1995. Equipment is also imported from other countries, most noticeably Taiwan, but the refrigerant in these was not identified in this survey. It was reported to be CFC-free.

There are no reported examples of large-scale imports of second hand domestic refrigerators from Japan.

Servicing of domestic refrigerators and commercial display cabinets with CFCs was common. The tropical conditions mean corrosion of the mild steel pipe work is a major problem and therefore all types of refrigeration equipment had a fairly short life before they needed repairs. The uneven voltage and power cuts also meant compressor failures were relatively common. Technicians at the workshop for the private sector reported it was common to have to repair equipment and re-charge every one or two years due to rusted pipes if they were kept in a non-air-conditioned building. (This compares with only once in 20 years in a country like New Zealand or Australia).

Servicing is still done with CFC-12 in older units and HFC-134a in the new units. Some of the workshops were using “service blends” instead of CFCs, but most still used CFC-12.

2.2.3 Fumigation

The Quarantine service of the Ministry of Resources and Development reported that they did not use methyl bromide for any uses including QPS uses. Methyl bromide had been imported in the past, but there are currently no facilities to use these. Any fumigation needed is reportedly done at the destination port.

There is no known use of methyl bromide for soil fumigation or pest control in RMI.

2.3 Institutional Framework

The RMI Environmental Protection Authority (RMI EPA) will co-ordinate the NCAP, formulate and develop appropriate legislation, report to the Montreal Protocol's Ozone Secretariat and Multilateral Fund and participate in public and industry awareness campaigns. It is proposed that a National Ozone Unit (NOU) will be established in the EPA to implement the NCAP. The unit will assume the responsibilities for implementing the national level activities in the NCAP. This Unit will assume all responsibilities for data reporting to the Ozone Secretariat and the Multilateral Fund as well as all reporting requirements for project implementation.

The unit will work closely with an oversight committee, the RMI National Ozone Committee (NOC), set up to monitor the progress and implementation of NCAP activities. It will be comprised of other government departments, public and private sector organizations, and NGO's including:

Ministry of Fisheries	Representatives from ODS importers and users (e.g. RRE, PII Janes, MJCC, car importers and service companies etc)
Ministry of Civil Aviation	Ministry of Resources and Development Quarantine Service
Customs Department	Police Fire Brigade
Office of Planning and Statistics	Media organisations
College of Micronesia	Private fishing industries
Crown Law Department	

2.4 Policy Framework

As a party to the Montreal Protocol, RMI accepts the responsibility to phase out ODS in the country. The policy framework within which the phase out will be managed is based on four key elements: Government restrictions on imports of ODS, Industry initiated support for new systems and technology, training of service technicians and Customs Officials, and co-operation between government and importers to raise awareness of the Montreal Protocol with the public and ODS uses.

Controls on imports of ODS and products containing them are expected to be put in place using regulation making powers under the National Environmental Protection Act 1984. This has fairly wide regulation making powers. Regulations placing bans on the import of ODS will be developed in a consultative process to minimise economic disruption and ensure support from private industries and the public for NCAP programs.

This NCAP strategy will form the national policy on ozone protection.

2.5 Government and industry response

The Government's first response to the Montreal Protocol was to commence the preparation of an Action Plan in collaboration with UNEP and SPREP in 2001. For this purpose, a country visit, survey, and workshop were organised with the technical assistance of SPREP's international consultant in August 2001.

The industrial response began much earlier, with the main refrigerant suppliers importing and promoting alternatives to CFCs, particularly the HCFCs, for some years. The suppliers have already started importing low and non-ODS gases. The retailers have also changed to non-CFC manufactured products. Retrofitting of old equipment alternatives has begun in some of the major supermarkets and fishing companies and even in some car air-conditioners. New commercial installations have been encouraged to shift to HFC-134a and other non-ODS refrigerants.

3.0 Implementation of the phase-out strategy

The phase out strategy is an accelerated version of the program under the Montreal Protocol. This is both technologically and economically viable as far as RMI is concerned. RMI's ODS consumption is already well below the Protocol's limits and continuation of this trend will be ensured with the implementation of phase out activities outlined in this NCAP.

3.1 Strategic Statement by the Government

The Republic of the Marshall Islands is committed to its obligations under the Montreal Protocol and the Vienna Convention and is prepared to undertake an accelerated CFC phase-out target date of 31 December 2005, inline with other countries in the region as part of the Pacific Regional Strategy.

The adoption of an early phase-out date, in line with other Pacific countries under the Pacific Regional Strategy, sends a strong signal to the global community demonstrating RMI's commitment to global environmental issues. Adoption of an early phase-out date will also reduce problems associated with the dumping of obsolete technologies.

These target goals will be achieved with the support of the Multilateral Fund and the Pacific Regional project in collaboration with the private and public sectors, NGOs, and other government and international agencies.

3.2 Action Plan and Projects under the NCAP

In order to ensure RMI's compliance with the Montreal Protocol the following Action Plan has been developed.

1. Maintain compliance with the Montreal Protocol while preparing an economically viable accelerated phase-out program.
2. Establish a National Ozone Unit (NOU) office to co-ordinate, implement, and monitor the phase-out program.

3. Prohibit any new activity related to the import, production or use of ODSs in new equipment
4. Ban of import of ODS-using and ODS-containing equipment (including new and second-hand domestic refrigerators using CFC-12 as the refrigerant)
5. Introduction of controls on the import (and export) of all ODSs (including licensing, taxation and/or quotas as appropriate)
6. Strengthening ODS import/export monitoring program by developing a licensing system.
7. Consideration of system of fiscal incentives/disincentives in favour of non-ODS alternatives and transitional substances.
8. Implement and monitor training of customs officers to ensure proper control of import and export of ODSs and information collection and submission
9. Implement and monitor training of refrigeration service technicians in good practices of refrigeration to minimise the use of ODSs and mitigate their emissions into the air during the service of refrigerators
10. Conduct public awareness campaign on necessity and means for protection of the Ozone Layer of the Earth and the government's commitment to phase out ODSs

Education, training, legislation, regulations and other incentives will ensure that RMI will continue to meet its obligations under the Montreal Protocol.

As discussed in section 2.3, the implementation of the NCAP will require the establishment of a National Ozone Unit (NOU) office and will be responsible for ensuring that RMI meets its requirements under the Montreal Protocol. Among other things, the Unit will establish a RMI National Ozone Committee (RMI NOC) comprised of other government departments, public and private sector organisations, and NGOs with interests in the ozone issue to provide policy advice and technical support for the NCAP.

3.2.2 Projects

The essential government actions include the assignment of an ODS focal point which will implement and monitor NCAP activities, drafting new or revised legislation and regulation, conducting public awareness and education campaigns, acquiring new technology, and developing training and licensing programs.

All Projects set out in the Action Plan will be implemented as part of the Pacific Regional Strategy. The budget for these projects will be presented as part of the overall Regional Strategy.

National Support

National Support is necessary to enable the achievement of strategic objectives under the Montreal Protocol. This project will establish the National Ozone Unit (NOU) office within the EPA, as this is the agency responsible for implementing NCAP programs and activities. The Unit will be staffed for three years (2002 – 2005). A position will be established in the EPA as the equivalent of 37% of a full time position for the three year term. For the first year, while regulations are being prepared, a greater number of hours may be needed (up to 70% of full time), with less (20% of full time) in the second and third year. The Government may adjust this balance of hours within the overall funding. Following the introduction of legislation, the key tasks would be to manage the import permit system for HCFCs and continue any ongoing public education campaigns. The NOU would also oversee the development and implementation of the certification scheme for refrigeration technicians.

The cost for an ODS officer will be estimated according to the RMI PSC regulations or local rates for a person with an advanced University degree. All costs will be part of the Pacific Regional Strategy Budget

Legislation and Regulations

In order to be able to comply with the Montreal Protocol the Government must establish a system to monitor and control CFC imports. It does not appear that existing regulations can be used to restrict imports and new regulations will be needed. These are expected to be prepared using existing regulation making powers under the National Environmental Protection Act 1984

In particular the new regulations will introduce an import license scheme. A license scheme will prohibit import of all CFCs unless RMI EPA has issued an import license. Once issued, a license will have a requirement that the holder must report the level of imports to the Government each year. The amount of licenses issued each year can then be reduced in accordance with either the Montreal Protocol's obligations, or a faster schedule agreed by the Government depending on the substance. To be successful, the license scheme will require co-operation from the importers and the customs officers. It may also require amendments to the version of the Harmonised System (HS) (The internationally agreed system of classifying traded goods and recording import statistics) that RMI is using to allow identification of the individual controlled substances.

The RMI recognises that The Pacific regional Strategy will provide specific assistance with designing an import permit system, as part of its Pacific-wide programme of assistance. The government will seek to take advantage of this opportunity.

Development of these regulations will be a high priority and they should be in place as quickly as possible in order to ensure ongoing compliance.

The Government recognises that controls on the substances are necessary to ensure ongoing compliance with the Montreal Protocol. The same regulations that are used to introduce a licence system for CFCs will also used to prohibit the import of all other ozone depleting substances except HCFCs, and possibly methyl bromide. These restrictions would be on the import of: halons, “other CFCs”, 1,1,1-trichloroethane (methyl chloroform, carbon tetrachloride, and hydrobromofluorocarbons (HBFCs). None of these substances are known to have any commercial use in the RMI and some such as the “other CFCs” and the HBFCs are no longer manufactured.

In addition the Government will consider prohibitions on both new and second hand products containing CFCs, such as refrigerators and freezers in order to avoid receiving “junk technology” and to reduce future demand for CFCs to service the equipment.

Any ban on imports could be accompanied with an exemption process, administered by the RMI EPA, to allow case-by-case exemptions for “essential uses”.

As with CFCs, to ensure future data reporting of HCFCs, a form of import licences will be necessary to track imports. This should be implemented at the same time as the licence system for CFCs. These licences could be issued on demand, with no restrictions as to the quantity

imported. However, it would be a condition of the licence that the importer report the actual quantities of HFCF imported.

Because there are non-ozone depleting alternatives for many uses of halon fire extinguishers, the Government has agreed to prohibit the import of halon fire extinguishers as well as bulk substances. Such a ban will help prevent RMI becoming a dumping ground for unwanted equipment and prevent local companies becoming reliant on a technology that is now no longer manufactured. The ban will be accompanied by an exemption process, in case there were legitimate “essential uses”, such as for aircraft.

RMI will look at amending existing regulations to ensure that there are no further imports of methyl bromide for any uses other than those allowed by the Montreal Protocol for "Quarantine and Pre-Shipment" (QPS).

Any ban on imports could be accompanied with an exemption process, administered by the RMI EPA, to allow case-by-case exemptions for “essential uses”.

Financial incentives

The Government will investigate the possibility of introducing financial incentives to promote the use of non-ozone depleting substances to replace CFCs through reductions in import duty and such like. It will also investigate the possibilities of reducing import duties on equipment such as recovery and recycling machines needed to protect the ozone layer.

Training for Customs Officials

RMI does not produce any CFCs and therefore all of its CFC consumption must be imported. It follows that border controls will be vital to ensure that the Government’s policies are implemented. In particular it will be important to ensure that CFCs are not smuggled into RMI so as to prevent illegal imports of CFCs from becoming common or widespread.

To successfully implement the licence scheme it will be vital that Customs Officers from the Department of Customs, Revenue and Taxation are trained to recognise CFCs and their alternatives. This training should be provided once regulations are in place.

It is proposed that training will initially be provided by an overseas expert. Following that, a course can be developed for Custom's own training for future years. This training should take three or four days to complete and will include the RMI legislation, the Montreal Protocol recognition of packaging and storage containers and training in the use of the refrigerant identification equipment.

As well as the provision of training, it will be important to provide portable refrigerant identification equipment. It is envisaged that field officers would be provided with two portable refrigerant identification units and where there is doubt about the accuracy of labelling they would send samples to a central laboratory (possibly in the USA or another country) for legal testing. The training providers should also assist with the development of policies for sampling of shipments of refrigerant gases. The refrigerant detection equipment would be available for use the by the College of the Marshall Islands (CMI) when not in use by Custom’s staff.

The funding for the training and provision of CFC detection equipment will be under the budget for the Regional Strategy and in co-operation with the Oceania Customs Organisation.

Training for refrigeration and air-conditioning technicians

To successfully introduce the new non-CFC refrigerants into RMI, new skills will be required for technicians. The new refrigerants require new handling procedures and new lubricants. It will be vital that training is provided quickly if RMI intends to implement a phase-out date of 2005. It will also be important that technicians have the necessary skills to fix leaks in existing equipment, rather than continuing to simply add new gas to equipment without fixing the leak.

It is proposed that a training programme be developed that is based at the CMI to teach these skills. The training facilities already have some equipment. New equipment may be necessary and it is expected that this will be provided under the Pacific Regional Strategy.

The main objectives of the courses would be to teach recovery and recycling and good engineering practices as well as issues relating to the legislation and ozone depletion. Those who attend would receive free or subsidised training. Participants who passed an exam at the end of the course would receive a "certification" certificate that they can hang on workshop walls. They would then be able to advertise their businesses or staff as having been accredited by the Government, or to relevant international standards, or such like. The Government may periodically publish lists in the newspapers (or other media) of those workshops whose technicians had passed such courses.

Once the initial training has been carried out by the international consultant, the courses will be provided by CMI as evening or weekend courses as needed.

The Government will need to decide, after discussions with the public and technicians whether it wishes to introduce a mandatory certification scheme. This will depend on the degree of participation in the training programmes when they are voluntary. If the Government decides to introduce a mandatory accreditation scheme, they will meet any costs for this from their national support, or from licence fees.

New technology acquisition

As noted above, a relatively large numbers of second hand vehicles are being imported into RMI from Korea. Most of these are fitted with CFC MACs when they arrive. The use of CFCs to service these older unit is a large area of potential ongoing demand for CFCs. Reducing this potential demand is a matter that the Government considers to be a priority if it is to ensure ongoing compliance with the Montreal Protocol. In addition to training technicians to reduce and repair leaks properly, the Government wishes to promote the use of recovery and recycling machines

The use of recovery and recycling equipment allows workshops to re-use any CFCs that are extracted from the customers' equipment at the time of servicing, especially in motor vehicle air-conditioning units (MACs). Any CFCs that are recovered from MACs can be re-used, either in the same piece of equipment or in another piece of equipment later on. This is done instead of releasing the refrigerants to the atmosphere, as is the case in most workshops in Palau at present. While the use of recovery and recycling equipment on its own will not reduce leakage from MACs, it will reduce the amount of CFCs consumed during service.

The Government wishes to request funding, through the Multilateral Fund and the Pacific Regional Strategy, to be able to offer a 50% subsidy on the cost of purchasing these machines. If this approved, the subsidy would only be offered to companies whose technicians have completed the approved training course. Funding would be sought to allow the purchase of up to 10 units at a cost of US$2,500 per unit (i.e. a subsidy of US$1,250 per machine)

With each subsidy a Memorandum of Understanding will be signed between the National government and the service shop to set up a maintenance schedule for the equipment and maintain accurate records available to the RMI EPA on a monthly basis to monitor the recovery program.

Public awareness
Because of the high use of CFCs in car air-conditioning in RMI, a campaign to encourage owners to use certified technicians and to ensure that their systems are properly repaired will be important to the success of the phase-out of CFCs in RMI. Aside from developing regulations, public education would be a key task of whoever is hired to implement the Protocol. There is already a considerable body of material available from UNEP that can be adapted to local needs but will need translating into local languages.

3.2.3 Roles in Implementing the Strategy

The lead agency responsible for implementing and managing the NCAP programs will be the National Ozone Unit (NOU) in the RMI EPA's office. However, given the complexity and cross-sector nature of the plan, it will be necessary for the NOU to collaborate with a number of other agencies and organisations, the principal ones being:

National Ozone Committee (NOC)
An oversight committee will be established to review NCAP progress, offer policy guidance and advice to the NOU, and ensure cost effective NCAP strategy management to meet Protocol objectives.

Customs Department
The Customs Department will enforce proposed regulations controlling the importation of ODS. Data recorded of all imports detailing the type and amount of ODS entering the country is stored at the Customs department and collated by the NOU office for data reporting needs.

College of the Marshall Islands
The Institute will run the training and certification courses for trainers and technicians outlined in the National Support project.

3.3 Timeframe and Consumption Implications of the Action Plan

3.3.1 Timetable

The schedule for implementing activities to meet the Protocol objectives and its effects on ODS consumption is presented in Table 3.1. Of these activities, the ones that will lead directly to a reduction in consumption levels are:

- Monitoring of ODS imports and exports through a licensing system, new refrigerant identification equipment, and well-trained Customs Officials.
- The training of technicians in good service practices and the use of recovery and recycling equipment and retrofitting.
- Fiscal policy measures to encourage the development of economically viable and attractive ODS free technologies.
- Ban the use of ODS based technologies in new installations.

Table 3.1 Schedule for the Action Plan

ACTION	Details	Schedule	Impact	Implementing Organisation
1	Establish Ozone Unit	March 2002	Enabling Activity	RMI EPA
2	Public Awareness and Education	March 2002 ongoing	Enabling Activity	Ozone Unit/CC Committee
3	Establishment of Licensing System to monitor and regulate of ODS and Products	July 2002	Regulation on restricted Imports and Exports	Ozone Unit/CC Committee
4.	Training of Trainers	July 2002	Appropriate Vigilant of activities related to ODS	Ozone Unit/ CMI
5.	Training of Customs Officers	2003	Reduction of Consumption	Ozone Unit CMI Customs Attorney General
6.	Training of Service	2002 2003 2004	Reduction of consumption	Ozone Unit CMI
7.	Imports concession to encourage recovery and recycling and promote use of substitutes	March 2002	Reduction of imports and usage of CFC	Ozone Unit/CC Committee Customs Attorney General CMI Department of Finance
8.	Ban on new installations and equipment using ODSs	2002	Elimination of new demands	Ozone Unit Customs Attorney General RMI Chamber of Commerce
9.	Ban on Imports of CFCs and other OFS (except HCFCs) with exemptions for "essential uses"	31 December 2005	Elimination of demand beyond 2005	Ozone Unit/CC Committee Customs Attorney General
10.	Total Ban on Imports of CFCs and all other ODS (except HCFCs)	1 January 2010	Elimination of demand beyond 2010	Ozone Unit/CC Committee Customs Attorney General

3.3.2 Consumption implications

RMI has already reduced its consumption by nearly half from its base level. The actions set out in this plan are to ensure that RMI maintains its current trend in consumption and achieves a sustainable phase-out by 31 December 2005 as planned. It also wishes to ensure it continues its status of full compliance with the Montreal Protocol.

3.4 Budget and Financial Program

The implementation and management of this NCAP has as a prerequisite the establishment of a National Ozone Unit under the RMI EPA. For this purpose, a National Support Project is submitted for approval as part of the Pacific Regional Strategy. Funds allocated through the Pacific Regional Strategy will be used to co-ordinate public education campaigns, operate and staff the NOU office, train technicians and Customs Officials, set up a certification program, and purchase new CFC recovery and recycling and detection equipment.