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MALAYSIA'S HYDROCHLOROFLUOROCARBONS (HCFC) PHASE-OUT MANAGEMENT PLAN (HPMP) STAGE-1 (2012-2016)

PROTECT THE OZONE LAYER

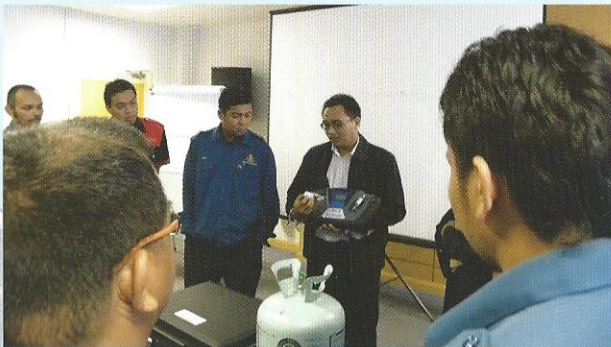
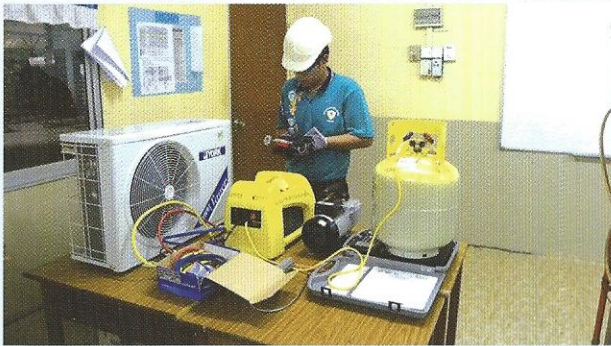
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Polyurethane Foam Sector Plan

- ◆ Technology conversions at 13 selected large and medium-sized enterprises, which can presently implement low-GWP (Global Warming Potential) alternatives within the time-frame available
- ◆ Technical assistance to 4 systems houses to ensure availability of low-GWP and cost-effective alternatives to the downstream enterprises that are unable to participate in Stage-1
- ◆ Technical support to the sector for information dissemination on emerging low-GWP alternatives

Technical Assistance for the Servicing Sector

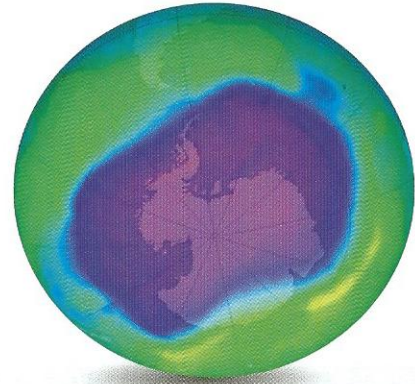
- ◆ Sustainable refrigerant management through recovery and reclamation
- ◆ Training and capacity-building of technicians and enforcement officials
- ◆ Pilot end-user retrofitting or replacement programme
- ◆ Technical assistance for the Air-Conditioning and Refrigeration (Manufacturing) Sectors



What is the Expected Outcome of HPMP Stage-1

Upon successful completion, the plan will result in net sustainable reductions of :-

- 77.36 ODP tonnes of HCFC consumption level by 2016; and
- 1.35 million tonnes of CO₂e (carbon dioxide equivalent) direct emission annually from 2016



Antarctic Ozone Hole
Source : NASA, Sept 2006

Benefits of HPMP Stage-1

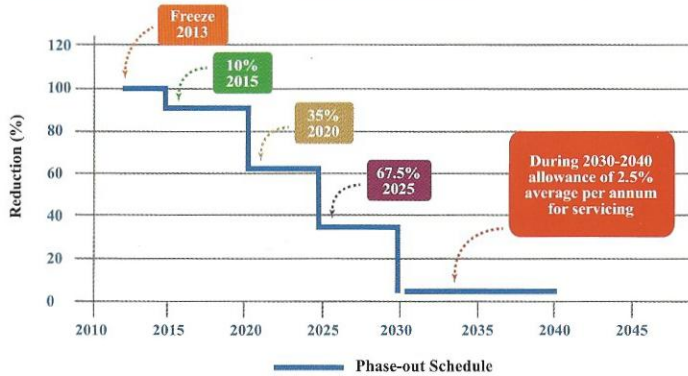
- ◆ Ozone Layer Protection
- ◆ Reduced direct greenhouse gas (GHG) emissions



Background of HPMP

The Hydrochlorofluorocarbons (HCFC) Phase-Out Management Plan or HPMP Stage-1 was approved at the 65th Ex-Com meeting in November 2011 for the implementation of Montreal Protocol to facilitate Malaysia's compliance with the 2013 and 2015 control targets for Annex-C, Group-1 Substances (HCFCs).

Montreal Protocol's HCFC Phase-out Schedule



Objective of HPMP

Malaysia's HPMP is a continuation of the Ozone Depleting Substances (ODS) phase out programme. The HPMP aims to phase out HCFCs from the industrial and service sectors by implementing a combination of interventions such as technology transfer investments, policies and regulations, technical assistance, training and capacity building, awareness and education as well as monitoring and management in the selected HCFC consuming sectors.

Malaysia's HCFC Consumption Baseline

Substance	Consumption (ODP *Tonnes)		
	2009	2010	Baseline
Annex-C Group-1 Substances (HCFC) under the Montreal Protocol	494.2	537.5	515.8

*Ozone Depleting Potential

HCFC Phase out Schedule for Malaysia

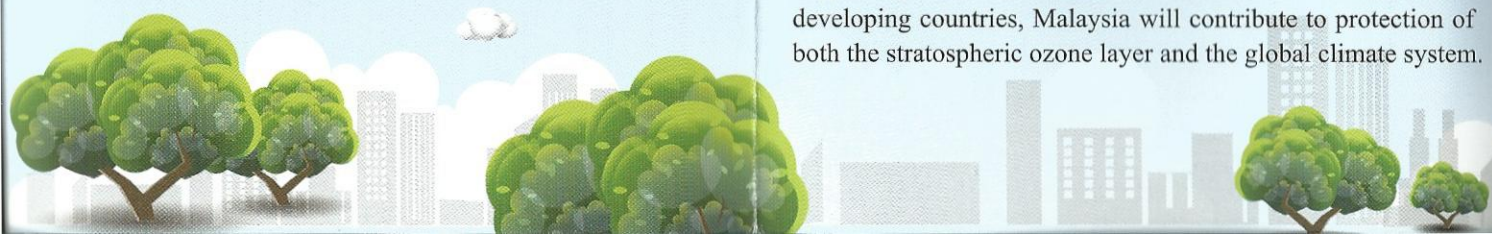
Baseline	Average of 2009 & 2010 Consumption (imports)
Freeze by	2013
10% reduction by	2015
35% reduction by	2020
67.5% reduction by	2025
97.5% phase-out by	2030 (while allowing an annual average of 2.5% strictly for servicing during the period 2030-2040)

HPMP Stage-1 Targets

Target	Maximum Consumption Level (ODP Tonnes)
From 01 Jan 2013	515.8
From 01 Jan 2015	464.2

What is HCFC and why do we need to phase-out?

HCFCs have ozone depleting potentials that are harmful to the ozone layer. In addition, many HCFCs have high global warming potentials - up to 2000 times that of carbon dioxide. By supporting the replacement or avoidance of HCFCs in developing countries, Malaysia will contribute to protection of both the stratospheric ozone layer and the global climate system.



HCFC - Malaysian Scenario

There is no production of HCFCs in Malaysia. The entire domestic demand is met through import from other countries. Import of HCFCs are regulated in Malaysia. The main HCFCs imported are HCFC-141b, HCFC-22 and HCFC -123.

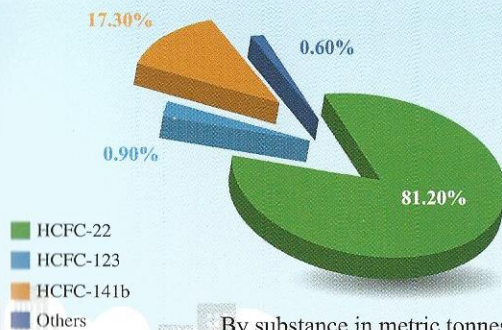
HCFC User Sector

- 1 Air-conditioning
- 2 Refrigeration consisting of
 - Domestic
 - Commercial
 - Industrial
- 3 Foam manufacturers
- 4 Fire fighting
- 5 Solvents

Who are the Primary Targets

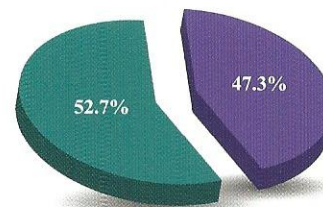
- 1 HCFC Importers
- 2 Foam Manufacturers
- 3 System Houses for 'polyol' manufacturing
- 4 Air Conditioning & Refrigeration Servicing Sectors
- 5 Air Conditioning & Refrigeration Manufacturing Sectors

Malaysia's HCFC Consumption



By substance in metric tonnes (2009)

Manufacturing
Servicing



Between manufacturing and servicing (2009)

What is Planned under HPMP Stage-1

Planned Regulatory Actions

- ◆ Establishment of Approved Permit (AP) and import quota system based on HCFC Baseline (average national consumption 2009/2010)
- ◆ Amend existing regulations for controlling use, imports, manufacturing, assembly and installation of products containing HCFCs
- ◆ Licensing re-export of HCFCs
- ◆ Enforcement of Approved Permit (AP) quota system
- ◆ Prohibition of establishment and expansion of new HCFC-based manufacturing capacities
- ◆ Certification of technicians for handling HCFCs
- ◆ Prohibition of manufacturing, assembly and import of HCFC-based air conditioners (2.5 HP and lower) for use in Malaysia
- ◆ Prohibit imports of polyols pre-blended with HCFCs
- ◆ Include HCFCs in the list of restricted gases

Management, Coordination and Monitoring

- ◆ Support for policies and regulations
- ◆ Implementation of supervision, management, coordination and monitoring
- ◆ Awareness and communication targeted at key stakeholders