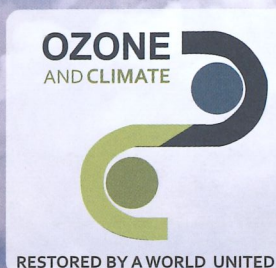


# OZONEBulletin

## THE INTERNATIONAL OZONE DAY

16 SEPTEMBER 2016



Our Earth is protected from the harmful ultra violet (UV) rays of the sun by the ozone layer. The increase of ozone depleting substances such as Chlorofluorocarbon (CFC), Halon, Carbon TetraChloride (CTC), Methyl Bromide (MBr) and Hydrochlorofluorocarbon (HCFC) in the atmosphere has led to the thinning of ozone layer. This subsequently leads to the rise of skin cancer, eye cataracts, weak body resistance to fight diseases and harmfully affects the food chain.

Malaysia has successfully phased out CFCs, halons and CTC since January 2010. **On 1<sup>st</sup> January 2015**, the use of Methyl Bromide as pesticide in agriculture sector, fumigation of post-harvest commodities and structural fumigation was prohibited in Malaysia. However, the use of MBr for quarantine and pre-shipment treatment is allowed to prevent introduction of quarantine pests.

The International Ozone Day is celebrated every year on the 16<sup>th</sup> of September by 197 countries which are Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer. This year the celebration theme is **"Ozone and Climate: Restored by a World United"** and supported by the slogan **"Working Toward Reducing Global-warming HFCs under the Montreal Protocol"**.

The theme reflects collective efforts of the Parties to the Vienna Convention and the Montreal Protocol in protecting the ozone layer over the past 3 decades and the global commitment to combat climate change.

**"OZONE AND CLIMATE: RESTORED BY A WORLD UNITED"**



JANUARY - DECEMBER 2016

Ozone Protection Section, Air Division  
Department Of Environment, Malaysia



DEPARTMENT OF ENVIRONMENT  
MINISTRY OF NATURAL RESOURCES & ENVIRONMENT



Minister Of Natural Resources & Environment  
DATO SRI DR. HAJI WAN JUNAIDI TUANKU JAAFAR

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- 26 January 2016 : Holiday Villa Hotel, Subang Jaya, Selangor
- 26 May 2016 : Holiday Villa Hotel, Subang Jaya, Selangor

The main objective of this Workshop was to get feedback, consult and clarify methodology of the surveyed data from the industries for the preparation of HPMP Stage II document. DOE presented on the introduction of HPMP Stage II followed by a presentation from Mr. Tohi Niro, a consultant from the Prec Institute of Japan. The National Technical Expert, Mr. Peter Ho then presented the survey and data collection methodology and the prepared questionnaires to be distributed to all related sectors involved in the usage of HCFC in Malaysia.

The Second Consultative Workshop for HCFC Phase-out Management Plan (HPMP) Stage II was held on 26<sup>th</sup> May 2016 at Holiday Villa Hotel Subang Jaya, Selangor. The Director of Air Division, Department of Environment Malaysia Ms. Mashitah Darus gave the welcome address. The national technical expert then presented the result of ODS consumption survey followed by presentation on the Implementation Strategy of HPMP II by the Technical Officer, Mr. Balaji Natarajan from UNDP Bangkok. Almost 200 participants attended the Workshop and participated in the consultative session with the representative from DOE, UNDP and the National Technical Expert.





## ● THE ASIA AND THE PACIFIC REGIONAL WORKSHOP ON ENVIRONMENTALLY FRIENDLY REFRIGERANTS

● 29 February – 3 March 2016 : Shenzhen, China



The Asia and the Pacific Regional Workshop on Environmentally Friendly Refrigerants in Room Air Conditioners (RAC) and Field Trip to RAC and Compressor Manufacturing Plant was jointly organised by the United Nations Environment Programme (UNEP), the Regional Office for Asia and the Pacific, Ministry of Environmental Protection/Foreign Economic Cooperation Office (MEP/FECO) with support of Shenzhen Human Settlements and Environment Commission (SHEC) from 29 February – 3 March 2016 in Shenzhen, China. The event was attended by 100 delegates representing national ozone units, industry and media from 27 countries in Asia and the Pacific. Malaysia's National Ozone Unit (NOU) officers attended

the Workshop and Ms. Aminah Ali was tasked as the moderator during the session on the Status of Adoption of Flammable Refrigerant in the Asia-Pacific and Existing Policy and Technical Barriers to Be Addressed.

As part of a project funded by the China Trust Fund, the workshop/field trip aimed at building capacity of the countries in the region through south-south cooperation on the safe adoption of environmentally friendly refrigerants in the RAC sector, in light of the advanced stage of progress achieved by China, India and other developing countries in this region, including Thailand, Maldives and Indonesia on the adoption of flammable refrigerant-based RAC. The event comprised of the following activities:

- A two-day workshop from 29 February – 1 March 2016 focused on
  - (i) overview of alternative technologies in the RAC sector,
  - (ii) potential issues and options for adoption of flammable-based RAC (strategy, policy, regulation, standards, capacity building) for both safety and energy efficiency aspects
  - (iii) industry perspectives and efforts in the improvement of flammable-based RAC and other products and
  - (iv) challenges/options through countries' presentations, which was followed by panel discussions;
- Back-to-back field visit on 2-3 March 2016 to:
  - The R-290 RAC compressor manufacturing plant of GMCC, Shunde, Fushan City, Guangdong Province;
  - The R-290 RAC manufacturing plant of Midea, Shunde, Fushan City, Guangdong Province; and
  - Shenzhen Nanshan SVT Vocational Training School for the demonstration of the R-290

### RAC installation and servicing

The events were well received by all participants. During the workshop and events, participants shared their experiences, feedback and perspectives on the use of flammable refrigerants in the RAC sector. Participants were made aware that low-GWP and flammable refrigerants are being commercialised in RAC and the RAC industry is making R&D efforts to improve the design and energy efficiency of RAC to respond to MOP Decision XIX/6. It was explained by the experts present that there are risks in the manufacture, transportation, installation, servicing and disposal of flammable-based RAC, but the risk is manageable. It was suggested that countries need to balance the challenges of long term solutions with risk management. All Article 5 countries need to be prepared for the safe introduction of selected technologies (in terms of adopting and implementing policy, regulation, standards and capacity building of servicing sector). As flammable refrigerant-based RAC are specifically designed and engineered improved products, countries were strongly advised not to retrofit or use drop-in/top-up flammable refrigerants in any RAC that is not specifically designed/manufactured for flammable refrigerants. This common understanding and conclusions were, in general, agreed among the participants following the workshop and field/site visits events.





## ● WORKSHOP ON HARMONISATION CODE (HS) CODE OF "OTHERS" UNDER CHAPTER 29 OF CUSTOMS DUTIES 2012 FOR THE IMPORTATION OF OZONE DEPLETING SUBSTANCE (ODS)

- 21 – 23 March 2016 : Melaka
- 22 – 23 August 2016 : Cyberjaya

In 2016, the Ozone Protection Unit, Air Division, Department of Environment (DOE) collaborated with the Royal Customs Academy Malaysia particularly the Classification Division and Enforcement Division in organising two series of Workshop on Harmonised Commodity Description and Coding System or in short Harmonised System (HS) of "Others" under Chapter 29 of Customs Duties 2012 for the Importation of Ozone Depleting Substances (ODS). The first series was held on 21 – 23 March 2016 in Melaka and the second was held on 22 – 23 August 2016 in Cyberjaya. The Workshop were being organised arising from the outcome of Data Verification Committee Meeting held in 2015 that suggested a Workshop is needed to streamline the HS Code particularly on the ODSs imported into the country. Correct and precise classification of goods recorded during importation into the country is important. This record will represent the official data to be reported to the Ozone Secretariat as the requirement of compliance towards Montreal Protocol.



The main objectives amongst others are:

- To update the HS Code of "Others" under Chapter 29 of Customs Duties 2012 for the Importation/Exportation of Ozone Depleting Substance (ODS);
- To identify the correct description based on single and blends component of the ODS particularly the refrigerant;
- To produce a reference guide to the Customs and Enforcement Officers in determining and identifying ODS and non-ODS;
- To distribute the manual to Customs officers as a reference guide stationed particularly at the port of entrance.

Several other government agencies like the Chemistry Department, Statistic Department, Agriculture Department and National Ozone Unit, Air Division, Department of Environment participated in the Workshop.

The agenda includes group work in reviewing the substances involved for the use of ODS subsector which falls under the First Schedule of Absolute Prohibition, Second Schedule and Third Schedule of Customs (Prohibition of Import/Export) Order 2012.





## ● WORKSHOP FOR MASTER TRAINERS IN REFRIGERATION & AIR-CONDITIONING SERVICE SECTOR ( RACS)

- 18 - 23 April 2016 : Concorde Hotel, Shah Alam, Selangor
- 25 - 30 September 2016 : Grand Dorsett Hotel, Subang Jaya, Selangor

DOE organised two series of workshop for Certification of Master Trainers on 18-23 April 2016 and 25-30 September 2016 that was attended by 65 participants from Government Authorized Training Centre (ATC). Objectives of the workshop were to expose and familiarise the trainers with the manual that will be used in the Certification for Service Technician Programme (CSTP). Good practices and proper handling of HCFC based equipment including R32 and other emerging refrigerants in the market were emphasized. Recovery & recycling techniques of HCFC refrigerant was also emphasized as an effort to promote the gradual reduction of HCFC refrigerant use example R22 in the country. At the end of the workshop the trainers will undergo assessment before DOE certified them as "Master Trainers".

The assessment consist of two components; theoretical and practical session which covered details and thorough checklist on best practices in Refrigeration & Air-Conditioning Service Sector ( RACS).





## ● CUSTOMS TRAINING PROGRAMME 2016

● 8 - 12 May 2016 : Holiday Villa Hotel, Langkawi, Kedah

● 24 - 28 October 2016 : Concorde Hotel, Shah Alam, Selangor

In 2016, the Ozone Protection Unit, Air Division, Department of Environment (DOE) continues to collaborate with the Royal Customs Academy Malaysia (AKMAL) to organise two series of training programmes on Ozone Depleting Substances (ODS) for hydrochlorofluorocarbon (HCFC).

The main objectives of the training programme were to increase awareness, enhance knowledge and improve understanding on the control of import and export of Ozone Depleting Substances (ODS), especially hydrochlorofluorocarbons (HCFC) besides enhancing the smart partnership under the Blue Ocean Strategy between DOE and Customs Department.

**The following are topics covered during the training:-**

- Introduction of the Ozone Layer & Effect of Ozone Depletion, by DOE;
- Labelling and Packaging of ODS by Aurora Chemical Sdn Bhd;
- Regulation & Implementation of the Montreal Protocol and System of controls on ODS in the Application Import Permit System (AP System) by DOE;
- Regulations and Procedures to Control the Import/Export of ODS and Green Customs Initiatives by Customs Department by Customs Department;
- Introduction to Smuggling and Illegality of ODS by Customs Department;
- Demonstration and Hands-on Training on ODS Identifier ;
- Site visit to Tanjung Lembong Port, Langkawi.

The first training session was held at Holiday Villa Hotel, Langkawi Island, Kedah Darul Aman from 8<sup>th</sup> until 12<sup>th</sup> May 2016. The training was attended by 35 enforcement officers of the Royal Malaysian Customs and 10 enforcement officers from DOE State offices of Negeri Perlis, Kedah and Pulau Pinang. A site visit was organised to the Tanjung Lembong Port, Langkawi.

The second training session was held at Concorde Hotel, Shah Alam, Selangor Darul Ehsan from 24<sup>th</sup> until 28<sup>th</sup> October 2016. This training was attended by 28 enforcement officers of the Royal Malaysian Customs and 10 enforcement officers from DOE State offices of Negeri Selangor, Negeri Sembilan and Kuala Lumpur. A study visit and briefing to Port Klang Customs Department office was organised for the participants.





## ● THE JOINT NETWORK MEETINGS AND THEMATIC WORKSHOPS OF THE NATIONAL OZONE OFFICERS OF ASIA AND THE PACIFIC

● 14 - 20 June, 2016 : Suva, Fiji

United Nation Environment Program (UNEP) together with the Ministry of Local Government, Housing & Environment, Fiji had jointly organised the Joint Network Meetings and Thematic Workshops of the National Ozone Officers (NOO) of Asia and the Pacific in Suva, Fiji from 14<sup>th</sup> to 20<sup>th</sup> June 2016. These events involved National Ozone Officers from A5 countries in three regions which were the South Asia (SA), South East Asia/Pacific (SEAP) and the Pacific Island Countries (PIC). These events were also organised back-to-back with the Australia Summit on Longer term Refrigeration and Air-Conditioning (RAC) Alternatives to Ozone Depleting Substances (ODSs).

These regional networking meetings served as a platform for the National Ozone Officers from A5 countries to exchange their experiences and knowledge with their counterparts from developing and developed countries as well as with the Secretariats, Implementing Agencies, international experts and technical resource person in order to achieve compliance and obligation with the Montreal Protocol and its Amendments. These events involved two meetings which were the joint network meeting and the parallel meeting of each network as well as field trip focusing on long term alternatives to ODSs.

The joint network meeting focused on the discussion of national implications, compliance status and implementation responsibilities regarding on the outcome of the 27<sup>th</sup> Meeting of the Parties (MOP) and the 37<sup>th</sup> Open Ended Working Group (OEWG) Meeting. The meeting also focused on the issues related to Asia and Pacific countries in regards with the outcome of the 75<sup>th</sup> and 76<sup>th</sup> ExCom Meeting. The meeting also discussed on the new longer-term alternative to ODSs technologies, their market trends, availability, affordability and the approaches for adopting and adapting them locally.

The following parallel meetings of each network focused on the discussion of HPMP implementation in each countries, south-south cooperation, review on the status of implementation of the conclusions and recommendations from previous regional network meetings as well as discussing on the 2016 UNEP's OzonAction Compliance Assistance Programme (CAP) services.

Then, the field trip focusing on long term alternatives to ODSs were arranged to give an overview and opportunity for the NOO to build capacities on the approaches towards the adoption of energy efficient and low Global Warming Potential (GWP)/natural refrigerants technologies as well as safe handling of the alternative refrigerants. The field trip involved two factories; alcohol and ice-cream making factories which both use ammonia (NH<sub>3</sub>)-based refrigeration technology.

The Australia Summit on Longer term Refrigeration and Air-Conditioning (RAC) Alternatives to Ozone Depleting Substances (ODSs) was also organised back to back with the meetings by the Government of Australia in order to optimize the time of the NOO and other stakeholders presence in Fiji. There were exhibition booths displaying latest environmentally-friendly and energy efficient technologies in RAC sector and lecture sessions during the Summit. The lecture sessions covered several issues including policy for introducing low GWP refrigerant technologies, industry direction and challenges, Australian's regulation and licensing system in regards with the low GWP/natural refrigerants.



Group photo of the NOOs from SA, SEAP and PIC region during "The Joint Network Meetings and Thematic Workshops of the National Ozone Officers of Asia and the Pacific" in Suva, Fiji.



- **ONLINE SYSTEM FOR CERTIFICATION FOR SERVICE TECHNICIAN PROGRAMME (e-CSTP)**

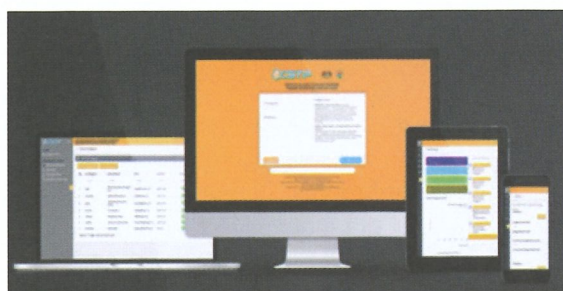
- **31 May 2016 - 2 June 2016 : Dorsett Hotel, Putrajaya**



Certification Service Technician Programme (CSTP) started in 2004 during the implementation of National CFC Phase-out Plan (NCFCP). The program continues under the current implementation of HCFC Phase-Out Plan. UNEP Manual entitled Training Manual for Service Technicians for Refrigeration and Air-Conditioning (RACs) was adopted as the training manual and being modified to suits local needs. CSTP has been made mandatory through legislation in the Environmental Quality Act 1974 (Refrigerant Management) Regulations 1999 which requires service technicians to be certified prior to handling the refrigerant in the servicing sector. The aim is to promote good practices during the servicing to prevent venting or leakages to the atmosphere that can cause adverse effects to the environment.

Department of Environment, Ministry of Environment and Natural Resources collaborated with other Ministries for example Ministry of Human Resource, Ministry of Youth and Ministry of Rural and Regional Development in conducting the training. Schools or colleges equipped with the Refrigeration and Air-Conditioning equipment under these Ministries besides other private entities were appointed as Authorised Training Centres (ATCs).

Currently, there are 51 ATCs in Malaysia comprises of Government Training Institutes that are equipped with refrigeration and air-conditioning schools as well as the private training centres. In 2016, there are 97 Master Trainers trained to run the CSTP programme and 2351 service technicians who were certified through the CSTP programme.



To assist the ATCs in conducting the CSTP in a holistic manner, an online system was designed which allows a technician to get information about training schedule, training registration, undertake training programme, exam and get certification. The e-CSTP system was successfully launched by the Honorable Minister of Natural Resources and Environment during the International Ozone Day celebration in 2016, and is now up and running. Successful technicians will be provided with certificates and certified technician card that is issued by Department of Environment. The card is equipped with the QR Code which can be verify automatically via Google Apps or Android.





The system is accessible to National Ozone Unit (NOU), DOE for administrative planning, monitoring, verifying and approving various activities related to the CSTP programme. ATCs are able to manage training via online until the technician being competent and ultimately to the public to verify authenticity of the certification and to get detail information of the certified technicians.

To ensure successful implementation, a hands-on training has been organised to the users particularly the ATCs. The training was held at Dorsett Hotel, Putrajaya on 31<sup>st</sup> May 2016 until 2<sup>nd</sup> June 2016. The objectives of the training was to familiarize the ATCs with the online system, monitor and collect data related to the CSTP training organised by ATC; provide systematic report for future reference and enforcement purpose; and serve as a platform for online database that contains all the information of the CSTP programme including the certified technicians.

**The certificate issued by Department of Environment Malaysia has several value added as follows:-**

- i) Ensure the service technician is competent in refrigerant handling and apply good practice during servicing the refrigeration and air-conditioning system;
- ii) The certificates acquired by the technicians can promote better job opportunity to them;
- iii) The certificates issued through the CSTP programme will be the proof of the technicians professionalism conducting the servicing work and thus ensuring competitive pay for the service provided.





## ● **ROADSHOW ON TECHNICIAN TRAINING ON REFRIGERANT MANAGEMENT OF HFC-32 (R-32)**

The National Ozone Unit (NOU) through Department of Environment (DOE) organised roadshows entitled on Technician Training on Refrigerant Management of HFC-32 (R-32) with the cooperation of Daikin Malaysia Sdn Bhd. Daikin Malaysia Sdn Bhd supported the roadshow in providing technical expertise on good practice in R-32 refrigerant handling and management of the equipment. The roadshow had been organised at seven different locations in every region around Malaysia. The schedule and locations of the roadshow are shown in **Table** below.

The roadshow aimed to educate and build capacity of the certified technicians in Malaysia on the upcoming and emerging R-32 refrigerant handling and management of the equipment. R-32 is considered as a good alternative to HCFC-22 (R-22) in air-conditioning sector as it does not deplete the ozone layer (i.e zero ODP value) and has a considerable moderate GWP value (i.e GWP value of 675). However, it is classified in A2L refrigerant class where it has a slight flammability property. Thus, special consideration in the refrigerant handling and management need to be taken in order to prevent and reduce the safety risk that is associated with the flammability issue.

**Schedule of the Roadshow on Technician Training on Refrigerant Management of HFC-32 (R-32)**

| No. | Location  | Date                          |
|-----|---|-------------------------------|
| 1.  | Park Avenue Hotel, Sungai Petani, Kedah         | 2 <sup>nd</sup> August 2016   |
| 2.  | Kinta Riverfront Hotel & Suites, Ipoh, Perak    | 4 <sup>th</sup> August 2016   |
| 3.  | Saujana Resort Hotel, Shah Alam, Selangor       | 8 <sup>th</sup> August 2016   |
| 4.  | Grand Blue Wave Hotel, Johor Bharu, Johor       | 10 <sup>th</sup> August 2016  |
| 5.  | Merdeka Palace Hotel & Suites, Kuching, Sarawak | 16 <sup>th</sup> August 2016  |
| 6.  | Promenade Hotel, Kota Kinabalu, Sabah           | 18 <sup>th</sup> August 2016  |
| 7.  | Renaissance Hotel, Kota Bharu, Kelantan         | 12 <sup>th</sup> October 2016 |





- 2016  
INTERNATIONAL  
OZONE DAY  
CELEBRATION

- 29 September 2016

- Dorsett Grand Hotel,  
Subang Jaya,  
Selangor



The International Ozone Day for the Preservation of the Ozone Layer is celebrated annually on the 16<sup>th</sup> September to raise awareness in protecting ozone layer by phasing out ozone depleting substances. The theme for 2016 celebration is **"Ozone and climate: Restored by a World United"** and supported by the slogan, **"Working towards Reducing Global Warming Hydrocarbons (HFCs) under the Montreal Protocol"**. This theme reflects concerted effort of all Parties to the Vienna Convention and Montreal Protocol in saving the earth from the effects of depletion of ozone layer and global warming. The annual International Ozone Day celebration also reflects the global efforts in preserving the environment for the next generation.



Special messages from the Honourable Minister of Natural Resources and Environment on International Ozone Day were published in local newspapers as well as in the Ministry of Natural Resources and Environment and the Department of Environment websites on 16 September. The International Ozone Day Celebration 2016 was organised on the 30<sup>th</sup> September at the Dorsett Grand Hotel, Subang Jaya. The event was officiated by the Honourable Minister of Natural Resources and Environment Malaysia, Dato Sri Dr. Hj. Wan Junaidi bin Tuanku Jaafar. The Deputy Director General of Department of Environment Malaysia, Mr. Mokhtar bin Abdul Majid was also present to deliver the welcome speech to 300 guests from various stakeholders involving the government agencies, private sectors and representative from UNDP, Malaysian Air-Conditioning & Refrigeration Association (MACRA) and other NGOs.



During the event, the Honourable Minister also launched the online system for Certification of Service Technician Programme (eCSTP) and delivered the certification to the 10 newly appointed Authorized Training Centres (ATC). In conjunction with the Ozone Day celebration, a training workshop was organised for master trainers from 51 ATCs including the new ATCs from 25<sup>th</sup> - 30<sup>th</sup> September 2016 at Dorsett Grand Hotel, Subang Jaya which focused on the servicing of the refrigerant (R32) air-conditioning system. R32 currently is the alternative refrigerant to replace R22 (one type of hydrochlorofluorocarbon (HCFC) which is under the phase out programme).



International Ozone Day theme posters were also handed out to the Honourable Minister of Natural Resources and Environment Malaysia at the end of the event. Pamphlets and brochures on ozone layer protection, HCFC Phase-Out, and e-Permit as well as the posters and Ozone Bulletin were distributed to the participants.



- **THE 28<sup>TH</sup> MEETING OF THE PARTIES TO THE MONTREAL PROTOCOL ON SUBSTANCES THAT DEplete THE OZONE LAYER**
- **8 – 14 October 2016 : Kigali, Rwanda**



The 28<sup>th</sup> Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer was held in Kigali, Rwanda from 8-14 October 2016. More than 500 participants representing governments, UN Agencies, NGOs, Academia and industries attended the joint meeting consisted of the Thirty Eighth Open Ended Working Group (OEWG 38) on the 8<sup>th</sup> October 2016 and the Informal Consultation Meeting on HFC from 6-7 October 2016.

The high-level segment of the Twenty-Eighth Meeting of the Parties to the Montreal Protocol was opened at 10.05 a.m. on Thursday, 13 October 2016, by Ms. Lucie Desforges (Canada), President of the Bureau of the Twenty-Seventh Meeting of the Parties. The highlight of the meeting was the High Level Segment where the opening statements were delivered by Mr. Paul Kagame, President of Rwanda; Mr. Erik Solheim, Executive Director of the United Nations Environment Programme (UNEP); and Ms. Desforges.

Malaysian delegation was headed by Mr. Mokhtar Abdul Majid, Deputy Director General (Operation) Department of Environment Malaysia, accompanied by Mr Jayaprakash Murulitharan from Ministry of Natural Resources and the Environment Malaysia, Madam Aminah Ali and Ms. Shafizah Jabar Basha from Department of Environment Malaysia.



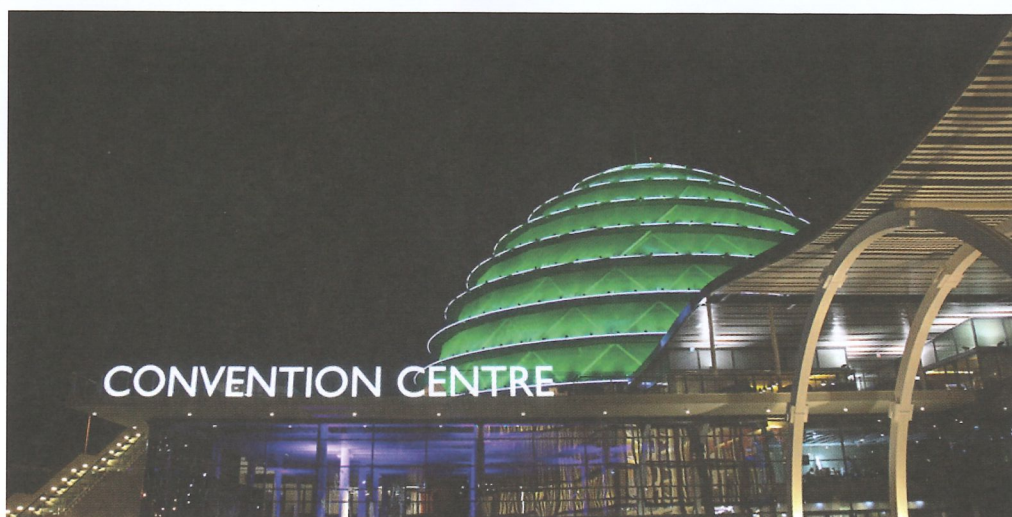


During the 28<sup>th</sup> MOP, the Government of Rwanda had organised a tree planting activity in the gardens of the Radisson Hotel Friday on 14<sup>th</sup> October 2016 from 2:00 - 3:00 pm. This was offset emissions and the event was attended by among others, high level delegates and representatives of Parties. Mr. Mokhtar Abdul Majid represented Malaysia during this tree planting event.

The 28<sup>th</sup> MOP concluded at early morning of 15<sup>th</sup> October 2016 with adoptions of seventeen decisions on several key issues. The most important decision adopted at this meeting was **Decision XXVIII/1 on the Phasing – out of HFCs**. Following the adoption of decision XXVIII/1, on the further amendment of the Montreal Protocol, the Parties agreed that the amendment adopted through that decision should be known as the **“Kigali Amendment”**. Other key decisions included were on Energy Efficiency, Establishment of Regular Consultations On Safety Standards, Terms of Reference for The Study On The 2018–2020 Replenishment Of The Multilateral Fund For The Implementation Of The Montreal Protocol, Data And Information Provided By The Parties In Accordance With Article 7 of The Montreal Protocol besides Financial Reports And Budgets For The Montreal Protocol.

***Details of the 28<sup>th</sup> MOP Decisions can be downloaded at UNEP’s website at <http://ozone.unep.org>.***

During the Asia Group meeting, Malaysia was elected as a co-opted member with China to attend the Executive Committee Meeting (EXCOM) of the Multilateral Fund to the Montreal Protocol (EXCOM) in 2016. The 28<sup>th</sup> MOP Meeting was then declared closed at 8.05 am on Saturday, 15 October 2016. The 29<sup>th</sup> Meeting of the Parties to the Montreal Protocol will convene in November 2017 in Montreal, Canada.





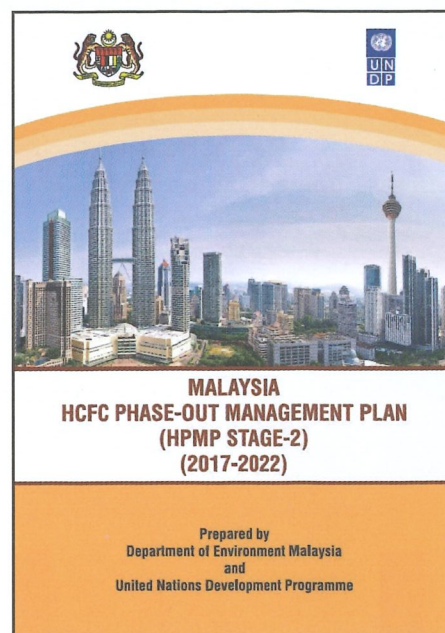
## • HCFC PHASE-OUT MANAGEMENT PLAN (HPMP) STAGE II APPROVED

The Hydrochlorofluorocarbon (HCFC) Phase-Out Management Plan Stage 1 was approved at the 65<sup>th</sup> Executive Committee 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 I Substances (HCFCs). Through HPMP Stage I implementation, Malaysia successfully managed to reduce HCFC consumption and meeting the 10% obligated target under the Montreal Protocol.

In continuing Malaysia's obligation towards Montreal Protocol, HPMP Stage II was approved at the 77<sup>th</sup> Executive Committee Meeting in December 2016. USD 6,138,063 was approved for the implementation from 2016 – 2022 for the phasing out of 146.24 ODP Tonnes and UNDP continues being the implementing agency for the HPMP.

HPMP Stage-I implementation provides a lot of insight into technology options and timing associated with the technology choices. Given that HPMP Stage-II will involve phasing out HCFCs in a large number of SMEs in foam, refrigeration and air-conditioning applications, the technology choices should be cost-effectiveness, easily available and in addition, the implementation capability of the enterprises along with time required for implementation need to be taken into account.

Thus, cost effectiveness, and availability of technologies are the factors to be considered for HCFC substitute technologies that pose a major challenge for HCFCs reduction and hence compliance to the HPMP Stage II targets.

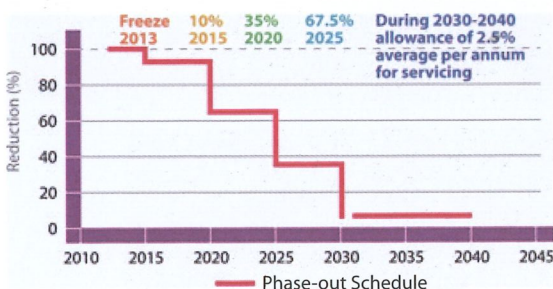


### Malaysia's Obligation Towards Montreal Protocol's in Phasing Out HCFC

#### Malaysia's HCFC Consumption Baseline

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

#### 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% reduction by  | 2030 (while allowing an annual average of 2.5% strictly for servicing during the period 2030-2040) |

**The overarching strategy underlying the HCFC Phase-out Management Plan (HPMP) for Malaysia is based on the following guiding principles:**

- Reflect national context and priorities;
- Develop and demonstrate a strengthened and proactive partnership between government and industry;
- Draw upon the lessons learnt from the functioning of institutional arrangements and operational mechanisms, integrate and build upon existing infrastructures and introduce new mechanisms as needed; and
- Be dynamic and evolving, and to be open for revisions and adaptation as necessary in response to evolving situations.



## Objectives

The objectives of the overarching strategy of Malaysia's HCFC Phase-out Management Plan Stage-II are as below:

- To facilitate Malaysia's compliance with the control targets for HCFC consumption with minimal impacts on the national economy, on environment and occupational health; and
- To implement a combination of interventions such as technology transfer investments, policies and regulations, technical assistance, training and capacity-building, awareness and education and monitoring and management in the selected HCFC consuming sectors, contributing to achieve sustainable reductions and phase-out of HCFC consumption.

The activities relating to HPMP Stage-II will build on activities that have been and are under implementation in HPMP Stage-I.

## WHO ARE THE PRIMARY TARGETS

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

## WHAT IS PLANNED UNDER HPMP STAGE II REGULATORY ACTIONS

- Ban on the use, import and export of HCFC-22 in RAC manufacturing by 1 January 2020.
- Ban on the export of HCFC-141b contained in pre-blended polyols 31 December 2018.
- Ban on the import and use of HCFC-141b contained in pre-blended polyols except for by 1 January 2022.

## MANAGEMENT, COORDINATIONS AND MONITORING

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

## TECHNOLOGY CONVERSION IN THE FOAM SECTOR

- Technology conversions at 67 identified large and medium-sized enterprises.
- Below 1 Mt - 9 companies
- 1-5 Mt - 26 companies
- 5-20 Mt - 22 companies
- Above 20 Mt - 10 companies
- Focus on addressing enterprises with a consumption of more than 5 MT of HCFC-141b per annum during the first 2-3 years of implementation.
- From 2019, the enterprises consuming less than 5 MT would be targeted with the expectation that for the real small enterprises, relative cost effective (i.e., compared to price of HCFC-141b) solutions would be available for enterprises to convert to alternatives.
- Technical support for information dissemination on emerging low-GWP alternatives.
- The conversion costs for enterprises where the consumption less than 1 MT is estimated at a minimum cost to help them make modifications in their facilities to use the alternatives.

## TRAINING AND CAPACITY BUILDING IN THE REFRIGERATION AND AIR-CONDITIONING SERVICING SECTOR

- Stage II of the HPMP proposes to phase out 322.71 mt (17.75 ODP tonnes) of HCFC-22 used in the refrigeration servicing sector through the following activities:
- Training of customs and enforcement officers on monitoring and controlling imports of HCFCs;
- Training of trainers on safe and efficient servicing of equipment including low-GWP flammable alternatives.
- Procurement of equipment (e.g. reclaiming machine, multi-refrigerant recovery, recycling and re-use (R3) machine with accessories, refrigerant leak detector, refrigerant identifier and five sets of low-GWP-based RAC equipment to demonstrate good refrigeration practices) for training institutions (ATC); and
- Servicing tools suitable for use with flammable refrigerants and safety equipment to train service technicians on handling flammable refrigerants for Two Centre of Excellence.

## WHAT IS THE EXPECTED OUTCOME OF HPMP STAGE 2

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

- 143.77 ODP tonnes (42.9%) of HCFC consumption level by 2022; and
- 1.8 million tonnes of CO<sub>2</sub> eq (carbon dioxide equivalent) direct emission annually from 2022.



# 16 DIARY OF EVENTS

| <i>Date</i>                        | <i>Activities &amp; Programmes</i>  | <i>Venue</i>   |
|------------------------------------|---|--|
| January                            | Workshop on Hydrochlorofluorocarbons Phase-out Management Plan (HPMP) Stage 2   | Subang Jaya, Malaysia  |
| February                           | Consultative Workshop on HPMP II for Fire Sector  | Putrajaya, Malaysia  |
| 5 February                         | Training on Refrigerant Management of HFC 32  | Shah Alam, Malaysia  |
| 6-3 March                          | Workshop on Flammable Refrigeration in Room Air-Conditioner (RAC) and Field Trip to RAC and Compressor Manufacture Plant, Shenzhen, Guangdong Province China                        | Shenzhen, Guangdong Province, China                                |
| March                              | Workshop on HS Code on Ozone Depleting Substances   | Malacca, Malaysia  |
| April                              | The 37 <sup>th</sup> Meeting of the Open-Ended Working Group of the Parties to the Montreal Protocol  | Geneva, Switzerland  |
| 2 April                            | Training for Master Trainer in Refrigeration and Air-Conditioning Sector  | Shah Alam, Malaysia  |
| May                                | Custom Training 1/2016  | Langkawi, Malaysia   |
| May                                | Consultative Workshop for HPMP 2  | Shah Alam, Malaysia  |
| 10 June                            | Network Meeting and Thematic Workshops for Asia and the Pacific for National Ozone Officers   | Suva, Fiji   |
| May - 2 June                       | Training to ATCs on eCSTP system  | Putrajaya, Malaysia  |
| 3 July                             | The 37 <sup>th</sup> Open-Ended Working Group Meeting and the 38 <sup>th</sup> Extraordinary Meeting of Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer | Vienna, Austria  |
| 8, 10, 16, 18<br>Sept & 13 October | Roadshow on Technician Training on Refrigerant Management of HFC 32 (R32)   | Kedah, Ipoh, Shah Alam, Johor, Kuching, Kota Kinabalu & Kota Bharu |
| 13 August                          | Workshop on HS Code of Ozone Depleting Substances   | Cyberjaya, Malaysia  |
| September                          | The National Capacity Building Workshop on Controlling Illegal Trade in Chemicals and Waste   | Malacca, Malaysia  |
| September                          | Ozone Day Celebration at State Level  | Kuching, Sarawak   |
| 20 September                       | Informal HFC Meeting  | Beijing, China   |
| September                          | Ozone Day Celebration – Launching of eCSTP  | Dorsett Grand, Subang, Malaysia                                    |
| October                            | Informal Meeting and Resumed 38 <sup>th</sup> Open Ended Working Group Meeting  | Kigali, Rwanda   |
| 5 October                          | The 28 <sup>th</sup> Meeting of Parties to the Montreal Protocol  | Kigali, Rwanda   |
| 28 October                         | Custom Training 2/2016  | Shah Alam, Malaysia  |
| Nov - 2 Dec                        | The 77 <sup>th</sup> Meeting of the Executive Committee of Multilateral Fund for the Implementation of Montreal Protocol  | Montreal, Canada   |