

Under the NCFCP, Department of Environment (DOE) has established Authorised Training Centres (ATCs) throughout Malaysia to conduct the Theory and Practical Training Program for the Refrigeration Servicing Sector (RSS) and Mobile Air-conditioning (MAC) Servicing Sector. Those who pass the training will receive certificates from the DOE. This training program is specially designed and is applicable to any person who handles refrigerant that is harmful to the environment such as Chlorofluorocarbon (CFC) – R11/ R12 and is involved in the refrigeration servicing sector. Under Regulation 5 (1), Environmental Quality (Refrigerant Management) (Amendment) Regulations 2004: No person shall handle any

refrigerant environmentally hazardous substance unless he has received the approved training in the recovery and recycling of any refrigerant environmentally hazardous substance and is in possession of an approved machine for the activity. Failure to comply with Regulation 5 will result in a fine not exceeding RM10,000 or to imprisonment, not exceeding 2 years or to both as stipulated under Section 41 of the Environmental Quality Act 1974. All uncertified persons handling the Refrigeration and MAC Servicing Systems are required to immediately undergo the training program organised by the respective ATCs as listed below.

13 RSS Authorised Training Centres (ATCs)

Government Sector

Pengarah
Institut Latihan Perindustrian (ILP), Kepala Batas,
Lot 2022, Jalan Pokok Jenerih, 13200 Kepala Batas, Seberang Perai Utara, Pulau Pinang.
u.p. : En. Tuan Haji Azman Bin Husin
Tel : 04-5776100 Faks : 04-5776144

Pengarah
Bahagian Pengajian Kejuruteraan Automotiv / Marin
Maktab Teknik PDRM, 84200 Bakri, Muar, Johor.
u.p. : DSP Zakaria Ismail
ASP Abd Kadir Osman
Tel : 06-9895222 Faks : 06-9864478

Pengarah
Institut Latihan Perindustrian (ILP), Kota Bharu
16010 Kota Bharu, Kelantan.
u.p. : En. Sabarudin Bin Khunalan
En. Noor Azli Bin Che Putih
Tel : 09-7742315 Faks : 09-7741445

Pengarah
Institut Kemahiran Belia Negara (IKBN)
Km 25 Dusun Tua, Batu 16, Dusun Tua, 43100 Hulu Langat, Selangor.
u.p. : En. Jaffari Bin Wagino
Tel : 03-90217100 Faks : 03-90211839

Pengarah
Institut Latihan Perindustrian (ILP), Miri
Lot 3226, Blok 6, Mukim Bandar Baru Permy Jaya, Kuala Baram, 98100 Miri, Sarawak.
u.p. : En. Nicholas Anak Bali
Tel : 085-655540 Faks : 085-655523

Pengarah
Institut Latihan Perindustrian (ILP) Kuala Terengganu
Kawasan Perindustrian Gong Badak 21300 Kuala Terengganu, Terengganu
u.p. : En. Marzuki Bin Mamat
Tel : 09-6652100 Faks : 09-666086

Pengarah
Institut Kemahiran Belia Negara (IKBN) Bukit Mertajam
Jalan Berapit, 14000 Bukit Mertajam, Pulau Pinang.
u.p. : Cik Naliennea A/P Muthu
Tel : 04-5225288 Faks : 04-5225289

Pengarah
Kolej Kemahiran Belia Nasional (KKBN) Pontian
Bt 44, Pulau Sebatang, 82100 Ayer Baloi, Pontian, Johor.
u.p. : Mohd Amin Bin Haji Razali
Tel : 07-6933184 Faks : 07-6933185

Dekan
Universiti Kuala Lumpur – Malaysia France Institute (Unikl – MFI)
Seksyen 14, Jalan Teras Jernang, 43650 Bandar Baru Bangi, Selangor.
u.p. : En. Ng Wen Bin
Tel : 03-89262022 Faks : 03-89258845

Pengarah
Institut Kemahiran Belia Negara (IKBN) Kinarut
WDT 16, Jalan Limau-Limauan, 89609 Kinarut, Papar, Sabah.
u.p. : En. Mohd Riedzlan Bin Sutrisno
Tel : 088-755929 Faks : 088-754351

Pengarah
Institut Kemahiran MARA
Jalan Belangkas, Kampong Pandan 55100 Kuala Lumpur
u.p. : En. Abdul Razman Bin Hamid
Tel : 03-92844455 Faks : 03-92844455

Pengarah
Institut Kemahiran MARA
Jalan Sek Men Keb Agama Sik, 08200 Sik Kedah
u.p. : En. Maizulanam Bin Zahari
Tel : 04-4692045 Faks : 04-4692045

Institut Kemahiran MARA
Jalan Taruka, 80720 Johor Bahru, Johor.
u.p. : En. Mohd Hatta Bin Mohd Hassan
Tel : 07-2361129 Faks : 07-2361129

12 MAC Authorised Training Centres (ATCs)

Government Sector

Ketua Jurutera Mekanikal Jabatan Kerja Raya (JKR),
Ketua Jurutera Mekanikal
Workshop Persekutuan, Batu 2 1/2, Jalan Cheras, 50582 Kuala Lumpur
u.p. : En. Sulaiman bin Haji Abdullah
Tel : 03-92064000 Faks : 03-92831285

Pengarah
Bahagian Pendidikan & Latihan (Kemahiran)
Cawangan pengajian, Majlis Amanah Rakyat (MARA), Tingkat 20 & 21, Medan MARA, No.21, Jalan Raja Laut, 50609 Kuala Lumpur
u.p. : En. Ahmad Suhaimi bin Che Din
Tel : 03-26915111 Faks : 03-26947322

Ketua Bahagian Bahagian Koperat dan Pengajian Berterusan
Kolej WIT, Jalan Banting, Off Jalan Pandamaran 42000 pelabuhan Klang, Selangor
u.p. : En. Mohamad Firdaus bin Mokhtar
Tel : 03-31688859 Faks : 03-31675046

Pengarah
Institut Latihan Perindustrian (ILP)
Kepala Batas, Lot 2022, Jalan Pokok Jenerih 13200 Kepala Batas, Seberang Perai Utara, Pulau Pinang.
u.p. : Haji Azman bin Hussein
Tel : 04-5776100 Faks : 04-5776144

Pengarah
Institut Kemahiran Belia Negara (IKBN)
Dusun Tua, Batu 16, Dusun Tua, 43100 Hulu Langat, Selangor
u.p. : En. Jaffari bin Wagino
Tel : 03-90217001 Faks : 03-90211839

Pengarah
Pusat Latihan Pengajar & Kemahiran Lanjutan (CIAST)
Peti Surat 7012, Jalan Petani 19/1, Seksyen 19 40900 Shah Alam, Selangor
u.p. : En. Muhammad Nakhaie bin Mad Zali
Tel : 03-55438200 Faks : 03-55411508

Dekan
Universiti Kuala Lumpur – Malaysia France Institute (Unikl – MFI) Seksyen 14, Jalan Teras Jernang, 43650 Bandar Baru Bangi, Selangor
u.p. : En. Mohd Zaki bin Mohamed
Tel : 03-89262022 Faks : 03-89258845

Pengarah
Institut Latihan Perindustrian (ILP)
Kuala Lumpur, Jalan Kuchai Lama 58200 Kuala Lumpur
u.p. : En. Mohd Mazhar bin Suleiman
Tel : 03-79817495 Faks : 03-9382987

Pengarah
Institut Kemahiran MARA (IKM)
Jalan Belangkas, Kampong Pandan 55100 Kuala Lumpur
u.p. : En. Ahmad Tarmizi bin Yahya
Tel : 03-92844455 Faks : 03-92848213

Pengarah
Institut Kemahiran MARA (IKM)
Jalan Taruka, Off Jalan Datin Halimah, 80720 Johor Bahru
u.p. : En. Marzuki bin Mahamad Rudi
Tel : 07-2361129 Faks : 07-2364289

Pengarah
Institut Kemahiran MARA (IKM)
KM 14, Jalan Kaki Bukit, 02400 Besseri
u.p. : En. Nor Muzaffar bin Haji Mat Noor
Tel : 04-9384021 Faks : 03-9384023

Pengarah
Institut Kemahiran MARA (IKM)
Jalan Batu Tumbuh, Alor Lintang, 22000 Besut.
u.p. : En. A. Mahdzir bin Abdullah
Tel : 09-6957244 Faks : 09-6957326

16 RSS Authorised Training Centres (ATCs)

CEM ENGINEERING SDN. BHD
Suite 2-8, 63b, Jalan Sultan, 50000 Kuala Lumpur
Attn : Encik Ho Siew Wei
Tel : 03-20724592
E-mail : Sw_ho@hotmail.com

ENGSHIN AIR-COND & REFRIGERATION ENGINEERING
Lot 2, Jalan 19a, Selayang Baru, 68100 Batu Caves, Selangor
Attn : Encik Kong Chi Chung
Tel : 03-61351362
E-mail : Engshin18@gmail.com

HRH RESOURCES SDN. BHD
No.38a, Jalan Kota Raja M27/m, Hicom Town Centre, Seksyen 27, 40400 Shah Alam
Attn : Ir Abdul Hamid Mohamed Zin / Cik Saedah Binti Ahmad
Tel : 03-51929588
E-mail : Saedah@hrh.com.my

DAYA KILAS ENTERPRISE
No.15, Jalan Pingiran Perpaduan 1 Taman Uk Raya, 31150 Hulu Kinta, Perak
Attn : Encik Zulhazmi B. Badluzzaman
Tel : 05-5330948
E-mail : Dayakilas@yahoo.com

DYKIN ENGINEERING PARTS & SERVICES SDN. BHD
12-1, Lintang Batu Maung Dua, 11960 Batu Maung, Pulau Pinang
Attn : Encik Tan Kin Sek
Tel : 04-6265197
E-mail : Dykin_eng@yahoo.com

RADIANT ELECTRICAL ELECTRONIC ENTERPRISE
19, Jln Lima Kongs, Taman Lima Kongs, 14200 Sungai Bakap, Seberang Perai Selatan
Attn : Encik Lim Kheng Hock
Tel : 04-5822275
E-mail : Radiantlim@hotmail.com

PERNIAGAAN ELECTRONIK & HAWA DINGIN SING SENG HING
No.14, Lorong 1, Taman Ria, 08000 Sungai Petani, Kedah
Attn : Encik Hea Kue Boon
Tel : 04-4429233
E-mail : Singsenghing@yahoo.com

TRIAD POWER SDN. BHD
No.1a, Jalan Flora 2, Taman Flora, 83000 Batu Pahat, Johor
Attn : Encik Fudjari Bin Ahmad
Tel : 07-4348549
E-mail : Triadpowers@yahoo.com

SOUTHERN REFRIGERATION & AIR-CONDITIONING
34, Jalan Mutiara Emas 5/27, Taman Mount Austin, 81100 Johor Bahru, Johor
Attn : Encik Lim Chee Seng
Tel : 07-3518269
E-mail : Cs_214@yahoo.co.uk

ENVIRO TECHNOLOGY TRAINING CENTER
13, Jalan Yahya Awal, 80100 Johor
Attn : Encik Wong Chee Choy
Tel : 07-2227777
E-mail : Simon_wbl@hotmail.com

KUCHING AIR CONDITIONING
Refrigeration & Electrical Works Lot 440, Section 10, Rubber Road, 93150 Kuching, Sarawak
Attn : Encik Chew Poi Guan
Tel : 082-419426
E-mail : Chew8998@hotmail.com

KE ARAH KEMAHIRAN SDN. BHD
P.O Box 10111, 88801 Pejabat Pos Besar Kota Kinabalu, Sabah
Attn : Cik Margaret Ng
Tel : 088-420323
E-mail : Mag_angie@yahoo.com

HIGH TECH INDUSTRIES SDN. BHD
Ground Floor, Lot 12, Visa Light Industrial Center, Miles 5 1/2, Jalan Tuaran, 88450 Kota Kinabalu, Sabah
Attn : Encik Lai Tet Vui
Tel : 088-421450
E-mail : Tlai88@yahoo.com

MK REFRIGERATION & AIR CONDITIONING SERVICES
No.13, Jalan Bera Jaya 2, Taman Bera Jaya 28300 Triang, Pahang
Attn : Encik Mok Siew Meng
Tel : 09-2502522
E-mail : Mok.mik_ref@yahoo.com

BERSAMA TEKNIK TRADING
4289d, Sek 27, Km 1/2, Jalan Pengkalan Cempa 15400 Kota Bharu, Kelantan
Attn : En. Hashim Bin. Ali Kamaruddin
Tel : 09-7432698
E-mail : Bertek@hotmail.com

KEJURUTERAAN MEKANIKAL & ELEKTRIKAL TERAS JAYA
73,ground Floor, Jalan Sultan Sulaiman, 20000 Kuala Terengganu.
Attn : Boon Yoon Hoe
Tel : 09-6228389 / 8688
E-mail : Denso_jayaauto@yahoo.com.my

21 MAC Authorised Training Centres (ATCs)

ENVIRO TECHNOLOGY TRAINING CENTRE
13a, Jalan Yahya Awal, 80100 Johor Bahru
Attn : En. Wong Chee Choy
Tel : 07-2227777

SYARIKAT NEW FEDERAL AIR COND & REFRIGERATION
No. 8c & 8d, Jalan Muar, 85000 Segamat
Attn : En. Chin Kong Chai
Tel : 07-9312098

SOONTA CAR AIR COND SERVICE & TRADING
254-14, Jalan Kenanga 1, Taman Kenanga, Jalan Bakri, 84000 Muar
Attn : En. Sim Nge Choh
Tel : 06-9517633

COOLING CAR COOLER
375-e, Taman Peringkat Jaya, 75400 Melaka
Attn : En. Cheng Chit Jin
Tel : 06-2827804

MOBILE AIR-COND SERVICE CENTRE SDN BHD
No.9, Jalan Pandan Indah 4/10, 55100 Kuala Lumpur
Attn : En. Orlando Low Kiam Teck
Tel : 03-42943198

CENTRAL CAR COOLER SALES & SERVICE SDN BHD
24 & 26, Jalan Development, Taman Kepong, 52100 Kuala Lumpur
Attn : En. Leong Kim Seng
Tel : 03-62749491

EDARAN OTOMOBIL NASIONAL BHD (Akademik Saga)
No.14, Jalan Jurunilai U1/20, Hicom Industrial Park, Seksyen U1, 40150 Shah Alam
Attn : En. Mid.asri Bin Anis
Tel : 03-55692355

ONASIA AUTOMOTIVE SDN BHD
No.4, Jalan Ss13/3b, Subang Jaya Industrial Estate, 47500 Subang Jaya
Attn : En. Thean Lip Siong
Tel : 03-56334849

ADVANCED AUTO – COOL CO.
A-2614, Jalan Alor Akar, 25250 Kuantan
Attn : En. Lum Ah Yau
Tel : 09-5685079

LIM BROTHER TYRE & AUTO ACCESSORIES SERVICE
No. 34 & 35, Jalan Lipis, 27600 Raub
Attn : En. Lim Siow Wei
Tel : 09-3551506

STATE AUTO AIR-CONDITIONING WORK
120, Sekama Road, 93300 Kuching
Attn : En. Jonik Risem
Tel : 082-334779

UNT AUTO AIR-COND SALES & SERVICES SDN BHD
3b, Jalan Pedada, P.O.Box 103, 96007 Sibul
Attn : En. Chua Chi Kun
Tel : 084-326301

LAHAD DATU CITY AIR-COND SDN BHD
Lot 01-14 & 02-14, Block B, North Plaza Km 2, Jalan Tengah Nipah, P.O.Box No.60334, 91112 Lahad Datu
Attn : En. Lim Seng Siong
Tel : 089-882628

MAEFARE 4X4 CENTRE SDN BHD
Km 12, Jalan Kota Kinabalu – Tambunan P.O.Box 12077, 88822 Kota Kinabalu
Attn : En. Voo Vui Mang
Tel : 088-715715

SUNWAY AUTO AIR COND
11a, Jalan Pjs 9/5, Bandar Sunway, 46150 PJ
Attn : En. Chok Im Keong
Tel : 03-56329698

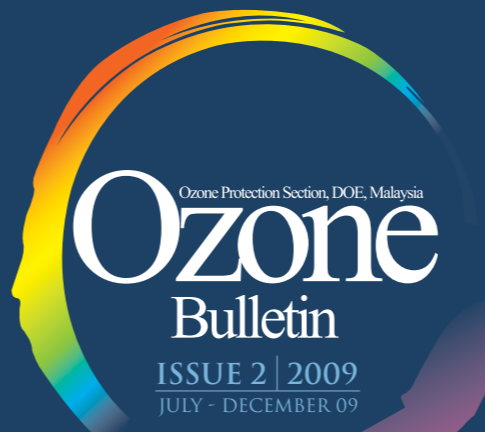
UAD (M) SDN BHD
9, Lorong Perusahaan 1, Kimpal Industrial Park, 68100 Batu Caves
Attn : En. Pooi Ching Sung
Tel : 03-61887990

HWA AUTO ENTERPRISE
3g, Lorong Delima Satu, Green Lane, 11600 Pulau Pinang
Attn : En. Ooi Eng Tat
Tel : 04-6585095

SYARIKAT DEW POINT
P1 3255, Jalan Mata Kucing, Kampung Jambu, 3400 Taiping
Attn : En. Ang Kian Kar
Tel : 05-8071317

CENTRAL AUTO AIR CONDITION SERVICE
40, Jalan Lumpur, Off Jalan Putra, 05100 Alor Setar
Attn : En. Lim Lan Kun
Tel : 04-7336206

For further information kindly contact:
Ozone Protection Section, Air Division
Level 4, Department of Environment, Wisma Sumber Asli, No 25, Persiaran Perdana, Presint 4, 62574 Putrajaya, Malaysia
Attn : Ms. Syafini Ismail / Mr. Mohd Fadzli
Tel : 03-8871 2340 / 2343 Fax : 03-88884800
Email : syafini@doe.gov.my / mohdfadzli@doe.gov.my
Website : www.doe.gov.my



International Ozone Day

16 September 2009

UNIVERSAL PARTICIPATION : OZONE PROTECTION UNIFIES THE WORLD

Message from the Minister



On this International Ozone Day 2009, I would like to announce that with effect from 1st January 2010, under the compliance obligation to the Montreal Protocol on Substances that Deplete the Ozone layer, Malaysia will stop importing CFCs, Halon and CTC.

The ozone layer occurs naturally about 16 - 50 km above the earth surface. The thickness of the natural ozone layer above the earth need to be sustained as it acts as a protective layer that absorb the harmful ultra-violet (UV) rays from the sun. Excessive exposure to the UV rays will cause skin cancer, eye cataracts, weaken our body resistance to fight disease and affecting food chain.

However the ozone layer is currently under threat due to excessive use of chemicals that deplete the ozone layer. These chemicals commonly known as ozone depleting substances (ODS) are refrigerants such as chlorofluorocarbons (CFC) and hydrochlorofluorocarbons (HCFC) that are largely used in cars, busses and other motor vehicles, air-conditioners, domestic and commercial refrigeration systems and building chillers. Other types of ODS are Halon which is used in fire prevention equipment, methyl chloroform (111-TCA) as cleaning agents, carbon tetrachloride (CTC) used in industries and methyl bromide (MBr) as pesticides used for soil treatment in agriculture activities as well as for quarantine and pre-shipment especially for treatment of wood products.

Once again let me remind everyone of us that it is our responsibility to preserve the ozone layer by using ozone-friendly products that do not contain ODS. When buying products such as hair sprays, metered dose inhalers used by asthma patients, refrigerators and home air conditioners, look for "CFC – Free" tag which is easily recognisable on the labels. Service your car air conditioner regularly to prevent leakage and use ozone friendly refrigerants such as R 134a.

Datuk Douglas Unggah Embas
Minister of Natural Resources & Environment

“Let us together pledge to save the ozone layer for the benefits and well being of the entire life on earth.”



INTERNATIONAL OZONE DAY CELEBRATION 09

In conjunction with the International Ozone Day on 16th September, Department of Environment (DOE) in collaboration with the Ministry of Education organized a programme to commemorate the 2009 International Ozone Day. It was held on 5th October 2009 at Institut Pendidikan Guru Malaysia, Kampus Teknik, Cheras and was officiated by Y. Bhg. Dato' Hajah Rosnani Ibarahim, Director General, Department of Environment. A total of 400 participants including trainee teachers and secondary school teachers from Kuala Lumpur, Putrajaya and Kajang, together with the respective Government agencies participated in this event. Also present at the event was an official from the United Nations Environment Programme (UNEP), Kuala Lumpur.

The theme for International Ozone Day 2009 is 'Universal Participation: Ozone Protection Unifies The World – through unity of purpose and concerted action, we can minimize risks to our planet and build a safer world for future generations'. In relaying the Minister's keynote address, Y.Bhg. Dato' Hajah Rosnani Ibarahim elaborated that the success of Malaysia's ODS phase-out program is a result of implementation of sound policy, legislations and implementation of smart partnerships with other relevant agencies and industries. "We are proud of our ODS accomplishments and will continue to play a pivotal role in saving the stratospheric ozone layer". For this year's International Ozone Day, the Ministry made a nationwide announcement that importation of CFC, CTC and Halon will be prohibited as of 1st January 2010, as well as termination of licence renewal for importation of CFC Metered Dose Inhalers (MDI). With this announcement, Malaysia will not import CFC - MDI after 2010.

The highlight of this event was the Tree Planting Ceremony by the Director General as a symbolic event to care and save the environment. The Ozonation Education Pack for Secondary Schools – Teacher's Book & Student's Book published by UNEP, and reprinted by the Ozone Protection Section of DOE was launched and distributed to secondary school teachers and trainee teachers during the event. It is used as awareness training materials for school children and assists teachers to facilitate students in undertaking activities relating to the awareness programme. Exhibition and demonstration of the Refrigerant Identifier (an equipment to test the refrigerant in the mobile air conditioning) was also carried out.



"We are proud of our ODS accomplishments and will continue to play a pivotal role in saving the stratospheric ozone layer"

Y.Bhg. Dato' Hajah Rosnani Ibarahim

ODS AWARENESS ACTIVITIES AT STATE LEVEL

Awareness programmes on promoting the ozone layer protection were carried out at 11 DOE State Offices. Starting in March, Pahang DOE State Office had started their awareness programme, followed by Melaka, Penang, Sabah, Kedah, Negeri Sembilan, Perlis, Selangor, Perak, WP Labuan and Sarawak. Target groups for the ozone protection awareness programmes 2009 are Industries, Air-Condition Service Workshops, Primary School Students, Secondary School Students and Universities/ Colleges Students. The awareness programmes aimed to educate people about the significant contribution of Ozone Depleting Substances (ODS) in destroying the ozone layer; to increase awareness among public about the importance of protecting the ozone layer, to spread information on laws, regulations and available programmes organized by the government in order to control the use of ODS in Malaysia and at international level.



Refrigerant inspection on car air-conditioners at RTD, Hentian Genting Sempah, Pahang



Ozone Protection Camp for Primary School Students by DOE Sabah, Nov 13-15, 2009

REFRESHER COURSE TRAIN THE TRAINER PROGRAM FOR 16 RSS ATCs

The Refresher Course for the 16 RSS ATCs was held on 3 - 5 October 2009 at the Novotel Hotel Kuala Lumpur. The program was organized by the Department of Environment Malaysia with the main objective to refresh and prepare the ATCs on conducting their own training. A total of 32 participants from 16 ATCs participated in this program.

The program consists of theory and practical sessions. In the theory session, the ATCs were re-trained on the background of National CFC Phase-Out Plan, the Refrigerant Management Laws and information and update on refrigerants. Topics on the ozone depletion, global warming, Montreal Protocol & Kyoto Protocol were also taught in these sessions. As for the practical session, the ATCs were re-trained on the good service practices for the recovery, recycling & reclaiming of refrigerants. At the end of the program, ATCs were required to go for an exam (theory and practical). There was also a presentation test to assess the ability of each ATC to effectively teach and convey the course contents.



TRAIN THE TRAINER PROGRAM

FOR THE GOVERNMENT ATCS UNDER THE REFRIGERATION SERVICING SECTOR (RSS)

Train the trainer program for the Government ATCs under the Refrigeration Servicing Sector (RSS) was jointly organized by the Department of Environment Malaysia and the RSS Group Coordinator at the Novotel Hotel Kuala Lumpur on 1 - 2 October 2009. A total of 31 participants from 13 Government Training Institutes i.e. Institut Latihan Perindustrian (ILPs), Institut Kemahiran MARA (IKMs), Kolej & Institut Kemahiran Belia Negara, and Malaysia-French Institute-UniKL participated in this program. About 80% of the participants are lecturers with teaching experience of more than 10 years in this field.

The program consists of theory and practical sessions. In the theory sessions, the participants were trained on the background of National CFC Phase-Out Plan, the Refrigerant Management Laws and information and updates on refrigerants. Topics on the ozone depletion, global warming, Montreal Protocol & Kyoto Protocol were also taught in this session. As for the practical session, the participants were trained on the good service practices for the recovering, recycling & reclaiming of refrigerants. At the end of the program, participants were required to sit for an exam to qualify as a certified Government ATC. Each certified Government ATC was given two (2) sets of basic tools for servicing refrigeration systems and 2 sets of R&R Machine



MALAYSIA HOSTED THE 5TH REGIONAL WORKSHOP ON ODS

A Regional Workshop on Ozone Depleting Substances organized by the World Bank East Asia and Pacific Region provides opportunity for the ODS team of the Bank and National Ozone Unit (NOU) to share experiences and discuss issues related to the ODS phase-out programs under the Montreal Protocol. The Fifth Workshop was hosted by Malaysia on the 3rd to 4th December at the Westin Hotel, Kuala Lumpur. The workshop, officiated by Y.Bhg. Dato' Hajah Rosnani Ibarahim, Director General of Environment was attended by participants from Indonesia, Thailand, Philippines and Vietnam. The morning session of the first day was also attended by industries and other stakeholders. During this session, Mr. Steve Gorman, Dr. Viraj, Mr. Steve Maber and Dr. Mike Jeffs



presented papers on linkages between ozone layer and climate protection as well as HCFC consumption/production and replacement in foams.

The main focus of the 5th Regional Workshop was on HCFC phase-out programme and the preparation of HCFC Management Plan (HPMP). Participants also shared their country experiences with case studies in Refrigeration and Air-conditioning, Mobile Air-cond and foam sectors highlighting success, lessons learned and remaining challenges.

THE 21ST MEETING OF PARTIES TO THE MONTREAL PROTOCOL

The 21st Meeting of Parties to the Montreal Protocol was held at the Convention Centre, Port Ghalib, Egypt from 4 to 8 November 2009. The MOP 21 was attended by more than 400 participants from government and non-government organisations, academia, industry and the agricultural sector. The meeting was graced by a ceremony to welcome Timor Leste as the 196th party to the protocol that makes it the universal ratification. Malaysian delegation was headed by Y.B. Tan Sri Joseph Kurup, Deputy Minister of Natural Resources and Environment accompanied by Dato' Hajah Rosnani Ibarahim, Director General of Environment, Puan Hajah Kalsom Abdul Ghani, Encik Che Kodir Bahrum, Encik Mokhtarud-din Hussein and Puan Aminah Ali.

The MOP 21 discussed many issues inter-alia the report of the Technical and Economic Assessment Panel (TEAP) including Methyl Bromide, high global warming potential alternatives to ozone depleting substances and HCFC phase-out. The most pertinent issue discussed in the meeting was proposals submitted by the Federation of Micronesia and Mauritius as well as North America and Mexico on proposed amendment to the Montreal Protocol. The proposed amendment is on HFC phase out which has high global warming potential (GWP). However, these proposals were not accepted by many members of the protocol, including Malaysia.

MOP21 has agreed on 32 decisions which are posted at <http://ozone.unep.org>. The following decisions are relevant and have implication to Malaysia:



A. XXI/2 Environmentally sound management of banks of ozone depleting substances

1. To request the Ozone Secretariat to host a one-day seminar on the margins of the 30th Meeting of the Open-Ended Working Group of the Parties to the Montreal Protocol on the topic of how to identify and mobilize funds, including funds additional to those being provided under the Multilateral Fund, for ozone-depleting substance destruction, and further requests the Ozone Secretariat to invite the Multilateral Fund and the Global Environment Facility to consider co-coordinating this effort, and to invite other relevant institutions to attend the seminar;
2. To request the Executive Committee to continue its consideration of further pilot projects in Article 5 Parties pursuant to decision XX/7, and in that context, to consider the costs of a one-time window within its current destruction activities to address the export and environmentally sound disposal of assembled banks of ozone-depleting substances in low-volume-consuming countries that are not usable in the Party of origin;
3. To request the Technology and Economic Assessment Panel to review those destruction technologies identified in its 2002 report as having a high potential, and any other technologies, and to report back to the 30th Meeting of the Open-Ended Working Group on these technologies and their commercial and technical availability;
4. To agree that the Executive Committee of the Multilateral Fund should develop and implement, as expeditiously as possible, a methodology to verify the climate benefits and costs associated with Multilateral Fund projects to destroy banks of ozone-depleting substances, and should make such information publicly available on a project-level basis;
5. To request the Executive Committee to continue its deliberations on a special facility and to report on these deliberations, including possible options for such a facility as appropriate, to the 30th Meeting of the Open-Ended Working Group as an agenda item.
6. To call upon Parties, and institutions not traditionally contributing to the financial mechanism, to consider making additional support available to the Multilateral Fund for destruction of ozone-depleting substances, if they are in a position to do so;
7. To request the Executive Committee to report annually on the results of destruction projects to the Meeting of the Parties, and to request the Technology and Economic Assessment Panel, based on this, and other available information, to suggest to the thirty-first meeting of the Open-Ended Working Group components designed to help Parties of diverse size and with diverse wastes to develop national and/or regional strategic approaches to address the environmentally sound disposal of the banks of ozone-depleting substances that are present in their countries and/or regions. In addition, this information should be available to the Technology and Economic Assessment Panel and the Parties to inform the consideration of the financial implications for the Multilateral Fund and other funding sources of addressing the destruction of ozone-depleting-substance banks;

B. XXI/7: Halons

1. To express the Parties' continued support for the implementation of mandatory dates by when halon alternatives will be used in previously agreed upon applications of newly designed aircraft;
2. To request TEAP and its HTOC to continue to engage ICAO on this issue and to report progress on this issue to the twenty second Meeting of the Parties;
3. To encourage Parties that have implemented import and/or export restrictions of recovered, recycled or reclaimed halons to consider reassessing their situation with a view towards removing barriers on the import and export of recovered, recycled or reclaimed halons to allow, wherever possible, their free movement between Parties to enable Parties to meet current and future needs, even as Parties continue to transition to available halon alternatives;
4. To encourage Parties to refrain from destroying uncontaminated recovered, recycled, or reclaimed halons before they have considered their domestic, as well as the global long-term future needs for halons, and to consider retaining uncontaminated recovered, recycled, reclaimed halons for anticipated future needs in a manner that employs best practices for storage and maintenance, in order to minimize emissions;
5. To encourage Parties to report their assessments of current and long-term future needs for halons to the Ozone Secretariat for use by the TEAP and its HTOC in their future assessments of management of halon banks.
6. To continue to encourage Parties to inform, on a regular basis, their users of halons, including the maritime industries, the aviation sector and the military, of the need to prepare for reduced access to halons in the future and to take all actions necessary to reduce their reliance on halons.

C. XXI/9: Hydrochlorofluorocarbons and environmentally sound alternatives

1. To request the Technology and Economic Assessment Panel (TEAP), in its May 2010 Progress Report and subsequently in its 2010 full assessment, to provide the latest technical and economic assessment of available and emerging alternatives and substitutes to HCFCs; and the Scientific Assessment Panel (SAP) in its 2010 assessment to assess, using a comprehensive methodology, the impact of alternatives to HCFCs on the environment, including on the climate; and both the SAP and the TEAP to integrate the findings in their assessments into a synthesis report;
2. To request the Technology and Economic Assessment Panel in its 2010 progress report:
 - (a) To list all sub-sectors using HCFCs, with concrete examples of technologies where low-GWP alternatives are used, indicating what substances are used, conditions of application, their costs, relative energy efficiency of the applications and, to the extent possible, available markets and percentage share in those markets and collecting concrete information from various sources including information voluntarily provided by Parties and industries. To further ask TEAP to compare these alternatives with other existing technologies, in particular, high-GWP technologies that are in use in the same sectors;
 - (b) To identify and characterize the implemented measures for ensuring safe application of low-GWP alternative technologies and products as well as barriers to their phase-in, in the different sub-sectors, collecting concrete information from various sources including information voluntarily provided by Parties and industries;
 - (c) To provide a categorization and reorganization of the information previously provided in accordance with decision XX/8 as appropriate, updated to the extent practical, to inform the Parties of the uses for which low- or no-GWP and/or other suitable technologies are or will soon be commercialized, including to the extent possible the predicted amount of high-GWP alternatives to ozone-depleting substances uses that can potentially be replaced;
3. To request the Ozone Secretariat to provide the UNFCCC Secretariat with the report of the workshop on high global-warming-potential alternatives for ozone-depleting substances;
4. To encourage Parties to promote policies and measures aimed at avoiding the selection of high-GWP alternatives to HCFCs and other ozone-depleting substances in those applications where other market-available, proven and sustainable alternatives exist that minimise impacts on the environment, including on climate, as well as meeting other health, safety and economic considerations in accordance with decision XIX/6;
5. To encourage Parties to promote the further development and availability of low-GWP alternatives to HCFCs and other ozone-depleting substances that minimise environmental impacts particularly for those specific applications where such alternatives are not presently available and applicable;
6. To request the Executive Committee as a matter of urgency to expedite the finalisation of its guidelines on HCFCs in accordance with Decision XIX/6;
7. To request the Executive Committee, when developing and applying funding criteria for projects and programmes regarding in particular the phase-out of HCFCs:

- (a) to take into consideration paragraph 11 of decision XIX/6;
 - (b) to consider providing additional funding and/or incentives for additional climate benefits where appropriate;
 - (c) to take into account, when considering the cost-effectiveness of projects and programmes, the need for climate benefits; and
 - (d) to consider in accordance with decision XIX/6, further demonstrating the effectiveness of low-GWP alternatives to HCFCs, including in Air Conditioning and refrigeration sectors in high ambient temperature areas in Article 5 countries and to consider demonstration and pilot projects in Air conditioning and refrigeration sectors which apply environmentally sound alternatives to HCFCs;
8. To encourage Parties to consider reviewing and amending as appropriate, policies and standards which constitute barriers to or limit the use and application of products with low- or zero GWP alternatives to ozone-depleting substances, particularly when phasing out HCFCs.

D. XXI/10: Quarantine and pre-shipment uses of methyl bromide

1. To remind Parties of their obligations to report annual data on the consumption of methyl bromide for quarantine and pre-shipment under Article 7 and to establish and implement a system for licensing trade in methyl bromide, including quarantine and pre-shipment, under Article 4B;
2. To invite Parties to collect data on quarantine and pre-shipment according to Decision XI/13, and to consider using the format provided in the Technology and Economic Assessment Panel's report of April 1999;
3. To request the Technology and Economic Assessment Panel and its Methyl Bromide Technical Options Committee, in consultation with other relevant experts and the IPPC Secretariat to provide a report to be considered by the 30th meeting of the Open-Ended Working Group covering the following:
 - (1) A review of available information on the technical and economical feasibility of alternatives, and the estimated availability, for the following categories of quarantine and pre-shipment uses:
 - a. sawn timber and wood packaging material (ISPM 15);
 - b. grains and similar foodstuffs;
 - c. pre-plant soils use;
 - d. logs;
 - (2) The current availability and market penetration rate of quarantine and pre-shipment alternatives to the uses listed in paragraph 3(1) above, and their relation with regulatory requirements and other drivers for the implementation of alternatives;
 - (3) An update of table 9.1 of the 2009 Task Force report to include economic aspects, and to take account of the information compiled under this paragraph, distinguishing between Article 5 and non Article 5 parties and between quarantine and pre-shipment uses separately;
 - (4) A description of a draft methodology, including assumptions, limitations, objective parameters, the variations within and between countries and how to take account of them, that the Technology and Economic Assessment Panel would use, if requested by the Parties, for the assessment of the technical and economical feasibility of alternatives, of the impact of their implementation and of the impacts of restricting the quantities of methyl bromide production and consumption for quarantine and pre-shipment uses;
4. To encourage Parties to apply best-practice measures to reduce methyl bromide quarantine and pre-shipment use and emissions, that may include the review of required use dosages, gas tightness controls, monitoring during fumigation and other measures to minimize methyl bromide dosages, and, in applications where alternatives are not yet available, the recovery and possible reuse of methyl bromide, and to review the methyl bromide quarantine and pre-shipment requirements for possibilities of introducing alternative mitigation measures whenever possible;
5. To encourage Parties to consider adopting, where possible within their national policy framework, incentives to promote the transition to alternatives such as deposit/rebate schemes or other financial measures;
6. To encourage Parties or regions to use the October 2009 Technology and Economic Assessment Panel quarantine and pre-shipment task force report to develop documents that summarise information on technical options to reduce emissions, and on adopted technologies that have replaced methyl bromide quarantine and pre-shipment applications, the reductions achieved, the investments needed, the operating costs, and the funding strategies;
7. To encourage Parties to implement the recommendations of the third meeting of the Commission of the Phytosanitary Measures under the IPPC, also referred to in Decision XX/6;