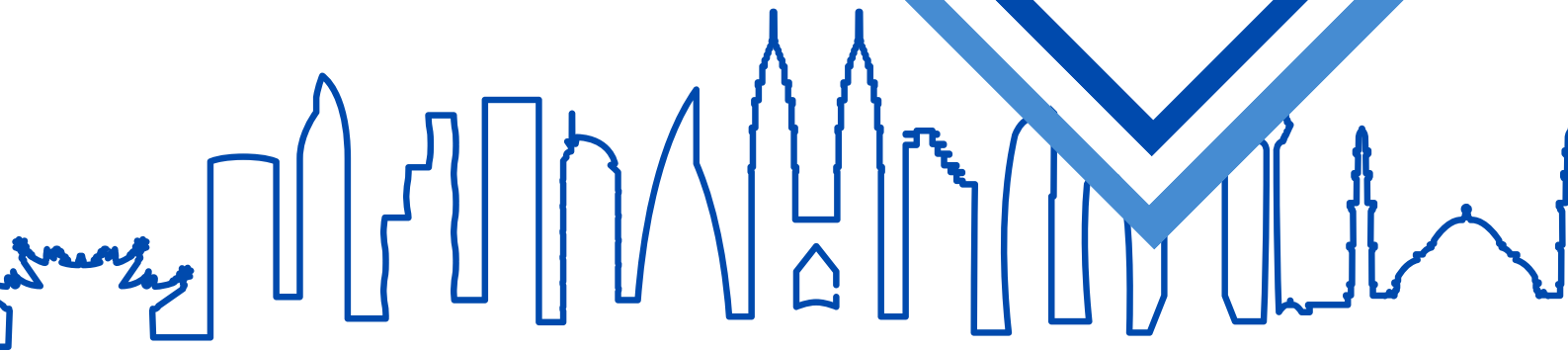




*Ozone*

**BULLETIN**

**2020**



# TABLE OF CONTENTS

- 1** HCFC PHASE-OUT MANAGEMENT PLAN STAGE II - CONSULTATIVE MEETING AND WORKSHOP WITH ENTERPRISES IN FOAM SECTOR
- 2** BRIEFING ON E-PERMIT FOR IMPORTERS AND EXPORTERS HYDROFLUOROCARBON (HFC)
- 3** CUSTOMS TRAINING PROGRAMME ON OZONE DEPLETING SUBSTANCES (ODS)
- 4** WORKSHOP ON STANDARD OPERATING PROCEDURES FOR ENFORCEMENT OF ENVIRONMENT QUALITY (REFRIGERATION MANAGEMENT) REGULATIONS 2020
- 5** REFRESHER COURSE FOR MASTER TRAINERS OF CSTP PROGRAM
- 6** WORLD OZONE DAY 2020
- 7** RATIFICATION OF KIGALI AMENDMENT UNDER THE PROTOCOL MONTREAL
- 8** STAKEHOLDERS CONSULTATION FOR THE NATIONAL STRATEGY OF HFC PHASE-DOWN
- 9** OVERALL STATISTICS - CSTP , E-PERMIT AND HCFC REDUCTION
- 10** DIARY OF EVENTS 2020



## HCFC PHASE-OUT MANAGEMENT PLAN STAGE II - CONSULTATIVE MEETING AND WORKSHOP WITH ENTERPRISES IN FOAM SECTOR

Under HCFC Phase-Out Management Plan Stage II (HPMP II), 67.94 ODP of HCFC 141b is targeted to be phased out in the foam manufacturing sector from a total of 403.91 ODP of HCFC. In the first phase of the HPMP II implementation, 10 foam enterprises with the consumption of more than 20 metric tonnes HCFC-141b have been given financial assistance to convert their technology into cyclopentane. As a result, the completion of conversion for the said enterprises has accounted for 41.21 ODP tonnes of HCFC phasing out.



Second phase of the implementation of conversion project is to focus on the foam enterprises with the consumption of less than 20 metric tonnes HCFC-141b. Activities and programs were organised throughout the year of 2020 to facilitate the technology conversions in the foam industries. On the 17th of January 2020, a consultative meeting with foam enterprises was organised by the Department of Environment Malaysia (DOE). The meeting was held at the Cempaka meeting room of the DOE Putrajaya office and was attended by 50 participants inclusive of PU foam manufacturers and system houses.



The main objective of this meeting is to provide information to the stakeholders and to discuss the implementation of technology conversion from HCFC 141b to other alternatives such as cyclopentane (C5), methyl formate, methylal, water blown and hydrofluorocarbon before a ban on the import and use of HCFC 141b comes into force on 1 January 2022.

The event started off with the welcome speech by the Director of Air Division, Department of Environment Malaysia, Ms. Mashitah Darus. The DOE officer then gave a briefing on the project implementation followed by a presentation on available technology choice in the market by representatives of system houses followed by one to one consultative session with enterprises.



On the 17th of February 2020, the DOE in collaboration UNDP had organised a workshop on “Foam Alternatives and Hand Holding Activities to System Houses and PU Foam Companies HPMP II” at Concorde Hotel, Shah Alam.

Experts from New York, Bangkok and Brazil were invited to transfer knowledge and experience to the foam enterprises as well as to give guidance in implementing the conversion project. Another, one to one consultation session with the enterprises was conducted at the end of the workshop, where the enterprises could seek advice from the experts on the selection of alternative blowing agent depending on the application and feasibility.



As part of the workshop’s activities, a three-day visit to system houses and foam enterprises were organised. In this visit, the experts, DOE officers, and UNDP personnel provides further consultation to the enterprises visited.

As of 2020, 12 foam manufacturers have completed their technology conversion from HFCF-141b to cyclopentane (C5) resulting in the phase-out of 43.76 ODP or 65.4% from the total commitment for foam sector under the HPMP II.



While the world is struggling to cope with the new norms due to Covid-19 and the uncertainty of economic growth, another 21 foam manufacturers has come forward and agreed to participate in the technology conversion project by signing the Memorandum of Agreement with the Government. The Department of Environment (DOE) is actively engaged with the rest of the PU foam manufacturers that are yet to participate in the technology conversion project by giving them exposure, knowledge, assistance, and guidance in implementing the project.





## BRIEFING ON E-PERMIT FOR IMPORTERS AND EXPORTERS HYDROFLUOROCARBON (HFC), CYBERJAYA

On 21 February 2020, the Ozone Protection Unit, Air Division Department of Environment (DOE) in collaboration with Dagang Net Technologies Sdn. Bhd. had organised a briefing on the e-Permit system for the importers and exporters of Hydrofluorocarbon (HFC).

The briefing was conducted to inform the newly registered companies on the permit requirements for imports and exports of HFCs and to assist them on the registration to the ePermit system. Representatives from twenty-seven (27) companies that had successfully registered with DOE as HFC importers and exporters had attended the briefing session.



The Customs (Prohibition of Imports) (Amendment) Order 2017 and The Customs (Prohibition of Exports) (Amendment) Order 2017 in regards to the control of imports and exports of HFC substances has come into force on the 1st March 2020.

Under the Customs Orders, importers and exporters must apply for the approved permit of HFC import and export from the DOE before proceeding with the import and export processes.

The application for permit must be submitted through the ePermit system and the applicants must ensure that the correct HS code is used during the application process. All importers and exporters must provide a stock declaration report on the HFC consumption to the DOE every six (6) months, which is January and July each year.



After the briefing session, Dagang Net Technologies Sdn Bhd set up a registration booth for the companies who have yet registered with the ePermit system to do so. This is to ensure that the application for permit will not be interrupted when the Customs Orders are enforced on the 1st March 2020.



## CUSTOMS TRAINING ON CONTROL OF OZONE DEPLETING SUBSTANCES (ODS) 2-5 MARCH 2020, JOHOR BAHRU



Malaysia imports all of the Ozone Depleting Substances (ODS) substances for consumption in the control. Therefore, in this respect it is vital for customs officer to be trained in order to strengthen the effectiveness of the import control system and prevent illegal smuggling of ODS especially HCFC.

In 2020, the Department Of Environment Malaysia in collaboration with the Royal Customs Academy Malaysia (AKMAL) organized the training programme at the Holiday Villa Hotel, Johor Bahru from 02 - 05 March 2020. It was attended by 51 officers from Royal Malaysia Customs and DOE state officers.

The main objectives of the training was to increase awareness, enhance knowledge and improve understanding on the control of import and export of the Ozone Depletion Substances (ODS). The programme also aimed to further enhance the smart partnership between DOE and Royal Customs Department.

A demonstration on the use of Refrigerant Identifier was conducted to familiarize the participants on the use of the equipment. This is important to enable the officers to identify the refrigerants during the inspection at the port of entries and on-site inspection.

Apart from the above, a field trip to Royal Customs & Excise Department Checkpoint, Pasir Gudang, Johor was also organized and participants were given briefing on the process of import and export inspection procedure. The training programme was successfully achieved its objectives and both agencies decided to continue the programme in future.





## WORKSHOP ON STANDARD OPERATING PROCEDURES FOR ENFORCEMENT OF ENVIRONMENT QUALITY (REFRIGERATION MANAGEMENT) REGULATIONS 2020 24-27 AUGUST 2020, LE MERIDIAN HOTEL, PUTRAJAYA



The Ozone Protection Section had collaborated with the Motor Vehicles Section under the Air Division of Department of Environment (DOE) to organize the workshop on Preparation of Standard Operating Procedures for the Enforcement of Environmental Quality (Refrigeration Management) Regulations 2020.

The objective of the workshop is to provide detailed explanation to the DOE enforcement officers on the newly gazette Environmental Quality (Refrigeration Management) Regulations 2020 and to discuss the draft standard operating procedures (SOP) for the enforcement of the regulations.

The workshop was officiated by YBrs. En. Wan Abdul Latiff Wan Jaffar, the Deputy Director General (Enforcement) of DOE and attended by the state DOE enforcers from the mobile sources units. Due to the Covid-19 pandemic and restrictions in air travel, DOE officers from East Malaysia were unable to attend the workshop physically. Therefore, the workshop was conducted in hybrid, where DOE officers who were unable to come to the workshop venue, joined virtually via zoom application.



The workshop started with Coordination Meeting for Mobile Sources Enforcement, where state DOE office updated their Key Performance Index (KPI) for 2020 including for refrigerant management enforcement and discussed the issues or challenges on the related enforcement implementation. Some of the issues raised during the meeting were capacity building and the calibration on the Refrigerant Identifier units as per DOE enforcement requirement.

Mr. Mohd Faizul Hilmi Zulkifli, the Head of Section for Ozone Protection Section presented the Environmental Quality (Refrigeration Management) Regulations 2020 and the draft SOP for the enforcement of the regulation. The participants were later divided into groups to discuss and provide inputs or comments on the draft SOP. Capacity building on the operation of Refrigerant Identifier was also conducted during the workshop. Trainers from Cooltech Solution Sdn Bhd were invited to conduct the training on Refrigerant Identifier. Site visit to PUSPAKOM in Shah Alam were organized on the last day of workshop for DOE officers to understand how vehicle inspection is carried out.

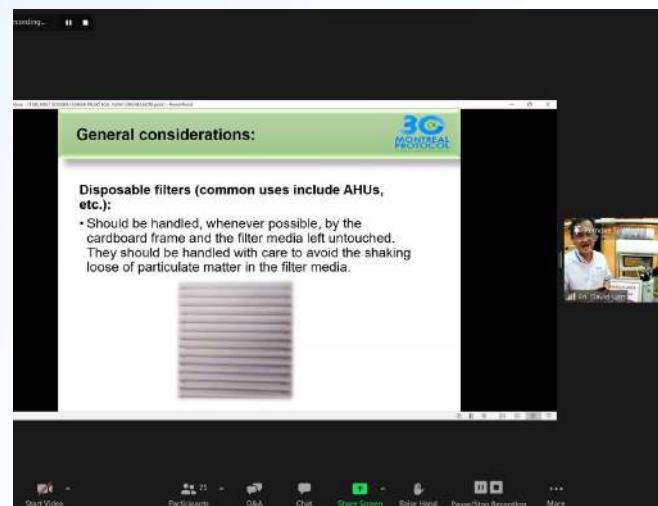
Overall, the workshops had achieved its objectives and at the same time, the participants were also provided with trainings on related enforcement knowledge and skills to be applied during the enforcement activities.



## REFRESHER COURSE FOR MASTER TRAINERS OF CSTP PROGRAMME 9 SEPTEMBER 2020, DEPARTMENT OF ENVIRONMENT, PUTRAJAYA

On 9 September 2020, Department of Environment (DOE) had organized the Refresher Course for Master Trainers in the Refrigeration & Air-Conditioning Service Sector via online due to the restriction under the MCO. The Master Trainers consisted of trainers or facilitators that were authorized to conduct the Certified Service Technician Program (CSTP).

The main objective of the course was to update and provide guidance to the trainers on the new training manual that is used in the CSTP programme starting in 2020. The course involved two components; theoretical and practical demonstration on best practices in servicing of refrigeration and air-conditioning equipment.



During the course, two (2) experts from the RAC servicing sector were invited as speakers. The course emphasized on the good practices and proper handling of the HCFC and flammable refrigerant such as R32 and R290 in air-conditioning equipment. Proper technique of recovery & recycling of the HCFC and HFC refrigerant were also shared by the experts in an effort to reduce the HCFC consumption and ultimately achieved the target outlined in HPMP.

The course was attended by 88 Master Trainers via online from 48 ATCs which consisted of government and private institutions that were appointed as ATCs by DOE.



## WORLD OZONE DAY 2020



The United Nations has declared 16 September as the World Ozone Day for the preservation of the ozone layer to commemorate the day the Montreal Protocol on Substances that Deplete the Ozone Layer was agreed on the 16 September 1987. The World Ozone Day theme for year 2020 is "Ozone for Life: 35 years of ozone layer protection". In 1985, the world's governments adopted the Vienna Convention for the Protection of the Ozone Layer. Under the Convention's Montreal Protocol, governments, scientists and industry worked together to cut out 99 per cent of all ozone-depleting substances. Thanks to the successful implementation of Montreal Protocol, the ozone layer is healing and expected to return to pre-1980 values by 2050.

Awareness and promotional activities were organized leading to national launching of the World Ozone Day 2020, which include World Ozone Day message from the Honourable Minister of Environment and Water on the 16 September 2020, newspaper interview with the Director General of Environment, Mrs. Norlin Jaafar, series of webinar with the management of DOE and industry experts, competitions (short video, e-poster, infographic) and various activities by state DOE.





The highlight of World Ozone Day 2020 in Malaysia is the launching ceremony by the Honourable Minister of Environment and Water, Dato' Sri Tuan Ibrahim Tuan Man on the 23rd September 2020 at the Le Meridien Hotel, Putrajaya. The ceremony was attended by 150 guests and strict Covid-19 Standard Operating Procedures (SOP) were observed throughout the event. During the ceremony, ten (10) foam producing companies were given recognition for completing technology conversion from HCFC to cyclopentane (hydrocarbon) which is more ozone and climate friendly. Exhibitions were also held after the ceremony to show the public on the HPMP activities, latest non-ODS technologies and products, the courses Certified Service Technician Program (CSTP) and technology of reclamation of refrigerants and other ozone depleting substances (ODS).

The soft launch of National Environment Day was held after the launching of World Ozone Day to mark the beginning of a month-long program for National Environment Day throughout the country starting from DOE Headquarters in Putrajaya. The National Environment Day was held every year on the 21st of October as declared by the Yang Dipertuan Agung after the Langkawi Declaration on the Environment was issued by during the 10th Commonwealth Heads of Government Meeting (CHOGM) in 1989. The National Environment Day will be officially launched on the 21st October 2020 in Kota Bharu, Kelantan.





## RATIFICATION OF KIGALI AMENDMENT UNDER THE PROTOCOL MONTREAL

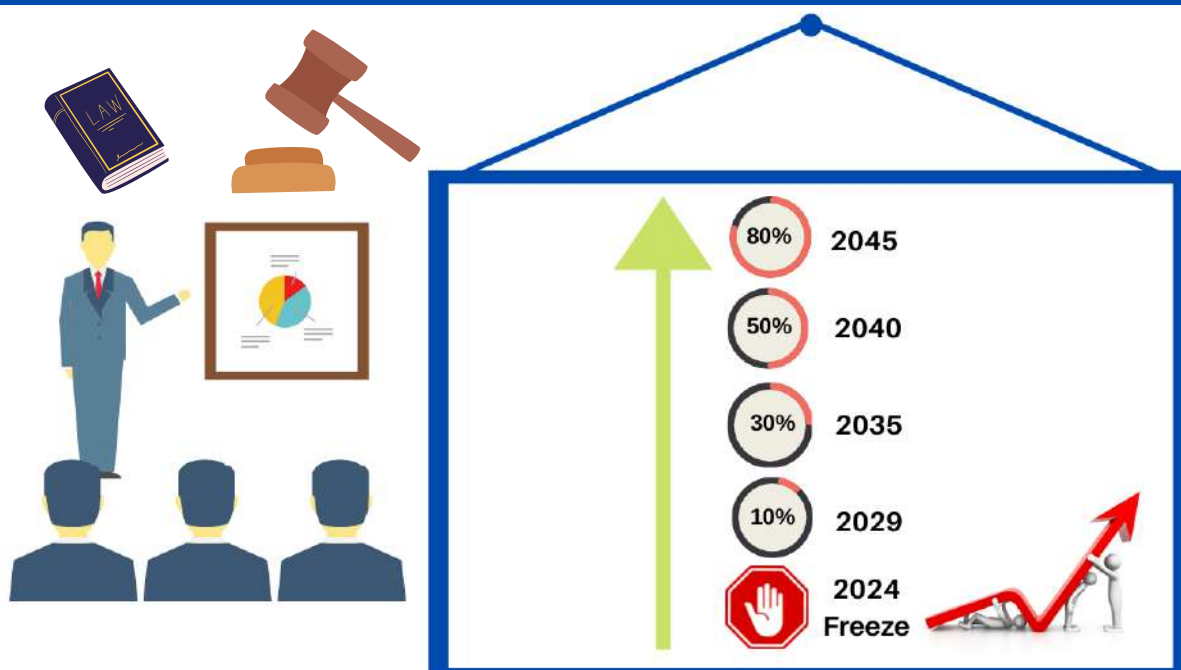
On the 21st October 2020, Malaysia ratified the Kigali Amendment under the Montreal Protocol on substances that deplete the ozone layer under the Vienna Convention for the protection of the ozone layer. The ratification showed the country's commitment in protecting the environment, particularly the ozone layer and climate change. Kigali Amendment has entered into force since the 1st January 2019. As of 31 August 2021, 110 countries have ratified the amendment including Malaysia.

The main objective of the Kigali Amendment is to phase-down consumption of hydrofluorocarbon (HFC) to mitigate the climate change impact. HFC has very high Global Warming Potential (GWP), which is up to 14,800 higher than carbon dioxide (CO<sub>2</sub>). The amendment was agreed during the 28th Meeting of Parties of the Montreal Protocol which was held on the 15th October 2016 in Kigali, Rwanda.

HFCs are the alternative gases to replace hydrochlorofluorocarbon (HCFC) and mainly used in refrigeration and air conditioning sector, fire extinguishing systems and solvents. Unfortunately, scientists have confirmed that HFCs are greenhouse gases with high global warming potential. HFCs are able to trap more heat than CO<sub>2</sub> and could lead to the increase of global temperature.

Under the Kigali Amendment, Malaysia is one of the parties under Article 5 (Group 1), where we have to reduce 80% of the consumption of HFC based on the baseline by 2045. The freeze baseline is calculated based on the average consumption of HFC for year 2020 to 2022 and additional 65% from the baseline of HCFC. In Malaysia, the consumption of HFC will be frozen at baseline level starting from 1 January 2024.

### REDUCTION CONSUMPTION OF HFC



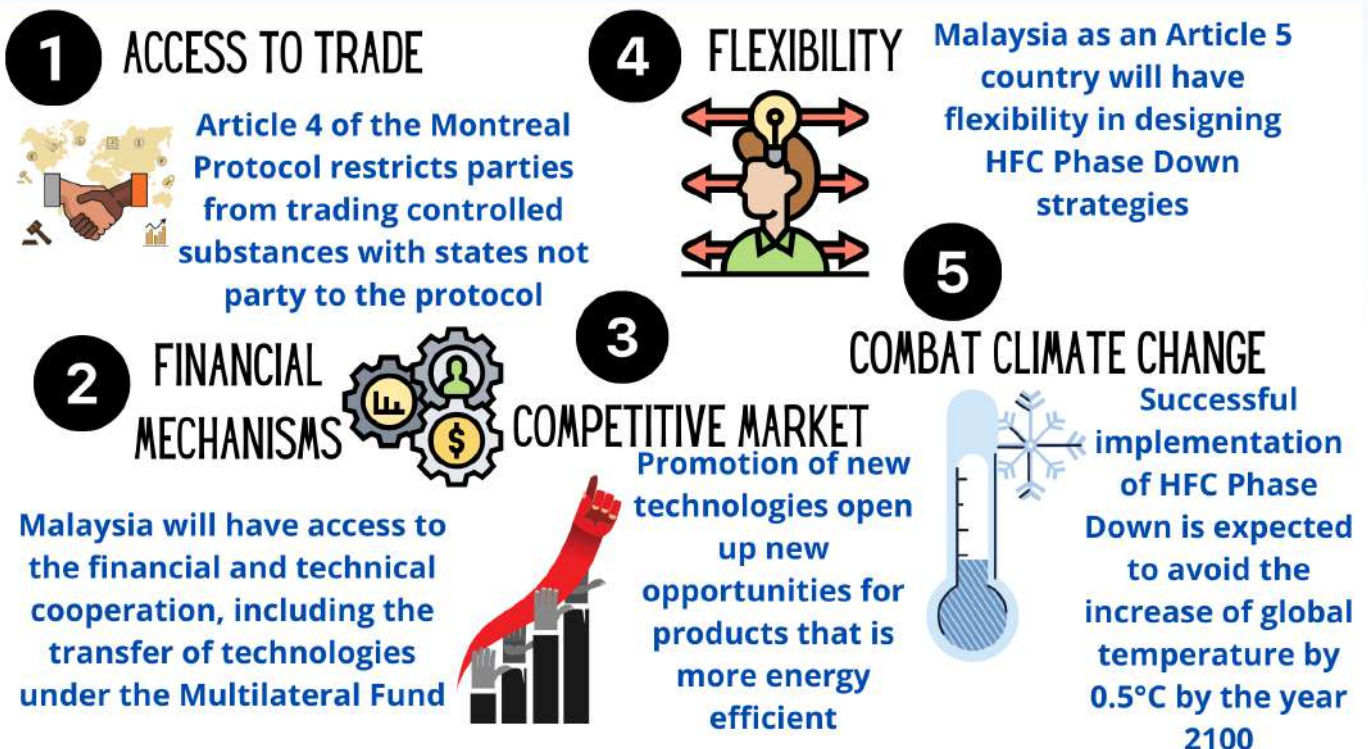


The Government has started consultations on the ratification of Kigali Amendment to Montreal Protocol with the relevant stakeholders including the government agencies, non-governmental organization and industries impacted by the phase-down of HFC consumption since early 2017. The consulted industries includes refrigeration and air conditioning sectors, fire protection sector, solvent sectors and other related sectors. A study has also been conducted in 2019 to understand in detail the trend of HFC consumption in Malaysia as a preparation towards of Montreal Protocol.

The ratification will benefit the country in terms of trade access with other country parties, financial assistance under the Multilateral Fund (MLF) and technical assistance for the local industries to convert to low carbon alternatives and technologies. This will in turn opened up opportunities for the local industries to produce product that is able to compete with the global market in the future.

In this case, successful implementation of HFC phase-down under the Kigali Amendment will help in reducing the impact of global warming. It is expected that greenhouse gas emission equivalent to 105 million tonne CO<sub>2</sub> equivalent can be avoided by 2100, which will prevent the increase of global temperature by 0.5° Celsius.

## Benefits of Kigali Ratifications





## STAKEHOLDERS CONSULTATION FOR THE NATIONAL STRATEGY ON HFC PHASE DOWN

Malaysia has ratified the Kigali Amendment for the HFC Phase Down under the Montreal Protocol on the 21st October 2020. In the preparation of the HFC phase-down implementation, the Department of Environment has started consultations with the relevant stakeholders to develop the over-arching National Strategy to phase down HFC from 2024 to 2045.

DOE with the cooperation of the World Bank team experts have developed strategy options for Malaysia to achieve its target by 2045. The strategy options were formulated based on the HFC consumptions study in Malaysia which was completed in 2019.

The first stakeholders consultation was conducted on the 6th August 2020 with the relevant government agencies including Ministry of International Trade and Industry (MITI), Ministry of Domestic Trade and Consumer Affairs (KPDNHEP), Department of Statistics Malaysia (DOSM), Department of Works (JKR), Royal Malaysian Customs Department, National Pharmaceutical Regulatory Agency (NPRA) and Energy Commissions (EC). The consultation meeting was chaired by the Deputy Director General (Operation) of DOE, Mr. Wan Abdul Latiff Wan Jaffar. The government agencies were informed on the country's obligation in HFC phase down and discuss the benefits and impacts of the strategy to their future policies and operations.

The second consultation were conducted on the 6th October 2020 with stakeholders from the industries that were involved in using HFC-23, which is HFC with the highest global warming potential (GWP) potentially will be phase out earlier than the other HFCs. The consultation was chaired by Director of Air Division, Pn. Mashitah Darus. During the consultations, the stakeholders suggested that the HFC phase-down strategy need to be carefully developed to protect the local industries and the approach should be sectors specific. Other issues raised during the consultations are the availability of viable alternatives to HFCs in certain applications (eg. chillers and solvent sector).

Due to the Covid-19 pandemic and Movement Control Order (MCO), further face to face consultations with the other stakeholders were not able to be conducted. Therefore, the strategy options were distributed to the stakeholders via email and fax. The stakeholders submitted their responses to DOE through online survey forms. Specific consultations were also conducted online through video conferencing for individuals and groups of stakeholders that has requested further information on the strategy options.

DOE is in the process of compiling the inputs and recommendations received from stakeholders and will develop a National Strategy on HFC Phase Down for approval by the Cabinet. Further consultations with the stakeholders on the strategy will be continued in 2021.





# OZONE ACTIVITIES STATISTICS



## CSTP



Certification Service Technician Program (CSTP) for Refrigeration and Air-Conditioning Sector (RACs)

### CSTP

Year	Number of participants
2016	3440
2017	3132
2018	2996
2019	4098
2020	2889

Number of participants who pass the Certified Service Technicians :

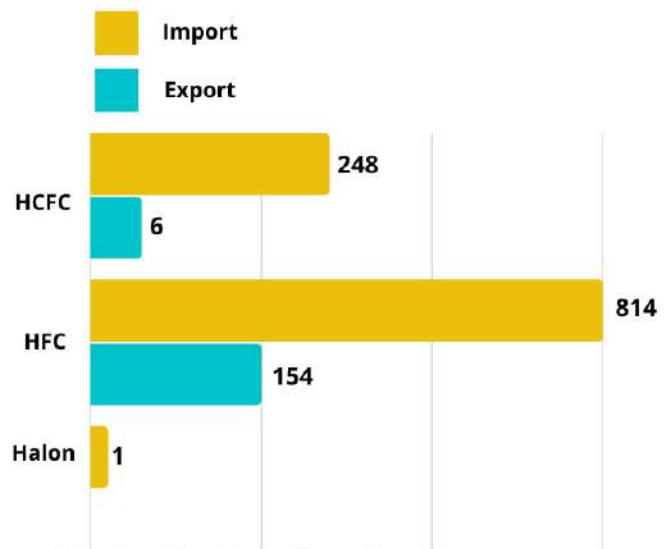


In 2020, 2889 participants have been successfully certified as Certified Service Technician. It is the lowest number recorded in 5 years due to the Movement Control Order.

## E-PERMIT



The "e-Permit" system has been developed to monitor the import and export of HCFC, HFC and Halon

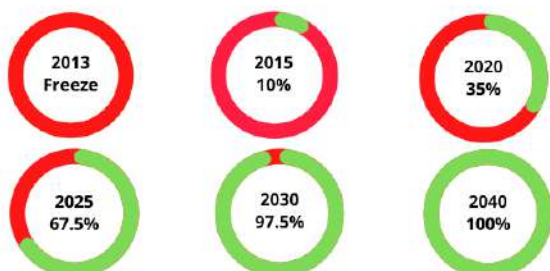


Number of registered importers =



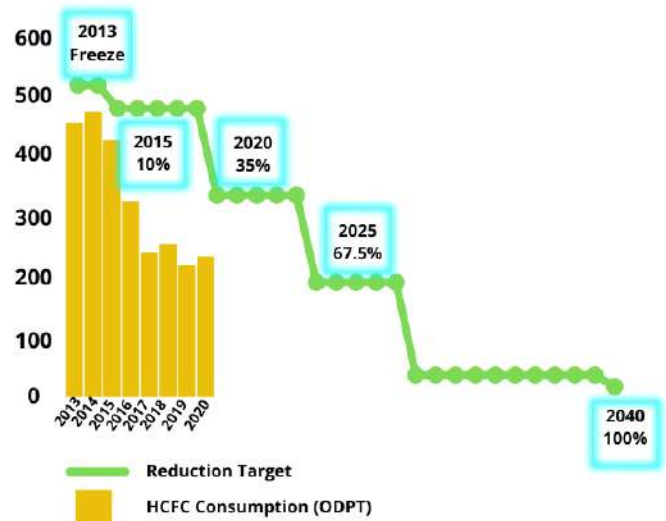
## HCFC REDUCTION

Malaysia is obligated to phase out HCFC in stages by 2040 under the Montreal Protocol starting from 2013. To meet the phase out target, the HCFC Phase Out Management Plan (HPMP) was formulated to outline the policies and long term strategies for the phase-out of HCFC starting from 2012 until 2040.



Allowance of 2.5% average per annum for servicing starting 2030 and total ban by 2040

The percentage reduction recorded in 2020 is above the set target of 35% reduction



# DIARY OF EVENTS 2020

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**14** January 2020  
Kota Kinabalu

**Seminar by JKR and Daikin on R32 Air Conditioning and Hands – on Demonstration**

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**17** January 2020  
DOE

**Consultative Meeting for Foam Sector**

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**29** January 2020  
DOE

**8th Project Steering Committee Meeting**

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**17-21** February  
Concorde Hotel, Shah Alam

**Workshop on Foam Alternatives and Hand Holding Activities to System Houses and PU Foam Companies HPMP II**

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**21** February 2020  
Dagang Net Technologies Sdn Bhd, Cyberjaya

**Taklimat E-Permit Bagi Syarikat Pengimport dan Pengeksport Hydrofluorocarbon (HFC)**

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**2-6** March 2020  
Holiday Villa Hotel, Johor Bharu

**Kursus Kawalan Bahan Pemusnah Ozon Siri 1/2020**

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**16** July 2020

**On meeting of 42nd Open Ended Working Group (OEWG) of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer**

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**30** July 2020  
Putrajaya

**Online Meeting of South Asia and South East Asia Pacific (SEAP), Network Meeting**

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**24-27** August 2020  
Le Meridien Hotel, Putrajaya

**Bengkel Penyediaan Prosedur Tetap Operasi Penguatkuasaan Bagi Peraturan - Peraturan Kualiti Alam Sekeliling (Pengurusan Refrigeran) 2020**

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**9** September 2020  
DOE

**Webinar Refresher Course for Master Trainers of CSTP Program in Refrigeration and Air Conditioning Sectors (RACS)**

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**23** September 2020  
Le Meridien Hotel, Putrajaya

**Majlis Sambutan Hari Ozon Sedunia: Ozone for Life**

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**17** November 2020  
Putrajaya

**UNEP Virtual Meeting of South Asia and South East Asia on Montreal Protocol Implementation Challenges with COVID -19 Pandemic**

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**23-27** November 2020  
Putrajaya

**Online meeting of the Parties to the Vienna Convention for the Protection of the Ozone Layer (COP) and the 32nd Meeting of the Parties (MOP) to the Montreal Protocol on Substances that Deplete the Ozone Layer**

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