

Report

on

Three two-day Training Workshops for Enforcement Officers from the National Environment and Planning Agency (NEPA), Jamaica Customs Agency (JCA), the Ministry of Health and Wellness (MH&W) and Customs Brokers on Ozone Depleting Substances (ODS) and Refrigerants

The Trainings were conducted between June 9 and 24, 2022

by

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Presented to:

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August 16 2022

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Nomenclature

A/C	Air Conditioning
Article 5	Countries operating under Article 5 of the Montreal Protocol (i.e. developing countries)
CFC	Chlorofluorocarbon
GHG	Greenhouse gas
GWP	Global Warming Potential
HBFC	Bromodifluoromethane
HC	Hydrocarbons
HCFC	Hydrochlorofluorocarbon
HFC	Hydrofluorocarbon
HFO	Hydrofluoroolefin
HPMP	Hydrochlorofluorocarbon Phase-out Management Plan
JARVA	Jamaica Air Conditioning Refrigeration and Ventilation Association
MLF	-Multilateral Fund: A fund established by the Parties to the Montreal Protocol that provides developing countries with the technical and financial assistance needed to comply with the Protocol.
NEPA	National Environment and Planning Agency
NOU	National Ozone Unit
ODP	Ozone Depleting Potential
ODS	Ozone Depleting Substances
ODSS	Ozone Depleting Substance Substitute
R & R	Recovery and Recycling
R-12	Refrigerant (Freon) 12
R-22	Refrigerant (Freon) 22
R-290	Propane
R-600	Butane
R-600a	Iso-Butane

R-1270	Propylene
R-717	Ammonia
R-744	Carbon Dioxide
RAC	Refrigeration and Air Conditioning
RMP	Refrigerant Management Plan
TPMP	Terminal Phase-out Management Plan
UNEP	United Nations Environment Programme
UNDP	United Nations Development Programme

Background

The Montreal Protocol (MP) is an international treaty designed to protect the ozone layer by phasing out the production and consumption of a number of substances that are believed to be responsible for the depletion of the ozone layer. The treaty is structured around several groups of halogenated hydrocarbons that have been shown to play a significant role in ozone depletion. The protocol also protects global climate since these ozone depleting substances are also potential greenhouse gases. These substances include Chlorofluorocarbons (CFCs), Halons, Methyl Bromide, Carbon Tetrachloride, Methyl Chloroform, and Hydro-Chlorofluorocarbons (HCFCs).

Under obligation to the Montreal Protocol on Substances that Deplete the Ozone Layer, Jamaica, phased out of the use and consumption of CFCs since January 1, 2006, under the Terminal Phase-out Management Plan, (TPMP). Since the phasing out of CFC, the industry has undergone rapid changes in the type and quantity of refrigerants and other chemical substances imported into the country as alternatives to CFC or their replacement. One such alternative to CFCs is HCFC, however, these chemicals were also found to have high ozone depleting and global warming potentials. In compliance with the decision of the Executive Committee, ExCom 53/37 and ExCom 54/39, signatories of the Protocol agreed to set the year 2013 as the freeze date for the consumption and production of HCFCs at the average 2009/2010 levels. They also agreed to start a planned systematic reduction in consumption and production by 2015, with a complete phase-out by January 1, 2040. To achieve this target Jamaica has developed a Hydro-Chlorofluorocarbons Phase-out Management Plan (HPMP). Under the HPMP a Quota System was established to guide the phase-out process and to guarantee that Jamaica meets all the phase-out targets set out. The quota system identifies fifteen (15) refrigerant importers and set out the maximum quantity of refrigerants they are allowed to import annually to achieve the phase-out targets.

Another set of chemicals used as alternatives to CFCs and HCFCs are Hydrofluorocarbons (HFCs), because they have zero (0) impact on the ozone layer. However, HFCs are powerful greenhouse gases that contribute to global warming which influence climate change.

Therefore, the Kigali Amendment added HFCs to the list of chemicals that parties promise to phase-down.

The Kigali Amendment is an amendment to the Montreal Protocol that was adopted by the 28th Meeting of Parties to the Montreal Protocol (MOP28) on 15 October 2016 in Kigali, Rwanda. The Amendment entered into force on 1st January 2019 after being ratified by 20 parties. Currently, the amendment is signed by 120 countries. Jamaica is not yet a party to the Kigali Amendment.

Introduction

In fulfilment of Jamaica's obligations under the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer, a number of strategies were implemented. One strategy includes training of enforcement and other relevant personnel to ensure compliance with the HPMP. In light of the fact that they are responsible for the proper functioning of the quota and licensing system and the enforcement of restrictions and prohibitions under Ministerial Orders. In keeping with the rapid changes taking place in the industry, it has become necessary to train and retrain these officers on a regular basis to identifying and monitor the type and quantity of refrigerants imported into the country on a continuous basis. The last set of trainings conducted for enforcement officers were in November 2019 in Kingston.

Three (3) two-day workshops were conducted. The first workshop was developed for officers from the MHW and was delivered on June 9 and 10, 2022. The second workshop was developed for the Custom Officers from the JCA and was delivered on June 16 and 17, 2022. The final workshop was developed for members of the Jamaica Society of Customs Brokers, and the Custom Brokers Freight Forwarders Association of Jamaica and was delivered on June 23 and 24, 2022. All workshops were delivered online using the Zoom Platform.

NEPA was responsible for issuing invitations to the organizations and individuals to attend the workshops. Organizing the workshops was the responsibility of the consultant engaged for the delivery of the training. Copies of the Presentation schedule of each workshop are presented in the Appendix.

Methodology

After a review of the Scope of Work it was determined that the workshop should comprise of seven lectures covering different areas, these areas are:

1. Introduction to Ozone Depletion and the Montreal Protocol
2. Institutional Framework and the Role of Stakeholders
3. Alternative Refrigerants
4. Introduction to the Quota System and the Trade Order
5. Preventing the Illegal Trade in ODS
6. The Kigali Amendment
7. The 2022 Harmonized System (HS) of Shipping Code

The presentations were prepared and submitted to the NOU for approval about two days before the start of the training.

The NOU sent information about the workshops to the Ministry of Health and Wellness, the Jamaica Customs Agency (JCA), Jamaica Society of Customs Brokers, and the Custom Brokers Freight Forwarders Association of Jamaica. The organizations then selected staff and members to attend the workshops. The National Environment and Planning Agency was also invited to select enforcement/environmental officers to attend the workshop. Based on the date of each workshop, individuals would select which workshop they were able to attend. The information was sent to the consultant who compiled the data.

Based on the availability of the participants the workshops were arranged as follows:

- Workshop 1 - MOHW, NEPA Officers
- Workshop 2 – Customs Officers
- Workshop 3 – Customs Brokers

Electronic copies of the training material were prepared and sent to the participant at least three days before the start of the workshop. The training material would include presentation guide, lectures and meeting link.

To evaluate the effectiveness of the training workshop a post-workshop survey was administered. A survey link was sent to participants after the workshop. The survey would give an indication of the officers' knowledge on the MP and other areas of the HPMP. The participants were also asked to evaluate the workshop and the presenter. Feedback on the workshop was necessary so that if serious gaps were identified they could be corrected before the next training.

Lecture 1: Introduction to the Montreal Protocol and Ozone Depletion

In the opening session, the following topics were covered:

A. Ozone layer and Ozone depleting substance (ODS)

This area defined the Ozone layer, its composition and how halogenated hydrocarbons destroy the ozone molecule and the ozone layer.

B. The history of the Ozone hole

It was stated that scientists discovered that the release of ozone depleting substances damaged the ozone layer. Between the 1970s and the 1980s the ozone concentration over the Antarctica diminished by up to 70 per cent of the normal concentration.

C. Ozone Depletion substances

Ozone-depleting substances (ODS) are chemical substances, basically chlorinated, fluorinated or brominated hydrocarbons that have the potential to react with ozone molecules in the stratosphere. A few examples of these substances are:

- Chlorofluorocarbons (CFCs)
- Hydrochlorofluorocarbons
- Hydrobromofluorocarbons (HBFCs)
- Bromochloromethane
- 1,1,1-trichloroethane (methyl chloroform)
- Carbon tetrachloride
- Methyl bromide.

D. Uses of ODS:

- Refrigerants
- Blowing Agents
- Cleaning Solvent
- Propellants
- Sterilant
- Fumigants
- Fire Extinguishers
- Feed stock and process agents
- For laboratory and analytical purposes

ODS are released by:

- Traditional use of cleaning solvents, paints, fire extinguishing equipment and spray cans that emit ODS.
- Venting and purging during servicing of refrigeration and air-conditioning systems
- Use of methyl bromide in soil fumigation, in post-harvest pest control and for quarantine and pre-shipment applications
- Disposal of ODS-containing products and equipment such as foams and refrigerators without prior recovery of the ODS

Montreal Protocol

“The Montreal Protocol is an international treaty designed to protect the ozone layer by phasing out the production and consumption of a number of substances that are believed to be responsible for the depletion on the ozone layer”.

The definition was preceded with an overview of the Montreal Protocol which outlined that the treaty was opened for signature in September 1987 and entered into force on January 1, 1989. It was established that the protocol was initially signed by 27 countries when it opened in September 1987 and was subsequently ratified by 100 countries. It was noted that Jamaica ratified the treaty at the 1993 Vienna Convention.

It was pointed out that the treaty is structured around several groups of halogenated hydrocarbons that have been shown to play a significant role in ozone depletion:

- Chlorofluorocarbons (CFCs)
- Halons, (Halon 1211 and Halon 1301)
- Methyl Bromide
- Carbon Tetrachloride
- Methyl Chloroform
- Hydro –chlorofluorocarbons (HCFCs)

Under the topic Ozone Depletion, it was stated that the ozone layer acts as a filter to harmful UV-B radiation. The ozone layer is a fragile layer 6 to 30 miles above the surface of the earth. In the event of too much UVB radiation, the following may occur:

- Eye cataracts
- Skin cancer
- Reduction in crop yields
- Killing of basic life forms

It was noted that Australia has already recorded a 3-fold increase in non-melanoma cancers.

Lecture 2: Institutional Framework and the Role of Stakeholders

Ministry and Agencies that provide support to the Montreal Protocol:

- The Ministry of Economic Growth and Job Creation (MEGJC)
- NEPA
 - NOU
 - Environmental Management and Conservation Division
 - Pollution Prevention Branch
- Ministry of Finance and the Public Service
 - Jamaica Customs Agency
 - The Statistical Institute of Jamaica
- Ministry of Health and Wellness
 - Standards and Regulation Division
- Ministry of Industry Investment and Commerce (MIIC)
 - Trade Board Limited
 - Bureau of Standards Jamaica
 - National Compliance and Regulatory Agency (NCRA)
- Ministry of Justice
 - Attorney General

- Ministry of Education and Youth
 - Training Institutions
- Ministry of National Security
 - Police and Coast Guard
- Government Laboratory
- Jamaica Air-conditioning Refrigeration and Ventilation Association (JARVA)
- Refrigerant/Equipment Importers
- Service Agencies/ Technicians

The NOU's main responsibilities include:

- Implementation of the Institutional Strengthening Programme
- Implementation of the HCFC Phase-out Management Plan (HPMP), which often includes recovery, recycling and reclamation (3R) programmes and training programmes for refrigeration technicians and Customs Officers. HPMPs were designed as the next step after completion of the Refrigerant Management Plans (RMPs), which dealt mostly with CFC phase-out.
- Preparation of proposals for policies, strategies, laws, regulations, incentives and agreements with the private sector and other measures for national ODS phase-out

Customs Officers

- Systematic monitoring of all ports of entry into a country helps to control legal imports and to prevent illegal imports of ODSs through mislabelling or false documentation.
- Inspection of imports by dealers known to import ODSs for sale or their own use should be mandatory in order to verify compliance with regulations or Quota System

Standards and Regulation Division (SRD)

- Responsible for issuing import permits for the importation of cosmetics and chemicals which would include ODSs based on quotas established annually by the National Ozone Unit (NEPA).

Licensing Agencies

The Trade Board Limited had responsibility for:

- WTO Agreement on Import Licensing.
- Issuing import and export licences for specific items that may have a negative impact on the environmental, social or economic conditions of the country.
- Issuing certificates of origin for Jamaican exports under various Preferential Trade Agreements.

- Ensuring that Jamaica meets its international obligations under the WTO Agreement on Rules of Origin

Bureau of Standards Jamaica

- The Bureau of Standards Jamaica may check imports to guarantee that all import standards are followed.
 - proper labelling
 - standards for the transported, handled and stored of refrigerants in accordance

Jamaica Air-conditioning Refrigeration and Ventilation Association (JARVA)

- Supports the execution of programmes and projects aimed at improving servicing practices in the industry.
- They act as a lobby group on behalf of their members.
- JARVA also assists with the training of technicians.
- JARVA may be helpful in ensuring that the licensing and quota systems operate effectively.
- Their members also could play a role in public awareness raising and providing importers, exporters, service technicians and other end users with information on changes in the industry and market trends.
- May signal to the licensing authority that a black market exists for ODS

General Public

The general public is a useful ally in the effective operation of the ODS import/export licensing system.

- If members of the public are sensitized about ozone issues, they may be less likely to bring ODS-based refrigerators and air-conditioners into the country unknowingly.
- As aware consumers, the public can choose to retrofit to non-ODS alternatives and not to buy old ODS equipment.

Lecture 3: Alternative Refrigerants

This lecture focused on the following topics:

- Type of refrigerants
- Refrigerant Naming
 - R XYZ (Suffix)
 - R refrigerant
 - XYZ Refrigerant number
 - Name suffixes:
 - a, b, c, ... – Different molecular structure
 - B1, B2 – Amount of bromine content

- A, B, C, D, ... – Same compounds, different percentage of the components
- Type and classification of refrigerants
 - CFC R-12, R-11
 - HCFC R-22, R-409b
 - HFC R-134a, R-32
 - HC R-290, R-600a
- What makes a good refrigerant?
- Refrigerant blends
 - Azeotropic blends R-507
 - Zeotropic blends R-407C
- Natural refrigerants
 - Ammonia R717
 - Carbon dioxide R744
 - Water R-718

Lecture 4: Introduction to the Quota System and the Trade Order

This lecture focused on the HPMP Quota System. The methodology of the survey conducted in 2011 to determine the 2009 – 2010 HCFC consumption pattern was discussed. At the Nineteenth Meeting of the Parties to the Montreal Protocol, it was agreed that the baseline should be developed based on the average imports for 2009/2010. Due to expected inconsistencies in the data, the data was collected from three sources to guarantee accuracy.

The sources are:

- Jamaica Customs Agency
- Standards and Regulation Division (SRD)
- Importers' Records

From the results of the survey the average consumption of HCFC refrigerants and blends between 2009 and 2010, along with Jamaica's phase out target were highlighted.

The HPMP Quota System and how the Quotas were determined were outlined. Importers were instructed to provide written approval/feedback to NEPA on the proposed quotas. It was pointed out that consultations were held with importers before the Quotas were finalized.

The Trade (Montreal Protocol) (Trade in Ozone Depleting Controlled Substances) Order, 2014 was presented and the list of individuals and companies who received quota was discussed.

Table 1 *List of companies and percent of total quota allocated*

	Name of Company	Percentage (%) Allocation
1	ACON Supplies Limited	0.392
2	Appliance Traders Limited	7.30
3	Arel Limited	7.35
4	B. J Hanna and Sons Limited	0.78
5	CAC 2000 Limited	5.57
6	Troy Traders Limited	18.69
7	Carlisa Enterprise Limited	1.76
8	Comfort Systems Limited	6.67
9	Donald Witter Limited	16.48
10	Geddes Refrigeration Limited	2.55
11	IGL Limited	8.38
12	Jamaica Public Service Limited	0.78
13	Modern Refrigeration Limited	10.41
14	Quality Distributors & Manufacturing Co. Ltd	6.94
15	Tropical A/C & Refrigeration Co. Limited	5.88

Jamaica has revised the phase-out target from January 1, 2040, to January 1, 2030. The quotas were revised to completely phaseout HCFCs by January 1, 2030. Therefore, the new consumption targets and the current arrangement of responsibilities were discussed.

The noticeable trends associated with the quota system: A reduction in supply and an increase in demand can cause:

- Stockpiling
- Prices increase
- Illegal importation
 - incorrectly labelled of cylinders
 - Incorrect colour cylinders
 - incorrectly labelled HCFC equipment (dumping)

Changes in prices were also discussed.

A copy of the 2014 Trade Order was given to all participants.

Lecture 5: Preventing the Illegal Trade in ODS

Lecture 5 looked at ways of preventing the illegal trade in ODSs.

Topics discussed include are:

- Inspection
- Health and Safety
- Legal Issues
- Risk Assessment
- Corporation between agencies
- Other Chemicals being smuggled

The following questions were answered:

- “The reason for the illegal trade” and
- “What Chemicals are being smuggled?”

Answers to those questions paved the way to review the various Smuggling Schemes that are used to smuggle ODSs.

The various Screening Methods used by officers in other jurisdictions were discussed.

A proposed checklist to be used by Officers and a Customs Quick Tool for Screening ODS was discussed. A copy of the Customs Quick Tool for Screening ODS was sent to all participants.

A list of ODS producing countries was also presented.

Lecture 6: Kigali Amendment

The Kigali Amendment is an amendment to the Montreal Protocol that was adopted by the 28th Meeting of Parties to the Montreal Protocol (MOP28) on 15 October 2016 in Kigali, Rwanda. The Amendment seeks to phase down the consumption of HFCs gases to 80-85% of a baseline amount that is to be established by the late 2040s. Jamaica has ratified all the earlier amendments of the Montreal Protocol except the Kigali Amendment. In the process to ratify the Kigali Amendment, Jamaica implemented enabling activities towards the ratification.

Importation of Hydrofluorocarbons is not regulated since legislation is not yet in place to do so because Jamaica has not ratified the Kigali Amendment. Companies and individuals desirous of

importing these gases require an import license issued by the Trade Board and a permit to import for cosmetic and chemicals issued by the Standards and Regulation Branch, Pharmaceutical and Regulatory Affairs Unit with the Ministry of Health and Wellness. The phase-down schedule was discussed.

Table 2 HFC Phase-down Schedule

	A5 parties (developing countries)- Group 1	A5 parties (developing countries)- Group 2	Non-A5 parties (developed countries)- Group 1
Baseline formula	Average HFC consumption for 2020 - 2022 + 65% HCFC baseline	Average HFC consumption for 2024 - 2026 + 65% HCFC baseline	Average HFC consumption for 2011 - 2013 + 15% HCFC baseline
Freeze	2024	2028	-
1 st step	2029 – 10%	2032 – 10%	2019 – 10%
2 nd step	2035 – 30%	2037 – 20%	2024 – 40%
3 rd step	2040 – 50%	2042 – 30%	2029 – 70%
4 th step	-	-	2034 – 80%
Plateau	2045 – 80%	2047 – 85%	2036 – 85%

The following topics were discussed:

- Methodology of the 2016 – 2020 Survey of HFC consumption
- Survey Result
- HFC Alternatives and their GWP by Sector
- Issues associated with HFC Alternatives
- Analysis of the survey result by sector
- Baseline Study
 - Consumption by sector
 - Projection of consumption by sector for 2021 to 2030
 - Proposed Baseline amount
 - Importers and proposed quota allocation
- Licensing and Quota Framework to support the HFC phasedown

- Institutional Strengthening
- Structure, function and responsibilities to support the HFC quota and licensing system

Lecture 7: The 2022 HS Codes

The complete phase-out of chlorofluorocarbons (CFCs) as of 1st January 2010 (except for a few exempted uses), the phase-out of hydrochlorofluorocarbons (HCFCs) and the impending phasedown of hydrofluorocarbons (HFCs) has increased the trade in HFC and other alternatives as replacement chemicals.

To better facilitate monitoring of trade in ODS, the Parties to the Montreal Protocol requested the World Customs Organization (WCO) to revise the Harmonized Commodity Description and Coding System, also known as the Harmonized System (HS codes) for HCFCs.

This resulted in amending Heading 29.03 of Chapter 29 with the objective of assigning specific 6-digit HS codes to the five most commonly used HCFCs, and at the same time deleting individual HS codes previously assigned to CFCs.

With the Kigali Amendment adding hydrofluorocarbons (HFCs) to the substances controlled by the Protocol, it is important for customs and enforcement officers to be able to identify, monitor and control imports and exports of these substances. Currently all HFCs are covered by the single HS code: 2903.39; and mixtures containing HFCs are covered by code 3824.78. The creation of specific individual HS codes for commonly traded HFCs is therefore very much needed.

The HS Codes for halogen free refrigerants were also discussed.

Questions asked by survey participants

1. Is there a consequence associated with a party of a convention such as the Montreal Protocol withdrawing after they became signatory, financial or otherwise?
There are no consequences for withdrawing from the Montreal Protocol, but so far that situation has never occurred. However, if the Party received funding from any of the Multilateral Fund agencies to complete related projects, it would be expected that they will complete the project or return the unused portion of the funding.
2. So, would you say the HCs and HFOs are the best substitutes since they have the lowest GWP?

HCs and HFOs are good alternatives to HFCs because they have zero ODP and low GWP. However, they are not the only alternatives; there are other natural refrigerants and chemicals that have low or no ODP and GWP. Some of these chemicals include Water, Carbon Dioxide, Ammonia and Methyl Formate.

3. How does one measure the ozone and how does one see it?

Ozone is measured as Dobson units. A Dobson unit of gas is equal to a layer of gas, with a thickness of one-hundredth of a millimeter at the surface of the Earth. The ozone in the atmosphere is measured by about 300 Dobsons unit. Ozone has a light blue colour.

4. What does Ozone smell like?

Ozone is a light blue gas with a distinctively pungent smell. Ozone's odour is similar to chlorine gas, and detectable after an electrical burning or a thunderstorm. Many people can detect Ozone at concentrations of as little as 0.1 part per million (ppm) in air.

5. Don't know if I'm jumping the gun but is the ozone repairable with the removal/diminished usage of ODSs?

We will get to the answer in a few slides but since you asked, Yes. The Montreal Protocol is an international treaty design to protect the ozone layer by phasing out the production and consumption of a number of substances that are believed to be responsible for the depletion of the ozone layer. It is believed that if the agreement is adhered to in its strictest sense, the ozone layer is expected to heal (repair) itself by 2060.

6. How will a customer know the type of chemical/gas in equipment/appliance when purchasing for import?

The BSJ has standards for equipment imported into the island. For refrigerators, freezers, air conditioning units, domestic, commercial or industrial the refrigerant and the quantity is written on the specification label. Copies of the specification labels were shown and where it can be located on the equipment was discussed.

7. What should the customer look for on an equipment label?

The label would indicate the type and quantity of refrigerant used. The label would also give additional technical specifications of the unit such as the power and voltage requirement. The label would sometimes indicate the efficiency of the equipment and the annual cost to operate.

8. When you buy online, isn't there usually a product specification?

Yes. You should request the specification before you purchase.

9. Does NEPA have the power to seize, arrest and prosecute an importer for violations of the Trade Order governing the import/export of ODS of the Montreal Protocol?

There is an enforcement branch at NEPA that would have the power to enforce the applicable laws. In addition, these officers would conduct inspections in conjunction with the JCF.

10. Will there be any special provision made for a returning residence for their personal goods in their possession for years?

The equipment should be seized at the port of entry and the NOU contacted. The NOU will recommend a technician who can retrofit the equipment to use a non-ODS at the importer's expense. The equipment must be properly labeled indicating the date of the retrofit, the personnel that did the retrofit, the quantity and type of gas that was removed and the type and quantity of the retrofit gas. The BSJ has approved a special label for this retrofit. While this was the case in 2006, recently no returning residence has requested this service.

11. But isn't benzene thought to be carcinogenic?

Benzene is carcinogenic. In other words, exposure to Benzene can cause various types of cancer.

12. Questions were asked about a disposal site in Jamaica for chemical and the responsible entity.

Currently, there is no disposable/destruction centre in Jamaica. Until a decision is made about the destruction of these ODSs, it is advised that the refrigerants recovered be stored in recovery cylinders. The Cement Company is the only company in Jamaica with a kiln that reach temperatures high enough to destroy ODS, however, some retrofit will be necessary. Also, the quantity of ODSs to be destroyed must be of a certain quantity to make the retrofit cost effective. Discussions with between NOU and Cement Company are ongoing.

13. What are the repercussions for an importer who contravenes the Trade Order governing the importation of ODS?

The person would have committed an offence and is liable on summary conviction before a Resident Magistrate to a fine not exceeding two million dollars.

14. Is there a difference between LPG for cooking and R-290?

Yes, the major difference between the two is the level of purity. R-290 is 99.99% pure Propane while LPG ranges in purity from 48% to 99% Propane.

15. What should the Broker do if one of their clients is trying to import equipment that is on the list of controlled equipment?

Contact the NOU.

16. What should be done when an importer abandons refrigerants and equipment at the port of entry?

The refrigerant and or equipment can be stored for some time (to be determined by customs) to see if the individual will collect at a later date. If the equipment is not collected after this period has expired the goods should be exported for disposal at the expense of the importer.

17. How can one identify the refrigerant gas that is contained in cylinders?

The refrigerant cylinders are colour coded. This would make it easy to identify the refrigerant gas. However, recently it was noticed that colour codes are no longer fool proof and cylinders might contain gases that is not compliant with the colour of the cylinder. Therefore, it is recommended that a refrigerant identifier be used to identify the gas. Also, a refrigerant analyzer can be used to analysis of the content of the cylinder.

18. Are these refrigerants considered hazardous chemical and are they dangerous to handle?

Refrigerants are considered hazardous chemicals and the proper personal protective equipment (PPE) should be used when handling these chemicals. The BSJ has approved a standard for the handling of refrigerants: JS 339: 2017, Transportation, Handling and Storage of Refrigerants which should be consulted if in doubt.

19. What is the RAC/MAC Sectors?

*RAC refers to the Refrigeration and Air Conditioning Sector
MAC refers to the Mobile Air Conditioning Sector.*

20. What are the HS Codes for Isobutane and Propane?

The HS Codes for Isobutane is 2901.10
The HS Codes for Propane is 2711.12*

Workshop Participants

The workshops were attended by a total of 102 participants. The first workshop on June 9 and 10 was attended by 13 participants, the second workshop on June 16 and 17 was attended by 38 participants and the final workshop on June 23 and 24 was attended by 51 participants.

All workshops were delivered on Thursday and Friday of each week over a three-week period. Some participants because of the exigencies of their jobs were unable to attend two consecutive days of the workshop; therefore, they requested to be allowed to attend the first day of one week and the second day in the following week. The full list of participants and the session they attended is presented in Appendix A.

Post Workshop Survey

To evaluate the effectiveness of the training workshop a post-workshop survey was administered. A survey link was sent to participant after the workshop. The survey would give an indication of the officers’ knowledge on the MP and other areas of the HPMP. The participants were also asked to evaluate the workshop and the presenter.

Feedback on the workshop was necessary so that if serious gaps were identified they could be corrected before the next training.

Assessment of Course Content

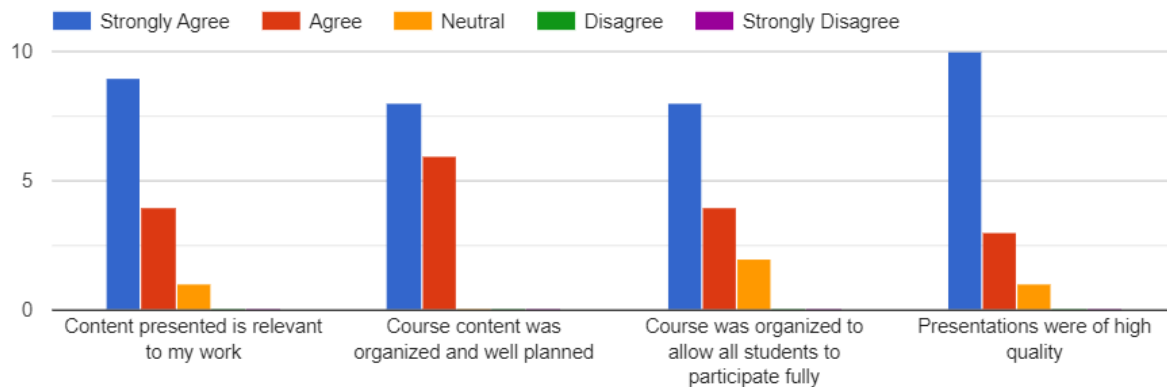


Figure 1: Assessment of Course Content

Skill and Responsiveness of Instructor

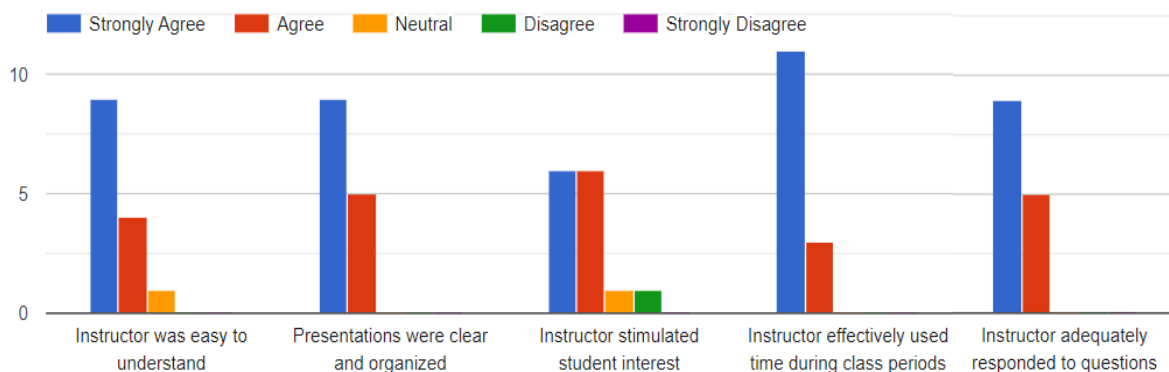


Figure 2: Skill and responsiveness of Instructor

Most Relevant Areas

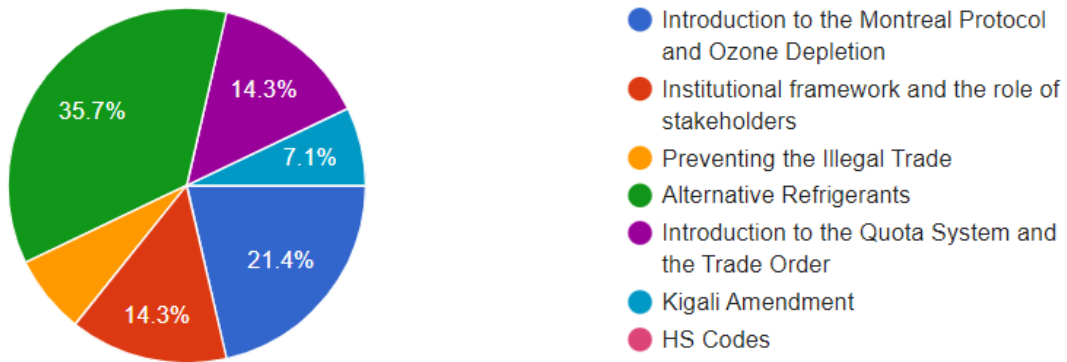


Figure 3: Most relevant areas of the Workshop

Least Relevant Areas

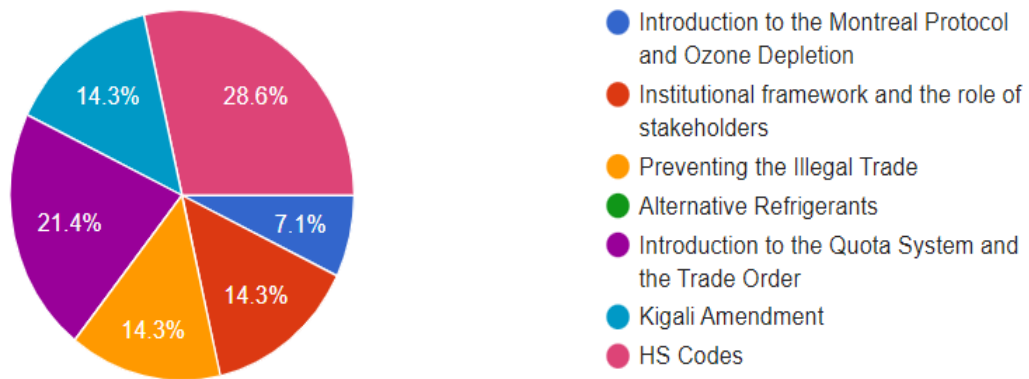


Figure 4: Least relevant areas of the Workshop

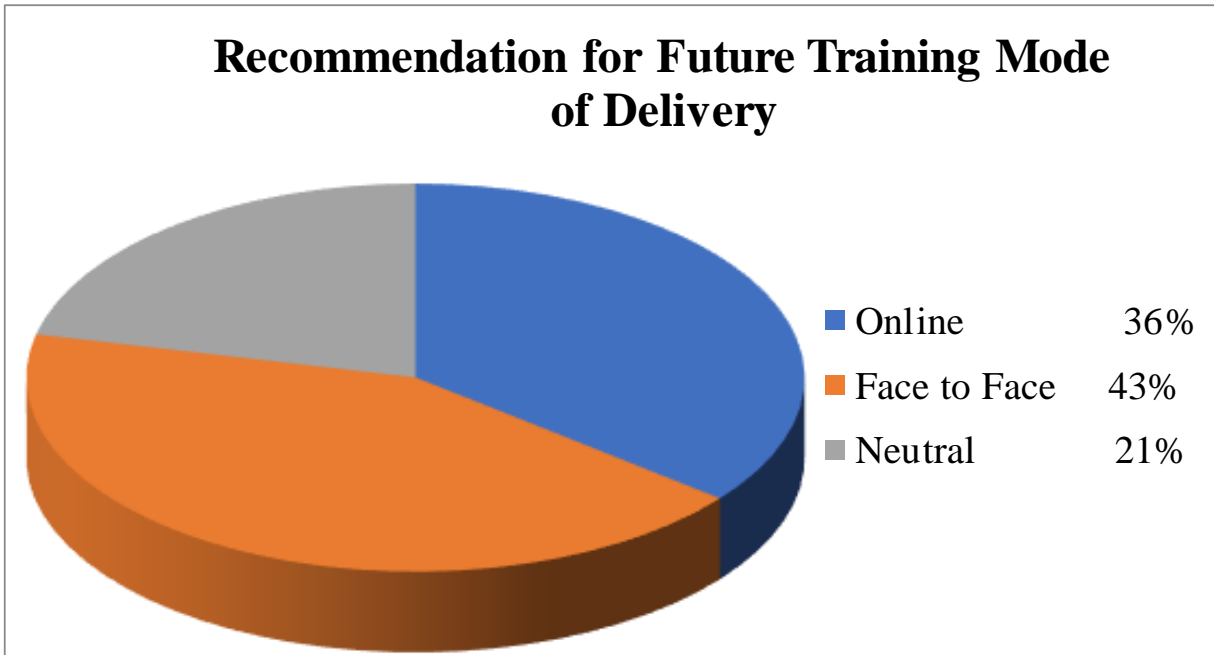


Figure 5: Recommendation for future training mode of delivery

Overall Rating of the Workshop:

Approximately eighty six percent (85.6%) of the participants gave the workshop a rating of 7 or higher from a total of 10; while 14.3% of the participants gave the workshop a rating of 5.

Conclusion

Three two-day Training Workshop for Enforcement Officers from the National Environment and Planning Agency (NEPA), Jamaica Customs Agency (JCA), the Ministry of Health and Wellness (MH&W) and Customs Brokers on Ozone Depleting Substances (ODS) and Refrigerants were conducted over a three-week period from June 9 to 24, 2022. All workshop sessions were conducted online using the Zoom Platform. A total of one hundred and two (102) participants attended the three workshops. The first workshop on June 9 and 10 was attended by 13 participants, the second workshop on June 16 and 17 was attended by 38 participants and the final workshop on June 23 and 24 was attended by 51 participants.

The areas covered in the workshop included:

1. Introduction to Ozone Depletion and the Montreal Protocol
2. Institutional Framework and the Role of Stakeholders
3. Alternative Refrigerants
4. Introduction to the Quota System and the Trade Order
5. Preventing the Illegal Trade in ODS
6. Kigali Amendment
7. 2022 HS Codes

A Post-workshop Survey was administered after the workshops where participants were asked to evaluate the workshop they attended and the facilitator. Their responses were used to gauge the satisfaction of the participants, get their feedback and recommendations. A copy of the post-workshop survey instruments is presented in Appendix C.

The feedback collect from the evaluation of the workshop would indicate that the participants were satisfied with the workshop. Approximately eighty six percent (85.6%) of the participants gave the workshop a rating of 7 or higher from a total of 10; while 14.3% of the participants gave the workshop a rating of 5.

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Appendix

Appendix A

Registration List of Participants:

NAME	COMPANY	POSITION	DATE
Kirt Stephenson	Ministry of Health and Wellness	Drug Inspector	June 9 and 10
Samantha Campbell	Ministry of Health and Wellness	Drug Inspector	June 9
Fred Hibbert	Ministry of Health and Wellness	Drug Inspector (Acting)	June 9 and 10
Sandrene Hayden	Ministry of Health and Wellness	Chief Drug Inspector (Acting)	June 9 and 10
Tresann Williams	Ministry of Health and Wellness	Drug Inspector	June 9 and 10
Keleisha Hamilton	Ministry of Health and Wellness	Drug Inspector	June 9 and 10
Vivian Blake	National Environment and Planning Agency	Manager	June 9,10,16, 17, 23 and 24
Sonya Newman	National Environment and Planning Agency	Project Assistant Manager	June 10
Lourene Jones	National Environment and Planning Agency	Manager	June 10 and 16
Aisha Bedasse Jureidini	National Environment and Planning Agency	Project Senior Manager	June 10 and 16
Cecille Trusty	National Environment and Planning Agency	Executive Secretary	June 10 and 16
Carole Miles	National Environment and Planning Agency	Project Admin Assistant	June 10 and 16
Ainsworth Carroll	National Environment and Planning Agency	Director	June 10

Marie Baker	Jamaica Customs Agency	Supervisor	June 23
Althea Williams	Jamaica Customs Agency	Office Attendant	June 16
Roxanne Woolcock	Jamaica Customs Agency	Supervisor	June 16 and 17
Robert Taylor	Jamaica Customs Agency	Senior Refunds Drawback Officer	June 16 and 17
Saaron Thoms	Jamaica Customs Agency		June 16 and 17
Dimoneta Richards	Jamaica Customs Agency	Supervisor	June 16 and 17
Sandra Hosang	Jamaica Customs Agency	Supervisor	June 16 and 17
Keisha Richards	Jamaica Customs Agency	Customs Officer	June 16 and 17
Stefan Owens	Jamaica Customs Agency	Records/Manifest Officer	June 16 and 17
Samoy Forte	Jamaica Customs Agency	Customs Officer	June 16 and 17
Ernest Baxter	Jamaica Customs Agency	Supervisor	June 16 and 17
Nadine Higgins	Jamaica Customs Agency	Supervisor	June 16 and 17
Charo Stewart-Dobbs	Jamaica Customs Agency	Supervisor	June 16 and 17
Phillipa Bernard	Jamaica Customs Agency		June 16
Nardia Campbell	Jamaica Customs Agency	Parcels	June 16 and 17
Nicola Sinclair	Jamaica Customs Agency	Berth XI	June 16 and 17
Romaine Robinson	Jamaica Customs Agency	Universal Freight Handlers	June 16 and 17
Shauna Stewart	Jamaica Customs Agency	Queen's Warehouse 230	June 16 and 17
Derron Renford	National Environment Planning Agency	Enforcement Inspector	June 16 and 17

Verneisha Murray	National Environment Planning Agency		June 16 and 17
Demasha Ross	National Environment Planning Agency		June 16 and 17
Wilton Buchanan	National Environment Planning Agency	Enforcement Inspector	June 16 and 17
Keisha Pennant	National Environment Planning Agency	Environmental Officer	June 16 and 17
Romario Morgan	National Environment Planning Agency	Planning Technician	June 16 and 17
Nedson Garden	National Environment Planning Agency		June 16 and 17
Antonette Brown	National Environment Planning Agency	Environmental Officer	June 16 and 17
Davion Brown	National Environment Planning Agency		June 16 and 17
Yanike McPherson	National Environment Planning Agency		June 16 and 17
Tevario Clarke	National Environment Planning Agency		June 16
Jac-Wain Campbell	National Environment Planning Agency		June 16 and 17
Rhyan Henry	National Environment Planning Agency		June 16
Carlene Martin	National Environment Planning Agency	Coordinator	June 16 and 17
Tamara Woodit	National Environment Planning Agency	Enforcement Coordinator	June 16
Shari Logan	National Environment Planning Agency		June 16 and 17

Tashika Blackwood Campbell	National Environment Planning Agency	Project Assistant	June 16 and 17
Clive Coke	Customs Brokers Freight Forwarders Association of Jamaica	President	June 23 and 24
Junior Waugh	Jamaica Society of Customs Broker	President	June 23 and 24
Ronald Bellanfonty	Brokers		June 23 and 24
Marcia Bent	Customs Brokers Freight Forwarders Association of Jamaica	Secretary	June 23 and 24
Ann Brown-Chang	Customs Brokers Freight Forwarders Association of Jamaica	Vice President	June 23 and 24
Suzette McNab-Wiggan	Customs Brokers Freight Forwarders Association of Jamaica	Assistant Secretary	June 23 and 24
Angela Smith	Customs Brokers		June 23 and 24
Avery A. Buddo	Customs Brokers		June 23
Hugh Thompson	Customs Brokers		June 23
Headley Barnett	Customs Brokers		June 23
Janet Williamson	Customs Brokers		June 23 and 24
Karen Donaldson	Customs Brokers		June 23 and 24
Dermott Morris	Customs Brokers		June 23 and 24
Shawn Jarrett-Morgan	Brokers		June 23
Withney Clarke	Brokers		June 23

Nicole Coates	Brokers		June 23 and 24
Dolrez Crosdale	Customs Brokers		June 23
Sasha Heslop	Brokers		June 23
Admin Karen	Brokers		June 23 and 24
Roxanne Williams	Brokers		June 23
Christopher Allison	Customs Brokers		June 23
Carol Crawford	Customs Brokers		June 23
Diana Kellyman	Customs Brokers		June 23 and 24
Jacqueline Mason Reid	Customs Brokers		June 23 and 24
Karen Ledgister	Customs Brokers		June 23
Lauriston Burke-Green	Customs Brokers Freight Forwarders Association of Jamaica		June 23 and 24
Lisa Blair	Brokers		June 23 and 24
Lorna Morris	Customs Brokers		June 23
Margarett Sharpe	Customs Brokers		June 23 and 24
Ramon Binns	Customs Brokers Freight Forwarders Association of Jamaica	Executive Member	June 23
Susan Neil	Customs Brokers Freight Forwarders Association of Jamaica	Vice President	June 23
Terecia Franklyn	Brokers		June 23
Michelle R.	Customs Brokers		June 23
Christine Henry-	Customs Brokers		June 23

Russell			
Sophia Douglas	Brokers		June 23 and 24
Rosemarie Spence	Customs Brokers Freight Forwarders Association of Jamaica	Executive Member	June 24
Vivienne Frankson	Customs Brokers Freight Forwarders Association of Jamaica	Executive Member	June 24
Mitzie Gordon Burke-Green	Customs Brokers Freight Forwarders Association of Jamaica	Immediate Past President	June 24
Deaconess Charm	Brokers		June 24
Richard Griffiths	Brokers		June 24
Ronald Bellanfonty	Brokers		June 23 and 24
Ainsworth Carroll	National Environment Planning Agency	Director	June 23 and 24
Roger Morgan	Jamaica Customs Agency	Berth XI	June 23 and 24
Deon Robinson	Jamaica Customs Agency	Deposits	June 23 and 24
Nichola Daley	Jamaica Customs Agency	Berth XI	June 23 and 24
Barbara Whyte Davis	Jamaica Customs Agency	Kingston Wharves (TLF)	June 23 and 24
Kerry-Ann Montique	Jamaica Customs Agency	Berth XI	June 23 and 24
Secretary	Brokers		June 23 and 24
Trade Agencies	Brokers		June 23 and 24
MFJL	Brokers		June 23
Zoom User	Brokers		June 23

Appendix B

Presentation Schedule:



Presentation Schedule Workshop 1

Two-Day Training of JCA, NEPA, and Ministry of Health and Wellness Officers

June 9 and 10, 2022

Presenter: Noel Brown

Day 1

10:00 – 10:10 am	Welcome and Introduction
10:10 – 11:40 am	Introduction to the Montreal Protocol and Ozone Depletion
11:40 – 12:30 pm	Institutional framework and the role of stakeholders
12:30 – 1:30 pm	Lunch Break
1:30 – 2:30 pm	Alternative Refrigerants
2:30 – 3:30 pm	Introduction to the Quota System and the Trade Order
3:30 – 3:50 pm	Questions and Answers
3:50 – 4:00 pm	End of Day 1

Day 2

10:00 – 10:05 am	Answer questions from Day 1
10:05 – 11:35 am	Preventing the Illegal Trade in ODS
11:35 – 12:35 pm	Lunch Break
12:35 – 2:05 pm	Kigali Amendment
2:05 – 3:00 pm	2022 HS Codes
3:00 – 3:20 pm	Questions and Answers
3:20 – 3:30 pm	End of Day 2



Presentation Schedule Workshop 2
Two-Day Training of JCA and NEPA Officers

June 16 and 17, 2022

Presenter: Noel Brown

Day 1

10:00 – 10:10 am	Welcome and Introduction
10:10 – 11:40 am	Introduction to the Montreal Protocol and Ozone Depletion
11:40 – 12:30 pm	Institutional framework and the role of stakeholders
12:30 – 1:30 pm	Lunch Break
1:30 – 2:30 pm	Alternative Refrigerants
2:30 – 3:30 pm	Introduction to the Quota System and the Trade Order
3:30 – 3:50 pm	Questions and Answers
3:50 – 4:00 pm	End of Day 1

Day 2

10:00 – 10:05 am	Answer questions from Day 1
10:05 – 11:35 am	Preventing the Illegal Trade in ODS
11:35 – 12:35 pm	Lunch Break
12:35 – 2:05 pm	Kigali Amendment
2:05 – 3:00 pm	2022 HS Codes
3:00 – 3:20 pm	Questions and Answers
3:20 – 3:30 pm	End of Day



Presentation Schedule Workshop 3

Two-Day Training of Customs Brokers, JCA and NEPA Officers

June 23 and 24, 2022

Presenter: Noel Brown

Day 1

10:00 – 10:10 am	Welcome and Introduction
10:10 – 11:40 am	Introduction to the Montreal Protocol and Ozone Depletion
11:40 – 12:30 pm	Institutional framework and the role of stakeholders
12:30 – 1:30 pm	Lunch Break
1:30 – 2:30 pm	Alternative Refrigerants
2:30 – 3:30 pm	Introduction to the Quota System and the Trade Order
3:30 – 3:50 pm	Questions and Answers
3:50 – 4:00 pm	End of Day 1

Day 2

10:00 – 10:05 am	Answer questions from Day 1
10:05 – 11:05 am	Preventing the Illegal Trade in ODS
11:05 – 12:30 am	Kigali Amendment
12:30 – 1:30 am	Lunch Break
1:30 – 2:30 pm	2022 HS Codes
2:30 – 3:00 pm	Questions and Answers
3:00 – 3:10 pm	End of Day 2

Appendix C



POST-WORKSHOP EVALUATION

MINISTRY OF HEALTH AND WELLNESS, CUSTOM AND ENFORCMENT OFFICERS TRAINING WORKSHOP

We kindly ask you to answer the following questions with the purpose of helping us to improve future training programmes

Please respond by selecting one of the responses

1) How relevant was the information presented to your work?

- a) not relevant
- b) relevant
- c) very relevant

2) Were you satisfied with the quality of the presentations?

- a) not satisfied
- b) satisfied
- c) very satisfied

3) Were you satisfied with the quality of the WiFi connection?

- a) not satisfied
- b) satisfied
- c) very satisfied

4) Was it easy to understand the presenters?

- a) not easy
- b) easy
- c) very easy

5) Was the presenter engaging and able to hold your interest?

- a) not engaging
- b) engaging
- c) very engaging

6) Did you feel free to ask any question at any time?

- a) not free
- b) free
- c) very free

7) Were the answers to your questions helpful?

- a) not helpful
- b) helpful
- c) very helpful

8) What area was most relevant?

- a) Introduction to the Montreal Protocol and Ozone Depletion
- b) Institutional framework and the role of stakeholders
- c) Preventing the Illegal Trade
- d) Alternative Refrigerants
- e) Introduction to the Quota System and the Trade Order
- f) Kigali Amendment
- g) HS Codes

9) What area was least relevant?

- a) Introduction to the Montreal Protocol and Ozone Depletion
- b) Institutional framework and the role of stakeholders
- c) Preventing the Illegal Trade
- d) Alternative Refrigerants
- e) Introduction to the Quota System and the Trade Order
- f) Kigali Amendment
- g) HS Codes

10) Overall, how do you rate this workshop?

- a) bad
- b) fair

- c) good
- d) very good
- e) excellent

11) Would you recommend that future training workshops be held online or face to face?

- a) online
- b) face to face
- c) neutral

12) In your opinion, how much did not seeing the presenter affected the quality of the presentation?

- a) Did not affect the quality of the presentation
- b) Affected the quality of the presentation
- c) Strongly affected the quality of the presentation

We thank you for your cooperation and contributions; we will gather the information received and will process it as part of the final report of the workshop.