

Ozone Layer Protection in Taiwan Newsletter



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Use of Methyl Bromide for QPS Applications in Taiwan

In accordance with Articles 5 and 10 of the “Methyl Bromide Management Regulations,” entities using methyl bromide for Quarantine and Pre-Shipment (QPS) applications, as well as importers, are required to apply to the Ministry of Environment for approval prior to the use or import of methyl bromide. Authorized entities and companies are also required to submit periodic reports, including information on the categories of commodities treated by fumigation and the quantities of methyl bromide used.

Based on user-reported data, the distribution of methyl bromide use for QPS applications in Taiwan from 2009-2025 is shown in Figure 1. In 2025, total methyl bromide use for QPS applications amounted to 40,933 kilograms, a decrease of 7,260 kilograms compared with 2024. Of this total, 35,208 kilograms (approximately 86%) were used for quarantine purposes, representing a 16% decrease (6,813 kilograms) from 2024. Pre-shipment use totaled 5,725 kilograms (approximately 14%), a decrease of 7% (447 kilograms) compared with 2024.

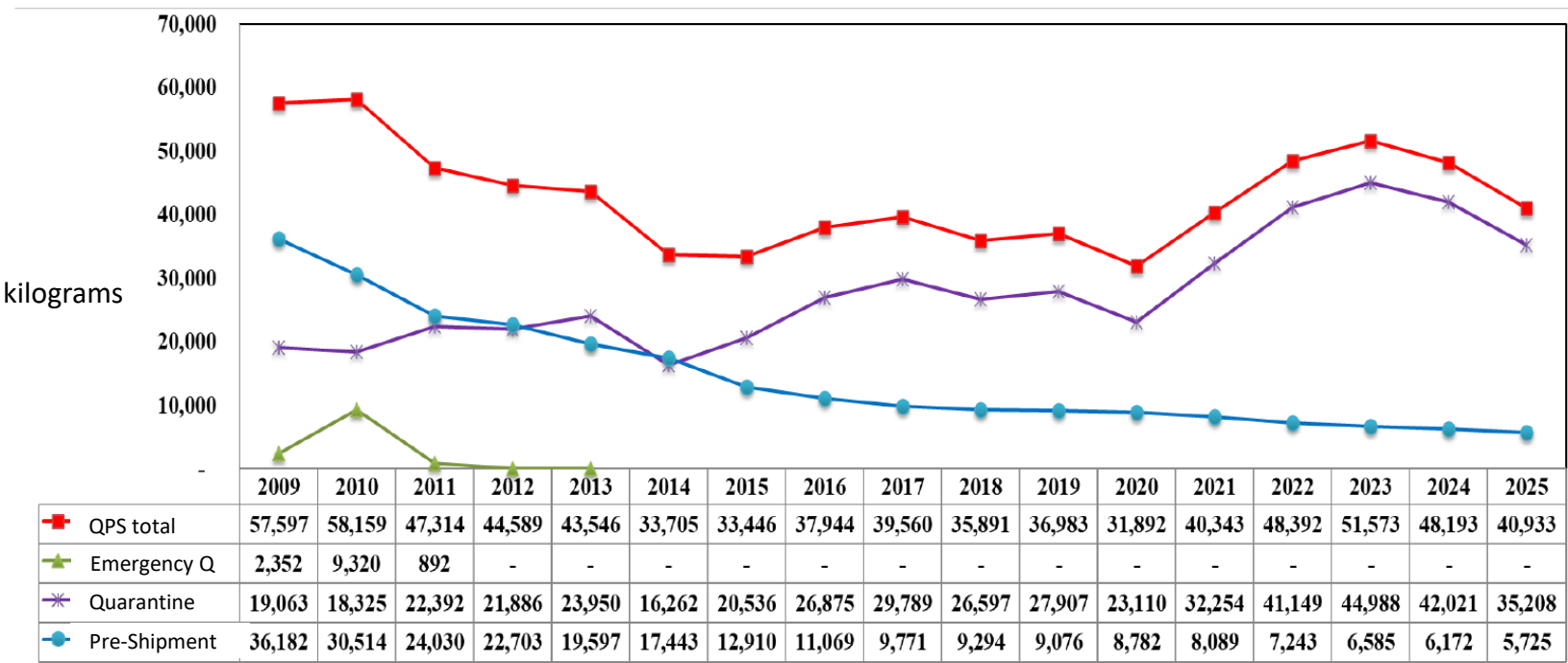


Figure 1. Trends of Methyl Bromide Use for QPS Applications in Taiwan

To prevent and control the introduction and spread of quarantine area pests, the Animal and Plant Health Inspection Agency under the Ministry of Agriculture uses 100% methyl bromide for commodity quarantine treatments. As illustrated in Figure 2, in 2025, the largest share of use of methyl bromide was for imported fresh fruits and vegetables (68.59%), followed by imported/exported wood (10.01%), imported bulbs, flowers, and seeds (7.67%), imported nursery stock (6.61%) and exported logs and wood products (4.16%).

Pre-shipment treatment, which is mainly conducted by private companies, uses 98% methyl bromide for commodity fumigation. In 2025, exported wood packaging materials accounted for the largest share of use (62.58%), followed by exported personal effects (17.77%), with other exported goods and exported timber and wood products together accounting for about 16.11% (Figure 3).

Methyl bromide is an acutely toxic chemical. The Ministry of Environment encourages users to exercise caution and minimize its use. Where feasible, users are encouraged to adopt suitable alternatives, such as heat treatment, phosphine, or cold treatment, thereby reducing reliance on methyl bromide and contributing to the protection of the ozone layer and the environment.

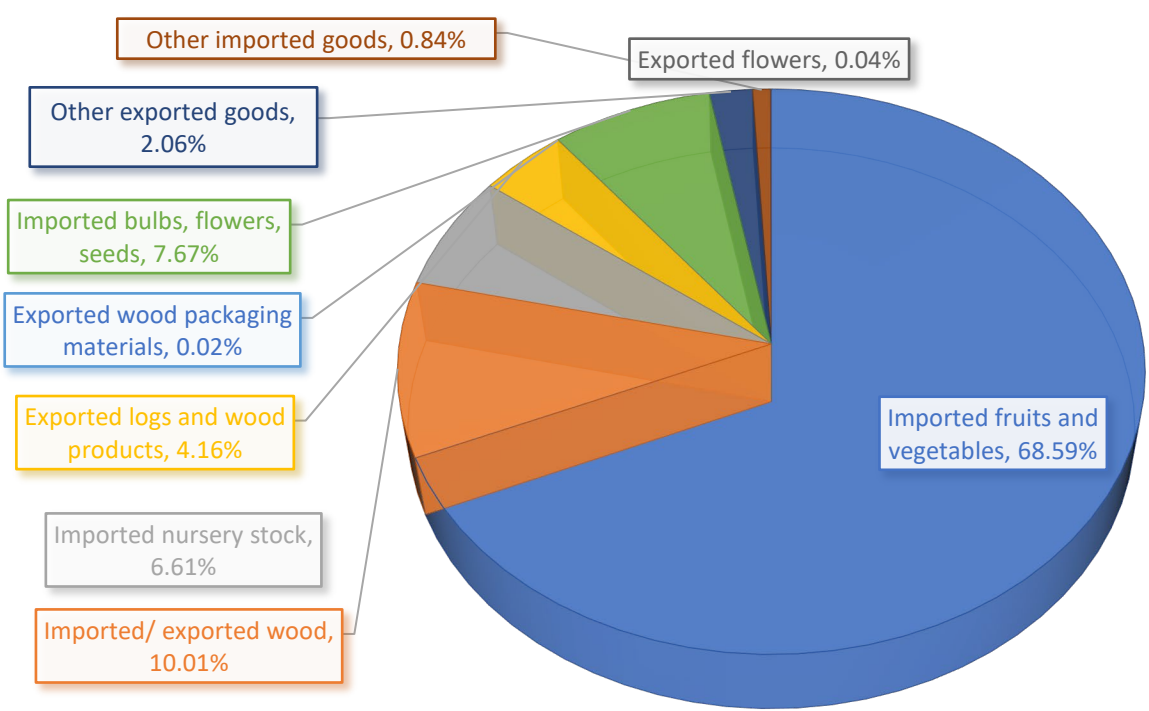


Figure 2. Categories of Commodities Treated with 100% Methyl Bromide for Quarantine Applications in Taiwan, 2025

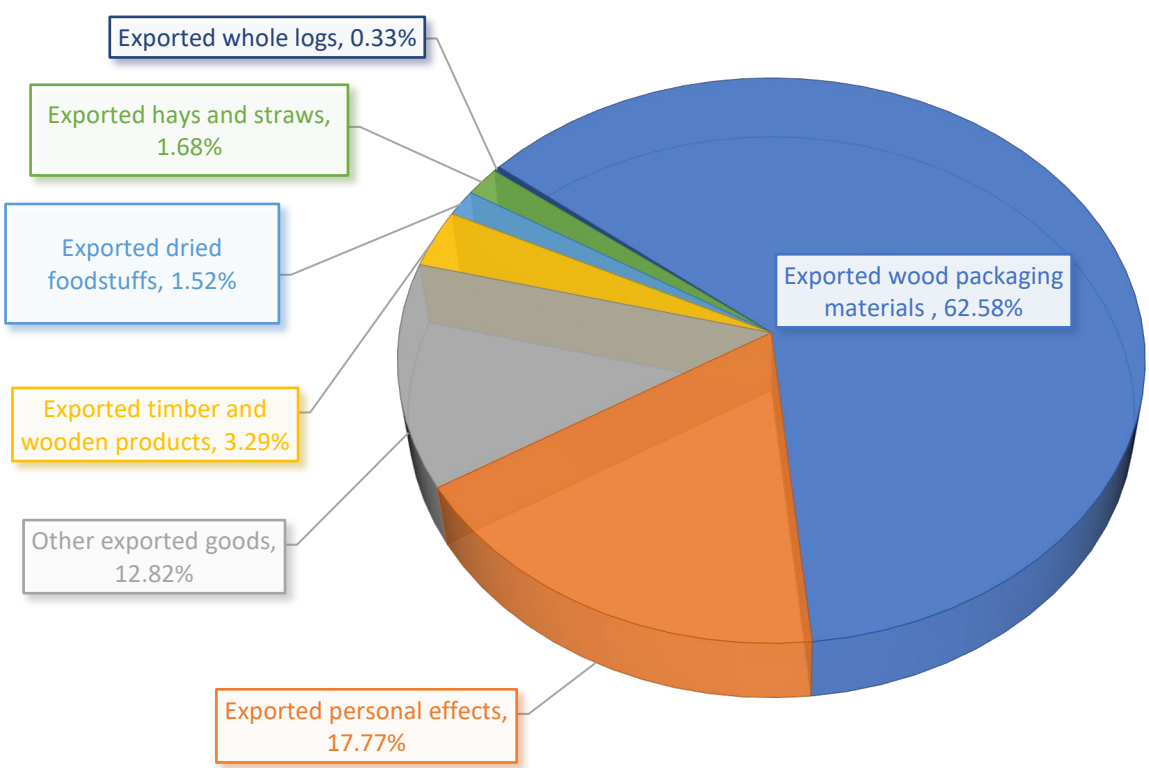


Figure 3. Categories of Commodities Treated with 98% Methyl Bromide for Pre-shipment Applications in Taiwan, 2025

Source: Based on data reported by companies with authorized methyl bromide use quotas

HCFC Consumption and Use in Taiwan

In accordance with the control requirements of the Montreal Protocol, Taiwan has established the Management Regulations for Hydrochlorofluorocarbons to regulate hydrochlorofluorocarbons (HCFCs). Since 1996, Taiwan has set an annual national consumption ceiling for HCFCs (Consumption = Production + Imports - Exports) and has implemented phased reductions in accordance with the established control schedule.

From 2020 to 2029, Taiwan's annual consumption limit of HCFCs has been reduced to 0.5% of the baseline consumption level, equivalent to 3.191 ODP tonnes, with HCFC use restricted to the servicing of existing refrigeration and air-conditioning equipment. In accordance with the regulations, the Ministry of Environment annually allocates HCFC quotas to eligible users and suppliers. Only companies granted an allocation are permitted to import HCFCs, either directly or by commissioning another company to import HCFCs on their behalf.

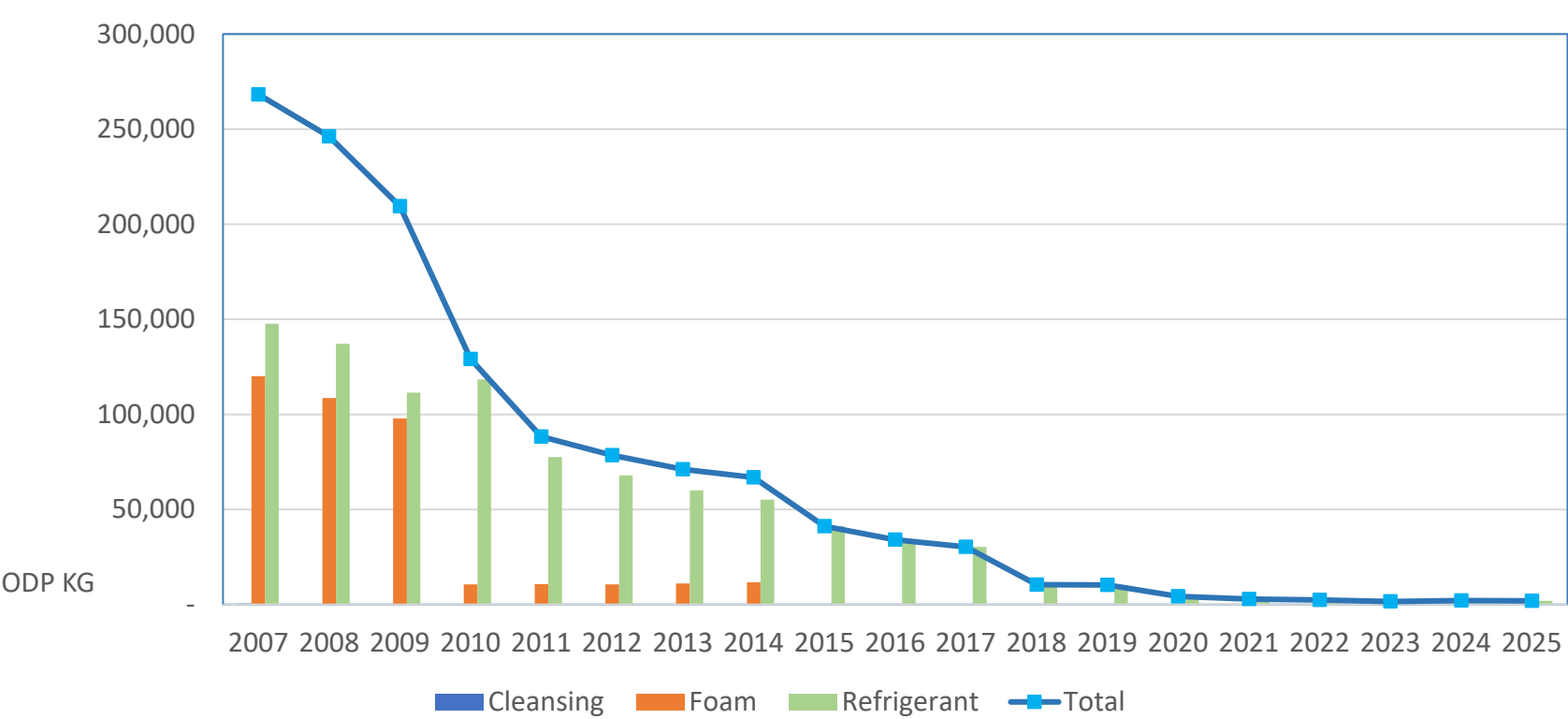
Based on HCFC import and export statistics from the Customs Administration, Ministry of Finance, Taiwan's HCFC consumption in 2025 was calculated at 2.597 ODP tonnes, equivalent to approximately 0.4% of the baseline consumption level. Since the introduction of HCFC consumption controls in 1996, Taiwan's annual HCFC consumption has consistently remained within the consumption limits established for each phase under the Montreal Protocol, thereby complying with international control requirements.

Article 6 of Taiwan's Management Regulations for Hydrochlorofluorocarbons specifies a phase-out schedule for the use of HCFCs in newly manufactured products and related production processes. Restrictions were progressively introduced for applications such as cleaning and foam blowing beginning in 2004, and were

extended to refrigerant applications in 2010. The regulatory phase-out schedule is as follows:

- **Foam blowing applications:** Use of HCFCs as blowing agents has been prohibited since 2016.
- **Solvent cleaning applications:** Use of HCFCs as solvents (including manufacturing and cleaning processes) has been prohibited since 2020.
- **Refrigerant applications:** Use of HCFCs as refrigerants has been prohibited for charging newly manufactured equipment and newly constructed installations since 2020.
- **Aerosol propellants:** Use of HCFCs as aerosol propellants has been prohibited since 2010.

Figure 4 presents the amounts of HCFCs used and their distribution according to application by users holding HCFC allocations. The data show that HCFC use in Taiwan has exhibited an overall downward trend since 2007. Historically, the major applications have included foam blowing, solvent cleaning, and use as refrigerants. As restrictions and prohibitions have been progressively introduced for these applications, domestic demand for HCFCs has steadily declined.



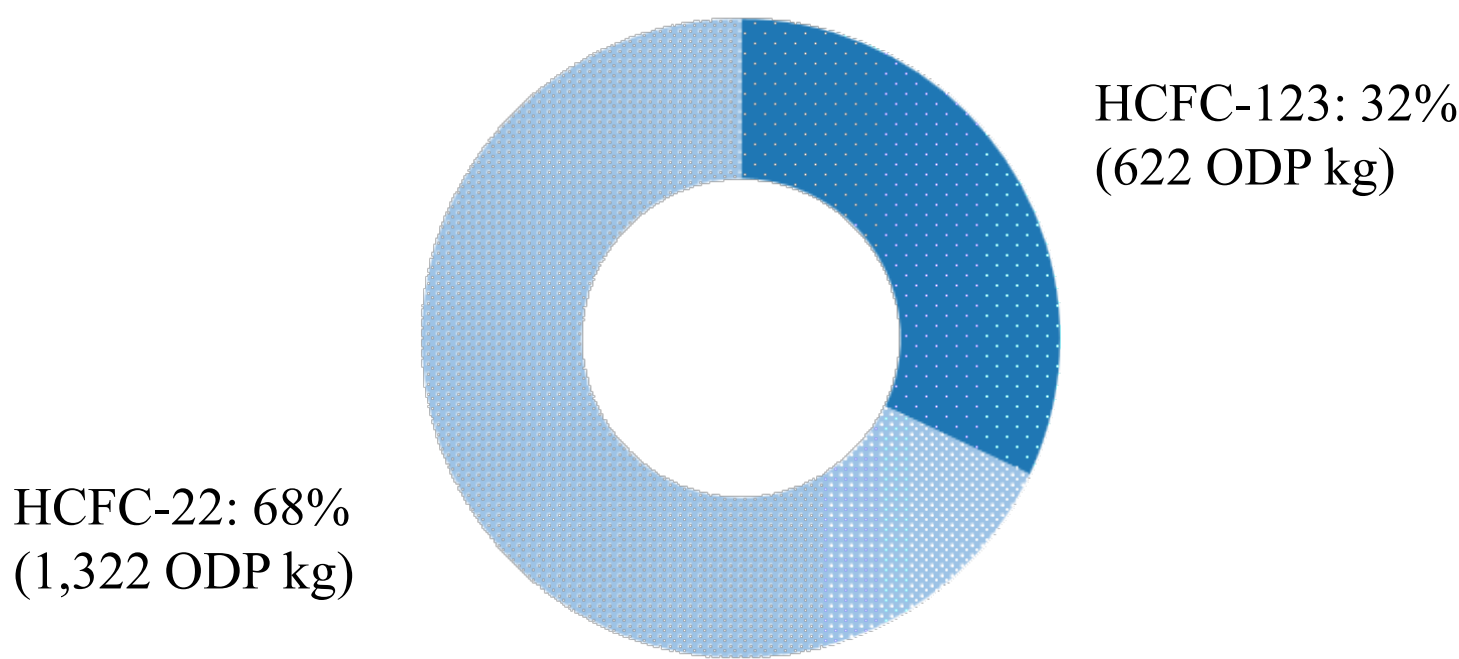
Source: Based on data reported by HCFCs users with allocation eligibility.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Solvent Cleaning	495	391	157	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Foam blowing	120,094	108,626	97,818	10,629	10,792	10,513	11,030	11,742	-	-	-	-	-	-	-	-	-	-	-
Refrigerant	147,656	137,089	111,419	118,409	77,512	67,910	60,080	55,141	41,101	34,043	30,330	10,453	10,193	4,292	2,860	2,390	1,569	2,024	1,944
Total	268,245	246,106	209,394	129,038	88,304	78,423	71,110	66,883	41,101	34,043	30,330	10,453	10,193	4,292	2,860	2,390	1,569	2,024	1,944

Figure 4. Trends of HCFC Use in Taiwan

Further analysis of the 2025 data reported by users holding HCFC allocations (Figure 5) shows that the HCFCs currently in use are limited to HCFC-22 and HCFC-123, both of which are used exclusively for servicing existing equipment. In 2025, 1,322 ODP kg of HCFC-22 was used, accounting for 68% of the total, while 622 ODP kg of HCFC-123 was used, accounting for the remaining 32%.

Under the current phase-out schedule, Taiwan will completely cease imports of HCFCs starting January 1, 2030. Operators of existing refrigeration and air-conditioning equipment that still rely on HCFC refrigerants, such as HCFC-22, HCFC-123, or R-408A, are therefore encouraged to assess the remaining service life and maintenance needs of their equipment at an early stage, evaluate the feasibility of equipment replacement or conversion to alternative refrigerants, and plan their transition timelines in advance. These measures will help minimize potential impacts on equipment maintenance and normal operation arising from limited HCFC refrigerant supplies after the import phase-out takes effect in 2030.



Source: Based on data reported by HCFC users with allocation eligibility.

Figure 5. Distribution of HCFC Use by Type in Taiwan, 2025

Outreach Seminar on HCFC Refrigerant Management for Fishing Vessels

To support Taiwan's implementation of the Montreal Protocol and its phase-out schedule for HCFCs, the Industrial Technology Research Institute (ITRI), commissioned by the Ministry of Environment (MOENV), held an outreach seminar on HCFC refrigerant management for fishing vessel operators and related stakeholders in Kaohsiung on June 30, 2026.

The seminar focused on raising awareness of Taiwan's HCFC control measures, particularly the upcoming ban on HCFC imports taking effect on January 1, 2030. Participants were informed that HCFC refrigerants, including HCFC-22 (R-22), will no longer be available via import once the ban takes effect. In particular, fishing vessels with refrigeration or cold-storage equipment that still rely on R-22 were strongly encouraged to replace or retrofit such equipment as early as possible and transition to suitable alternative refrigerants. Early action will help reduce the risk of future maintenance difficulties or equipment downtime due to limited R-22 supplies.

The importation of refrigerants into Taiwan is subject to applicable national regulations. Importing controlled refrigerants without the required approval—including purchasing refrigerants overseas and bringing them into Taiwan without authorization—may constitute an illegal import and may be subject to penalties under relevant laws and regulations. In addition, HCFC-22 (R-22) must not be used to charge newly manufactured refrigeration and air-conditioning equipment, in accordance with Taiwan's HCFC control requirements.

The seminar also highlighted the importance of proper refrigerant recovery for fishing vessel operators. Under Taiwan's Management Regulations for Hydrochlorofluorocarbons, the charging, dismantling, or retrofitting of equipment containing HCFC refrigerants must be carried out using appropriate recovery or reuse equipment. To prevent HCFC emissions into the atmosphere and protect the ozone layer, fishing vessel operators were reminded to ensure that maintenance service providers do not intentionally vent HCFC refrigerants during equipment servicing or dismantling. Instead, HCFC refrigerants should be properly recovered using equipment and procedures that comply with applicable regulatory requirements.

Through such seminars, Taiwan continues to strengthen communication with fishing vessel operators and raise awareness of proper refrigerant management and regulatory compliance. By promoting the adoption of alternative refrigerants, encouraging refrigerant recovery and reuse, and preventing unnecessary HCFC emissions, the initiative not only supports Taiwan’s continued implementation of the Montreal Protocol but also encourages the fishing sector to take practical steps to protect the ozone layer and transition toward more sustainable refrigerant management.



Figure 6. Outreach on the Proper Management of HCFC-22 (R-22) Refrigerant Used in Fishing Vessel Equipment

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