

# Major Environmental Policies

July 2023

## 1. Feature Article: Air Pollution Control Action Plan

Air quality in Taiwan has been gradually improving due to all the outstanding results via various policies, from the introduction of the *Air Pollution Control Action Plan* (空氣污染防制行動方案) in December 2017 to the currently ongoing *Air Pollution Control Action Plan (2020 to 2023)*. Thanks to efforts by government agencies and local authorities in implementing air pollution reduction measures, the annual average of PM<sub>2.5</sub> concentration had gone from 16.2 µg/m<sup>3</sup> in 2016 down to 12.4 µg/m<sup>3</sup> in 2022. These improvements have allowed Taiwan to reach its interim air quality improvement goals ahead of schedule.

Continuing to improve air quality and protecting public health is the core of environmental protection efforts. Aside from annual improvement of air quality, pollution of fine particulate matter (PM<sub>2.5</sub>) in specific seasons and different regions particularly poses a more serious challenge.

### Air quality improvement goals

The then EPA had proposed the *Air Pollution Control Action Plan (2020 to 2023)*. It aims to reduce emissions of precursor pollutants that forms PM<sub>2.5</sub> (such as primary particulate pollutants, sulfur oxides (SO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>), and volatile organic compounds) to achieve a national annual average concentration at 15 µg/m<sup>3</sup> for PM<sub>2.5</sub> by 2023. To further ensure the public breath good-quality air, the MOENV has introduced an additional goal, aiming to halve the number of days with high PM<sub>2.5</sub> concentrations. Specifically, the annual ratio of days categorized with “good” and “moderate” air quality, meaning whose air quality index (AQI) is not above 100, is to increase by 1% year after year.

Given the variety and complicated nature of air pollution sources, a diverse set of air pollution control measures is required to effectively lower air pollutant emissions and hence improve air quality. The EPA-proposed has integrated various control practices and formulated the *Air Pollution Control Action Plan (2020-2023)* include strategies on the four aspects of stationary pollution sources, mobile sources, fugitive sources, and comprehensive problem. It also aims to improve problems of PM<sub>2.5</sub> and ozone by cutting down precursor pollutants of both pollutants. The main features of the plan are as follows:

- In accordance with amendments to the *Air Pollution Control Act*, efforts have been made to expand the scope and intensity of regulations. This includes stricter emission standards for specific industries, controls concerning fuel composition and ratios of mixed combustion, reduction of existing pollution sources, controls of harmful air pollutants, and regulations on paint coatings for buildings.
- Control of mobile pollution sources has been expanded to include vessel and aviation fuels with ongoing efforts to lower pollution from modes of transportation, such as gas and diesel vehicles and motorcycles. Initiatives to promote electrification of urban buses and harbor management aim to reduce the impact of pollution emissions on public health.
- Continued efforts are being made to enhance pollution control. This includes lowering emissions from boilers and air pollution from state-owned enterprises, reviewing control fees targeting air pollution from stationary sources, and effectively enhancing factory monitoring. Practices that cut down airborne dust on riverbanks and the establishment of green walls are among the control efforts as well.

- Air quality will continue to be monitored and pollution emission data updated while in-depth scientific research will serve as reference for future policies and program evaluations. Moreover, environmental education is to be carried out from a human-centric perspective under the program.
- Efforts to improve response measures during periods of poor air quality are included in the plan, as well as diversification of control strategies and wider participation of both the public and industries. The goal is to mitigate poor air quality during the autumn and winter seasons.

### **Main achievements (as of the end 2023)**

■ **Lowering of PM<sub>2.5</sub> concentration:** The national annual average PM<sub>2.5</sub> concentration had dropped from 20 µg/m<sup>3</sup> in 2016 to 12.4 µg/m<sup>3</sup> in 2022, a 38% reduction. The ratio of the number of days with PM<sub>2.5</sub> concentration in “good” or “moderate” categories (AQI ≤ 100) grew from 84.8% in 2016 to 97.3% in 2023.

■ **Substantial enhancement of air quality in central and southern Taiwan during fall and winter:** Actions include collaboration across different regions, strengthened control measures, and, specifically for power plants, practices that reduce the use of coal and increase that of natural gas, and also coordination of power generation facilities. All have led to a remarkable improvement in air quality, namely a 94% drop in red alerts for PM<sub>2.5</sub> in Kaohsiung and Pingtung, from 338 times in 2016 to 19 times in 2022, as well as another 94% drop in Yunlin, Chiayi, and Tainan, from 261 times in 2016 to 16 times in 2022.

■ **Reduction of air pollution from state-owned enterprises:** Since 2016 the overall air pollution emissions from state-owned enterprises saw a 46% in 2023. Such results include a 60% drop of emissions at Taichung Power Plant and a 69% at Hsing-Da Power Plant.

■ **Boiler improvements and replacement:** Approximately 98% of regulated industrial and commercial boilers have either undergone improvements or been replaced. The percentage of gas-fired boilers, which have higher pollution capacities, has grown from 24% to 73%, a threefold increase.

■ **Less airborne dust along Zhuoshui River:** Central and local authorities have collaborated to control and reduce airborne dust along Zhuoshui River, resulting in a decrease by 98%, in which airborne dust incidents went from 59 in 2017 to 2 in 2022.

■ **Diversified measures for large diesel vehicles:** By 2022, the number of large diesel vehicles had dropped by nearly 47%, with approximately 68,000 phased out. Additionally, subsidies were provided for maintenance and installation of pollution control equipment on 14,000 vehicles, further reducing pollution emissions.

■ **Accelerated replacement of old motorcycles:** As of the end of 2022, the EPA had phased out a total of 1,733,000 motorcycles, lowering the number of old motorcycles by 37%.

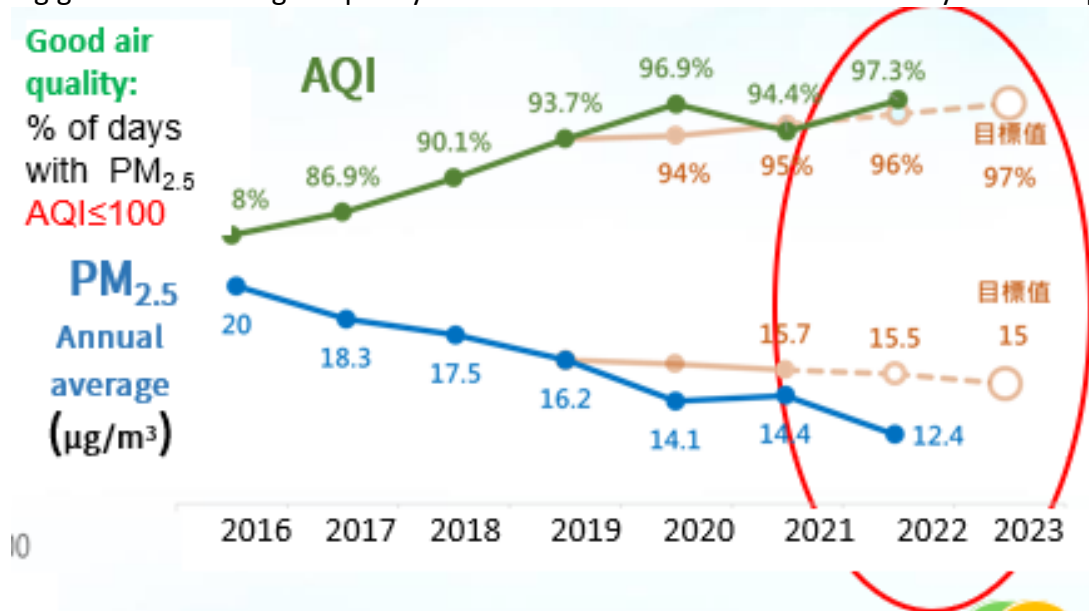
■ **Reduction of air pollution in commercial ports:** Efforts implemented include urging vessels to reduce speed and use low-sulfur fuels. As a result, monitoring stations near international commercial ports in Taiwan have reported a decrease in sulfur dioxide (SO<sub>2</sub>) concentrations. The most significant achievement comes from the monitoring station in Siaogang Port in Kaohsiung, which recorded a drop of annual average SO<sub>2</sub> concentration by 64% compared to 2016.

■ **Electrification of urban buses:** By 2022, a total of 1,170 commercial electric buses (excluding tour buses) had been registered and put into service. This is a 4.7-fold increase compared to 2016, when there were just 205 electric buses in operation.

### **Conclusion**

Air pollution has multiple sources and complex causes, making it impossible for the government to rely solely on a single pollution control measures to achieve results. With an invisible adversary that is PM<sub>2.5</sub>,

it is essential to take a comprehensive approach that entails regulating various sources of pollution, including industrial, transportation, and fugitive sources. It also involves extensive efforts in environmental monitoring and utilization of technology for law enforcement. Moreover, it is only through collaboration among the government, the private sector, and civil organizations can the overarching goal of enhancing air quality and ensure environmental sustainability be accomplished.



## 2. EPA Promotes Sustainable Lifestyle in SDGs Asia Exhibition

The EPA participated in the 2023 Sustainable Development Goals (SDGs) Asia from 21 to 23 July in Taipei, setting up a display focused on two key strategies, Net Zero Green Living and Resource Recycling and Zero Waste, and also including Low-Carbon and Sustainable Homes. The EPA showcased relevant policies and practices and, through interactive activities, helped members of the public learn how to build a future that achieves all three objectives focused on in the exhibit.

Organized by the Taiwan Institute for Sustainable Energy (TAISE), the 2023 SDGs Asia took place in Exhibition Building 1 at the Taipei World Trade Center under the theme "Towards a Net Zero Future." The EPA created an interactive and educational environment by presenting clear and concise visual explanations, model displays, and audio-visual materials, enabling visitors to gain an understanding and virtual experience of the concepts and practices of sustainable development. The EPA engaged with visitors both in the 2023 SDGs Asia and from around the world to discuss future challenges and opportunities related to resource recycling, zero waste and a net-zero, sustainable lifestyle. Additionally, there were periodic interactive quiz activities with prizes at various booths within the exhibition venue, and attendees from all walks of life were welcomed to participate.

The introduction of "Taiwan's Pathway to Net-Zero Emissions in 2050" and the 12 Key Strategies for this policy demonstrate Taiwan's commitment to addressing climate change, environmental protection, and development toward a sustainable future. Among these, both Net-Zero Green Living as well as Resource Recycling and Zero Waste are spearheaded by the EPA and have been implemented with full force.

Net-Zero Green Living is a comprehensive lifestyle transformation aimed at encouraging individuals to adopt eco-friendly lifestyles and reduce their environmental footprints. The EPA is continually

promoting, educating, and guiding the public through its policies. It published the Clean Zero Green Living Action Guide as a resource and guideline for taking daily environment-friendly actions, encompassing aspects such as food, clothing, housing, transportation, education, recreation, and purchase choices. Meanwhile, actual measures aim for reduced carbon emissions and plastic usage, low-carbon diets, and green transportation and consumption.

Resource Recycling and Zero Waste go hand in hand with the establishment of a circular economy. The EPA has been advancing five major strategies to achieve a transition towards net-zero emissions and the visions under Resource Recycling and Zero Waste. They include "Waste Prevention by Green Design," "Resource Circulation," "Well-Functioning Circulation Networks," "Innovative Technologies and Systems," and "Value-added Waste Disposal." Coupled with the formulation of specialized legislation for resource circulation, these strategies aim to transform the thinking behind waste management, maximize resource circulation, and minimize waste disposal.

Both of the two exhibits specifically focused on resource recycling policies at 2023 SDGs Asia featured policy demonstrations, areas showcasing recycling practices, and interactive checkpoints. The EPA's resource circulation policies were clearly illustrated, and various recycled materials and products made of reutilized wastes were featured to encourage purchasing of products incorporating the concept of resource circulation. Through this exhibition, members of the public were able to gain a deeper understanding of resource circulation and further implement it in their daily lives, so they can cooperate together with government and industry to build a sustainable and circular future.

### **3. Restrictions Announced to Reduce Single-Use Lodging Supplies**

**On 17 July the EPA announced the *Targets and Measures for Restrictions of Single-Use Lodging Supplies* (一次用旅宿用品限制使用對象及實施方式). Lodging providers shall be prohibited from offering liquid toiletry and bodycare products in single-use packaging with a volume of less than 180 milliliters, and shall be required to provide large-bottle wall-mounted shower products instead. The EPA stated that enterprises will be given a buffer period to deplete their inventory and adjust, with inspections commencing from 1 January 2025.**

The targets and measures have been formulated by the EPA in accordance with international practices and to align with the trend to reduce plastic waste. These regulations apply to various accommodation enterprises, including tourism hotels, regular hotels, bed-and-breakfast establishments, and lodging enterprises. Under these regulations, liquid toiletries and grooming products such as shampoo, conditioner, body wash, and lotion are required to be provided in large bottles instead of small single-use containers. Personal hygiene items such as combs, toothbrushes, toothpaste, razors, shaving foam, and shower caps are not to be actively displayed. However, ancillary facilities like spas and swimming pools, services, and business facilities outside the guest rooms are not subject to these restrictions concerning personal hygiene items.

The use of small-packaged toiletry products commonly seen in the past had generated a significant amount of waste. The goal is to achieve source reduction and promote environmental protection among travelers by advocating for the use of larger-sized products over smaller ones and encouraging guests to bring their own items. The EPA also noted that even before the policy came into effect, many enterprises had already taken proactive measures, such as offering eco-friendly accommodation options and refraining from automatically providing disposable amenities. In

addition, the public is urged to prioritize sustainable tourism and choose eco-friendly lodging establishments of this kind.

Once the restrictions are effective, it is estimated they will reduce use of such products by over 460 million small containers per year, of approximately 2,100 metric tons in weight. This reduction is equivalent to an annual emission reduction of 2,500 metric tons. By replacing small containers with larger ones, the overall plastic usage is expected to decrease by about 30%. The EPA emphasizes once again that there is still a transition period of over one year before the regulation officially takes effect, so enterprises are reminded to promptly adjust their service models and transition gradually.

The EPA stresses that the regulation does not entail a complete ban on toiletry products, but rather seeks to achieve sustainable tourism that meets the needs for both tourism and environmental protection through consumption and services. The reduction of disposable amenities need not compromise the quality of hotel services. Subsequently, the Tourism Bureau under the Ministry of Transportation and Communications (MOTC) will collaborate to adjust the criteria for the Guidelines Concerning the Star-Rating System for Hotels. The EPA will also work in conjunction with the Tourism Bureau and representatives from relevant hotel industry associations to collectively enhance promotion of sustainable tourism for both domestic and international consumers. This effort is part of a broader initiative to encourage a green lifestyle and contribute to environmental protection.

#### **4. Measures Proposed to Clean up River Pollution in Hsinchu**

**In order to comprehensively address pollution issues in Fengshan Creek of Hsinchu County, the EPA conducted an onsite investigation near the water intake point of the creek on 10 July 2023. Representatives from the Water Resources Agency (WRA) of the Ministry of Economic Affairs, the Second River Management Office, Taiwan Water Corporation, and the Hsinchu County Government have also been invited to participate in discussions regarding the removal of pollution sources and subsequent control measures.**

Mayor Chen Kuang-tsai of Guanxi Township and several local representatives from Guanxi attended the onsite inspection. They expressed that although the water intake point has been relocated upstream, the safety of drinking water is temporarily ensured. However, they hope that the government can assist on the lingering odor issue in Fengshan Creek, including the cleanup of residual pollutants in the riverbed between the Guanxi Water Treatment Plant's water intake point and the Duofentou Bridge downstream. The chairman of the Guanxi Environmental Protection Association, Lo Kung-chi, further stated that public concerns will always exist as long as there are factories within the area that affect the safety of drinking water. Therefore, there should be robust management mechanisms in place, and it is suggested water treatment plants increase placements of monitoring equipment.

Director Yan Hsu-ming Yan of the EPA's Department of Water Quality Protection has given clear instructions in response to the concerns of the local residents at the site. Addressing the pollution and odor issues that concern the public the most, the Hsinchu County Government was requested to promptly develop a plan for cleaning up river pollutants, complete an inventory of potential pollution sources around the water intake point upstream within two weeks, and strengthen enforcement efforts. Additionally, the local Environmental Protection Bureaus are to increase sampling and testing frequencies at water treatment plants and direct water supply points, as well as include testing for styrene compounds. All necessary funds for these measures can be provided as subsidies by the EPA.

Moreover, Director Yan urged the Taiwan Water Corporation's Third District Management Office to expedite submission of supplementary materials for the draft plan to establish Fengshan Creek Water Quality and Quantity Protection Zone. The plan is to be promptly submitted the WRA for review in order to facilitate the establishment of a water quality protection zone for the water source of Fengshan Creek.



Conducting an onsite investigation in Fengshan Creek of Hsinchu County,

## 5. Opinions Collected on Draft Climate Adaptation Plans

The EPA and various government agencies have collaborated on the developing of the draft for the third phase of the *National Climate Change Adaptation Action Plan* (國家氣候變遷調適行動計畫). The purpose is to address the ongoing severe challenges posed by climate change. The draft focuses on eight key areas, including essential infrastructure, water resources, land use, coastal and marine environments, energy supply and industries, agricultural production and biodiversity, and health and capacity building. It encompasses 125 action plans aimed at enhancing adaptation capacity via scientific approaches and bases.

The World Meteorological Organization has reported that the global daily average temperature has broken records by 3°C since July, with an average temperature reaching 17.23°C. This is estimated to be the highest temperature seen on Earth in the past 100,000 years. Furthermore, on 16 July, the Xinjiang region of China recorded an astonishing temperature of 52.2°C.

The climate change issues in Taiwan that require close attention are high temperatures, drought, and extreme rainfall. The National Science Council has published a report with excerpts of scientific points from the International Panel on Climate Change Sixth Assessment Report (IPCC WR16) and the updated analysis of climate change in Taiwan. According to the report, the annual average temperature in Taiwan has risen by approximately 1.6°C over the past century. In the last 60 years, there has been a noticeable increase in the occurrence of dry years, and both the intensity and

frequency of heavy rainfall events have shown significant upward trends. Competent government authorities for the relevant fields have all proposed various strategies to mitigate potential future impacts. These strategies include enhancing environmental adaptation capabilities, strengthening resilience among vulnerable populations, introducing diverse mitigation strategies in urban and rural areas, and enhancing the water resource management system.

In 2022, the third phase of the *National Climate Change Adaptation Action Plan* was drafted by the EPA in collaboration with the Ministry of the Interior and 15 other government agencies. The collaboration involved a review of past mitigation efforts and took into account the latest domestic and international scientific information on climate change. The plan incorporates provisions and concepts within the special chapter on adaptation under the *Climate Change Response Act* (氣候變遷因應法), such as establishing regular national mitigation measures, baseline national adaptation scenarios, integration of climate risk factors into the mitigation framework, and building adaptation capacity. A platform covering different fields is to be set up to enhance coordination and integration across government agencies and sectors, and the plan also facilitates a nature-based approach to adaptation action plans.

The EPA conducted public hearings in Kaohsiung and Taichung on 14 and 17 July, respectively. These hearings served as a platform for gathering input from scholars, experts, civic organizations, and various other stakeholders. What was gathered during this process of information disclosure and communication will serve as references for the action plans future revisions. Additionally, proposals for various schemes under the draft action plan are available to the public online on the Taiwan Adaptation Platform (<https://adapt.epa.gov.tw>), which is actively collecting feedback and opinions.

## **6. Asia-Pacific Mercury Monitoring Network Expands Its Monitoring Scope**

**On 12 July 2023, EPA Deputy Director Wang Yabin presided over the opening of the 12th Annual Meeting of the Asia-Pacific Mercury Monitoring Network (APMMN). Jane Nishida, Assistant Administrator of the Office of International and Tribal Affairs (OITA) of the USEPA also delivered a speech via a pre-recorded video, acknowledging the efforts and contributions to the environment by the EPA and APMMN partner countries. This year's annual meeting was conducted both in-person and via video conferencing, with the participation of over 50 government officials and scholars from 17 countries. It aimed to deepen Taiwan's collaboration with Asian nations in mercury monitoring and enhance Taiwan's profile in the field of international environmental monitoring.**

The APMMN annual meeting this year featured various presentations and activities. Among the speakers, Professor David Gay from the US Atmospheric Deposition Program shared insights into mercury management actions in North America, and David Schmeltz from the USEPA spoke about the latest developments and future prospects of the APMMN. A representative from the EPA's Toxic and Chemical Substances Bureau spoke about Taiwan's achievements and experiences in mercury management following the Minamata Convention, while Professor Hsu Guey-rung from National Central University presented the current status of APMMN implementation. Representatives from various countries were also able to share the current status of atmospheric mercury monitoring in their respective countries.

Furthermore, the EPA organized training sessions on mercury wet deposition sampling and analysis techniques. Meeting attendees were invited to visit the EPA-established Center for Environmental



Monitoring and Technology and the Mercury Analysis Laboratory, where they received some hands-on training on ultratrace mercury analysis and quality assurance and control (QA/QC) procedures. Such training activities would enhance the technical capabilities and data quality of partner countries in mercury monitoring.

The EPA stated that as a member of the global community, Taiwan is committed to protecting human health and the environment from the impacts of anthropogenic emissions of mercury and its compounds. Since 2012, the EPA has collaborated with the USEPA to jointly operate the APMMN and conduct atmospheric mercury monitoring, exchanges on environmental monitoring technology, and data sharing among countries in the Asia-Pacific region. The network serves to assist partner countries in meeting the requirements of Article 19 of the Minamata Convention, thereby enhancing their capabilities in atmospheric mercury monitoring. Since its establishment, the APMMN has helped partner countries set up 13 mercury wet deposition samplers as well as analyze over 1,450 rainwater mercury samples. Through this annual meeting, the EPA hopes to foster close partnerships and collaboratively advance the goals of the Minamata Convention, ultimately contributing to a sustainable future for generations to come.



**The representatives from APMMN Partner Countries**





re-recorded video message from Jane Nishida, Assistant Administrator of the Office of International and Tribal Affairs (OITA) of the USEPA

## 7. Central and Local Governments Collaborate to Eliminate Dengue Sources

**In the past, dengue fever outbreaks mostly occurred in Southern Taiwan, but this year, cases of dengue fever have emerged in Central Taiwan. Apart from sporadic cases in Taichung City, Changhua County, and Nantou County, one county has had the highest number of local cases: Yunlin. The EPA and the Yunlin County Environmental Protection Bureau have been collaborating closely to conduct inspections and even utilize drones to ensure comprehensive dengue fever prevention.**

To prevent dengue fever outbreaks, the Central Region Environmental Management Center of the EPA's Bureau of Environmental Inspection has adopted an active role since the onset of the epidemic. Apart from daily communication with the Southern Regional Center of the Taiwan Centers for Disease Control to monitor the situation, the center has also established a communication platform with the environmental protection bureaus of the five counties and cities in the central region. This has allowed them to stay informed about the preventive measures taken and their effectiveness in response to changing epidemic conditions. It has also enabled them to continuously review and strengthen the measures as needed, and to provide necessary assistance when it's needed.

In response to the more severe epidemic situation in Yunlin County, starting from 17 July 2023, the Central Region Environmental Management Center has been collaborating closely with the Yunlin County Environmental Protection Bureau to conduct continuous inspections and patrols in hotspots, utilizing a multifaceted mobilization approach and drone aerial operations to ensure comprehensive dengue fever prevention. Priority inspections were carried out in the five villages in Gukeng Township that had reported confirmed cases. The inspection efforts then progressively extended outward from these hotspots. Fines were issued for having containers with stagnant water where mosquito larvae were found. As of 23 July, a total of 30 positive breeding sources had been identified through

inspections and reported in accordance with the law. Prompt actions were taken to eliminate these sources. The Yunlin County Government has also initiated a county-wide mosquito eradication campaign with large-scale enforcement. Borough and village leaders were mobilized to inspect and educate households, while township offices supervised the process. The county's environmental bureau also conducted rigorous inspections. As of 22 July, a cumulative total of 1,458 personnel had been mobilized, 318 boroughs and villages cleaned, 4,847 breeding sources cleared, and 827 areas fumigated.

## **8. Smart Fence System to Be Established for Timely Pollution Monitoring and Environmental Enforcement**

**To ascertain the air, water, and waste pollution potential and to proactively prevent the spread of pollution, the EPA showcased the "Smart Fence System" on 19 July, and planned to seek funding from the Executive Yuan. The EPA aimed to gradually set up 4,000 smart fence device points to monitor air, water, and waste pollution over a span of six years. Internet of Things (IoT) monitoring equipment and AI analysis modules will be used to enable pollution prevention and timely enforcement actions.**

The EPA indicated that society has entered the digital era, and environmental law enforcement shall also keep pace by evolving into "remote enforcement." After the EPA is restructured as the Ministry of Environment, the Environmental Management Administration is established, making remote enforcement a crucial policy, and strategically planning with forward-thinking to devise comprehensive environmental improvement strategies. This will transform Taiwan's approach to environmental quality management from "pollution control" to "prevention management." The most significant transformation will involve shifting from a passive to a proactive approach, systematically addressing environmental issues.

The EPA will utilize technology and employ the Smart Fence System for remote enforcement, enabling real-time handling of pollution incidents to prevent further spread of pollution. It plans to install remote monitoring devices at critical locations in pollution hotspots, creating a sweeping network to ascertain the air, water, and waste pollution potential.

Monitoring equipment for illegal waste dumping, air pollution, and water pollution has been gradually established, and the Smart Fence Program will move towards more systematic planning. The EPA plans to set up 4,000 smart fence device points over a period of six years. The initial plan includes setting up 3,200 monitoring points at 120 air pollution hotspots, 200 monitoring points at 100 water pollution hotspots, and 600 monitoring points for illegal waste dumping hotspots, among which 400 points will be located near 200 highway exits (national and provincial highways) and 200 points will be located along roads in areas with high rates of waste dumping.

The system will be able to take information collected by on-site Internet of Things (IoT) devices and transmit it to an AI module. The AI module then analyzes the degree of risk posed by abnormal pollution patterns, automatically sends out alerts, and notifies the relevant inspection unit.

The Smart Fence System for air pollution hotspots will deploy graded air sensors based on different environments and specific air pollutant requirements to promptly detect pollution. For water pollution hotspots, the system will deploy water quality sensors at channel nodes near monitoring

zones or upstream and downstream drainage points to constantly monitor watershed water quality. The system for illegal dumping will monitor waste clearance and transportation vehicles simultaneously. It will install license plate recognition systems at dumping hotspots and crucial road sections to quickly identify abnormal waste disposal activities.

The EPA emphasized that compared to the traditional method of investigating individual cases, where inspectors have to wait like cats trying to catch mice and rely on their experience to investigate after detecting abnormal pollution, the Smart Fence mechanism will cross-reference information in the system's database, such as processes and materials used by each factory in industrial parks, and the AI will compute a risk list, allowing inspectors to conduct enforcement with precision and efficiency.

## 9. Guidelines for Reducing Online Shopping Packaging 2.0 Launched

**On 1 August, the EPA officially launched the *Guidelines for Reducing Online Shopping Packaging 2.0* (網購包裝減量指引 2.0) and announced a total of 22 businesses that had obtained the Reduced Online Shopping Packaging Logo. This initiative aimed to encourage consumers to choose platforms with the reduced packaging logo when making online purchases, promoting environmental conservation and love for the planet. Additionally, an online shopping packaging reduction forum was held to which experts, scholars, and businesses were invited to share international practices and measures for packaging reduction. Through these exchanges, the goal was to further expand the benefits of packaging reduction efforts.**

Since 2019, the EPA has been promoting the *Guidelines for Reducing Online Shopping Packaging* (網購包裝減量指引), guiding businesses to join the Online Shopping Packaging Reduction Alliance. Many well-known large-scale online shopping businesses have actively participated in response. The shipping volume of the Online Shopping Packaging Reduction Alliance accounts for approximately 60% of the national B2C online shopping shipping volume.

To ensure continuous progress, the EPA announced the *Targets and Implementation Methods for Restriction of Internet Shopping Packaging* (網際網路購物包裝限制使用對象及實施方式), which was implemented in July. After the implementation, the EPA has been collaborating with local environmental bureaus to initiate random inspections to verify standard operating procedures of businesses and provide guidance to establish self-management practices. In this initial round of inspections, the focus was on the shipping packaging centers of large-scale online shopping businesses that primarily sold cosmetics and daily necessities, books and audiovisual publications, electronic communication equipment, health products, etc. All inspected businesses met the inspection criteria.

The EPA stated that after implementing the packaging reduction measures, the use of packaging material is expected to reduce by up to 90,000 metric tons by 2026, resulting in a reduction of 280,000 metric tons of carbon dioxide equivalent. At this rate, by 2030, the goal of reducing packaging weight by nearly 50% will be achieved. Through the Online Shopping Packaging Reduction Forum, experts and scholars were able to share international cases and approaches for packaging reduction. Pioneering domestic businesses were also invited to share their measures and experiences in promoting packaging reduction. Through these exchanges, cooperation and connections among upstream, midstream, and downstream businesses were facilitated. Together, these businesses will

demonstrate their successful examples to other online shopping businesses that have not yet participated in the packaging reduction initiative and allow them to emulate their effective practices, thus expanding the impact of the initiative.

## **10. Smart Location Service Affords Owners of Scrap Motorcycles Greater Convenience**

**To promote smart operation and convenience of vehicle scrapping, the EPA introduced the service of using smart location for scrap motorcycles so that owners need not be present for vehicle pickup. Trial operation would officially begin on 1 August 2023. Through this new service, motorcycle owners no longer need to be present to coordinate with recyclers for vehicle pickup, allowing recycling without physical presence, thereby saving time and raising overall efficiency. This intelligent service will bring revolutionary changes to the vehicle scrapping process, making the recycling process more convenient and efficient.**

The vehicle scrapping process has gone through some growing pain. Vehicle owners were required to pre-arrange a time with a recycling company and then go to the designated location to complete the recycling process. This wait-for-each-other model could result in a waste of time, and problems such as the inability of recycling companies to contact the vehicle owner in a timely manner or inaccuracies in the location could also affect overall efficiency. In addition, many vehicle owners had to take time off or delay other important activities to facilitate the recycling, causing unnecessary inconvenience. The introduction of the service of using smart location for scrap motorcycles is precisely aimed at addressing these concerns and inconveniences, making the entire recycling process more convenient.

### **The One-Stop Vehicle Scrapping Platform**

(<https://epamotor.epa.gov.tw/people/OneStepServiceIndex.aspx>) was set up with the concepts of integration and data sharing in its services. Through collaboration across government agencies and the use of technologies, the platform is dedicated to creating an innovative and user-friendly vehicle scrapping service. In 2022, it received the Outstanding Award of the "2022 Selection and Promotion Program for Benchmark Learning Cases" in the central government category and the "2022 Cloud IoT Innovation Award" for outstanding application, demonstrating its outstanding achievements in innovative services.

Currently, thanks to the platform, members of the public can apply for cancellation of vehicle registration, pay for fuel consumption and license taxes, or take care of other errands, reducing the time spent on traveling to inspection and taxation agencies, as well as physically waiting in line. From its official launch in January 2022 to June 2023, the platform had recorded a total of 1,089,833 visits. This has saved the public approximately 4,360,000 hours of leave time for in-person transactions and reduced postage costs by approximately NT\$54.5 million. It is estimated that this platform has saved the public indirect time costs of over NT\$500 million for tasks such as canceling vehicle registrations and renewing license plates. It not only reduces operating costs and improves service efficiency but also provides tangible time savings and convenience for the public.

Despite the aforementioned benefits, the public still needed to meet recyclers in person in order to scrap their vehicles. Therefore, the EPA further enhanced the One-Stop Vehicle Scrapping Platform by introducing the service of smart location for scrap motorcycles, which will make recycling of scrap

vehicles even more convenient and efficient. The service application process consists of three simple steps:

Step one: Enter the vehicle owner's ID number (or business registration number, or resident certificate number), select the vehicle type as "motorcycle," input the license plate number, and click on the option of "Smart Location for Scrap Motorcycles."

Step two: Choose a recycling company and proceed with cellphone verification.

Step three: Pinpoint the location where the scrap vehicle is parked, upload a photo of the vehicle, and provide a remote electronic signature.

The EPA urges users of the "Smart Location for Scrap Motorcycles" service be mindful of the following three prohibitions:

- 1) No illegal parking: Please adhere to the regulations of the *Road Traffic Safety Rules* (道路交通安全規則) for motorcycle parking and avoid parking motorcycles in private parking lots or in places that violate traffic rules.
- 2) Do not leave keys behind: Vehicle owners are advised not to leave keys behind to prevent vehicle theft.
- 3) Do not move the vehicle: Once the vehicle's location for pickup has been determined, please refrain from moving the motorcycle to ensure that the recycling company can locate it at the designated spot.

## **11. Taiwan Aligns with International Conventions in Prohibiting Perfluorohexane Sulfonic Acid and Its Salts and Related Compounds**

**In response to the Stockholm Convention on Persistent Organic Pollutants (hereinafter referred to as the Stockholm Convention) adding perfluorohexane sulfonic acid and its salts and related compounds to its list of controlled substances, the EPA has amended the *Regulated Toxic Chemical Substances and Their Operations and Management* (列管毒性化學物質及其運作管理事項).**

**Perfluorohexane sulfonic acid and its salts and related compounds have been classified as toxic chemical substances, and operation and management regulations have been established to strengthen the management of such substances in Taiwan.**

Persistent organic pollutants possess characteristics such as being difficult to break down, having long-range transport capabilities, and bioaccumulation, which pose a health risk to living organisms. In response to this, the United Nations established the Stockholm Convention to eliminate, restrict, and reduce persistent organic pollutants, so as to safeguard human health and the environment. This preannouncement was in line with the addition of perfluorohexane sulfonic acid and its salts and related compounds to the Stockholm Convention, and took the directive list provided by the Stockholm Convention as reference. It added Annex 1 to Paragraph 1 of the announcement, which specifies the regulatory scope, encompassing 147 types of perfluorohexane sulfonic acid and its salts and related compounds, aligning with international control measures.

Perfluorohexane sulfonic acid and its salts and related compounds were added to Annex A (elimination list) of the Stockholm Convention in 2022. Due to their environmental persistence and bioaccumulation characteristics, they fall under Category 1 toxic chemicals as defined by the *Toxic and Concerned Chemical Substances Control Act*. As a result, they have been classified as Category 1 toxic chemicals, with control concentration set at the full concentration. In accordance with the Convention's provisions, their use is comprehensively prohibited except for purposes such as research, testing, and education. Additionally, control concentrations for perfluorooctane sulfonic acid, lithium perfluorooctane sulfonate, perfluorooctane sulfonyl fluoride, and perfluorooctanoic acid have been simultaneously adjusted from 0.01% to full concentration.

The EPA has investigated the usage of perfluorohexane sulfonic acid and its salts, as well as related compounds by domestic enterprises and found that these substances are primarily employed for research, experimentation, education, with no other complicated purposes. The impact of the amendment on Taiwan's industry is quite limited.

For the handling of perfluorohexane sulfonic acid and its salts and related compounds involving requirements such as permit applications, labeling, transportation, detection and alarm equipment, professional technical management personnel, and the establishment of professional response personnel, businesses have been granted a phased implementation buffer period of six months to one and a half years.

Furthermore, for the handling of perfluorooctane sulfonic acid, lithium perfluorooctane sulfonate, perfluorooctanoyl fluoride, and perfluorooctanoic acid when their concentrations do not exceed 0.01%, involving requirements such as permit applications, hazard prevention, and response regulations, businesses have also been granted a phased implementation buffer period of six months to one and a half years.

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