Major Environmental Policies

November 2024

1. MOENV Announces Carbon Fees Collection Rates

The *"Collection Rates of Carbon Fees"* (碳費徵收費率) were announced on 21 October 2024 as the MOENV approved the rates and completed relevant legislation according to the suggestions of the Carbon Fee Rate Review Committee. The rates will become effective on 1 January 2025 with details as follows:

I. **Regular rate: NT$300/ton** of CO_2e (t CO_2e)

II. **Preferential rate A** (for compliance with the industry-specific designated reduction rates mandated in Table 1 of the *Designated Greenhouse Gas Reduction Goals for Entities Subject to Carbon Fees* (徵收對象溫室氣體減量指定目標): **NT$50/t**$CO_2e$

III. **Preferential rate B** (for compliance with designated reduction rates for technical benchmarks in Table 2 of the *Designated* Greenhouse *Gas Reduction Goal for Entities Subject to Carbon Fees:* **NT$100/t**$CO_2e$

The MOENV's promulgation of the three sub-laws concerning carbon fees on 29 August 2024 has marked the arrival of carbon pricing era in Taiwan. It was then followed by the announcement of the Collection Rates of Carbon Fees, an issue of major public concern. Required by the *Regulations Governing Carbon Fee Collection* (碳費收費辦法), collection targets of carbon fee are to calculate their own greenhouse gas emissions of 2025 and pay the carbon fees accordingly in May 2026.

The MOENV stresses that the carbon fees collection aims for carbon reduction. An entity subject to carbon fees may request for the approval of a preferential rate if it proposes a voluntary reduction plan and then meets the designated goal. To help collection targets smoothly adapt the carbon fee collection system, the MOENV will organize workshops on formulation of voluntary reduction plans, and the Ministry of Economic Affairs will initiate a counselling mechanism to provide professional technical consultation and guidance and help enterprises apply for voluntary reduction plans and suitable preferential rates.

2. Construction and Operation Included for Offset to Optimize Air Pollution Increment Offset system for EIA Cases and for Better CSR

The MOENV announced the amended *Principles for Reviewing Air Pollution Emission Offsets of Development Activities* (審查開發行為空氣污染物排放量增量抵換處理原則) (Offset Principles hereinafter) on 1 October 2024. The aim is to set consistent review principles concerning offsets of increment of air pollutants generated by

development projects and also as references for environmental impact assessments (EIAs) for development activities.

The MOENV invited relevant agencies, environmental groups, developers and local governments onto eight meetings, listening opinions from all sides and the issues the environmental groups were concerned with. The Offset Principles were revised according to opinions collected and are summarized as follows:

I. Expanding offset scale: Increased emissions of air pollutants during construction activities are included in the Offset Principles.

II. Establishing offset priorities: Development projects that are stationary pollution sources shall first target stationary sources for their offset efforts on increased air pollutant emissions and, only when the offsets are insufficient, then move on to target mobile sources (replacement of vehicles), reduction regarding fugitive sources, and other reduction sources.

III. Diversifying offset sources: The revision newly added measures for offset efforts, such as introducing low-pollution transportation vehicles in industrial/science parks, obtaining voluntary management labels for clean emissions for construction machinery, and adoption of air quality purification zones. Offsets are deleted for offshore islands.

IV. Offsetting from near to far: The revisions has specified the priority for the selection of locations for which development activities conduct offsets for increased air pollutant emissions (in the same city/county, in same air quality zone, and in the vicinity of upwind cities/counties of the air quality zone). The different offset ratios are also specified, 1:1.2 for the same city/county, 1:1.3 for the same air quality zone, and 1:1.4 for the vicinity of upwind cities/counties of the air quality zone). All of the above are set to offset development-generating pollutions from the nearest sources.

The MOENV points out that the current offset principles target stationery, mobile and fugitive sources. Developers would fund existing public and private venues to cut down air pollution in order to obtain a certain proportion of offset credits for pollution reduction. Statistics from 2019 up till now show that the MOENV has reviewed 174 development projects, whose total increased air pollutants generated from development activities of developers amount to approximately 10,500 metric tons/year. The post-offset net increment has dropped to approximately 2,150 metric tons/year, a nearly 80% offset with reduction actions. This indicates that the offset system is effective in reducing the environmental impacts of new development projects. It is expected that this amendment of the Offset Principles will improve the offset system.

The MOENV is currently planning to develop an information platform for offsets of increased air pollutant emissions from development activities in response to the public call for to disclosing the offset information. The platform will provide development projects' offset promises, implementation status of offsets, as well as information of

matching those in need of diverse offset methods. This aims for transparency of offset information by helping all concerned parties learn more about offset sources, developers' offset status and offset verification.

3. MOENV Approves Forest- and Bamboo-Based Reduction to Increase Natural Carbon Sinks

The MOENV review committee of GHG offset programs and voluntary reduction projects had its eighth meeting on 28 October, approving two reduction methods of local natural carbon sinks, which are "reinforced forest-based management" and "bamboo forest-based management". By adopting these reduction methods to increase carbon sinks and obtain reduction credits, enterprises have the incentives to invest in strengthening or improving existing forestry for woodlands or bamboo forests, therefore helping achieve the goal of net-zero emission through expanding and accelerating the results of carbon sinks.

The *Management Regulations for Voluntary Greenhouse Gas Emission Reduction Projects* (溫室氣體自願減量專案管理辦法) (the Management Regulations hereinafter) specify that an enterprise that has submitted its voluntary reduction plan to apply for reduction credits are required to execute the plan by adopting reduction methods. In regard to this, the MOENV has announced 143 reduction methods under 13 categories on 1 February 2024. The Management Regulations also specify that enterprises may apply to the MOENV for review of new reduction methods in order to take in reduction methods that have advanced along with the technological evolution and become suitable for Taiwan's environmental conditions. Therefore, the Ministry of Agriculture requested the review of the two methods mentioned above in January 2024, which were later approved in the committee meeting on 28 October after the draft announcement, public opinion consultation, and discussions in meetings with experts. These two methods are the first ones that have been requested for review and then approved and involve natural carbon sinks after the promulgation of the Management Regulation.

The two reduction methods are summarized as follows:

I. Scope and conditions of application

The "reinforced forest-based management" applies to woodlands other than wetlands, where tree-based interplanting, mowing, stand density management, thinning, pruning, harvesting and other forest management measures are practiced. Applications for registration are to be submitted within three years from the implementation date. The "bamboo-based forest management", on the other hand, applies to properties with bamboos as main land uses five years before the beginning of the programs, and where bamboos (e.g., Makino bamboo and Moso bamboo) grow in a scattered manner and account for 50% or more of forest vegetations, or clusters of bamboos (e.g., thorny bamboo and long-shoot bamboo) account for 20% or more of vegetations. Both also include trees growing within the

boundaries set of the bamboo harvesting projects. These trees and bamboos shall not be logged unless it is necessary for the purpose of forest protection.

II. Determination of results of wood/bamboo products included as carbon sinks

Calculation of the results of carbon fixation of woods and bamboos after they are made into products is what sets the tree/bamboo-based forestry apart from previous reforestation. The reduction methods approved this time set specific categories for manufactured wooden/bamboo products so as to have conservative estimation of the amount of carbon captured in wooden/bamboo products, and exclude products with short lifecycle for the calculation. And to track the whereabouts of wooden/bamboo products, applicant shall provide legal documents recording harvests and transactions of wood/bamboo materials as proof, which are to be registered in the officially recognized tracking system for wooden/bamboo products.

The MOENV indicates that the domestic reduction method to increase carbon sinks is "forestation and reforestation for carbon sink" among the 143 announced methods for voluntary reduction programs and applies to forestation on non-forest lands. To provide incentives for promoting increase of carbon sinks through "existing forests of trees and bamboos", the Ministry of Agriculture (MOA) took references from the international practice of "Improved Forest Management (IFM) and drafted proposal of new reduction methods. A panel of experts, put together by the MOENV and consisting of external experts and scholars review committee members, reviewed these methods based on the environmental, technological and legislative conditions of Taiwan in hopes that they are suitable for Taiwan's forest development. The methods can be adopted by enterprises committed to acquire reduction credits via forest management and help increase natural carbon sinks in Taiwan and therefore achieve the goal of net-zero emission.

The two approved reduction methods will be announced by the MOENV on the Voluntary Greenhouse Gas Reduction and Offset Information Platform for public access, once they are revised by the Ministry of Agriculture (MOA) according to the meeting resolutions. The MOENV reminds all that forest management are to comply relevant regulations and recommends careful evaluation as planning and implementation of voluntary reduction programs require a certain degree of professional expertise as well as substantial manpower, resource, and time. For maximized benefits, the MOENV also suggests that those interested tion plan thoroughly, apply for registration, ensure compliance with relevant requirements, and, after being reviewed and approved, proceed to implementation.

4. IEMN Meeting Shows US-Taiwan Efforts in Leading Global Electronic Product Circulation Strategies

The MOENV's Resource Circulation Administration (RCA) organized the 2024 International E-Waste Management Network (IEMN) Annual Meeting. The event was

launched on 2 October with more than 70 guests from Argentine, Brazil, Colombia, Malaysia, the Philippines, Thailand, Tuvalu, the US and Vietnam as well as the MOENV's partners in Taiwan. Attendees discussed global strategies of electronic product circulation, shared experience and technologies, and led partner countries in resource circulation to improve efficiency of resource use and reduce extraction and use of resources.

The IEMN's establishment was facilitated when Taiwan signed the environmental technology agreements with the US. Both the US and Taiwan have been working together since 2011 to promote the IEMN and dedicated to appropriate disposal of electronic wastes around the world, helping all partner countries establish effective management system and develop technologies with their wide influence. The IEMN is transitioning gradually from focusing on recycling and disposal of electronic wastes in the past to developing circular economic strategies toward the goal of net zero and sustainability.

In his opening speech, the MOENV Minister Peng Chih-Ming mentioned that Taiwan strives for net-zero emission with recycling playing an important role in its pathway to net zero by 2050. In the past the Environmental Protection Administration (predecessor of the MOENV) had since its establishment been dedicated to extending manufacturers' responsibilities with the unique fee collection and subsidization system and also promoting the 4-in-1 recycling program. Now, the MOENV has been founded and makes further efforts to create a circular economy. For years, garbage sorting has become a new fashion that is intertwined with people's daily life, with a recycling rate of over 58%.

Minister Peng pointed out further that electric appliance and electronic products are a major part of Resource Circulation and Zero Waste, Taiwan's eighth key strategy for 2050 net-zero transition. The RCA has been making efforts to launch environmental protection policies different from the previous ones in aspects from circular design, source management, intensified recycling to circulation for reuse, such as establishing maintenance index for electronic products and promoting digital product histories, rental instead of purchase, and circular procurement for a sharing economy. There are also policies that provide preferential rates as economic incentives for use of recycled plastics in electronic products, which with those above encourage practice of green designs and help it become a driving force. At the same time, the RCA combines the consensus of environmental protection with cultural creativity to promote environmental education and motivate public participation, thus making environmental protection easier.

Facing the brutal challenge of promoting resource circulation, Taiwan has started to utilize strategies to operate as a group, integrating multiple resources and looking for ways to establish alliances within the same industries or among different industries. Various industries are encouraged to develop new competition models, come up with different products or technologies, accelerate upgrades and transformations, and maintain its edge in the international market.

Aiming to continue exchanges with the world on environmental protection, this three-

day event included discussions where policies and practices were shared, appliance maintenance activities, and visits to enterprises. More importantly, Taiwan was able to interact with its friends around the world, build a more solid cooperation platform, and set a new milestone for an environment capable of sustainable development by sharing its experiences.

The US and Taiwan jointly lead international partners in global electronic product circulation strategies and hold the annual IEMN meeting in Taiwan from 1 to 3 October.

The RCA Director General Lai Ying-ying welcomes guests to the IEMN meeting in Taiwan on 1 October.

The MOENV Minister Peng stresses the transition from recycling of electronic wastes to development strategies for a circular economy (opening ceremony conducted online due to typhoon)

Jane Nishida, Assistant Administrator of the USEPA's Office of International and Tribal Affairs, recognizes Taiwan's efforts in proper disposal of global electronic wastes and helping partner countries establish effective management system and develop technologies (opening ceremony conducted online due to typhoon)

5. Added PFAS Limits in Drinking Water Quality Standards Scheduled for Promulgation Alongside Source Control

The MOENV preannounced the amended *Drinking Water Quality Standards* (飲用水水質標準) on 21 August, adding the concentration limits of Per- and Polyfluoroalkyl Substances (PFASs) in drinking water and testing and management requirements. Once the amendment completes the legislation procedure and is promulgated, efforts will be made to reinforce random sampling and inspections and, at the same time, continuously strengthen source management and testing investigations.

I. Stricter than recommendations drafted by the WHO

The MOENV mentioned that the revision was drafted based on international regulations, toxicological parameters, water purification technologies, testing methods and costs, Taiwan's studies during the years and expert consultation. The draft's control standards are tighter than those ones proposed by the International Health Organization (WHO) in 2022 (two to four times stricter in terms of perfluorooctanoic acid (PFOA) and PFOS together.

Management of PFASs in drinking water varies widely around the world with compulsory standards or recommended values. The US has set rigorous drinking water quality standards for PFASs on 10 April 2024, but other countries are still evaluating. It is because the US has relatively serious PFAS pollution due to many years of manufacture, and its standards focus on investigation and improvement,

requiring monitoring to be completed within three years and improvement measures to be implemented for those who exceed the standards within five years.

The draft revision stipulates that water suppliers, such as Taiwan Water Corporation, shall conduct regular testing and submit management plans when drinking water is found to exceed standards, starting from the next year until 1 July 2027. Competent authorities of environmental protection are mandated to perform sampling inspections. The MOENV will select high-potential hot zones (such as those with water sources affected by airports, landfills, etc.) as priority targets.

II. Intensified source control and testing management

The UN has established the Stockholm Convention on Persistent Organic Pollutants (the Stockholm Convention hereinafter) to keep persistent organic pollutants (POPs) from harming the environment. Despite not a member of the Stockholm Convention, Taiwan is willing to demonstrate its directions and actions in POPs control, as the Executive Yuan approved the cross-ministerial National Implementation Plan for Stockholm Convention on POPs on 3 July, 2008 as basis for agencies involved for their control efforts. PFASs are one type of POPs monitored by the Stockholm Convention, and the ministries involved have started PFAS management according to the Stockholm Convention.

To align with practices taken by advanced countries such as the EU, the US, and Japan to strengthen PFAS controls, the MOENV has worked with relevant ministries and formulated a cross-agency PFAS Management Action Plan (draft) for the approval of Executive Yuan on 1 July 2024. The plan specifically expends a dedicated chapter for PFASs to focus on inter-ministerial cooperation. Recourses will be integrated for source management, tracking of distribution, international alignment, and risk communication, aiming to strengthen PFAS substance management. All tasks are underway now.

As an effort to strengthen management of emerging pollutants in wastewater, the MOENV has also announced the draft of partial amendment of the *Water Pollution Control Measures and Test Reporting Management Regulations* (水污染防治措施及檢測申報管理辦法) on 26 September. The regular testing of PFASs is mandated for the emerging concerned perfluorinated chemicals in wastewater emitted by science/industrial parks and those using related agents in their manufacturing processes, such as high-tech industries and electroplating. Those whose concentrations exceed the warning limits shall propose measures to cut down and control pollutants and strengthen reductions in discharges. Moreover, the amendment focuses on management of emerging concerned substances by requiring hospitals over a certain scale to test and cut down antibiotics and other medicine in wastewaters.

III. Acceleration of legislation for immediate implementation and management

The MOENV will incorporate, and review opinions collected from relevant departments for adjustment and accelerate the legislation process. The announcement is scheduled at the end of 2024, and it is expected to include random sampling and inspections to enhance regular operations to ensure the safety of drinking water and improve source control. The MOENV will continue to monitor international trends and tighten controls with reviews on a rolling basis.

6. Making Taiwan's carbon pricing system complete, Ministry of Environment entrusts TCX for trading and auctioning of domestic reduction credits

The MOENV announced the *Management Regulations for Trading, Auction, and Transfer of Greenhouse Gas Reduction Credits* (溫室氣體減量額度交易拍賣及移轉管理辦法) on 1 July 2024 to provide reduction credits for enterprises to offset emission increments or deduct carbon fees. Taiwan's carbon pricing mechanism has been thoroughly set up as the Taiwan Carbon Solution Exchange (TCX) was commissioned to officially launch the Domestic Reduction Credit Trading Platform in September 2024 for trading and auctions of reduction credits. To ensure enterprises with actual needs acquire reduction credits in a safe and secure manner, the regulations stipulate that credits can only be transferred by the MOENV once and require full disclosure of all trading information. The disclosed information will be made available for the public to examine enterprises' carbon trading activities in order to effectively avoid concerns about greenwashing.

The MOENV pointed out that the reduction programs whose applications have been filed and that are currently on the platform will all have their credits traded at a fixed price. There are six offset programs in total, which are China Steel Corporation's energy conservation from furnaces for steel billets, Taipei 101's adoption of high-energy efficiency lighting in its building parking space, Han-Bao Agriculture and Livestock's power generation with methane from wastewater treatment (third-phase), Chimei Corporation's replacement of fuel oils with natural gas, and Han-Cheng Bus Traffic Company's electric buses. Their combined reduction credits, available for trading, are equivalent to 6,080 metric tons of carbon dioxide, priced at NT$2,500 to 4,000 per metric ton. What deserves attention is that the reduction programs on the platform including energy conservation in production process and in commercial buildings, recycling and power generation of methane in livestock farming, replacement of fuels for energy supply, and replacement of fuel vehicles with electric ones. Each of them belongs to the five major emission categories, such as manufacturing, residence and commerce, agriculture, transportation, and energy, so they serve as great demonstrations that help lead and encourage others in all aspects to conduct voluntary reduction and participate the trading and auction mechanism.

7. Minister Peng Foresees "Intelligent Environmental Governance" as AI Training Program for MOENV Personnel Launched

The Ministry of Environment (MOENV) launched the "AI (artificial intelligence) seed trainer training program" on 8 October 2024. Taiwan's Minister of Environment, Dr. Peng Chi-Ming, expressed high expectations for the program, pointing out that it is not only an important MOENV milestone for incubation of internal AI talent, but also demonstrates the MOENV's determination to move toward "intelligent environmental governance". Minister Peng clearly indicated on the first day of his term that AI technology will be a key pillar of environmental policy implementation. This training program is testimony to this commitment.

Minister Peng pointed out that the rapid development of AI technology is reaching into all corners of society and raises new challenges and opportunities for environmental governance. In such an era, the MOENV will not be a bystander but an active leader in promoting technological innovation and sustainable development.

Minister Peng emphasized that environmental issues are becoming increasingly complex. From climate change and energy use to natural resource management, every level involves massive amounts of data, complicated models, and real-time decision-making needs. Traditional data processing means are important, but if AI technology is put to good use, whether it is data analysis, predictive modelling, or intelligent management, AI can greatly improve efficiency and precision for decision-making. For example, AI will be able to more accurately predict changes in air quality, detect ecological anomalies more quickly, and provide optimal energy usage recommendations. This technology is a major boost for the aims of environmental protection and sustainable development.

Upon taking office, Minister Peng instructed the MOENV's Department of Monitoring and Information to formulate the *"MOENV Digital Transition Promotion Plan"* (環境部數位轉型推動計畫) aimed at enhancing the ability of MOENV staff to use artificial intelligence in environmental administration and affairs, and to apply emerging technologies to executing tasks, while the National Environmental Research Academy (NERA) helped by organizing training courses for seed trainers. The MOENV aims to improve the AI operating skills of its staff through systematic digital skills training and foster the effective application of AI in their daily work.

The AI-series programs provided by the NERA cover AI applications and practical training courses, including for example "Introduction and Application of the Principles and Applications of the TAIDE Model for Natural Language Processing", "Introduction to Data Governance Applications", "AI Visual Generation Training – Entry Level", "Practical Application of Generative AI in the Workplace", "Practical Application of AI Big Data Analysis and Application", "Python machine learning practical application study" and "Process automation design practice – Open AI + RPA robot". The MOENV estimates there will be over 300 initial enrolments in these training programs by its staff members.

Minister Peng stressed that AI is not just an abstract concept, but a powerful tool for every MOENV task. He foresees MOENV staff will learn how to apply AI in their daily work to bring concrete improvements to the environment.

AI seed trainers in a training session

8. Digital Resources Shared to Enhance Monitoring of Vehicles Transporting Toxic Substances

In an effort to strengthen transportation safety and the capacity to respond to incidents involving toxic chemical substances and other substances of concern, the Ministry of Environment (MOENV) actively promotes cross-departmental data sharing and technical applications of its transportation vehicle tracking system. After its official launch on 1 October 2024, a real-time digital tracking system (GPS) application for transportation vehicles can now be installed. The presentation of information on the real-time monitoring platform has been refined to improve the prevention of transportation hazards and the efficiency of any responses required by government agencies and transportation operators. These changes benefit the integration of information, full monitoring of travel and reduction of losses due to accidents.

The MOENV has successfully made interfaces between the environmental protection permit information system, vehicle license data from the Highway Bureau of the Ministry of Transportation and Communications, and company registration information from the Administration of Commerce under the Ministry of Economic Affairs. The MOENV then completed digital application functions for installing real-time tracking systems (GPS) in vehicles transporting toxic and concerned chemical substances, while simultaneously launching online application services for mobile devices. Businesses are now able to take photos and upload required information in

real time through their mobile devices in order to complete applications online, thus bypassing the tedious paperwork traditionally required and greatly improving the efficiency of applications and of administrative work.

Director General Yein-Rui Hsieh of the Chemicals Administration, MOENV, described how the trajectories of vehicles carrying toxic/concerned chemical substances and information on these substances are made available on the information management platform for vehicles transporting hazardous materials, maintained by the Highway Bureau under the Ministry of Transportation and Communications. This is an example of inter-ministerial cooperation and the application of data sharing technology. Access to the system monitoring map platform is provided through the 119 dispatch APP of the National Fire Agency of the Ministry of the Interior, which allows firefighters to see the distribution and locations of vehicles carrying toxic/concerned substances at or near an accident site. In addition, the Chemicals Administration continues to cooperate with the National Science and Technology Center for Disaster Reduction on incorporating data on trajectories of vehicles carrying toxic/concerned chemical substances into the disaster information network, thus strengthening the collection of information and improving the overall effectiveness of disaster response.

Director Hsieh emphasized that as many as 1,080 icons representing vehicles were redesigned and developed based on the status of vehicle movement (e.g., driving, idling or engine shut down), vehicle type (e.g., frame type, van or tank truck) and the substances carried, in order to improve the clarity and usefulness of the monitoring map platform. These icons cover the combinations of 3 types of vehicle bodies, 3 vehicle statuses, 8 travel directions and 15 types of substances carried, which allow the competent authorities and operators quick identification of the types of substances being carried, how vehicles are moving and their direction, thus improving fleet self-management and safety monitoring.

The MOENV pointed out that transportation requirements have been incorporated in relevant legislation since 2007, and 1,781 vehicles have been registered for monitoring so far. In 2023, a total of approximately 4.38 million metric tons of toxic and concerned substances were transported. Either the competent authorities or transportation operators will be given the responsibility to track the whereabouts of toxic/concerned substances through the toxic and concerned chemical substance transportation vehicle tracking system. The system will report any incidents in real time, distribute emergency response information and provide better information integration, full-journey monitoring and reduction of losses due to accidents.

Director General Yein-Rui Hsieh explaining the information platform for vehicles transporting toxic chemical substances.

Director General Yein-Rui Hsieh presenting information boards on transport of toxic substances.

9. Taiwan's First Low-Carbon Electric Recycling Trucks Launched in Chiayi City

In answer to calls for 2050 net-zero emissions and a transition to electric vehicles by

the National Development Council, the Resource Circulation Administration (RECA) of the Ministry of Environment (MOENV) will be promoting a "gradual transition to a fully electric fleet of recycling vehicles". The electric recycling vehicles will be low in CO_2 emissions, noise and energy consumption, and be examples of exhaust emission reduction and compliance with trends toward green transportation. The Chiayi City Government selected Kuozui Motors to launch the first electric recycling truck, introduced to the public on October 21. The vehicle then became the first electric-powered truck to run a regular recycling route in Taiwan, providing an estimated reduction of 60.9% of CO_2 emissions.

The Resource Circulation Administration (RECA) of the MOENV has been promoting low-carbon, smart garbage and recycling vehicles since 2018, and has gradually phased in 365 hybrid-powered recycling vehicles. A hybrid vehicle features an average of 23.3% CO_2 reduction compared to a diesel vehicle. As a part of a pilot plan to collect recyclables at local communities and village recycling spots, the RECA helped the Office of Environmental Management of the Taoyuan City Government introduce the 1.9-ton electric recycling trucks developed by CMC Motors. Compared to their diesel counterparts, the electric vehicles perform admirably in both energy consumption and CO_2 reduction. On October 21, the Chiayi City Government purchased two new electric recycling vehicles that are scheduled to run the recyclables collecting routes at Hunei Village. This is the first recyclables collecting route run by electric vehicles in Taiwan, signifying the first step of gradual replacement of older trucks by electric recycling vehicles throughout Taiwan.

The RECA indicated that this presentation not only demonstrated the technical advancement of electric recycling vehicles in Taiwan, but also provided an opportunity for local environmental bureaus to learn more about fully electric recycling vehicles. It is expected that the low-carbon, smart recycling vehicles will make the work environment safer and more environment-friendly for cleaners, and help Taiwan achieve its net-zero emissions goal through the transition to low-carbon, smart vehicles.

Director General Lai Yingying of RECA (fourth from left), Mayor Huang Ming-Hui of Chiayi City (fifth from left) and Chairperson Chen Tzu-Wen of Chiayi City Council (sixth from left) witnessing the launch of electric recycling vehicles in Chiayi City.

The RECA gave its thumbs up to the first electric recycling vehicle in Taiwan developed jointly by the Chiayi City Government and CMC Motors.

The first electric, zero-emission electric recycling vehicle in Taiwan

10. Ministry of Environment Amends "Criteria for Fines for Air Pollution Emitted by Mobile Pollution Sources"

The Ministry of Environment (MOENV) announced an amendment to the "Criteria for Fines for Air Pollution Emitted by Mobile Pollution Sources" (移動污染源違反空氣污染防制法裁罰準則) on 28 October 2024. The amendment specifies the applicable equations to determine penalty amounts and adds penalties for violations of mobile pollution source control measures within air quality maintenance zones. Also, the penalties for fuel manufactured, imported for, or sold to mobile pollution sources that do not meet emission standards have been increased, as authorized under the current *Air Pollution Control Act*.

This amendment took into consideration the promotion by local environmental bureaus over the years of air quality maintenance zones and incorporates into the penalty criteria the factors behind violations committed by mobile pollution sources within air quality maintenance zones. To tighten management of pollution sources, failure to meet exhaust standards during inspections of car manufacturers or importers have also been included in the Criteria. The degree of a violation is also determined by the number of unqualified manufactured or imported vehicles found by inspections. Furthermore, penalties have been included for fuels manufactured, imported for, or sold to mobile pollution sources that exceed certain component control criteria, which place more responsibilities and obligations on fuel suppliers.

The MOENV indicated that this amendment takes into consideration the practical needs of law enforcement and revises how penalty amounts are determined. It will serve as the basis for the MOENV and local environmental bureaus in penalty determination and will improve the administrative efficiency of law enforcement.

11. Department of Atmospheric Environment Sends Delegation to Thailand to Share Experience in Air Pollution and Noise Control

The Ministry of Environment (MOENV) is always on the lookout for opportunities to interact with Southeast Asian countries in the area of environmental protection. On 29 October 2024, Deputy Director General Chang Ken-Mu of the Department of Atmospheric Environment departed with a delegation to Thailand to exchange insights on the control of air and noise pollution with the Pollution Control Department of Thailand (PCD) and other relevant officials. The Thai officials were impressed by how successfully Taiwan has been performing in terms of effective pollution control and aims to increase interactions and learn more in order to duplicate Taiwan's successful efforts.

The MOENV expressed that this visit was in fact an extension of the South & Southeast Asia–Air Improvements in the Region (SSEA-AIR) cooperation activity conducted between the US EPA and the MOENV in September 2024, as Thai representatives mentioned at that time the difficulties, they were facing in air pollution and noise control. Thus, the Department of Atmospheric Environment prepared a summary of its successful experience in making improvements in recent years and sent a delegation of experts to Bangkok for an in-depth discussion with Thailand's counterparts. It is hoped the visit will serve well in developing relevant strategies to improve air quality in Thailand.

The MOENV pointed out that PCD Thailand is extremely interested in several aspects of Taiwan's air quality control which have been implemented in Taiwan for years, including: the air pollution control fee system; the air pollution prediction and warning system; communication mechanisms between local and central governments in case of severe air pollution events; the use of AI technology for fugitive pollution source control, and; innovative law enforcement measures using acoustic photography. The Thai officials are looking forward to more learning and interaction sessions and posted a news release about the visit on PCD Thailand's website, indicating how much their government values this event.

The MOENV indicated that this event between PCD Thailand and the Department of Atmospheric Environment is a great example for further international cooperation with Asian countries, showing that Taiwan is capable of providing assistance in air pollution control in Asia, doing one's part as a citizen of the planet, creating a win-win cooperation model for all parties involved and accelerating the improvement of regional air quality.

Deputy Director General Chang Ken-Mu of the Department of Atmospheric Environment, MOENV, presenting a token of friendship to the Director of PCD Thailand.

MOENV delegation with the Director, Deputy Director and officials of PCD Thailand