Major Environmental Policies

January 2025

1. Draft Announced for Stage III Regulatory Goals to Increase Reduction Efforts and Expend Inventory

The MOENV just released the draft Stage III Periodic Regulatory Goals of Greenhouse Gas (GHG) Emissions and information on the public hearing on 30 December 2024 according to Article 10 of the *Climate Change Response Act* (the *Climate Act* hereinafter) (氣候變遷因應法). The draft increases Taiwan's 2030 GHG emission reduction goal from the nationally determined contribution (NDC) first announced in 2022, which is a 24±1% reduction compared to emissions of the base year (2005), to a 28±2% reduction compared to emissions of the base year (2005). It also proposes to have the electricity emission factor reach 0.319 kgCO_2e/kWh by 2030 (a 35% reduction compared to the status) and includes the periodic regulatory goals for the six major sectors, which are energy, manufacturing, residence and commerce, transportation, agriculture and environment. The MOENV said that the public hearing regarding the draft Stage III Periodic Regulatory Goals of Greenhouse Gas Emissions will be held at the multifunctional meeting room on second floor of the MEONV's rear wing at 2:00 p.m. on 7 February 2025 and streamed live online, hoping to start a science-based dialogue with society.

The MOENV pointed out that President Lai declared the escalation of climate actions on 24 October 2024 at the meeting of the National Climate Change Committee to enhance the edges of Taiwan's industries in the global competition, increase the pace to align with international NDCs, and review the 2030 goals to make major breakthroughs with greater ambition. Taiwan's new carbon reduction goals for 2032 and 2035 were also set at the meeting. MOENV proposed and submitted the draft of the Stage III Periodic Regulatory Goals of GHG Emissions according to relevant regulations to the Climate Change and Net-Zero Transition Task Force (hereinafter the Task Force) of the National Council for Sustainable Development under the Executive Yuan to establish coordination mechanism and cross-departmental discussions. The Task Force has already had eight cross-departmental meetings, two for decision making among heads of department, and three for their own since August 2024. Experts such as members of the National Climate Change Committee have been consulted to review several flagship projects on strengthening and escalating transitions in the six major sectors. They are, for the energy sector, about acceleration (wind and solar power) and breakthrough (geothermal energy and small-scale hydropower) for renewable, energy storage technologies, methane pyrolysis, hydrogen (NH_3-containing) energy supply chain, and carbon capture, storage, and sequestration; for the manufacturing sector, about self-designated carbon reduction, in-depth energy conservation, and carbon reduction in state-run enterprises; and for the residential and commercial sector, about net-zero buildings and energy conservation. Not only so, but transition for the transportation sector also means

transformation of vehicles, such as promoting electric and zero-carbon ones for commercial vehicles as well as sustainable aviation fuels (SAFs); and transition in the agricultural sector aims to deepen carbon reduction in the form of agricultural and ecological resilience, carbon sink, and low-carbon, sustainable agriculture. Finally, for the environmental sector, the MOENV has proposed a cross-departmental resource circulation flagship plan and launched the carbon pricing mechanism.

The MOENV stressed that, in comparison with the neighboring Asian countries, the new 2030 goal of "a 28±2% reduction compared to emissions of the base year", reset under the draft Stage III Periodic Regulatory Goals of GHG Emissions, is next only to Japan's 41% reduction by 2030 when calculated with the same base year (2005). Calculation of each country's individual annual reduction against peak emissions shows that Taiwan's 2030 goal as opposed to the emissions peak in 2007 displays reduction by as much as 34%-38%, close to that of Korea (-40%) and next only to that of Japan (-46%). Looking down the road, the government will stay aligned with the world by proposing the new national reduction goals through the National Climate Change Committee.

With the new reduction goal, the MOENV will expand the scope of those subjects to inventory and registration. Regulations regarding inventory, registration, and verification under the *Climate Act* mandate these targets to conduct only GHG emission inventory and registration, but not verification, and those subject to carbon fees are not included for the time being. Those who meet the announced conditions are to complete inventory and registration of their GHG emissions of the previous year by 30 April every year starting 2026. Those expected to be newly added under the expanded list subject to inventory include enterprises in information service, department stores, shopping malls, wholesale stores, railway, metro transportation, hospitality enterprises, and colleges of which the annual emissions reach 5,000 metric tons of CO_2e for a single premise and 10,000 metric tons of CO_2e for the entire enterprise Others include convenience store franchises, supermarkets and telecommunications enterprises with 100 or more storefronts; as well as enterprises in passengers and cargo transportation that operate 200 or more vehicles, medical centers, and small- and medium-sized manufacturers with emissions up to 10,000 metric tons of CO_2e for a single premise. It is expected to be newly listed with approximately 500 enterprises (with roughly 20,000 storefronts) as targets subject to inventory. Such measures expand inventory scope allow more enterprises to better understand correlations between energy use and carbon emission, identify high-emission sources, and enhance carbon reduction through energy efficiency.

Government agencies will join the line of carbon inventory efforts in addition to expansion of the inventory scope. First, completing its internal GHG emission inventory for 2023 in November 2024, the MOENV will promote internal carbon inventory within every agency by organizing workshops. while for the moment focusing on internal carbon inventory within government agencies starting 2025. The aim is to expand reduction efforts through collaboration between the public and private sectors and with all industries and sectors.

Minister Peng Chih-Ming explains the draft Stage III Periodic Regulatory Goals of GHG Emissions

Director General Tsai Ling-Yi explains the preannouncement of expanded inventory and registration

2. Amended *Effluent Standards* Announced

The MOENV released the amended *Effluent Standards* (放流水標準) on 18 December 2024 to maintain water body quality and promote pollutant reduction and control. This amendment has added or tightened controls on ammonium nitrogen, phosphorus, copper, and free available residual chlorine, lowered the loads of high-concentration phosphorus discharged into water bodies, and continued reducing copper concentration in certain river basins. All aims to improve water body quality and facilitate reutilization of wastewater (sewage).

The MOENV further explained that the pollution reduction efforts have seen substantial achievements since 13 types of industries including wafer foundry and semiconductor manufacturing were added for ammonium nitrogen control in the *Effluent Standards* in 2011. However, within enterprises discharging ammonium nitrogen not listed for control, leathermaking (manufacturing of finished wet-blue leather products), printed circuit board manufacturing, slaughtering, meat product manufacturing and markets, hospitals, and medical institutes still discharge wastewater in relatively high concentration of ammonium nitrogen, presenting a need to include them for control. Therefore, ammonium nitrogen control has been added regarding them in the revised *Effluent Standards*.

Considering that phosphorus is a nutrient salt, Taiwan's phosphorus control applies only to those with discharges into water quality/water volume protection areas for tap water to lessen impacts on water body ecosystems. Total phosphorus control is added in the *Effluent Standards* targeting wafer foundry and semiconductor manufacturing, photoelectric material and part manufacturing, and wastewater sewage systems of science parks, all of which discharge wastewater with high concentration of phosphorus and have potentials of reutilization. Such revision was made with reference to relevant controls abroad and in consideration that certain industries often discharge wastewater containing high concentration of phosphorus that affects water bodies or causes their eutrophication.

The MOENV pointed out that the copper control limits were tightened since 2017 for the effluent discharged from metal-related industries, science parks, industrial parks and petrochemical parks above a certain scale, which has produced results in pollution reduction. Considering the lower rate of copper meeting water body quality standards at certain river basins, the copper control limits have been added or tightened in the *Effluent Standards* for the abovementioned targets and metal industries that did not reach a certain scale to improve water body quality and encourage these enterprises to reutilize discharged copper.

Moreover, it is known that excessive adding chlorine in hospitals, medical institutes and public sewage systems leads to high levels of residual chlorine or generates byproducts from disinfection, therefore harming aquatic organisms. To prevent this, the revision of the *Effluent Standards* has added control on free available residual chlorine, whose limit is not to exceed 2 mg/L. However, this requirement does not apply in circumstances concerning prevention and control of infectious diseases or special hygiene and disinfection.

The MOENV stressed that this amendment is based on international regulatory trends, results of domestic industrial wastewater research, impacts on water body and quality, domestic public concerns and feasibility of treatment technologies. Approximately 3,000 enterprises are to be affected, and a buffer period is set for them to make improvement. In the case of total phosphorus control, apart from the buffer periods given for limits in three separate stages, those which encounter technical difficulties or whose improvement involve construction projects are to propose effluent pollutant reduction management plans to postpone the date in which controls take effect. In addition, MOENV is currently proposing a plan for wastewater reutilization and low-carbon smart treatment to obtain subsidies for demonstration sites of green transition of wastewater treatment. Enterprises are interested in resource reutilization and low-carbon technologies, such as reutilization of copper and phosphorus in wastewater, introduction of AI management for precise dosage of agents, and energy generation via anaerobic digestion, and eligible may apply for subsidies to local competent authorities from 2025.

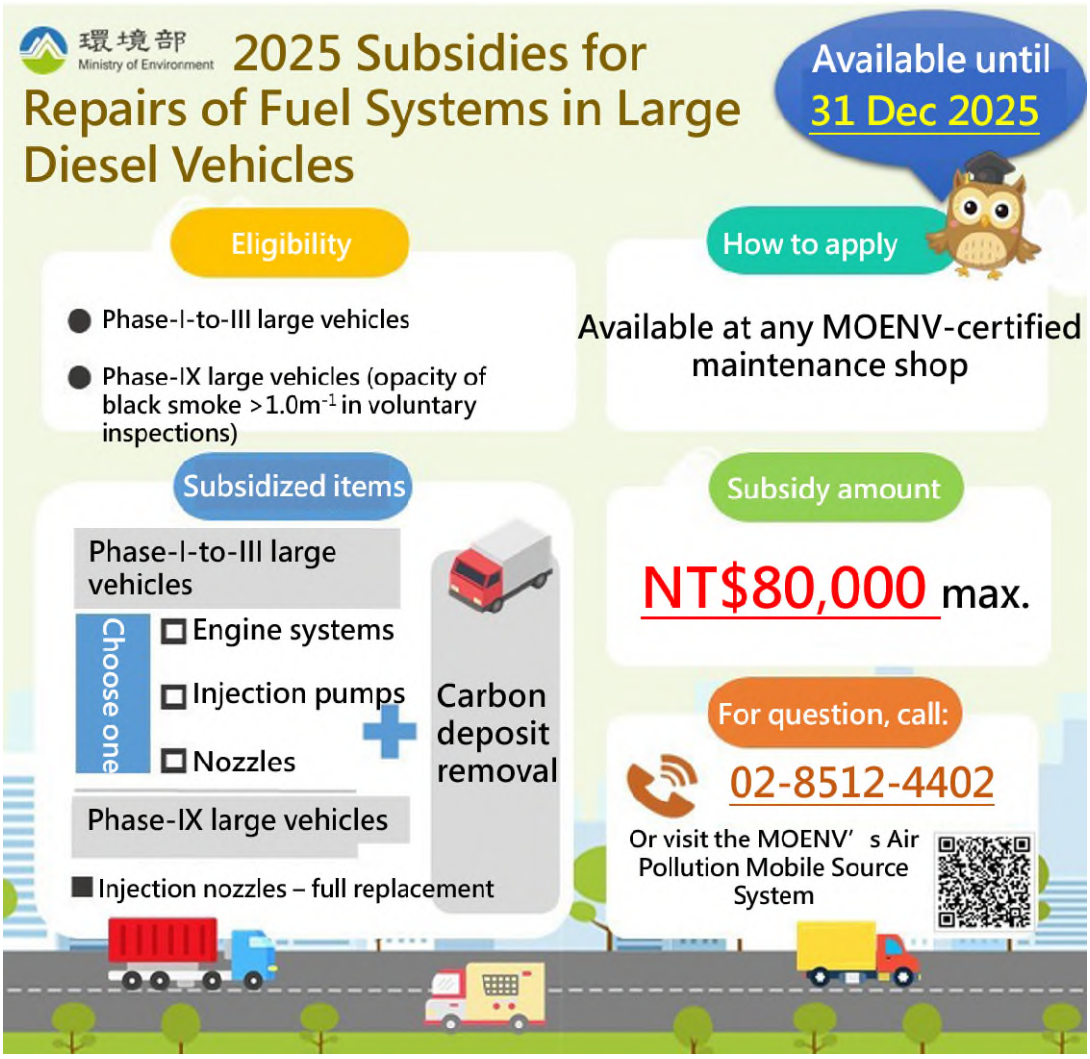
3. Subsidies Extended for Large Diesel Vehicle Repairs to Encourage Owners to Maintain Air Quality

The MOENV announced the amended Regulations Governing Subsidies for Repairs of Fuel Injection Systems or Installations of Air Pollution Control Equipment on Large Diesel Vehicles" (referred to as the Regulations hereinafter) on 12 December 2024. This amendment extends subsidization to 31 December 2025 and newly makes Phase-IX large diesel vehicles whose opacity of black smoke exceeds 1.0 m^{-1} during voluntary inspections eligible for subsidies, helping owners cut down pollutant emissions from their vehicles. Subsidy is up to NT$80,000 per vehicle, which helps owners improve air quality while making a living.

Statistics of fine particulate matters ($PM_{2.5}$) emitted by mobile sources indicate that the Phase-I-to-III large diesel vehicles account for the largest percentage, as pointed out by the MEONV. Subsidies have hence been provided for repairs of fuel injection systems for these vehicles since 2019, with which owners commission MOENV-certified maintenance shops for maintenance of engine systems, injection pumps or injection nozzles (one or more of the three) and carbon deposit removal. Starting from 2025, Phase-IX large diesel vehicles whose opacity of black smoke exceeds 1.0 m^{-1} are eligible for the subsidies, aiming to encourage owners to take voluntary inspection. Owners are eligible for subsidies by having their vehicles serviced at MOENV-certified maintenance shops to replace injection nozzles with new ones and remove carbon deposits. It is hoped to work with vehicle owners to cut down on pollutant emissions.

The Regulations were initially scheduled to end at the end of 2024 but are now extended up to 31 December 2025 considering that subsidization is still manageable under the Air Pollution Control Fund. As of the end of November 2024, there were approximately 70,000 Phase-I-to-III large diesel vehicles, and 10,000 of them need improvement. For Phase-IX large diesel vehicles that fail to secure voluntary management labels in voluntary inspections, it is estimated that roughly 2,000 of them are in need for the repair subsidy. Subsidy is up to NT$80,000 per vehicle for Phase-I-

to-IX large diesel vehicles eligible for the subsidies. The aim is to enhance the reduction of pollution from mobile sources by increasing subsidies for large diesel vehicles and extending subsidization.



2025 subsidies for repairs of fuel systems in large diesel vehicles

4. Preferential Fee Rates Available for Container Recycling, Clearance and Disposal

The MOENV will start providing preferential rates for container recycling, clearance and disposal for refilling of glass containers, use of recycled materials for plastic containers, and green designs for plastic containers on 1 January 2025. Such move is in response to the international call of sustainable development, circular economy trends and Taiwan's own resource circulation policies.

The MOENV indicates that the table of the first item under the *Fee Rates for Container Recycling, Clearance and Disposal* (容器回收清除處理費費率) is amended to maximize resource circulation, minimize waste disposal, create new circular operation (business) models, and respond to the global ideas of resource circulation and green design. Economic incentives are provided, with a 50% preferential rate for enterprises

to adopt recycling and reuse mechanism for glass containers; a 15% preferential rate for using recycled materials in plastic containers; and an additional 15% to 30% preferential rate for green designs such as use of pure materials, original colors, reduced labeling or tethered caps. A preferential rate up to 45% is available for plastic containers, qualifying all the requirements to encourage recyclable container manufacturers and importers to adopt green concepts and facilitate sustainable consumption and production.

5. Resource Circulation Administration establishes cell phone recycling rules to help citizens recycle their old cell phones by extending producers' responsibilities

New smart phones come out every year, and 5 million phones are sold in Taiwan every year. A cell phone contains many chemical elements in its parts, and recycling helps reduce mining for new materials and CO_2 emissions. In Taiwan, however, only 12% of cell phones are recycled. Seeing this, MOENV's Resource Circulation Administration (RCA) has announced regulations on cell phone recycling, mandating cell phone manufacturers, importers and retailers to take responsibility for recycling. It is hoped that old phones can be reutilized afterwards and that enterprises come up with circular services, such as cell phone rental or repairs. The regulations will be in effect on 1 January 2025.

The RCA's survey indicates that more than 50% of people have at least an old cell phone lying somewhere at home instead of recycling them. A closer look into the results suggests reasons including not knowing recycling locations, lack of incentive, or worries of exposing personal information. *The Regulations Governing Recycling and Circular Services of Waste Mobile Phones and Enterprises with Sorting and Recycling Labels* (應執行廢行動電話回收、循環服務與標示分類回收標誌之業者範圍及其他應遵行事項) announced this time specify that a recycling and sorting label shall be put on cell phones manufactured or imported starting from 1 January 2026. Cell phone brands and retailers are required to shoulder up recycling responsibilities. In addition to providing recycling facilities at the business venues, instructions should be provided at the entrances and exits indicating how to recycle old phones, the appropriate measures of destruction or precautions to be taken to prevent exposure of personal information, and rewards for consumers for recycling their old cell phones.

Furthermore, cell phone recycling and circular use are promoted to keep the recycling action going by including services such as cell phone recycling and rental and old phone buybacks or repairs. Starting from 2026, relevant enterprises shall produce annual reports on the cell phone recycling rate of the previous year, which shall be 15% or higher. Those who fail with the recycling rate shall propose an improvement plan, and failure to achieve the required rate in the next year will be subject to a penalty of NT$30,000 to 150,000 according to the *Resource Recycling Act* (資源回收再利用法).

6. 2024 air quality monitoring released for precision governance of air pollution

MOENV produced the 2024 air quality monitoring results and found decreasing trends in concentration of all pollutants for the last five years. The number of station-days with air quality index (AQI) at good or moderate (AQI≦100) accounted for 94% in 2024. The number of station-days with unhealthy AQI (AQI>100, orange alert or above) continued to drop. At the end of 2024, the average concentration was 12.7 μg/m^3 for the fine particulate matters ($PM_{2.5}$) nationwide, showing improvement from 13.7 μg/m^3 in the previous year. This could not be achieved without the joint efforts between central and local governments on carrying out various air pollution control strategies. On top of that, both the number of rainy days as well as rainfall increased in the second half of 2024, and the percentage of weak winds decreased, both of which helped with removal and spreading of the particulate matters.

The MOENV has started the Phase II Air Pollution Control Plan since 2024 as a continuation of previous action plans and the Phase I Air Pollution Control Plan for air quality improvement. A strategy of measures on multiple fronts is adopted. They include tightened control on factories from fuel composition to emission standards, replacement of more than 50% of old large diesel vehicles, optimized road network for electric vehicles to increased use, integration of air pollution and emissions reduction effects via a matching platform for vehicle replacement, offshore wind power projects, and three new ways to burn joss paper to practice religious beliefs and achieve environmental protection. All of these are implemented to accelerate the improvement of air quality and protect people's health.

The MOENV indicated that the next step is to enhance the mutual benefits of both net-zero reduction and air pollution reduction. Strategies in planning are hazardous air pollutant controls, increased use of electric buses, and restrictions on volatile organic compounds in consumer products. All these also will result in lowering $PM_{2.5}$ and ozone (O_3) to build a healthy and sustainable living environment for the citizens.

The MOENV explained further that tighter protection standards will be adopted with the AQI's concentration thresholds adjusted on 1 January 2025 according to the *Air Quality Standards* (空氣品質標準) amended on 30 September 2024. In addition, for the air quality forecast for offshore islands, the one-day forecast will become 3 days starting from 1 January 2025 to initiate early pollution response and ensure people's daily health.

Deputy Minister Shen Chih-Hsiu giving his speech

Deputy Director General Hu Ming-Hui of Department of Monitoring and Information briefs on the air quality monitoring results of 2024

Director General Chang Shuen-Chin of Department of Atmospheric Environment briefs on the air pollution precision governance project

Press conference on 26 December 2024

7. National Sustainable Development Awards Recognize Ministry of Environment's Success with Intelligent Monitoring

The Ministry of Environment (MOENV) successfully established a comprehensive air quality monitoring network based on the three strategies of "integrate air quality monitoring services", "grassroots local monitoring technologies" and "international monitoring system" set forth in the "Protect National Sustainable Environment – Establish Taiwan's Intelligent Air Quality Monitoring" project. MOENV's efforts were recognized by the 2024 National Sustainable Development Awards in the government agency category and received the Civil Service Outstanding Contribution Award (group category), demonstrating the Ministry's important achievements in sustainable development.

An MOENV spokesperson stated, "It started with 19 monitoring stations in 1976 and now we have an AI-enabled comprehensive monitoring network to protect citizens' health with technology." Taiwan has reached several major milestones in the field of environmental monitoring in recent years. It was recognized by the 2024 Smart 20 Awards given by the Allied Smart Cities. It was established by the Asia Pacific AERONET Calibration and Training Center (APAC) in November 2023, the first in Asia and certified by NASA. Five countries, including Japan and Korea, have brought their equipment to Taiwan for calibration.

Regarding smart monitoring, the MOENV deployed 10,000 air quality sensors across Taiwan to conduct AI-enabled monitoring of air quality throughout Taiwan 24/7, facilitating the continuous improvement of air quality in Taiwan. This system has helped investigators with precise law enforcement, as several major violations have been discovered for total penalties of NT$310 million and retrieval of NT$420 million of air pollution control fees. To keep the public informed of the latest air quality conditions, the MOENV developed the "Environment Info Push" app, which has been downloaded 670,000 times. The app has become highly reputed among citizens, providing air quality information in real time, as well as alerts to warn people to take necessary protective measures when air quality conditions are forecast to worsen.

The Executive Yuan announced the establishment of the Chief Sustainability Officer (CSO) Alliance to promote and accelerate progress toward the 2050 net-zero emission target. The Alliance is headed by the Vice Premier as the central government's CSO, with the Minister of Environment as the chief secretary leading central agencies, local governments and state-owned enterprises toward "green growth and net-zero transition". The CSO is tasked with five responsibilities, namely integrating sustainability affairs across agencies, improving sustainable governance, facilitating cultural reformation and innovative thinking, intensifying partnerships between the government and the private sector, and putting the *Climate Change Response Act* into practice. Priorities for government agencies are internal carbon inventories, energy efficiency diagnoses, making all official vehicles electric, recognizing buildings for their energy efficiency and increasing green procurement.

The MOENV will continue to work on CSO Alliance policies, improve intelligent monitoring technologies and join forces with all agencies to build a more sustainable living environment. Monitoring results have shown that 93.8% of the air quality index (AQI) readings are fair or good, indicating how far Taiwan has advanced in environmental sustainability.

“The National Sustainable Development Award is an honor and a force that drives us forward”. MOENV will continue to improve monitoring technologies, expand international cooperation and move toward the goal of 2050 net-zero emissions. The Ministry will keep working hard for the sustainable development of Taiwan through innovative applications of intelligent technology to build a better living environment.

Minister of Environment Peng Chi-Ming (right) and Director General Hsieh Ping-Hui of the Department of Monitoring and Information (left) accepted a Sustainability Award on behalf of the MOENV.

Recipients of the 2024 National Sustainable Development Awards

8. Subsidies Extended and Matching System Created to Facilitate Air Pollution Reduction through Old Vehicle Replacements

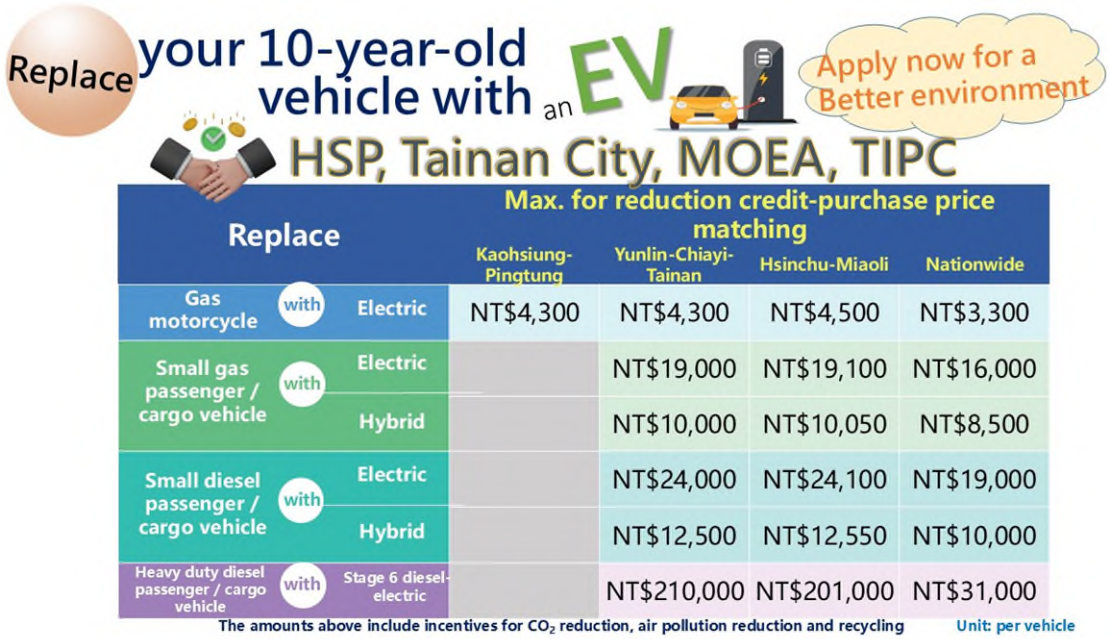
To improve air quality and head toward the goal of net-zero emissions, the Ministry of Environment (MOENV) continues its efforts to promote its old vehicle replacement policy. To this end, the "Regulations on Scrappage and Subsidies for Reducing Air Pollution Emissions by Replacing Old Vehicles with New Ones" (hereinafter referred to as "the Regulations") and "Procedures for Application and Review of Air Pollutant Reduction Benefits by Replacing Old Vehicles and Matching Service" (hereinafter referred to as "the Procedures") were established on 11 January 2023. Owners of vehicles 10 years or older who wish to replace them with an electric or low-polluting vehicle may, based on the type of replacement, apply for subsidies from the MOENV. Another option is to exchange emission reduction credits for a lower purchase price via the "Vehicle Replacement Matching Platform" (hereinafter referred to as "the Platform"). The amendment will also extend the subsidy application deadline to 31 December 2026.

Expanding economic incentives for vehicle replacements, the MOENV encourages buyers of new electric vehicles to transfer emission reduction credits gained from replacing vehicles to the MOENV in exchange for a subsidy. Alternatively, consumers may consult a matching service to sell their reduction credits to a developer that is subject to reducing their emissions in accordance with an environmental impact assessment (hereinafter "EIA developer"). The consumer then receives a discount on the new vehicle price, based on the air pollutant emissions offset matching system. These economic incentives are designed to encourage consumers to replace old vehicles with electric ones.

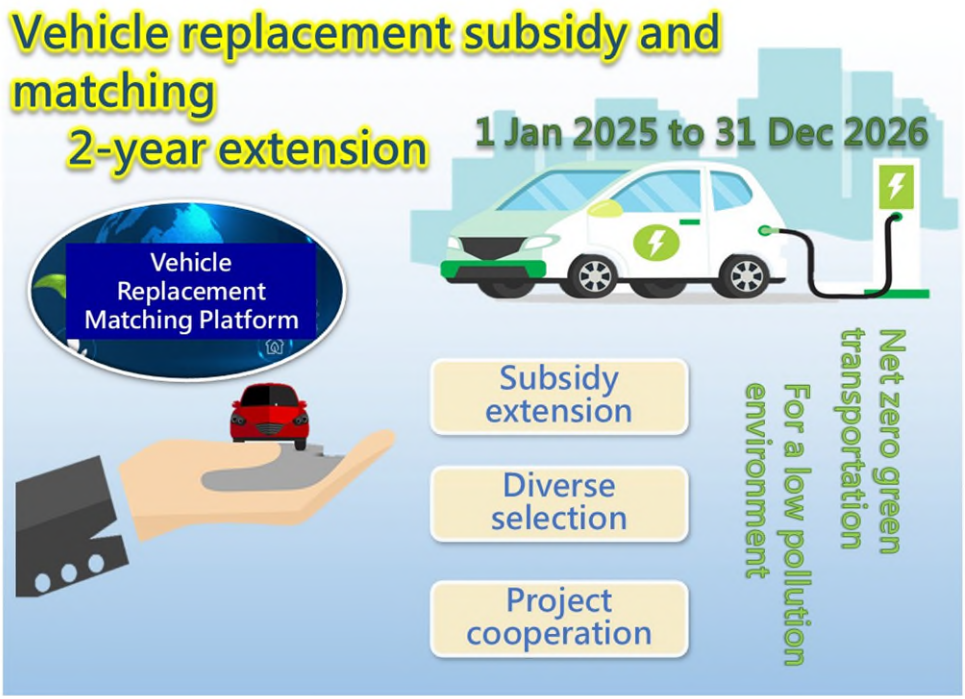
The MOENV is doing everything to encourage buyers and sellers to qualify for emission reduction credits by replacing old vehicles. Apart from expanding the system, the amendment to the Procedures adds several criteria on how to match buyers and sellers of reduction credits. To augment the incentives and efficiency of old vehicle replacement, EIA developers may work with businesses or vehicle fleet operators to buy air pollution reduction credits obtained from replacing the vehicles of a business, employee cars, or vehicles in a commercial fleet.

The MOENV indicated that more than 70,000 old vehicles have been replaced due to the introduction of the incentives, as more and more developers show interest in buying air pollution reduction credits. The public is reminded to keep an eye on the MOENV website for new information.

Four EIA developers, namely the Hsinchu Science Park of the National Science and Technology Council, the Tainan City Government, the Ministry of Economic Affairs and the Taiwan International Ports Corp., have registered and proposed buying credits. The maximum amount available for vehicle replacement in air quality zones, including incentives for CO_2 reduction, air pollutant reduction and recycling, are shown in the chart. For vehicle owners who may not be eligible to sell reduction credits to EIA developers, the amendment to the Regulations extends the application deadline for subsidies and provides for consultations for vehicle owners who have retired their old vehicles, to encourage them to choose electric vehicles to meet their ongoing transportation needs.



The air pollutant reduction subsidy for vehicle replacements has been extended and a matching system developed.



2-year extension of subsidy for vehicle replacement and matching system

9. Ministry of Environment Works with 22 Local Environmental Protection Bureaus on Climate Change Response

On 3 December 2024, the Ministry of Environment (MOENV) held the "Workshop for the Promotion of Climate Change Response by Local Governments", in Taipei City. Participants from Taiwan's 22 local environmental protection bureaus gathered to brainstorm on how the central and local governments should cooperate in response

to climate change. The "Guidelines for Greenhouse Gas Emissions Inventories at the Local Level" were updated to better conduct local inventory tasks. Local governments were subsidized to implement climate change mitigation and adaptation plans and increase their capacity to locally implement climate change related measures. The central and local governments are now joining forces to conduct GHG emission source audits, carbon fee collection and voluntary reduction plans, moving toward the goal of transition to 2050 net-zero and green growth.

Minister of Environment, Dr. Peng Chi-Ming, said in his opening remarks that the MOENV has been talking to the industrial sector about Taiwan's carbon fee collection system, as the era of paying for one's CO_2 emissions begins in 2025. After collecting, carbon fees will be used for GHG reduction and climate change adaptation measures, including subsidies to local governments for their GHG reduction efforts. Support will be provided by MOENV as soon as a local government formulates an effective CO_2 reduction plan.

The carbon pricing system will be connected to the total quantity control emission trading process in which industries and local governments are encouraged to participate. Also, following suggestions of the National Climate Change Committee, all agencies are to develop targets from top down and stack CO_2 reduction plans from bottom up for review and communications, to set more ambitious CO_2 reduction goals for 2030 and 2050 and bring central and local efforts together for a common CO_2 reduction roadmap.

Minister Peng mentioned that the deputy heads of the MOENV, fellow agencies and local governments are taking responsibility as CSOs at the government level, as if in private businesses. By so doing, it will help intensify internal cooperation on sustainable development policies and promote the overall net-zero transition of Taiwan. The MOENV developed the "action plan for strengthening investments in green growth net-zero industries" based on Japan's "Green Innovation Fund", which has been approved by the National Development Fund, with a green growth fund of NT$10 billion secured. This is expected to encourage local governments and private sources to invest in emerging net-zero sustainable businesses, creating more green employment opportunities and facilitating the net-zero transition in the industrial sector.

The MOENV explained the interactions between central and local governments at the workshop covered the following:

I. Update inventory guidelines at the local level and establish basic CO_2 reduction capacity of local governments

The amendment to the "Guidelines for Greenhouse Gas Emissions Inventory at the Local Level" was promulgated on 29 November 2024, based on international specifications and the *Climate Change Response Act*. This amendment covered updates to how local governments shall carry out GHG inventory efforts and the improvement of inventory procedures. As an action based on individual local conditions, it was added that in principle local government GHG emission

inventory reports are to be updated every year starting from 2025, or if circumstances make it challenging to do so, at least once every 3 years. The inventory reports shall be included in local government annual activity reports on their implementation of GHG emission reduction tasks and disclosed on MOENV's "Climate Talk" platform.

II. Continue funding local governments for climate change mitigation and adaptation

MOENV continues to fund local governments for their core affairs, such as the operations of local climate change response committees, CO_2 reduction and adaptation action plans and climate change adaptation, and the subsidy program for 2025. The key points of this subsidy program are coupled with net-zero green life, combined with the low-carbon sustainable homeland program, and coordinated with developing green-collar talents and improving local capabilities for adaptation and resilience, with the aim of building a living environment that incorporates local features.

III. Help local governments with relevant matters in response to the promulgation of the *Climate Change Response Act*

Local governments are helping the MOENV with inspections of emission source operations, emissions equipment and other relevant information within their jurisdictions. To facilitate this effort, the MOENV formulated the "industrial GHG emissions source monitoring plan" to guide in-depth onsite monitoring of industrial GHG emission sources, specifying monitoring processes and key points for local governments to adhere to. In addition, for those subject to carbon fees who have proposed a voluntary reduction plan, local governments will be invited to give their viewpoints to accelerate the review process, in cases where the permission of local governments is involved.

The MOENV stressed that this workshop not only aimed to facilitate cooperation between central and local governments on climate actions, but also to deepen the awareness and implementation of local governments in terms of conducting GHG inventories and CO_2 reduction strategies. Local governments play a key role in the promotion of climate change response efforts. Through conducting emission source inventories, promotion of local climate governance and implementation of CO_2 reduction measures, governments at both central and local levels will work hand in hand toward the 2050 net-zero emission goal and together build a sustainable and livable environment for future generations.

Minister Peng giving his speech

Minister Peng Chi-Ming and participants from 22 local governments gathered to discuss measures to deal with climate change.

10. Ministry of Environment and Tourism Administration Join Forces to Reduce Waste as Hospitality Industry Enters Year 1 of Plastic

Reduction

On 24 December 2024, the Ministry of Environment (MOENV) held a press conference on "Year 1 for Plastic Reduction and Sustainability in the Hospitality Industry", encouraging all hospitality businesses to reduce the use of single-use products starting in January 2025. A subsidy is provided to help these businesses gradually reduce the use of bottled water with the aim of reducing waste from sources, improving the environment and reducing CO_2 emissions.

I. New regulations take full effect in 2025

Hotels, B&Bs and other hospitality businesses are prohibited from actively providing personal hygiene products. The new regulations require all hotels to provide liquid body care products, such as shampoo, conditioner, body wash and lotion, in large bottles instead of small ones under 180 ml. At the same time, six personal hygiene products -- hair brushes, toothbrushes, toothpaste, razors, shaving cream and shower caps -- shall not be provided unless requested by consumers; in other words, customers are encouraged to bring their own.

Minister of Environment Peng Chi-Ming stressed that this policy is a reply to the global call for CO_2 and plastic reduction and conforms to the idea of sustainable development applied at the Paris Olympics. Hotels chosen for government personnel on their official trips will be requested to meet these green concepts.

Local environmental protection bureaus have organized more than 50 promotional workshops for 2,500 businesses to help them with the transition, and to encourage consumers to prepare their own self-care products during the announced buffer period. These bureaus have been working hard in multiple ways to organize events and campaigns, such as local cultural festivals and large events, giving consumers a better idea of the plastic reduction policy. With matching efforts, the MOENV advertised via Facebook, radio, bus stops, train stations, Taiwan High Speed Rail, and the Taipei Mass Rapid Transit system, as well as short films on taxi fleets and stands at international tourism shows. They hoped the policy announcements would reach as many consumers and hotels as possible. With these efforts, it is estimated that 460 million small packets of hospitality products will be reduced every year, equivalent to approximately 2,100 metric tons of product and 2,500 metric tons of CO_2 emissions per year.

II. Bottled water subsidy to help hotels with their transition

The MOENV will provide a subsidy to help hotels reduce the use of plastic water bottles. Hotels that reach the reduction goal are eligible for a subsidy of NT$30,000 per entity from their local environment protection bureau, for up to 5 entities per county/city. This is expected to reduce the use of plastic bottles. The hotels are encouraged to adopt alternatives for bottled water and provide new, environment-friendly drinking water services.

Director General Lai Ying-Ying of the Resource Circulation Administration, MOENV, said these policies will help hotel businesses reduce plastic waste and contribute

to sustainable tourism. This is consistent with people's expectations for increased environmental protection awareness and is expected to help drive the green transition in Taiwan's hospitality industry and create a more diversified culture of environmental protection.

III. Response and outlook

General Manager Huang Hsin-Chuan of Lion Travel, a leader in the tourism industry, says the policy has his full support. He shared his experiences promoting sustainable tourism, and said he hopes that all tour guides will help spread the idea. These measures will also support consumers who voluntarily engage in responsible travel. For example, Lion Travel has stopped providing bottled water on their tour buses since 2022. Restaurants and hotels are also asked to provide drinking water dispensers. Mr. Huang pointed out that these new regulations and subsidy programs will help businesses transition to a business model that meets the requirements of sustainable development. There will be challenges at the beginning, but in the long run, a policy like this will give Taiwan's tourism industry a more competitive position in the market and draw the attention of environment-minded domestic and international tourists.

Deputy Director General Lin Hsin-Jen of the Tourism Administration stressed that green tourism has been a key point for the government when promoting Taiwan's tourism industry to the world. Green tourism has been accepted widely in the western world and is now taking root in Asia after years of promotion. The Tourism Administration will work together with society on green tourism and incorporate environmental protection concepts as a feature of Taiwan's tourism industry. A subsidy program will assist hotels requesting environmental protection labels to show their sustainability certification. It will encourage tourism businesses to adopt sustainable tourism and make Taiwan a world-leading green travel destination.

The plastic reduction regulations and bottled water subsidy program launched by the MOENV for the hospitality industry set a cornerstone for Taiwan's green tourism. The cooperation of government and industry will not only drive environmental protection forward but also set the foundation for future sustainable tourism. It is expected that the launch of these policies will help Taiwan's hospitality industry contribute more to environmental protection and CO_2 reduction, while demonstrating to the world what Taiwan has done and achieved for environmental protection.

All participants vow to reduce plastic use in the hospitality industry, including MOENV Minister Peng Chi-Ming (3rd from left), Director General Lai Ying-Ying of the Resource Circulation Administration (2nd from left), Chief Li Yi-Hua (1st on left), Deputy Director General Lin Hsin-Jen of Tourism Administration (3rd from right), General Manager Huang Hsin-Chuan of Lion Travel (2nd from right) and Special Assistant Yang, Tung-Hsiao of Hwaseng Bottled Water (1st on right).

The MOENV announced in the press conference for "Year 1 of Plastic Reduction for the Hospitality Industry – Green Promise in Travel" that hotels and B&Bs shall not

provide personal hygiene products unless requested, starting from 1 Jan 2025.

11. Cross-departmental Cooperation on Chemical Source Management for Green Chemistry

The Ministry of Environment (MOENV) held the "2024 Workshop on National Chemical Substance Management Policy Guidelines and Action Plan Results" at the international conference hall (Da-Xia Hall) of Chien Kuo Campus, Chinese Culture University, on 25 December 2024. With the topic of "green chemical technology innovation and promotion", members of the "National Chemical Substance Management Board" were invited to host and provide consultation during the event. At the workshop, the MOENV explained how the "National Chemical Substance Management Policy Guidelines" and the National Chemical Substance Management Action Plan (2024 to 2027) were revised. Officials from the Ministry of Agriculture, the International Trade Administration and the Industrial Development Administration of the Ministry of Economic Affairs, the Electronic Systems Research Division of National Chung-Shan Institute of Science and Technology, the MOENV, the Ministry of Education and other experts were invited to give speeches on workshop topics and outline results of efforts to promote green chemistry.

The MOENV pointed out that the "National Chemical Substance Management Policy Guidelines" were approved by the Executive Yuan in 2008. Since then, the MOENV has organized a result presentation workshop every year to examine the implementation results of fellow agencies under the Policy Guidelines framework and encourage communication and interaction with all of society. A wide range of chemical substance management topics were discussed this year. All participating agencies shared their results and provided their comments and insights, which brought together the authorities and resources of government agencies and the private sector to discuss the goals and visions of the National Chemical Substance Management Policy Guidelines and Action Plan.

MOENV expressed that it is extremely important to manage chemical substances properly to lower the risk of accidents and minimize hazards to humans and the environment. The "promotion of green chemistry" is a major policy in Taiwan's chemical substance management.

The aim of the policy is to reduce the use of toxic chemical substances and thus prevent them from entering the environment throughout their entire lifecycle, from the use of chemical materials in various processes up to their safe disposal. The products must comply with low toxicity and international waste reduction standards.

Green chemistry education also plays an indispensable role. Even with the popularization of fundamental knowledge and research on environmentally friendly manufacturing processes, communications regarding safe green chemistry will not be effective without proper education. Therefore, the workshop topic of "green chemical technology innovation and promotion" was included in the hope of improving the management of chemical substances in Taiwan, aligning it with international practices. By sharing experiences with and outcomes of the green chemistry measures promoted

by government agencies, and through discussions and communication on prospects, Taiwan's green economic competitiveness will be escalated to achieve the goal of sustainable green chemistry.

The MOENV also stated that since 2020, it has compiled annual reports on the overall achievements of Taiwan's chemical substance management, summarizing the implementation results of relevant ministries and agencies. These reports are available in the "Education and Advocacy/Publications" section of the Chemical Administration, Ministry of Environment, on the MOENV website (https://www.cha.gov.tw/lp-118-1-xCat-02.html). MOENV encourages anyone interested to review these reports. Moving forward, the MOENV will continue to compile annual inter-ministerial performance reports, which will also be made available for download on the webpage. MOENV welcomes ongoing attention and engagement from all sectors.

All participants at the workshop

The workshop speakers

Chief Tsai Chih-Nung of the Taiwan Agricultural Research Institute, Ministry of Agriculture, shared his insights on the promotion and application of integrated pest management (IPM) with microbial agents and registration-free plant-based protection agents.