



Major Environmental Policies

Environmental Protection Administration, R. O. C. (Taiwan)

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General Policy

EPA to Become Ministry of Environment with Passage of Organic Act

Taiwan's environmental authority reached a new milestone on 9 May 2023 as the Legislative Yuan passed the third reading of various pieces of legislation regarding the organization of the Ministry of Environment and its third-level agencies (institutes). The regulations were promulgated by President Tsai Ing-wen on 24 May. Now the EPA is to transform into the Ministry of Environment (MOENV) in conjunction with the establishment of four third-level agencies, the Climate Change Administration, the Resource Circulation Administration, the Environmental Management Administration, and the Chemicals Administration. The National Environmental Research Academy will be established as well. The Democratic Progressive Party (DPP) Caucus has also raised a resolution, proposing to establish a Natural Resources Integrated Governance Task Force under the jurisdiction of the Executive Yuan in the future.

EPA Minister Tzi-Chin Chang: Striving to launch operation of the Ministry of Environment by the end of the year

In 2022, the Executive Yuan made the decision to change the EPA into the Ministry of Environment, aiming to achieve the policy goals such as net-zero emissions by 2050, resource circulation, and toxic waste controls. On 9 May, the Legislative Yuan passed the third reading of the *Ministry of*

Environment Organic Act (環境部組織法) as well as the draft legislation concerning the organization of four administrations and one institute. The regulations were promulgated by President Tsai on 24 May.

Minister Tzi-Chin Chang expressed his excitement about witnessing the establishment of the Ministry of Environment and is determined to officially launch the ministry and its four administrations and one institute by the end of this year.

He further explained that when the EPA was first founded in 1987, he was transferred from Taipei City Environmental Protection Bureau to the EPA, and for him the formation of the Ministry of Environment is a moment of great excitement. Due to the restructuring of existing units to form the Ministry of Environment, it is essential that all ongoing programs continue onward seamlessly. Therefore, efforts will be made to officially launch operations of the Ministry

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of Environment and its four administrations and one institute before the end of this year.

In response to future increase in workload and personnel, the most urgent task at hand is to expand the office space. As for the personnel increase, the EPA currently has 743 official staff members and will be adding another 264 after the establishment of the ministry, bringing the total to 1,007. Among them, the official staff of the Climate Change Administration will go from 26 to 98.

Five third-level agencies will be set up under the ministry. The Climate Change Administration will be responsible for greenhouse gas reduction and climate change adaptation. The Resource Circulation Administration will handle at-source waste reduction, recycling, clearance, and disposal. The Chemicals Administration will be in charge of prevention and response to toxic and chemical substance incidents, as well as chemical substance control. The Environmental Management Administration will focus on environmental law enforcement and remediation of soil and groundwater pollution. The National Environmental Research Academy will oversee environmental research, testing, and management and personnel training regarding certification organizations.

After the establishment of the ministry, the existing Environmental Analysis Laboratory and Environmental Professionals Training Institute will be combined to become the National Environmental Research Academy.

In the initial stage, it will join forces with other research institutions such as the Academia Sinica, the Central Weather Bureau, the National Science and Technology Center for Disaster Reduction, and various universities and institutes according to their respective expertise in different fields. This collaboration aims to expand the research scopes and ensure that their research reports align with national regulatory reports.

Five prospects of the Ministry of Environment

Facing the international trend of net-zero emissions and global environmental changes, the government has shifted its focus from “natural resources management to “actively responding to the global environmental situation and creating transformation opportunities for Taiwan.” The efforts mainly concern integrating responsibilities and authorities, expanding operations, and systematically addressing the five major environmental issues of climate change, resource circulation, chemical substances control, environmental quality management, and strengthening of environmental research. In the future, the Ministry of Environment envisions achieving the goals listed below.

1.The Ministry of Environment will actively respond to climate change by: strengthening the formulation, promotion, and implementation of national policies; implementing the supervision and evaluation of phased control targets; responding to international carbon border taxes and the

decarbonization trend of supply chains; accelerating carbon pricing, strengthening the carbon inventory system and seeking decarbonization technologies and strategies, and; mitigating international pressure by assisting domestic industrial transformation.

2.The Ministry of Environment will implement circular economy policies, waste reduction, and reuse by coordinating management powers and responsibilities of all ministries, levying funds for resource circulation, recovering energy from waste, and inventorying and analyzing resources in waste. It will promote new measures such as circular procurement, sustainable consumption, and environment-friendly design of products to achieve the reduced use of primary raw materials and improve resource use efficiencies so as to reduce environmental loading and gradually advance towards the goals of sustainable resource circulation and zero waste.

3.The Ministry of Environment will expand the scope of chemical substance management to cover all chemical substances handled in Taiwan to achieve the goals of “extending source management to borders and reducing breakpoints to deter violations,” “integrating disaster prevention resources and strengthening responses to reduce disaster losses,” “fully convey hazard information to reduce exposure to health risks,” and “transform to sustainable and non-toxic use of resources to align management with international conventions.”

4.The Ministry of Environment will strengthen environmental

law enforcement using digital technologies; use smart technologies and the internet to handle general waste in diverse ways, and; improve environmental cleanliness and sanitation management. It will sustainably manage soil and groundwater resources through improving the certification system for surveying and remediation technologies and increase soil and groundwater regeneration and carbon sink capacities. It will strengthen pollution source control to build low-risk living environments and develop healthy and sustainable communities.

5. The Ministry of Environment will promote research on climate change and resource circulation, improve environmental risk assessment and management technologies, facilitate net zero transformation and cultivate professional talent, and work with research resources nationwide to

establish an environmental think tank to provide long-term and stable support for overall national environmental policies.

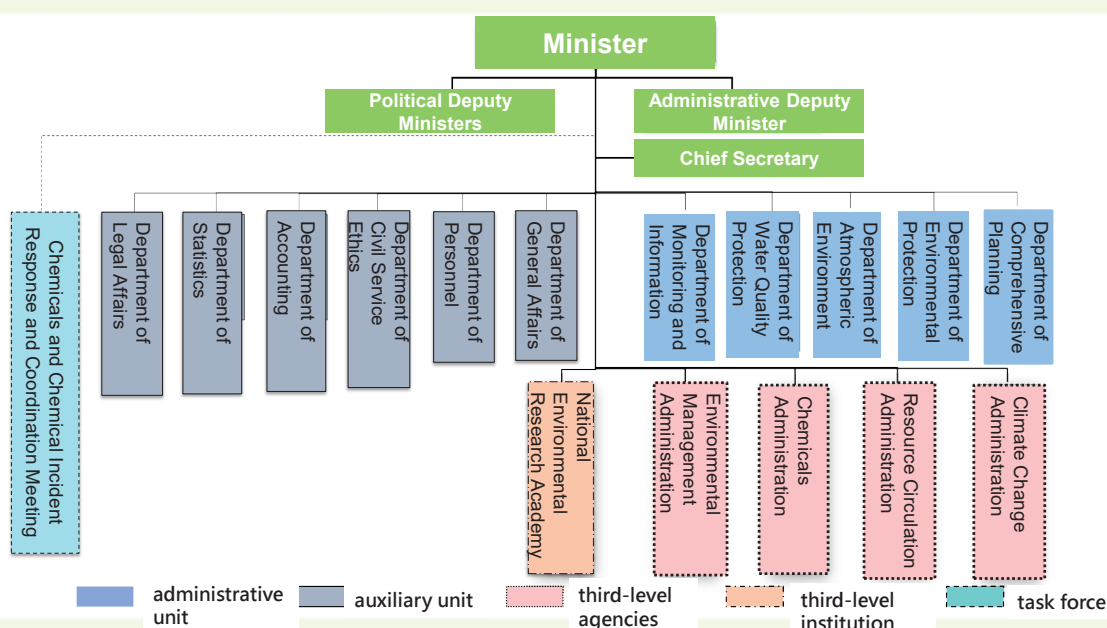
Natural Resources Integrated Governance Task Force to be set up under the Executive Yuan

While the *Organic Act of the Ministry of Environment* (環境部組織法) was passed on its third reading, the DPP Caucus proposed the establishment of a Natural Resources Integrated Governance Task Force under the Executive Yuan to address controversies surrounding natural resource management raised by civic organizations and the public. The task force will include relevant competent authorities to formulate overarching governance directions. Ministers without Portfolio will be assigned to run the task force and convene meetings, and appropriate staff units will assist in planning and implementation. The task

force will hold regular meetings to strengthen interdepartmental coordination, facilitating the integrated and sustainable management of natural resources.

The EPA stated that after its restructuring into the Ministry of Environment, it will be able to align with international carbon reduction efforts, coordinate responsibilities of various ministries for resource recycling, and establish disposal facilities for industrial waste. Policies related to green economy and sustainable development will be carried out more effectively. Also, through continuous environmental education and advocacy, the MOENV will aim to raise public awareness about the importance of environmental protection, so that all of society can jointly work towards net-zero emissions by 2050 and preserve beautiful living environments for future generations.

Ministry of Environment (MOENV)



Air Quality

Regulations to Be Revised as Responsibility of Managing Automobile Exhaust Inspections Returns to EPA

The EPA preannounced revisions to six regulations: the *Air Emission Standards for Mobile Sources* (移動污染源空氣污染物放標準), the *Inspection and Handling Measures for Motor Vehicle Emissions* (交通工具排放空氣污染物檢驗及處理辦法), the *Identification and Inspection Implementation Method for In-Use Automobiles* (使用中汽車之認定及檢驗實施方式), the *Regulations for Setting Up and Managing Inspection Stations for Emissions of Gasoline and Alternative Clean Fuel Vehicles* (汽油及其替代清潔燃料引擎汽車排放空氣污染物檢驗站設置及管理辦法), the *Targets, Regions, Frequencies, and Deadlines for Regular Inspection of Emissions of Gasoline and Alternative Clean Fuel Vehicles* (汽車實施排放空氣污染物定期檢驗之對象、區域、頻率及期限) and the *Targets, Regions, Frequencies, and Deadlines for Regular Inspection of Emissions of Diesel and Alternative Clean Fuel Vehicles* (柴油及其替代清潔燃料引擎汽車實施排放空氣污染物定期檢驗之對象、區域、頻率及期限).

The preannounced revisions to the six regulations and announcements regarding automobile exhaust inspections will require gasoline-fueled automobiles to undergo an exhaust inspection every two years beginning from the time when a vehicle is eight years old. If a vehicle fails an inspection, it must undergo yearly inspections for two consecutive years. Only when the vehicle passes all inspections during this two-year period can the vehicle return to a biennial inspection cycle. If a diesel-fueled automobile fails a regular inspection, or a non-periodic inspection, or any inspection that competent authorities notify the vehicle owners to undergo, then in addition to addressing the issue of non-compliance, the vehicle must undergo regular yearly inspections for two consecutive years starting from the following year. If the vehicle passes the emissions inspections for two years in a

row, it will be exempt from regular yearly inspections starting from the third year.

To be in line with the plan of the Ministry of Transportation and Communications to remove the requirement to undergo exhaust testing during car license applications and regular inspections in the *Road Traffic Safety Rules* (道路交通安全規則) and to return the responsibility for managing automotive emission inspections to the EPA, the *Targets, Regions, Frequencies, and Deadlines for Regular Inspection of Emissions of Gasoline and Alternative Clean Fuel Vehicles*, the *Targets, Regions, Frequencies, and Deadlines for Regular Inspection of Emissions of Diesel and Alternative Clean Fuel Vehicles* and the *Regulations for Setting Up and Managing Inspection Stations for Emissions of Gasoline and Alternative Clean Fuel Vehicles*

are to be formulated. In addition, corresponding amendments will be made to the *Air Emission Standards for Mobile Sources*, the *Inspection and Handling Measures for Motor Vehicle Emissions*, and the *Identification and Inspection Implementation Method for In-Use Automobiles*.

To facilitate vehicle inspections for the public, the EPA plans to commission highway supervisory authorities and authorized vehicle inspection stations to carry out the inspections for gasoline-powered automobiles. Diesel-powered vehicles, on the other hand, will be inspected at diesel vehicle chassis dynamometer smoke testing stations. The inspection locations and methods for gasoline and diesel vehicles remain the same as the current ones with the hope that the inspection procedures can be adjusted without altering the public's existing habits.

Water Quality

Livestock Manure Reutilization Program Expanded to Six Counties and Cities

The EPA and the Council of Agriculture (COA) jointly promote utilization of livestock manure digestate as fertilizers for farms. A pilot program was conducted in 2022, in which farmers were invited to use manure digestate to fertilize and irrigate crops such as red beans. After positive trial results, this year the program will be expanded to six counties and cities: Changhua County, Yunlin County, Chiayi County, Tainan City, Kaohsiung City and Pingtung County.

In 2023, to encourage farmers to participate in demonstration fertilization projects the EPA has offered an incentive, equivalent to 10% of the proceeds from the harvests. The aim is to lower river pollution, improve air quality in rural areas, and facilitate a circular economy via policies to recycle and repurpose livestock manure as nitrogen fertilizers. Local environmental bureaus and agriculture offices have prepared planting handbooks for various crops, and are available to provide guidance and assist in matching farmlands needing fertilizers with livestock farmers. The cost of transporting digestate will be subsidized by the central government.

For this year's program, the EPA will emphasize the use of manure digestate from the second crop of rice cultivation. Based on previous trial results, rice crops fertilized with manure digestate have shown benefits such as reduced pest problems and disease, plumper rice grains, and greater strength in general. Soil monitoring is continually carried out to ensure quality control and deal with concerns about heavy metal content, often a question in the past.

The program not only improves river water quality by reducing discharges of livestock wastewater into water bodies, but food safety for consumers is also enhanced with less use of agrochemicals and chemical fertilizers on crops. Meanwhile, farmers will benefit from less spent for chemical fertilizers, increased yields, and incentives from the EPA. Farmers participating in the demonstration

program have seen an average increase in crop yields of 30%, which along with the additional 10% incentive provided by the EPA is approximately equal to a 40% increase in income.

Giving a thumb's up, program participant Mrs. Li, who grows red beans in Xinyuan, Pingtung County, said, "The EPA promotes the wisdom of our ancestors, which helps to save on use of fertilizers and water." For her, using manure digestate for fertilization has led to halving the amount of chemical fertilizers, crops less prone to disease, and an abundant harvest, 30% more than that of neighboring red bean farms. Upon seeing the results, other nearby farmers of red beans, bananas, and other crops have been inquiring about fertilization with manure digestate.

The program's achievements showcase the perfect combination of traditional farming methods and modern technology, as well as the charm and potential benefits of returning organic matter to farmland. Utilization of livestock manure resources is part of a sustainable agricultural model, benefiting the land and the environment by transforming manure digestate into useful fertilizers while cutting reliance

on chemical fertilizers and agrochemicals.

During the past five years the EPA has actively promoted manure digestate reutilization by providing assistance, subsidies and various other resources. Over 600 seminars were held in collaboration with local governments to match livestock farms with crop farmers for use of manure digestate for fertilization, with 11 townships selected as demonstration sites nationwide. As of the end of December 2022, the three methods of utilizing manure digestate have helped reduce biochemical oxygen demand (BOD) by 66,165 metric tons per year. Another result is that total digestate used for fertilization contain 1,565 metric tons of nitrogen per year, equivalent to 241,556 bags per year of Taiwan Fertilizer Co.'s No. 5 Fertilizer, thus saving NT\$99.04 million per year in fertilizer costs.

However, such results exclude nitrogen content of 2,309 metric tons/year in matters recycled for plant irrigation based on the *Effluent Standards* (放流水標準) as plants irrigated according to the standards require no fertilizers.

Resource recycling such as reuse of livestock manure and better wastewater disposal can make significant contributions towards net-zero emissions. The EPA explained that the *Water Pollution Control Act* (水污染防治法) has been amended with targets set for reuse of livestock wastewater. As



✚ "The EPA promotes the wisdom of our ancestors," commented program participant Mrs. Li while giving a thumb's up.

of March 2023, the target of 5% reuse rate for farms with 2,000 heads of livestock or more by 2023 has been achieved. The next challenge is for small and medium-sized farms with 20 to 1,999 heads

to reach a 5% reuse rate by 2025, and for farms with 2,000 heads or more to reach a 10% reuse rate by 2027. This requires the joint efforts and cooperation of the livestock industry, agricultural authorities,

and environmental protection authorities to implement resource utilization and improve water quality.

Waste Management

European and Asian Experts Discuss Future of Resource Circulation in International Conference

On 29 May 2023, the EPA and the EU once again jointly organized the 2023 Resource Circulation International Conference at the Taipei International Convention Center, alongside the many events of the EU Innovation Week. With the objective to deepen the long-term cooperation between Taiwan and the EU, this is yet another collaboration between the EPA and the EU after the first one in 2018. Through the conference, both sides hoped to promote the alignment of Taiwan's resource circulation policies with international standards, match enterprises in the resource recycling industry that are in need of assistance, and learn about the latest international trends and technologies. The conference took place after the opening ceremony of the EU Innovation Week, which was attended by Premier Chien-Jen Chen, Deputy Director-General Maive Rute from the European Commission's Directorate-General for Internet Market Industry, Entrepreneurship and SMEs (GROW), Minister Mei-Hua Wang from the Ministry of Economic Affairs (MOEA), and the EPA Minister Tzi-Chin Chang.

Maive Rute: Ensuring the circular economy for global sustainable economic development is crucial

During the opening ceremony, Deputy Director-General Maive Rute emphasized that, after not being held for several years, this year's EU Innovation Week saw the participation of numerous European businesses, industry organizations, and research institutions, all ready to collaborate with the world. As there would be many discussions and network sessions, she hoped to "encounter the right partners" and explore innovative opportunities together, and further emphasized that "industry dialogues" via face-to-face communication would be the most important form of exchange, enabling substantive cooperation. Moreover, Ms. Rute highlighted the importance of seeking new ways to ensure global sustainable economic development through

circular economy practices and expressed the EU's eagerness to engage in discussions on relevant topics.

Premier Chien-Jen Chen pointed out that the total trade volume between Taiwan and the EU in 2022 reached a historic high. The EU is Taiwan's fourth-largest trading partner and the largest source of investment, with cooperating industries spanning across sectors such as semiconductors, automobiles, information and

communication technology, and machinery. The premier especially thanked European companies for their investments in Taiwan's offshore wind power and other industries. As Taiwan continues to carry out its Forward-Looking Infrastructure Development Program, the premier hoped that both Taiwan and the EU could establish a more robust supply chain under the common goal of facilitating net-zero emissions and digital transformation through its six core industries of the Program.



Minister Chang: Regulations and technologies can solve low competitiveness in the recycled material market

Minister Tzi-Chin Chang stated that Taiwan's waste recycling system

Deputy Director-General Maive Rute shares policies on "Connecting Regulations and Commercial Applications for Sustainable Circularity in Europe"

has been in place since 1987, and its recycling rate ranks among the highest in the world. However, it is necessary to address the challenges of innovation hindered by subsidy standards. The EPA has already started encouraging high-value reuse through fee adjustments. In the future, there will be laws specifically governing resource recycling that will change people's views on waste, mandating producers to maximize utilization of resources before resorting to waste disposal. This will require significant innovation and mutual learning with the EU on regulations and technologies to address the issue of insufficient competitiveness in the market of recycled materials. The ultimate goal is to enable substantial resource circulation.

The conference featured a keynote speech by Deputy Director-General Maive Rute on "Connecting Regulations and Commercial Applications for Sustainable Circularity in Europe." Invitees such as government representatives from Germany, Italy, Singapore, experts from a British national think tank and the Asian Development Bank, and representatives from outstanding industries in Taiwan also shared strategies and technologies related to resource circulation in hopes of creating a new future for resource circulation via observation and exchanges.

Resource Recycling Administration to promote zero waste and formulate resource circulation-specific laws

In 2022, Taiwan announced its 2050 net-zero transition, covering 12 key strategies. Strategy 8



← Minister Chang delivers a speech in the opening ceremony

"Waste Recycling and Zero Waste," for which the EPA was assigned the responsibility, encompasses plans such as green design for waste reduction, reuse of resource and energy, efficient circulation networks, and innovative technologies and systems. Therefore, measures and actionable practices are to be formulated to minimize the use of primary raw materials and transform waste into materials, fuels, and fertilizers. To promote resource circulation and utilization, the EPA has also initiated legislative efforts to formulate laws specifically for resource circulation by combining the *Waste Disposal Act* (廢棄物清理法) and the *Resource Recycling Act* (資源回收再利用法). Instead of focusing on waste management like in the past, the new law will emphasize material lifecycle management and create an environment favoring resource circulation through expanding resource utilization, source management, and producer responsibility.

In recent years, the EU and various countries and regions have introduced action plans and initiatives relevant to resource circulation. The EPA will be upgraded to become the Ministry

of Environment and, at the same time, establish the Resource Circulation Administration. This organizational restructuring will facilitate the achievement of the goals of resource circulation and carbon reduction via integrating the strategy of Resource Recycling and Zero Waste, the legislation of laws governing resource circulation, and other policy efforts. Through this international conference, Taiwan aimed to share its remarkable achievements in promoting resource circulation and join hands with other nations in advancing toward resource sustainability.

The international symposium this year centered around topics such as "Resource Circulation Policies," "Plastic Resource Circulation," "Ecological Design and Business Models for Sustainable Products," and "Waste-to-Energy Technologies." Among the international speakers, Singapore shared its experiences in creating a resource-efficient sustainable nation, Italy discussed chemical recycling of plastics, and the UK presented business models delinked from consumption of raw materials. Germany shared insights on digital passports for products, and the Asian Development Bank elaborated

on waste-to-energy technologies. As for the Taiwan side, Chairman Yu-Cheng Huang of Circulate Taiwan Foundation began with an introduction of resource circulation policies, followed by Far Eastern New Century Corporation, which shared insights on sustainable materials and circular economy, and SmallRig presented the vision of a zero-waste future. Later, Taiwan Design Research Institute discussed design of our green future, Dell Technologies shared its environmental, social, and governance (ESG) strategy,

Taisun Green Energy talked about transition to low-carbon through bioenergy, and finally, the Biomass Energy Technology Association of Taiwan presented Taiwan's waste-to-energy technologies and achievements.

Through the inspiring speeches and discussions by local and foreign speakers, the conference provided participants whether from industries, the government, academia or research communities with insights into innovative thinking and specific practices

in resource circulation from various countries. It also fostered consensus between Taiwan and the international community on promoting resource circulation, further enhancing cooperation in this field. The EPA stated that, as achieving net-zero emissions and promoting resource circulation are international trends, it hoped that businesses and the public would actively participate and collaborate in innovative ways to establish a fully circular future that maximizes resource utilization and minimizes waste.



✚ Experts participating in the discussion: Ying-Ying Lai, Director General of Office of Resource Circulation (middle), Jia-Ling Wu, Manager of ESG Office of YFY Packaging Inc. (first from right), Professor Yang Gu, Department of Chemical Engineering, National Taiwan University of Science and Technology (second from right), Senior Energy Expert Mr. Peters, Asian Development Bank (second from left), and Jia-Ji Chang, Researcher of Taiwan Bio-energy Technology Development Association (first from left)

Climate Change

Forum on Voluntary Greenhouse Gas Reduction Hears Expert Suggestions

The EPA held the Expert Forum on Voluntary Greenhouse Gas Reduction Promotion Strategy on 18 May 2023. The forum was chaired by Deputy Minister Shen Chih-Hsiu and attended by four domestic experts and scholars specializing in voluntary greenhouse gas reduction. In-depth discussions were held on international mechanisms for voluntary emission reduction, the current promotion of voluntary reduction in Taiwan, and future revisions and directions. The EPA is currently formulating subsidiary laws of the *Climate Change Response Act* (氣候變遷因應法), and suggestions from participants will be considered for incorporation into the legal version.

The *Climate Change Response Act* (hereinafter referred to as the Climate Act) has officially come into effect, incorporating the 2050 net-zero emission target into law, and strengthening Taiwan's management mechanisms for

greenhouse gas reduction. The act sets out the levying and collection of carbon fees for dedicated funds. It also requires enterprises that establish new emission sources, or enterprises that make changes to existing sources that cause

them to reach a certain scale, to engage in emission offsetting. It also encourages enterprises and all levels of government to independently or jointly propose voluntary reduction projects, apply for and obtain reduction credits,

and transfer, trade, or auction the credits to interested parties.

The credits generated from voluntary reduction are known internationally as "carbon credits." Recently, public concern has risen regarding the operational mechanisms of voluntary reduction, the review of reduction credits, and the trading of credits. The EPA organized this forum to promote understanding of the operational mechanisms and latest trends in domestic and international voluntary reduction systems, as well as to gather opinions from different sectors.

Liou Je-Liang, Director of the Energy and Environment Research Center at the Chung-Hua Institution for Economic Research, pointed out that the voluntary reduction mechanism serves as a complementary measure to carbon pricing mechanisms. The generation of credits should adhere to criteria such as additionality, permanence, leakage deduction, and avoidance of double counting.

The EPA presented a special report on the current promotion of voluntary reduction and offset projects and proposed revisions in Taiwan. The presentation emphasized that the review of credits will be based on five major principles used internationally for issuing reduction credits so as to ensure genuine emission reductions. There are also plans to simplify relevant procedures to enhance the efficiency of credit reviews. At this stage, enterprises are advised to prioritize the understanding of their own emissions and plan reduction measures. If necessary, they can

utilize the voluntary reduction credit trading mechanism to assist in achieving their reduction goals.

Professor Liu Chung-En from the Department of Sociology at National Taiwan University proposed that the implementation of voluntary reduction and carbon offset measures in Taiwan should be supported by a robust carbon pricing mechanism as the market foundation. It is important to ensure genuine emission reductions and exercise strict scrutiny in the credit review process. This is necessary to avoid the issuance of invalid credits that could impede other net-zero policies and hinder the achievement of the net-zero target.

Professor Liou Ming-Lone, a visiting scholar at the London School of Economics and Political Science, mentioned that enterprises should prioritize internal emission reductions, and the utilization of reduction credits should be considered as a last resort. Moreover, the credits should meet quality standards and undergo verification of additionality to ensure genuine carbon reduction benefits. He also cautioned that the use of early-stage greenhouse gas project credits issued prior to the implementation of the *Greenhouse Gas Reduction and Management Act* (溫室氣體減量及管理法) and overseas credits should be approached with caution to avoid delaying Taiwan's progress in achieving reduction targets.

Senior Researcher Chen Honda from the Taiwan Academy of Banking and Finance pointed out that international society is scrutinizing voluntary reduction mechanisms again. The European

Union (EU) no longer accepts carbon credits issued under the United Nations Clean Development Mechanism, and it is expected that the EU's Carbon Border Adjustment Mechanism will also not recognize them. He also cautioned that carbon credit trading may become limited in the future and urged enterprises to prioritize internal emission reduction efforts.

Professor Yuh-Ming Lee, a distinguished professor at the Institute of Natural Resources Management at National Taipei University, provided an overview of carbon pricing and voluntary reduction mechanisms in Taiwan. He emphasized the need for cautious quantification of emissions and highlighted that the issuance of credits should primarily focus on additionality to ensure genuine emission reductions.

At the end of the forum, the moderator, Deputy Minister Shen Chih-Hsiu, also mentioned that voluntary greenhouse gas reduction, as designed in the Climate Act, serves as a complementary measure to carbon pricing to enhance cost-effectiveness. The EPA is currently developing relevant subsidiary laws, and the suggestions provided by the experts, scholars and attendees will be taken into account. In the future, the EPA will rigorously establish regulations based on international principles to review credits. Additionally, it is hoped that voluntary reduction mechanisms can incentivize domestic emission reduction efforts to ensure the acceleration of overall national reduction and achieve the net-zero target.

Environmental
Inspection

Meetings Held to Urge Enterprises to Practice Voluntary Pollution Prevention and Control

To effectively prevent environmental crimes and illegal activities, the EPA continuously improves its environmental law enforcement strategies and methods. Through cross-sector collaboration among environmental, police, prosecution, investigation, and taxation agencies, the EPA has successfully uncovered multiple cases of organized environmental crimes spanning across different counties and cities. In recent years, the EPA has been actively promoting industry self-management, guiding businesses to proactively comply with the law and instilling the concept that pollution prevention is also profitable. This concerted effort aims to enhance the overall environmental quality.

The EPA stated that based on past enforcement experience, violations by businesses can be divided into two categories: those who knowingly break the law but hope to escape punishment, and those who unintentionally violate environmental regulations due to a lack of familiarity with them. In order to guide businesses in self-examination and emphasize the importance of compliance, in October 2022 the EPA invited organic solvent processing industry operators from Central Taiwan to participate in the "Industry Self-Management and Pollution Prevention Promotion Seminar." During the event, to reinforce the understanding of business operators, the EPA discussed common illegal practices discovered during inspections in recent years and the corresponding

penalties.

The EPA also invited businesses that had previously received significant penalties for violations, but have successfully made improvements, to share their experiences in enhancing air pollution prevention measures and transforming mindsets. These businesses have stated that they have reduced the volatile organic compound content in their raw materials at source and upgraded their air pollution prevention equipment. As a result, they have significantly reduced air pollutant emissions, saving over 90% of their annual air pollution fees. Through active pollution improvement measures, these businesses have gained customer confidence, enhanced their reputations, achieved tangible benefits, and

received unanimous recognition from industry representatives present at the event.

To promote the ongoing importance of pollution prevention and self-management, the EPA expanded its invitations in March of this year to waste generators in industries such as plastics, solvents, wood, and sludge. Four regulatory awareness seminars were conducted in the northern, central, and southern regions. The seminar topics included common patterns of illegal industrial waste disposal, the reasons for such occurrences, and relevant regulations in recent years. Also invited were representatives from leading domestic semiconductor companies and publicly listed waste transportation and treatment companies to share



⬆ Upgrading pollution prevention equipment to reduce pollution



⬆ Upgrading the manufacturing process and reducing the use of VOC-containing raw materials

their management experiences in tracking the flow of waste as it is transported and treated. The goal was to encourage more businesses to implement self-management at source and reduce instances of illegal waste disposal.

Enhancing corporate social responsibility is currently a societal trend, and the EPA urges businesses to change their mindset and dispel the misconception that

investing in pollution prevention equipment is a loss-making endeavor. Instead, businesses should focus on implementing self-management, improving pollution prevention equipment, and enhancing awareness and compliance. Once the concept of voluntary improvements regarding environmental pollution takes root in industries, frequent inspections by environmental authorities should no longer be

necessary. Businesses will be able to operate with peace of mind, and environmental quality will see a significant improvement. The EPA hopes that companies will integrate pollution prevention into their corporate governance systems and work together for environmental protection and sustainable development in Taiwan.

Control & Evaluation

Net Zero City Expo Showcases Ways to Realize Green Living and Zero-Waste Future

The Net Zero City Expo, demonstrating the sustainable development practices and policies promoted by the EPA, held its grand opening on 28 March 2023. The EPA showcased key exhibition areas with the themes of "Zero Waste through Resource Circulation" and "Net-zero Green Living," which correspond respectively with Strategy 8 and Strategy 10 of Taiwan's 2050 Net-Zero Emissions Pathway and Strategy. Through interactive experiences and practical demonstrations, the event showcased ways to achieve net-zero green living and create a zero-waste future through resource circulation. On opening day, EPA Minister Tzi-Chin Chang was interviewed by the media, and Vice President William Lai and Secretary-General to the President, Chia-lung Lin, also visited the exhibition areas of the EPA and gave high praise.

The Net Zero City Expo was organized by the National Development Council and the Taipei Computer Association, with the aim of promoting Taiwan's policy towards *2050 Zero Emissions Pathway* (2050 淨零排放路徑). The EPA participated in the exhibition with a focus on the themes of "Zero Waste through Resource Circulation" and "Net-zero Green Living."

Minister Chang mentioned that since President Tsai Ing-wen declared the goal of "Net-Zero Transition by 2050" on Earth Day (22 April) 2021, multiple net zero related plans have been announced. The *Climate Change Response Act* (氣候變遷因應法), which after three readings was

passed by the Legislative Yuan in January 2023, also includes several important policies. About half of the *12 Key Strategic Action Plans* (12項關鍵戰略行動計畫) are related to energy policies. The EPA's promotion of "Zero Waste through Resource Circulation" and "Net-zero Green Living" aims to work with the whole nation to reduce carbon emissions generated by daily activities such as eating, clothing, housing, transportation, education and entertainment. For example, locally sourced food should be chosen for meals and public transportation, or electric vehicles should be chosen for transportation.

Minister Chang explained that the EPA's actions are not only aimed

at raising public awareness of the Net Zero by 2050 goal but also at encouraging people to take action in their daily lives. For example, the "10 Great Food-saving Actions" campaign encourages people to adopt green habits and engages the public in making full use of resources. For example, in the textile industry academia and industry have developed precise fiber sorting and recycling technologies, providing more options for processing old clothing, including use as secondhand clothing, downgrading for other uses, or using technology to make raw materials for textiles, fuel for energy, etc.

During his visit to the Sustainable Living Pavilion of the exhibition,

Vice President Lai exchanged views on the achievements of resource circulation with Deputy Minister Ya-Fen Wang. The Vice President was particularly curious about the first carbon-neutral shoes produced by domestic manufacturers and asked about

the details of the technology and materials used. Deputy Minister Wang pointed out that through innovative technology and business models, the implementation of a circular economy by the entire citizenry can be realized, existing resources can be reused, and

cities can become urban mines. Secretary-General to the President Chia-lung Lin also stopped to learn about the environmental technology achievements of "boiler fuel transformation" and "acoustic cameras".

Recycling

Discounted Recycling Fees Available for Electronics Containing Recycled Plastics Starting July 2023

From 1 July 2023 the EPA will grant a discount of 15% on recycling fees for certain products, in order to encourage enterprises responsible for manufacturing electronics and electronic products to incorporate material recycling and reuse into their product designs. These products include televisions, air conditioners, heaters, washing machines, refrigerators and electric fans, as well as electronics such as portable computers, desktop computers, monitors, printers and keyboards. Under this policy, responsible enterprises that incorporate at least 25% recycled plastic materials in their products, as verified through a review process by the EPA, will be eligible for a 15% discount on the recycling fee.

In response to the key strategic action plan Resource Circulation with Zero Waste, which is part of the transition toward net-zero emissions, the EPA has set its initial plan targeting plastic recycling. Enterprises whose electronic and electric products contain 25% or more recycled plastics will enjoy the discounted green rate of recycling and disposal fees. This initiative aims to encourage manufacture or importation of electronic products

with recycled materials, promote resource circulation and ensure the benefits of a secondary material economy. After implementing the policy for two years, the EPA will assess its progress and propose subsequent measures accordingly. Furthermore, existing products certified with the Green Mark will continue to enjoy a 5% discount on the recycling fees.

The EPA reminds responsible enterprises that, starting from 1

July 2023, they are eligible to report and pay the discounted recycling, clearance, and disposal fees for manufacture and importation of electronic and electric appliances and other articles of responsibility that meet the above-mentioned qualifications. Should there be any inquiries or issues regarding fee declaration and payment, it is advised to visit the Resource Recycling website (<http://recycle.epa.gov.tw>).

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