

Major Environmental Policies

May 2022

1. EPA Minister Shares Taiwan's Environmental Experience at Our Ocean Conference in Palau

The seventh Our Ocean Conference (OOC) took place in Palau on 13-14 April 2022, with EPA Minister Tzi-Chin Chang attending as an envoy assigned by President Tsai and giving a speech in the session “Tackling Marine Pollution.” In addition to sharing Taiwan's environmental protection experience, Minister Chang suggested that other nations consider source reduction, circular economy, and the promotion of environmental education and citizen participation as ways to make the world’s oceans cleaner.

Our Ocean Conference (OOC)

Founded in 2014 by John Kerry, who is the current U.S. Special Presidential Envoy for Climate, the first Our Ocean Conference (OOC) was held in Washington, DC. Hosts in following years have included Chile, the EU, Indonesia, Norway, and others. Every OOC has seen the attendance of several heads of state and vice leaders, as well as representatives of government authorities in charge of environment, sustainability, or marine conservation.

The 7th OOC, titled Our Ocean, Our People, Our Prosperity, focus on six areas of Action, including “Advancing Marine Protected Areas for Communities, Ecosystems, and Climate” “Tackling Marine Pollution” “Confronting the Ocean-Climate Crisis or Towards an Ocean Solution for Climate Change” “Creating Sustainable Blue Economies” “Advancing Sustainable Small-Scale Fisheries and Aquaculture” and “Achieving a Safe, Just and Secure Ocean”.

The Republic of Palau and the United States opened the 7th OOC on April 13, 2022, marking the first time this event held in a small island developing state (SIDS).

Joint Taiwan-Palau efforts lead to EPA Minister’s attendance at the OOC, a first by a government representative from Taiwan

The Ministry of Foreign Affairs (MOFA) pointed out that due to the Republic of Palau’s highly valued close diplomatic ties with Taiwan, Palau President Surangel S. Whipps, Jr. had particularly invited President Tsai Ing-wen to visit his country and attend the seventh OOC, a major event that Palau has always attended.

In response to President Whipps’ invitation, President Tsai appointed EPA Minister Tzi-Chin Chang to visit Palau and attend the event as an official representative of Taiwan. He was to share on the global stage Taiwan’s contributions to the marine environment and sustainable development as a responsible member of the Pacific region.

President Whipps met with the Taiwan delegation led by Minister Chang, and stated that as Pacific island states, both Taiwan and Palau have always been highly devoted to marine preservation and sustainable development, and together they work on creating a bright future for the entire Pacific region. He especially stressed the close diplomatic ties between Taiwan and Palau, hoping to continuously strengthen such a friendship.



EPA Minister Tzi-Chin Chang (second from the right) delivered a letter of credence to Palau President Whipps (second from the left) and attended the OOC as a Special Presidential Envoy. (Source: MOFA)

Minister Chang shares Taiwan’s experience and achievements in tackling marine pollution

In the session “Tackling Marine Pollution,” Minister Chang delivered a speech on relevant issues, which was a major breakthrough in the elevation of Taiwan’s participation in international marine activities. His presence at this event raised Taiwan’s status and image in global marine conservation efforts.

In his speech, Minister Chang pointed out that Taiwan, like Palau, is an island nation with beautiful coastlines and rich biodiversity. Taiwan is also facing the problem of marine pollution. The solution is: cut waste at the source and prevent it from entering the ocean. In 1997, Taiwan started a nationwide waste recycling program. Over the years, the recycling rate has gradually increased. Currently, the recycling rate is more than 60%, and the recycling rate for PET bottles has surpassed 90%. Most of the remaining waste is sent to incinerators to generate electricity. Despite these efforts, however, some wastes still end up on the land and in the ocean.

Inter-ministerial Council promotes "Salute to the Ocean" and pledges to invest US\$220 million

In 2020, the Taiwan EPA and other agencies launched a project called *Salute to the Ocean*. This project has committed a budget of more than US\$220 million between 2020 and 2023. It allowed Taiwan’s entire 1,988-kilometer coastline to be adopted by various organizations for cleanup, and a government-level integration and coordination platform was established by local governments to promote a number of source reduction measures. This project focuses on cutting down fishery wastes via controls at-source, intercepting garbage in rivers and improving the effectiveness of temporary storage sites and facilities for marine wastes to jointly maintain a clean coastal environment through inter-ministerial cooperation.

The Executive Yuan has established a mechanism of “regular cleaning” by integrating nine

central government agencies and cooperating with 19 coastal local governments. It led to cleaning over 48,000 metric tons of marine wastes in just 2021 alone. Minister Chang pointed out that efforts were intensified to set up waste interception points at important river confluences, resulting in intercepting 22,651 metric tons of garbage from 2020 to 2021. Also, another major source of marine waste is fishing nets and gear. The EPA is collaborating with local governments to push registration of fishing gear under owners' names, which, along with garbage interception, aims to reduce marine waste both at source and midstream.

Reduction at the source, 20 years of promoting plastic restriction

To further reduce marine plastic, since 2002, Taiwan has been restricting the use of disposable plastic. Statistics show that 4.5 billion plastic bags, 100 million straws and 200 million pieces of disposable tableware are reduced every year. In the future, through regulatory controls, economic incentives and innovative business models, Taiwan will continue to guide businesses and the public to change the throw-away culture, review and expand the targets controlled by the plastic restriction regulations, further promoting plastic reduction.

In 2018, Taiwan banned the manufacture, import and sale of cosmetics that contain plastic microbeads. And in 2019, Taiwan began banning plastic straws at government agencies, schools, department stores and shopping centers, and fast-food chains, and will continue to reduce the plastic consumption and comply with the UNEP's agreement on plastic reduction planned for 2024.

Integrating marine waste into a circular economy, the World's First government-sponsored Marine Debris Recycled Product label introduced

To help Taiwan's businesses integrate marine waste into a circular economy, the EPA introduced the Marine Debris Recycled Product label in 2021. This is the world's first government-sponsored product label for recycled marine waste.

Taiwan's industries have also come up with their own solutions to deal with marine waste. They have set a goal for plastic containers of nonfood items to be made with at least 25% of recycled materials by 2025. Companies such as Acer and LiteOn Technology use marine plastic wastes to make keyboards and other computer parts. And Minister Chang pointed out that even the OOC's official shirt he was wearing was made from marine waste – specifically, from PET bottles found in Palau by Taiwan's Shinkong Synthetic Fibers Corp.

In addition to sharing Taiwan's environmental protection experience, Minister Chang suggested that other nations consider source reduction, circular economy, and the promotion of environmental education and citizen participation as areas of cooperation. He said Taiwan would continue to cooperation with other nations so that oceans would become cleaner and the Earth protected.



Minister Chang delivering a speech in the OOC session “Tackling Marine Pollution” (Source: <https://ourocean2022.pw/>)



OOC group photo with Minister Chang (first row, second from right) and delegates from various nations. (Source: MOFA)

Fourteen commitments made by Taiwan’s ocean-related authorities officially documented

To demonstrate to the world Taiwan’s determination and contributions to protecting the ocean through practical actions, the OAC has coordinated with all the agencies involved in ocean-related affairs. Together they proposed 14 commitments with a total budget of US\$383.81 million for the OOC’s six Action Areas, all of which have been officially documented by the OOC.

The commitments of the Government of the Republic of China (Taiwan) are as follows:

I. Area of action: Maritime Security

1. Taiwan announces its commitment to implementing the Intelligent Navigation Safety Service and Development Plan.
2. With international partners Taiwan has committed to continuously cracking down on maritime cross-border criminal activities.
3. Taiwan declares its commitment to fulfill the universal value of humanitarian aid and to strengthen its capacity regarding life-saving and rescue at sea.

II. Area of action: Sustainable Blue Economy

1. Taiwan has committed US\$300,000 to complete a single-page web application for coastal recreational activities.
2. Taiwan has pledged to pass the Marine Industry Development Act and enact the Marine Economy and Industry Development Plan.
3. Taiwan announces its commitment to continuously optimize facilities and service efficiency of commercial ports to create a favorable operating environment for the shipping industry.

III. Area of action: Sustainable Fisheries

1. Taiwan has committed to implementing a recreational fishing-friendly plan.
2. Taiwan has committed to adopting a program to reinforce the management of Taiwan's distant water fishing fleet and combat IUU fishing.

IV. Area of action: Marine Protected Areas

1. Taiwan has committed to the legislation of the Marine Conservation Act.
2. Taiwan has committed to promoting the Project for Marine Eco-Environment Protection in Taiwan.

V. Area of action: Marine Pollution

1. Taiwan has committed to promoting the gillnet marking and management program.
2. Taiwan has committed to implementing Saluting the Ocean Policy.

VI. Area of action: Climate Change

1. Taiwan announces its commitment to developing the Atmosphere-Ocean Coupled Model.
2. Taiwan has committed to promoting its Climate Change Adaptation Action Plan.

Aiming to promote Taiwan's cooperation and exchanges with Palau and other like-minded nations

Minister Chang was interviewed by two major Palauan media outlets, the Island Times and Tia Belau, with whom he shared Taiwan's policies and achievements in marine waste disposal, environmental conservation and climate change. He expressed that Taiwan will keep facilitating cooperation and exchanges with Palau and other like-minded countries.

Meeting with USEPA Assistant Administrator Jane Nishida

The Taiwan-US Agreement on Environmental Technology Collaboration has laid a solid foundation for exchanges and cooperation between the Taiwan EPA and the USEPA for nearly 30 years. Collaboration has gradually expanded from initially being bilateral to multilateral today. The Taiwan EPA has been working with USEPA in building regional capacity on environmental education, mercury monitoring, e-waste management, and air quality under the framework of the International Environmental Partnership (IEP) program.

During the OOC in Palau, USEPA Assistant Administrator Jane Nishida visited Taiwan's Toward Zero Emission and Zero Waste Future Exhibition and afterwards suggested both the U.S. and Taiwan could further collaborate on issues such as marine pollution prevention and control, climate change impacts and a circular economy.



USEPA Assistance Administrator Jane Nishida (third from the right) and Taiwan EPA Minister Chang (third from the left)

2. Recycling and Reutilization of Plastics Among Industries

In recent years, the world has been increasingly focused on waste plastic disposal with many proposals concerning recycling. The EPA aims to facilitate various industries' practices in plastic recycling and reuse and reduce disposal via incineration. Assistance has been provided to industries, including key players like ASE Technology and TSMC, to reexamine the nature and types of waste plastics and put recyclable plastics back into industries for reutilization. This will lead to a high ratio of waste plastic reuse and eventually a circular economy.

Setting up the Office of Resource Circulation to achieve complete resource circulation

Recently, countries around the globe like nations in the EU, Japan, and Korea have proposed resource- and recycling-related policies one after another. There is an even more urgent need for Taiwan to fully recycle and utilize resources and materials, as 76% of resources needed in Taiwan are imported. In light of that, on 1 July 2021, the EPA set up the Office of Resource Circulation to specifically focus on the overall planning and management of resource management. Categorized into four groups -- biological materials, organic chemical materials, metal and chemical substances, and inorganic recycled aggregates -- all materials and resources are incorporated for thorough management throughout their life cycles. The Office is fully committed to turning all wastes into usable energy and resources to optimize reutilization and minimize waste disposal, achieving total resource circulation.

In addition, ten agencies -- including offices set up by the Renewable Resource Recycling and Reuse Promotion Committee to handle the recycling of different materials, the Ministry of Economic Affairs, the Ministry of Science and Technology, and the Council of Agriculture -- are joining hands to promote resource recycling.

Establishing a resource recycling chain in all aspects of everyday life and various industries

Facing issues like limited fossil resources, over-use of plastics, and large volumes of garbage, the UN is drafting an agreement on plastics. Global organizations like the MacArthur Foundation are proposing plans for waste reduction, material replacement, and recycling. The EPA already has

policies in place to reduce plastics in everyday lives of people and recycle packaging materials in retail stores. Now, its endeavors are being extended to cover industries. Other than demonstrating the current recycling results in various industries, the EPA will establish a resource recycling chain by further connecting upstream, midstream, and downstream industries and enhancing resource circulation efficiency via technology research and regulatory updates.

The EPA has been examining common waste plastics generated by different industries. In the case of the technology industry, many items were once not reused at all except for power-generation via incineration. Now recycling and reuse enterprises are able to identify materials and assess their recyclability. A model can be set up to take in recyclable materials so that more materials can be reutilized. With innovative recycling and reuse technologies, reuse capabilities for plastics are increased by inventories and collection and sorting systems adopted by industries for plastic wastes.

Innovating and developing reuse technologies for plastic wastes

Taiwan possesses mature technologies for plastic recycling and continues to develop innovative products and technologies. For instance, Horng En Plastics has introduced the recycling of marine waste to increase benefits for the environment, while Da Fon Environmental Technology helps production sources to reduce waste and reutilize post-consumer recycled plastics (PCRs) right on the site. Chien An has developed technology to separate aluminum-plastic composite materials, and Ampack produces customized products with recycled plastic packaging materials from production sources. All the above contribute to optimization of existing plastic circulation routes.

Approximately 28% of the 240,000 metric tons of plastic waste annually generated by domestic enterprises are reutilized. To increase the reuse percentage of plastics, the EPA is actively taking resource circulation models used for residents' daily living and expanding their use in various industries and endeavors to establish a plastic recycling and reuse network among industries. In this way, industries can transform themselves and solve difficult plastic waste problems through the introduction of circulation models.

ASE Technology sets up recycling center and TSMC reutilizes 8,000 metric tons of waste plastics

TSMC (Taiwan Semiconductor Manufacturing Company Ltd.) is an example of the technology industry taking innovative measures. With its material packaging guidebook to regulate suppliers concerning the use of materials, TSMC has recycling and reuse enterprises stationed in their factories to help sort wastes, combining innovative technologies to develop more than 20 products from recycled materials. Such efforts led to the reutilization of 8,000 metric tons of waste plastics in 2021, with a reutilization ratio of 66%. Meanwhile, ASE Technology (Advanced Semiconductor Engineering, Inc.) has set up a recycling center, which collects waste plastics generated by all factories. These plastics are then sorted into many items for reuse based on their material characteristics and nature. The result was the reutilization of 4,300 metric tons of waste plastics in 2021 with a reutilization ratio of 68%.

Replicating successful circulation models among industries via waste reduction at both production and disposal ends

In recent years many industries have been working on waste reduction throughout their production chains in order to achieve sustainable development and meet their corporate social responsibilities (CSR). The EPA notes that waste reduction requires effort at both the production and disposal ends, in other words, less use of materials will reduce the amount of waste at the production end, and proper sorting will increase reuse at the disposal end. Via efforts at both ends, industries can reexamine the categories and natures of their waste plastics before adjusting reuse channels to lessen the workloads of incinerators. In the future, successful circulation models can be replicated in different industries to help enhance recycling capacities and benefits and allow more resources to be appropriately utilized.

3. Ban on Manufacture, Import and Sale of Food Packaging Containing PVC Takes Effect 1 July 2023

The EPA has announced that manufacturing, importing, and selling polyvinylchloride (PVC) food containers will be limited from 1 July 2023. Targeted items include flat packaging, containers announced as recyclables, and non-flat disposable tableware. Such limits aim to reduce the harmful risks that PVCs pose to the environment and human health.

The phasing out of food packaging containing PVCs has become a global trend, with countries such as South Korea and New Zealand having gradually announced measures to phase out this type of packaging. Stabilizers added to PVC-containing products pose potential threats to human health. Also, PVCs are susceptible to corrosion by oil, which can easily cause leakage of plasticizers into food and lead to exposure to environmental hormones and carcinogenic risks from PVCs. Finally, the burning of discarded PVCs releases dioxins and heavy metals. A small percentage of these enter the air via incinerator chimneys, while the rest stay in incinerator fly ash and bottom ash, also potentially causing environmental contamination.

To reduce pollution caused by PVC-containing products at source, the EPA has formulated relevant controls based on the *Waste Disposal Act* (廢棄物清理法) Article 21. From 1 July 2023, prohibitions will be effective on the manufacture, import, and sale of PVC-containing products including flat packaging, containers announced as recyclables, and non-flat disposal tableware containing a number of food items. These items include food products, animal food products, animal feed, dairy products, seasonings, vinegar, salt, edible oils, beverages, packaged drinking water, alcohols, medicinal alcohols, and solutions for oral internal use that contain amino acids or multiple kinds of vitamins. However, products manufactured or imported before the effective date are not subject to the ban. Currently, all enterprises have alternative containers made from other materials. The EPA expects this control measure to reduce food packaging containing PVCs by 79 metric tons every year.

4. Change from *Greenhouse Gas Reduction and Management Act* to *Climate Change Response Act* Approved

On 21 April, the EPA-proposed draft revision of the *Greenhouse Gas Reduction and Management Act* (溫室氣體減量及管理法) was passed and sent by the Executive Yuan to the Legislative Yuan for approval. From 11-12 May 2022, the Act draft revision was completely reviewed by the Joint Committees of Social Welfare and Environmental Hygiene, Economics, Finance Internal Administration, Transportation and Education and Culture in the Fifth Session of the 10th Legislative Yuan.

The revision aims to establish a climate-based legislative foundation to achieve net-zero

emissions. Amendments include changing the name of the legislation to the *Climate Change Response Act* (氣候變遷因應法), all of which shows equal consideration and attention to both greenhouse gas reduction as well as climate change mitigation.

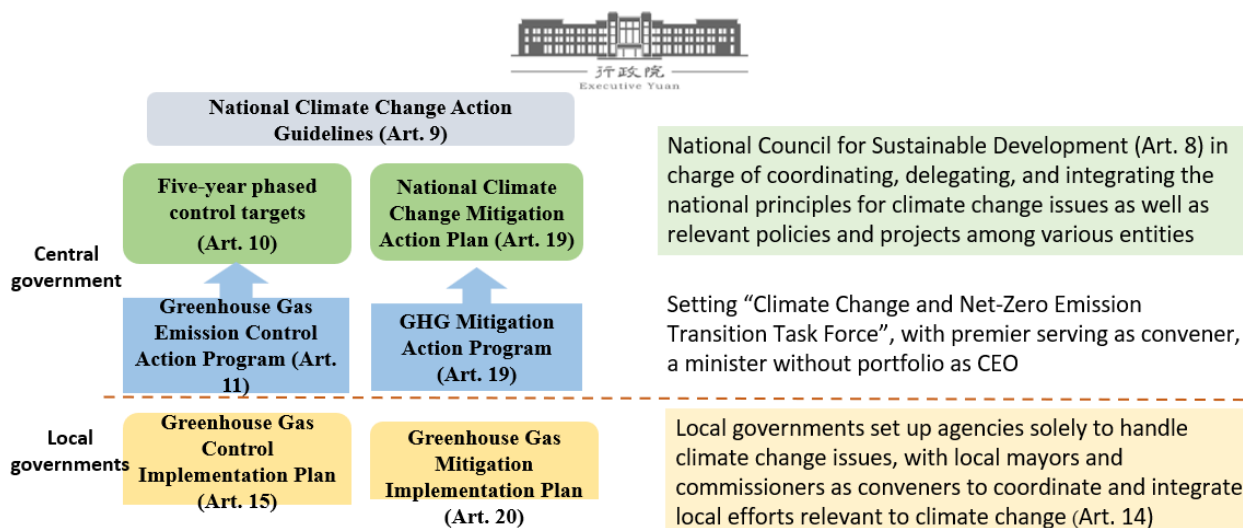
Key legislative foundation for transformation to achieve zero emissions by 2050

On 30 March 2022, Taiwan announced its official blueprint for carbon reduction, the “Pathway to Net-Zero Emissions by 2050”. An essential part of the effort toward net-zero emissions under the blueprint is to strengthen the climate-related legislative foundation. The long-term national goal for carbon reduction under the *Greenhouse Gas Reduction and Management Act* currently in place is to reduce carbon emissions to 50% of the 2005 level by the year 2050. The amendments set a new goal to reach zero carbon emissions by 2050, demonstrating Taiwan’s resolve in this effort. To achieve such a goal, government entities at all levels are to work with citizens, enterprises and organizations to reduce greenhouse gas emissions, develop carbon-negative technology and collaborate globally.

Increased importance of climate governance with equal focus on both carbon reduction and climate change mitigation

The revised act elevates climate-related governance to a higher official level. Henceforth, the National Council for Sustainable Development (NCSD) will be in charge of coordinating, delegating, and integrating the national principles for climate change issues as well as relevant policies and projects across different entities, with the Premier serving as convener. Local governments are to set up agencies solely to handle climate change issues, with local mayors and magistrates as conveners to coordinate and integrate local efforts relevant to climate change. Moreover, the central competent authorities are to formulate *National Climate Change Action Guidelines* (國家因應氣候變遷行動綱領), set phased control targets and make *National Climate Change Mitigation Action Plans* (國家氣候變遷調適行動計畫). Central competent authorities for industry are to determine action plans for the sectors or fields under their supervision. Meanwhile, local governments are to formulate or amend implementation measures. The efforts of these three government levels are also required to establish review mechanisms and have citizens participate. Also, in an effort to adapt to impacts of climate change and establish a resilient system, the amendments aim to increase mitigation capacities by keeping up to date with climate change science and risk assessment so as to better promote relevant mitigation work.

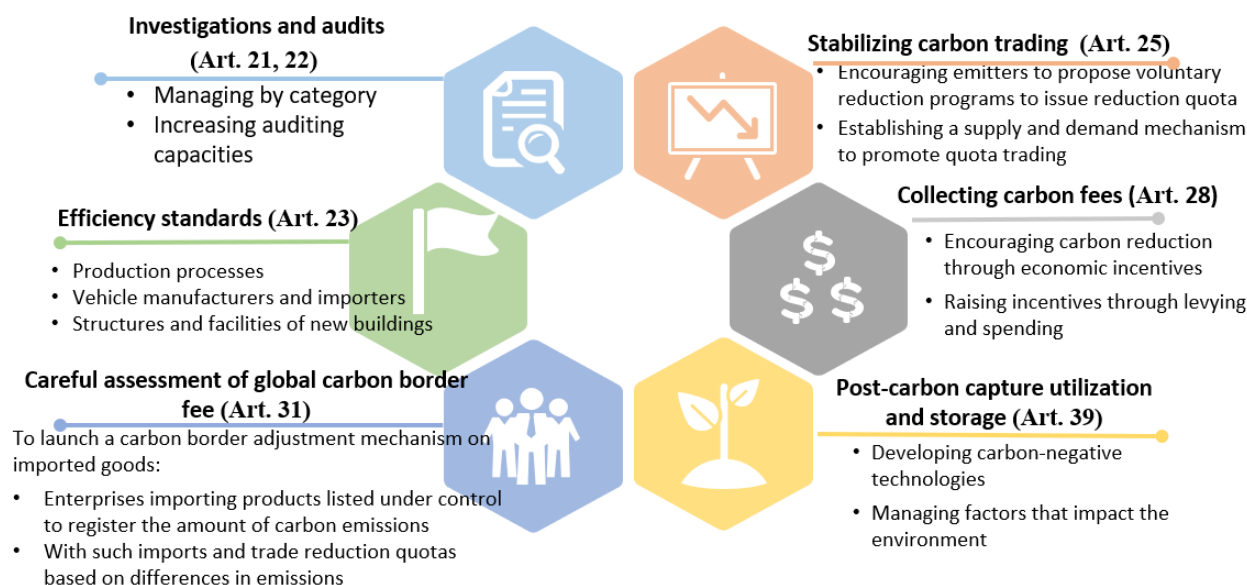
Strengthening climate governance with equal emphasis on carbon reduction and climate change mitigation



Expedited carbon reduction to enhance the global competitive edge of industries

Under this revision, relevant investigations and audits are to be managed by category in order to help industries examine their carbon emissions and increase auditing capacities. The goal is to comply with requirements concerning information on carbon emissions of supply chains. Efficiency standards are newly added for industries to follow in order to lower carbon emissions from production processes and thus enhance their competitive edge. For vehicle manufacturers and importers as well as structures and facilities of new buildings, there are also new emission standards and regulations for reducing emissions. Newly set or modified emission sources up to a certain scale are mandated to reduce their environmental impacts via offsets based on a percentage of the increased emissions they bring. Additionally, the revised act strives to stabilize carbon trading in line with the trend of carbon pricing. Enterprises and governments of all levels, either on their own or with others, are to propose voluntary reduction programs to carry out reduction measures accordingly. It will allow emitters to acquire reduction quotas and manage the uses, transfers, and trades concerning these quotas. Besides the above, relevant regulations are set to keep up with the world's ongoing development of post-carbon capture utilization and storage technologies. The goal is to help develop carbon-negative technologies, whilst managing factors that have an impact on the environment.

Expediting carbon reduction to raise competitiveness of industries



Collection of carbon fees for specific uses

Carbon pricing encourages emission reduction through economic incentives and is therefore widely recognized as one of the important reduction strategies. The revised act sets up a system to collect carbon fees from domestic emission sources, which are then solely used to assist, subsidize, and reward carbon reduction endeavors and conduct relevant technological research that will facilitate reduction efforts and develop a low-carbon economy. As for the global economy and trade, with careful assessment Taiwan will launch a carbon border adjustment mechanism on imported goods if necessary. Enterprises importing products listed under control are required to register the amount of carbon emissions associated with such imports and trade reduction quotas based on differences of emissions.

Public participation to build momentum for emission reduction

Climate change issues span numerous fields and cannot be appropriately addressed without everyone's participation. The revised act strengthens information disclosure and expands public participation mechanisms, mandating governments of all levels to invite all stakeholders when formulating programs or plans concerning carbon reduction or climate change response. Then implementation results are to be disclosed. These programs and plans are also required to integrate comprehensive, community-based mitigation policies and measures. Meanwhile, the management mechanism and labeling system for product carbon footprints are strengthened to extend responsibilities of producers, motivating enterprises to produce and encouraging people to choose low-carbon products. Furthermore, the revised act enhances systems for nurturing needed talents and to develop relevant technologies, as well as introduces just transition into reduction and mitigation work.

The Social Welfare and Environmental Hygiene Committee and other committees in the Legislative Yuan have finished the preliminary review of the Climate Change Response Act, which will enter the following legislative stage. Besides continuing the implementation of the

Act, the EPA will begin formulating other sub-laws in order to complete the climate-related legislative foundation for the goal of net-zero emission.

5. Revisions Preannounced for Standards for Determining Scope of EIAs

The EPA evaluated the current environmental impact assessment (EIA) system, having planned short-, middle-, and long-term enhancement strategies. For the short-term strategy, the EPA aims to establish a clear and efficient EIA system by drafting revisions for various sub-laws, including the *Standards for Determining Specific Items and Scope of Environmental Impact Assessments for Development Activities* (開發行為應實施環境影響評估細目及範圍認定標準).

Revisions have taken into consideration suggestions from various agencies, announcements and previous amendments to relevant regulations, as well as reviews of questions that arose from actual practice. The following are the key points of the revisions:

- Exemption from an EIA may be granted in the event of maintenance dredging done to ensure safe passage of vessels and continue normal port and harbor operations.
- For desalination plants, if approved by the industry competent authority, exemption from an EIA is granted for construction or capacity expansion as these are deemed temporary measures against drought.
- Regarding EIAs, the revisions tighten regulations concerning the distance required between wind turbines and the closest structures.
- For mixed industrial/commercial districts or large shopping centers, and venues for exhibitions, expos, or displays, determination standards are changed based on the overall size of developed areas. Also, EIAs are required for activities in reservoir watersheds.
- Under the revisions, EIAs are required for cable car installations.
- The revision adds that EIAs are mandated for national space launch centers established according to the *Space Development Act* (太空發展法).

6. Students Invited to Participate in 2022 Air Quality Knowledge, Action and Innovation Competition

Echoing the theme for Earth Day, Invest in Our Planet, the EPA launched the Invest in Clean Air. All In! event on 22 April 2022, soliciting projects for the 2022 Air Quality Knowledge, Action and Innovation Competition. A total of NT\$300,000 in prizes will be awarded to the high school and college student teams with the best innovative projects to improve air quality. Students are encouraged to participate and work in teams with a fresh perspective and propose new ideas and innovations regarding air quality policies. The deadline for submission of projects is 3 July 2022.

High school and college students are invited to participate in this year's competition in teams of two to five members. The main theme of the competition continues to focus on the seven major aspects of daily life: food, clothing, housing, transportation, education, recreation and folk culture. The competition also echoes the international declaration and action for Net-Zero Emissions by 2050 by soliciting ideas on ways to reduce air pollutants and greenhouse gases.

The EPA said this was the third year the competition has been organized. Last year nearly 50 teams comprising a total of over 170 high school and college students participated. There were cross-disciplinary and cross-school teams formed that brought more diverse and fruitful results to the competition, including song creation, board games, lesson plans to promote air quality knowledge and policy, promotion of green campuses, environmental travel route planning, APP designs, promotion of eco-friendly temples with VR technology and ecological joss paper, and research and development of air-purifying clothing and eco-friendly composite materials.

Investing in good air is investing in our planet and everyone is capable of echoing support for Earth Day. The 2022 Air Quality Knowledge, Action and Innovation Competition is in need of the active and enthusiastic participation of fresh troops. Please go to the website for more information on the Invest in Clean Air. All In! competition and relevant events.

7. Efforts to Remove Garbage from Rivers Yield Good Results

Efforts to remove garbage from rivers by Taiwan's 22 city and county governments, the ten River Management Offices of the Water Resources Agency of the Ministry of Economic Affairs, and the seventeen Management Offices of the Irrigation Agency of the Council of Agriculture (COA) have yielded good results in 2021. 12,865 instances of garbage removal and 11,265 inspections were carried out by all agencies resulting in a total of 9,650 metric tons of garbage removed. Among the garbage, bags of garbage and plastics made up the bulk of human-generated garbage and accounted for 299 metric tons.

As the guardian of river water quality and environments, since 2018 the EPA has been urging ministries and relevant agencies of local governments to conduct garbage interception and removal from rivers to prevent garbage from flowing into the ocean. Removal management mechanisms were established to systematically clear and manage garbage from rivers. Annual garbage removal audit plans were also carried out to enhance the efficiency of removal. Aspects that are audited include garbage removal operations, inspection operations, and river cleaning activities.

In the annual audit of 2021, a total of twelve agencies received high distinction awards and ten agencies received excellence awards. Among those receiving high distinction awards were Taipei City, Tainan City, Hsinchu City, Changhua County, Kinmen County, Pingtung County, Hualien County, Taitung County, the Second, Third and Fourth River Management Offices of the WRA, and the Hsinchu Management Office of the Irrigation Agency, COA.

At present, manual removal or interception nets are employed by the majority of counties and cities in removal operations while interception ropes, boats and mechanized equipment are also used as auxiliary tools. The ecological diversity and the wide range of water environments in Taiwan make cross-ministerial cooperation necessary in maintaining cleanliness of rivers. Also, for that purpose, the EPA summons county and city governments, the WRA, and the Irrigation Agency to annual meetings every year to constantly upgrade management mechanisms. This year, the EPA planned to conduct audits, achievement sharing and award events, as well as the annual meeting to share and discuss results gathered from the past year. The management mindsets of the participants were further strengthened through sharing experiences across agencies, exchanges between groups and on-site visits.

The EPA calls for all citizens to follow a green lifestyle in which the recycling and reprocessing of garbage can reduce the garbage that flows into rivers and the ocean, and urges the public to reduce the use of single-use products so as to reduce waste and make river environments more pleasant.

8. Paper Tableware Management Strengthened with Source Identification QR Code Labelling

To strengthen the management of enterprises responsible for paper tableware and bring unregistered paper tableware enterprises under government control, the EPA amended the *Responsible Enterprise Regulated Recyclable Waste Management Regulations* to require paper tableware to be marked with a QR code issued by the EPA to trace manufacturer and importer information. Existing enterprises responsible for paper tableware are to complete the labeling within three months after the announced implementation date, while newly registered responsible enterprises should complete the labeling within two months after completing registration.

The EPA said that due to the occurrence of COVID-19 in 2020, the demand for take-away paper tableware has increased, which in turn has increased the number of enterprises responsible for paper tableware. Responsible enterprises that have not registered in accordance with the regulations or that have not paid the recycling and disposal fees for the paper tableware they have produced, seriously affect the operation of the existing paper container recycling system. Consequently, to strengthen the management of unregistered paper tableware enterprises, those that manufacture and import flat paper containers are required to label their products with a unique QR code issued by the EPA. This allows citizens or environmental protection bureau inspectors to link the products to the website set up by the EPA upon scanning the QR code, where the source of the products and information such as legitimately registered responsible enterprises are shown, to enable determination of whether the products are manufactured or imported by legitimately registered enterprises.

The EPA reminded existing responsible enterprises that they are to complete the labeling within three months after the announced implementation date, while newly registered responsible enterprises should complete the labeling within two months after registration. As for unlabeled stocked products that were produced before the announcement and have yet to be moved, enterprises should declare the inventory to the competent authority where they registered within two months after the announcement, and sell them within six months, but may apply for an extension of up to one year to clear their inventory.



9. Results of Carbon Reduction Competition for Neighborhoods Announced

To promote carbon reduction at the local level, the EPA continues to encourage partnering boroughs that have obtained Low-carbon Sustainable Homeland certifications to participate in this year's Carbon Reduction Action Competition for Boroughs. After more than two months of evaluations by region and group, the awarding ceremony was held on 20 April to commend boroughs with outstanding performances. High distinction awards in the silver group were granted to Toufen Village in Yuanshan Township, Yilan County and Baweng Borough in Liuying District, Tainan City.

Climate change is an issue requiring the involvement of all people, from households to boroughs, counties and cities to the entire country. Since 2012, the EPA has been implementing the Low-carbon Sustainable Homeland Certification Scheme, granting silver and bronze certifications. More than a thousand villages and boroughs across the country have obtained certifications, putting low-carbon lifestyles into practice, implementing local climate adaptation measures, and building the capacity needed for achieving net-zero emissions.

The EPA continued to organize the Carbon Reduction Action Competition for Boroughs this year. Recommended by the county and city environmental protection bureaus, 57 villages and boroughs, divided into north, central and south regions, took part in the competition. After more than two months of comprehensive evaluation, outstanding participants were selected. Toufen Village in Yuanshan Township, Yilan County and Baweng Borough in Liuying District, Tainan City won the high distinction awards of the silver group, while Mingxing Borough in Wenshan District, Taipei City and Jixiang Borough in Xindian District, New Taipei City won the high distinction awards of the bronze group.

Toufen Village in Yuansan Township, Yilan County is a typical rural community where large amounts of agricultural wastes are generated as farmers cut down aged bamboo every year. In the past, these wastes were often disposed of by burning, but more recently the waste bamboos were combined with kitchen waste, fermented and reused as soil enhancers. They were promoted as fertilizers of environment-friendly agriculture to farmers so as to reduce the use of chemical fertilizers, which in turn lower carbon emissions and air pollution. The idea of "turning waste into treasure" attracted many residents to put circular economy into practice. The residents further established the Low Carbon Learning Workshop, adopting farm-to-table sustainable lifestyles. The high distinction award of the silver group was therefore awarded to Toufen Village for its achievements in consolidating the community and inspiring its residents' interest in low-carbon sustainable topics.



Toufen Village in Yuansan Township, Yilan County

Another place that won the high distinction award of the silver group was Baweng Borough in Liuying District, Tainan City where farmers produce high-quality cheese products, creating considerable economic output values. However, cattle breeding not only produces large amounts of waste but also heavily consumes power. The ranch owners took the suggestion of placing solar photovoltaic panels on the roof of cowsheds to supply not only power for their own needs but also give the remaining power back to the grid, saving energy and reducing carbon emissions. In addition, volunteers from the borough went to the cowsheds to promote the separation and filtration of cow dung and urine, followed by sun exposure and fermentation, to produce green fertilizers for the pasture and crops such as corn. Not only does the practice reduce wastewater discharge, but it recycles and reuses wastes.



Baweng Borough in Liuying District, Tainan City

In conclusion, rich and diversified carbon reduction actions were promoted in the award-winning villages and boroughs where their chiefs encouraged residents participation in the joint promotion of energy and resource reduction. These actions included introducing citizen power plant systems to actively create green energy, putting into practice resource circulation and recycling and waste reduction, greening communities so as to reduce pollution and lower the temperature, promoting low-carbon diets composed of seasonal and locally grown food, as well as building new lifestyles adaptive to disasters in the face of climate risks. These actions fully reflected the spirit and purpose of the EPAs promotion of the Low-carbon Sustainable Homeland Certification Scheme.

(Link to the video about the competition <https://youtu.be/L-C0hZm2zg0>)

10. *Regulations Governing the Certification and Management of Environmental Education Personnel Revised*

To encourage citizens to obtain certification as environmental education personnel, to deepen environmental education and to have training courses focus on actual needs, the EPA announced an amendment to the *Regulations Governing the Certification and Management of Environmental Education Personnel* () on 14 April 2022. The amendment reduced the number of hours of required professional training to 40 hours and the total number of training to 100 hours.

Many years of implementation of the *Environmental Education Act* () and certification of environmental education personnel under the Act have shown that, in practice, 100 hours of training is sufficient to meet requirements for certification. Thus, the EPA has revised Article 9 of the Regulations by adjusting the required hours of training, from at least 120 hours to at least 100 hours, thus making it less burdensome for citizens to obtain an environmental education certification.

In addition, considering the diversity, richness and uniqueness of professional fields from which environmental education personnel could come, relevant provisions of Article 9 paragraphs 4 and

5_were also amended to give the training courses better focus. For those who are already certified as environmental education personnel but would like to obtain certification in another professional field, the number of hours of required professional training was revised from at least 60 to at least 40.

Correction reasons and key points

1. The **Regulations Governing the Certification and Management of Environmental Education Personnel** was announced on 22 June 2011, and until now was amended once on 17 October 2013.
2. The current amendments are being made to encourage citizens to obtain certification as environmental education personnel, to deepen environmental education and to have training courses focus on actual needs. The number of hours of required professional training have been reduced to 40 hours and the total number of training reduced to 100 hours. Thus, the provisions of Article 9 of these regulations, on applying for environmental education personnel certification after receiving qualification training and documentation thereof, were amended accordingly.

List of draft amendments (1/2)

Amendment provisions	Key points
<p>Paragraph 2 of Article 9 The duration of the training mentioned in the preceding paragraph should be at least 100 hours.</p>	<p>After many years of implementation of the <i>Environmental Education Act</i> (環境教育法) and general improvement of public environmental literacy, it has been shown that, in practice, 100 hours of training is sufficient to meet the requirement for environmental education personnel certification. Thus, the EPA has revised Paragraph 2 of Article 9 of the Regulations by adjusting the required hours of training, from at least 120 hours to at least 100 hours.</p>
<p>Paragraph 4 of Article 9 For those who apply to become certified as environmental education personnel, the training courses mentioned in Paragraph 2 shall include a total of 30 hours or more of the three core subjects specified in the <i>Paragraph 2 of Article 4</i>, and a training course of 40 hours or more in a professional field specified in <i>Article 3</i>. A minimum of 30 hours of practical training courses in environmental education are also required.</p>	<p>Considering the diversity, richness and uniqueness of professional fields from which environmental education could come, relevant provisions of Paragraph 4 and 5 in Article 9 were also amended to give the training courses better focus. For those who are already certified as environmental education personnel but would like to obtain certification in another professional field, the number of hours of required professional training was revised from at least 60 to at least 40.</p>
<p>Paragraph 5 of Article 9 For those who are already certified as environmental education personnel but would like to obtain certification in another professional field, a minimum of 40 hours professional training and an Environmental Education Practical Training Course are required.</p>	

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