

Major Environmental Policies

November 2022

1. Moving toward Net-Zero Emissions by 2050 as Green Mark Turns 30

In 2022, Taiwan Green Mark entered the thirtieth year of its implementation. As Taiwan strove toward net-zero emissions by 2050, a celebration themed Before 30/After 30 was organized by the EPA to demonstrate the fruitful results of the past three decades. Invited to a retrospective on the outstanding accomplishments were those with important roles in the promotion of the Green Mark, such as enterprises that had applied for the Green Mark consecutively for 20 years and members of the review committee. A commitment was made as Taiwan looked forward to the next 30 years and to build a future of net-zero emissions by 2050.

The origin

Launched in 1992, the Green Mark centered around the principles of recycling, low pollution, and resource conservation. Since then, enterprises have been designing and making products with the ideas of lowering environmental pollution and resource consumption in mind, consequently providing the option of environment-friendly products for consumers while shopping. According to the EPA's statistics, 80% of the public has purchased Green Mark-certified products, which shows that, for enterprises, the Green Mark not only creates business opportunities but also contributes to carbon reduction.

EPA Deputy Minister Chih-Hsiu Shen noted that net-zero emissions by 2050 is a common goal for the whole world, including Taiwan, and that individuals can create a future of green living just by making small lifestyle changes. This actually aligns with the Green Mark's principles, allowing the government and citizens to search for environment-friendly lifestyles together. As the nation faced the challenges of achieving net-zero emissions by 2050, Deputy Minister Shen pointed out that the government has proposed transformation in four areas: industries, energy, lifestyle, and society. Transformation in the area of lifestyle is closely tied to people's daily life involving food, clothing, housing, transportation, education, entertainment, and shopping. And it is necessary to combine the implementation of the Green Mark in order to practice a truly green lifestyle.



A press conference where Deputy Minister Shen (sixth from the left) kickstarted 30th anniversary celebration of the Green Mark

Annual reduction of 100,000 metric tons of carbon thanks to Green Mark

Statistics on the Green Marks environmental benefits in 2021 show that 28.48 million kWhs were saved annually, sufficient to provide electricity of 510,000 households for a month. Use of virgin pulp was lowered by 11.877 kilograms, equivalent to sparing 237,342 trees, which is eight times of the number of trees in Daan Forest Park.

There have been over 20,000 products certified with the Green Mark over the years, according to the EPAs statistics. At the anniversary celebration, invited guests include representatives from four enterprises that have applied for the Green Mark for more than 20 years. One of them was the household cleaning products brand, See Mild Biotech. The company said that, since it obtained the Green Mark, the government has taken the lead in product procurements and assisted in promoting. As a result, it has always enjoyed stable sales with capabilities to continually upgrades their products, which helped in achieving its mission.

Champion, a company that manufactures construction materials, began applying for the Green Mark in 1996. Efforts in researching and developing products made with recycled materials for 14 years have contributed to cutting down emission of 22,700 metric tons of greenhouse gases. Its largest client is the government, which actively supports the use of Green Mark-certified building materials, and well-performing construction companies that use lots of its products in various projects. In recent years, there have been quite a few environmentally conscious consumers.

Finally, CHC Resources, which reuses the steel industry’s byproducts such as slags and blast furnace cement as building materials, elaborated that, by replacing cement, its own products can lower costs as well as emissions because of reduced mining. This is also the reason its products are favored in projects of public constructions and famous buildings. With annual production that reuses 3 million metric tons of slags, the environmental benefit is equivalent to reducing 2.24 million tons of emissions generated from cement production, which is also equivalent to the total carbon absorbed by 5,760 Daan Forest Parks.

Promoting green living via van tours

For the Green Marks 30th anniversary, the EPA has specially outfitted a van with eye-catching

designs and had it tour around Taiwan to promote green living with local environmental bureaus. On the van there are easy-to-operate, interactive games that show people how to make simple changes in life and become more environment-friendly, such as replacing single-use items with green products for personal consumption.

Moreover, in December a Roundtable Forum on the occasion of the 30th anniversary of Green Mark will be held, with experts and scholars in various fields invited to have in-depth discussion on net zero by 2050 and green living. The public is also welcome to take part, and through all this the EPA hopes to encourage more people to continue doing the right things for the planet and together reach the goal of net-zero emissions by 2050.



The EPA's Green Mark promotion van on a six-county/city tour to introduce the Green Mark and importance of environment sustainability, Deputy Minister Shen in front of the van outfitted with interactive games

2. 18 Countries Jointly Promote Atmospheric Mercury Monitoring at the 11th APMMN Annual Meeting

On 2 Nov. 2022, the Eleventh annual meeting of the Asia-Pacific Mercury Monitoring Network (APMMN) was jointly hosted by the EPA Deputy Minister Chih-Hsiu Shen and the USEPA Acting Assistant Administrator Jane Nishida. Attendees were made up of over 50 government officials and scholars from 26 institutes in 18 partner countries, such as the US, Japan, Australia, and the UN Environment Programme (UNEP). During the event, Environment and Climate Change Canada presented the worlds latest equipment that passively samples atmospheric mercury. The Center for Environmental Monitoring and Technology of National Central University reported on the APMMNs current implementation, while experts from the US National Atmospheric Deposition Program explained calculation of national mercury deposition as well as the status of atmospheric mercury monitoring in partner countries.

To protect human health and the environment from the anthropogenic emission of mercury and its compounds, the UNs Minamata Convention on Mercury entered into force in 2017. Considering that atmospheric mercury monitoring is one of the essential tasks of the Minamata Convention, the Taiwan EPA and the USEPA jointly launched the APMMN in 2012 to respond to the Minamata Convention. The efforts to assist partner countries in the Indo-Pacific region to build capacities related to atmospheric mercury monitoring began in 2016, and so far the APMMN has analyzed 1,220 samples of rainwater. Results show that the mercury concentration

in rainwater in the APMMNs Indo-Pacific partner countries has gradually dropped in the past three years, which is evidence of the partner countries implementation of the convention. As environmental monitoring is a long-term and significant mission, Deputy Minister Shen particularly praised and thanked all the partner countries for their outstanding contributions toward long-term atmospheric mercury monitoring over the past 11 years. In August this year, the Center of Oceans and Atmosphere of the Commonwealth Scientific and Industrial Research Organisation (CSIRO) in Australia became an official partner. It completed the first sample on 28 Oct., an important step toward enhancing the southern hemispheres capacity in atmospheric mercury monitoring. Through the APMMN, the Taiwan EPA hopes to improve regional atmospheric mercury monitoring with the USEPA and the Indo-Pacific partners and together carry out the Convention, building a sustainable world for future generations.



EPA Deputy Minister Chih-Hsiu Shen (second from the right in the top row) and the USEPA Acting Assistant Administrator Jane Nishida (second from the left in the top row) co-chair the meeting

3. Chemical Substance Labeling Required to Follow Global Standards from 31 October 2023

To safely handle toxic and concerned chemical substances, the *Regulations for the Labeling and Materials Safety Data Sheets for Toxic and Concerned Chemical Substances* were revised, adding required minimum sizes for labels on containers and packaging. Another focus is to adjust specifications for the Ministry of Labors (MOL) chemical substance labels, which include disclosure methods for harmful ingredients in toxic and chemical substances, and revise the specific items to be disclosed if certain chemicals do not fall under any risk classifications. The purpose is to align with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), following its regulations on contents required to be put on labels as well as labelling requirements for individual toxic and concerned chemical substances.

Having studied EU and other international regulations, the EPA has revised the specifications for labels on containers and packaging. There are four levels based on volume sizes. Minimum label size is A5 for the top level (the biggest volume) and halved for the next level, and so on. Manufacturers or importers of toxic and concerned chemical substances are to ensure that labels on containers and packaging cannot be smaller than the required size, and should provide clear information concerning risks and dangers for the benefit of users. For specific

size-related or other reasons, labels should be presented in a folded form, as hanging tags or displayed on the outer packaging.

Based on the Chinese National Standard (CNS) 15030, a toxic and concerned chemical substance needs to be assigned a risk category, and related information about its risks is to be disclosed on the labels accordingly. If the concentration of such a substance in a product reaches a level required for control, additional information of dangerous ingredients on container and packaging labels as well as bulletin boards are to be disclosed, such as their English name, Chemical Abstract Service number, and the contents weight and concentration. Not only so, either Toxic Chemical Substance or Concerned Chemical Substance is to be shown on the labels. If a toxic and concerned chemical substance is determined as not under any risk category, the revisions state that it is only necessary to put the name, harmful ingredients, warning, other additional information, as well as the names, addresses, and phone numbers of the manufacturer, importer, or supplier.

Moreover, warnings or other supplementary information should be put on labels of toxic and concerned chemical substances according to regulations concerning individual substances. And the EPA will announce what written information or images are to be included on labels based on a substance's characteristics and management purposes. For example, laughing gas is listed as a concerned chemical substance due to its abuse, so words like for industrial use only; no consumption are to appear on the labels as a warning.

A meeting concerning this revision was held in Aug. 2022. For the entire supply chains of toxic and concerned chemical substances, existing regulations on contents and specifications concerning contents and sizes of container and packaging labels have been revised, and such amendments will take effect on 31 Oct. 2023. A year of grace period will be given to enterprises.

4. MOU of Scientific Research and Application Signed with National Science and Technology Center for Disaster Reduction

The EPA's Bureau of Toxic and Chemical Substances Bureau (TCSB) and the National Science and Technology Center for Disaster Reduction (NCDR) have signed a memorandum of understanding (MOU) on 13 Oct. 2022, represented by the TCSB Director Yen-Ju Hsieh and the NCDR Director Hung-Yu Chen, respectively. From now on, both sides will have more engagements, jointly integrating information of prevention and rescues for disasters relating to toxic and concerned chemical substances. Other tasks include sharing information on disaster response and selecting specific issues for further coordination in technological research, development, and applications.

The EPA noted that the NCDR has a team consisting of Taiwan's top professionals with technological research and development knowhow in disaster prevention and rescues. Its MOUs with relevant central agencies have equipped it with technological resources and platforms related to disaster warnings, image data, and researches. Under the principles of collaboration, mutual benefits, and resource sharing, the MOU aims to enhance Taiwan's capacities in prevention, responses, and rescues for disasters relating to toxic and concerned chemical substances. Both will join hands in promoting research, development, and application of relevant technologies.

The MOU is divided into five areas: promotion and professional consultation on technological research, development, and applications; establishment of an information and image database; events on research, development, and applications; establishment and maintenance of disaster

information modules; and technological research and development on specific issues. The collaboration is expected to better safeguard human lives by improving Taiwan's technologies on disaster prevention and rescues, integrating response information, and reducing domestic disaster risks.

5. Incinerators Sustain Garbage Disposal Capacity during Annual Maintenance for Carbon Reduction

For all 24 large-scale incinerators across Taiwan to be able to maintain their operation capacity -- 6.5 million metric tons a year in total -- during an annual maintenance is an accomplishment jointly reached by their operators and local governments. Besides assisting in equipment updates and unit improvements, the EPA will help enhance the quality of wastes entering the incinerators, reuse and control of ash, which is part of the incinerator's outputs, take inventory of greenhouse gases, and assess carbon reduction technologies.

Following the EPA's strategy to stabilize domestic incineration capacity, incinerators have incorporated equipment updates during their annual maintenance. To acknowledge local governments that have performed well in incinerator operations and mutually benefitting collaboration, the EPA held an award ceremony based on incinerators audit and evaluation results on Oct. 12. The EPA Minister Tzi-Chin Chang presented awards to these outstanding units and also expressed his gratitude to the staff who diligently carried out their duties during the peak period of the COVID-19 pandemic.

Li-Tse Incinerator in Yilan County, Miaoli County Incinerator, and Wai-Tien Incinerator in Keelung City received the top honor. Their accomplishments included generating electricity with high efficiency and keeping pollution low in their emissions (far below the average emission of all 24 incinerators). Additionally, they have actively developed performance management systems and smart management technology with AI and even helped dispose of other counties and cities household garbage under the central governments coordination. Six incinerators, including one in Lu-Cao, Chiayi, received the excellence award for enhancing inspections on incoming garbage with high-definition monitoring equipment, maintaining smooth operation for extended periods, actively assisting in cross-regional coordination, and reducing incineration ash. Not only so, special awards were given to another six incinerators, including Taoyuan City Incinerator, because of their utilization of innovative technologies, active reuse of fly ash, and promotion of energy conservation and carbon reduction.

Furthermore, the EPA awarded local environmental bureaus that showed high performance in supervising incinerators. Environmental bureaus of Kaohsiung City, Yilan County, and Keelung City were given excellence awards for helping with disposing of wastes from other counties and cities as well as their active and insightful planning of waste disposal. Five environmental bureaus, including one of Miaoli County, received special awards for their tremendous contributions toward overall waste controls through incinerator maintenance, mutually benefitting collaboration, and measures that audit waste sources.

The EPA stressed that the central government has since 2017 been actively assisting local governments in incinerator maintenance in order to extend their lives. The outstanding result is that the average operation percentage of all of Taiwan's 24 incinerators reached 87.5% in 2021, which is record high. Power generation per metric ton of garbage had already achieved more than 530 kwh. Not only so, each incinerator has been actively carrying out measures as to align with the global trend in net-zero carbon emissions. These measures include switching to variable-frequency motors and changing fan blades materials to lower electricity usage, and

also installing chillers, maintaining power generators, and improving production procedures, which have increased energy efficiency. In total, all incinerators in Taiwan have cut down carbon emissions by 59,000 metric tons over the past three years.

Despite having been in operation for 20 years on average, all incinerators will still play an important role in future garbage disposal. Other than continual assistance for county and city governments in updating incinerators facilities and improving units, the central government will help incinerators enhance the quality of incoming garbage, better reuse ash, take inventory of greenhouse gases, and assess carbon reduction technologies. The aim is to create a circular economy and achieve carbon reduction goals.

6. Amendment of Offset Principles Provides Diverse Offsetting Options for Air Pollution Emitters

To provide more options for development projects to offset their air pollution and effectively cut down emissions from developmental activities, on 2 Nov. 2022, the EPA amended and announced relevant offset principles for emissions produced by developmental activities. The amendment added offset sources categorized as stationary, mobile and fugitive and provided a mechanism for developers to cooperate with other public or private premises or government agencies. The amendment is expected to help accelerate the implementation of air pollution control strategies and allow developers to obtain offsets for the emissions they produce, thus reaching a win-win for economic development and environmental protection.

The amended *Offset Principles for Air Pollutant Emissions Produced from Developmental Activities* will provide clearer basis for calculating offsets. Offset sources include the improvement of pollution-control equipment and manufacturing processes at factories, replacement of old vehicles with electric ones, vessels in port areas using shore power, installation of pollution-control equipment by food and beverage enterprises, using bacteria to degrade agricultural residues, and so on. After passing environmental impact assessment reviews, developers should submit plans to obtain offsets for the air pollution emission they produce to the EPA for approval. Only after the approval can they implement the offset measures. This is to ensure that the planned measures are implementable in reality, and to clarify the follow-up supervision and inspection mechanism. If developers commission government agencies to find offset sources, they do not need to submit the aforementioned plans for obtaining offsets. Government agencies will issue them relevant supporting documents directly.

In addition, the amendment added a mechanism for developers to reach cooperation agreements with other public or private premises or government agencies, so as to provide developers with more channels to implement the pollution offsetting measures. Take for example the replacement of old vehicles with electric ones, the government matchmaking platform can assist developers to fund and obtain the air pollution reduction benefits of the public's replacement of old vehicles as offsets, thereby achieving the triple-win situation in which enterprises provide funds, the government provides a matchmaking service, and the environment is improved.

Moreover, based on the simulation of localized air quality models, the amendment revised the offsetting means and ratios between secondary air pollutants (fine particular matter and ozone) and primary air pollutants (nitrogen oxides, sulfur oxides and non-methane hydrocarbons) to make the means and ratios of offsetting more in line with the air pollution improvement benefits obtained through offsets.

Recently, many large international manufacturers have been placing orders with Taiwanese companies while overseas Taiwanese companies continue to return to Taiwan to expand production capacity. This has led to accelerated development of domestic industrial parks and a great increase of pollutant emissions. After the amendment, the offset principles will help improve the air quality by requiring development projects located in areas of poor air quality to obtain offsets that account for 1.2 times the emission produced when they implement offsetting in the future. As a result, not only will the development projects not exacerbate the air quality of the area with additional emissions, but they will help generate more air pollution reduction benefits.

7. Preannouncement of Amendment of VOCs Control Standards for Polyurethane Coating Industry

To enhance the control for volatile organic compounds (VOCs) and encourage the polyurethane coating industry to adopt water-based manufacturing processes, the EPA has amended relevant emission standards. In addition to directly exempting water-based-solvent and solvent-free manufacturing processes from the regulation, the amendment also gave existing manufacturing processes a grace period of two years to respond to the stricter exhaust-collection equipment regulations and emission standards. Not only will the control on VOCs be strengthened, a balance between industrial development and environmental protection will be reached.

VOCs are one of the main causes of odor pollution. Some VOCs are also hazardous air pollutants which can impact health after long-term exposure. To encourage polyurethane coating enterprises to adopt water-based manufacturing processes and enhance overall control of VOCs, the EPA has announced the amendment draft of the *Volatile Organic Compound Air Pollution Controls and Emission Standards for the Polyurethane Synthetic Leather Industry*, which has been renamed the *Volatile Organic Compound Air Pollution Controls and Emission Standards for the Polyurethane Coating Industry* (hereinafter referred to as the Standards). The amendment added exhaust pipe VOCs standards, emission reduction rates and installation requirements for exhaust-collection equipment, and gave existing operators a grace period of two years to make improvements. After the improvements, the annual VOCs emission is expected to be reduced by 775 metric tons, equivalent to reducing 90% of the average VOCs emission of an oil refinery.

The four focuses of the Standards are: clearly defining regulated targets, regulating VOCs, enhancing odor regulations, and effectively collecting exhaust. Details are as follows:

- A. Promoting source reduction and encouraging enterprises to develop water-based manufacturing processes: Polyurethane coating processes are to be regulated. However, water-based-solvent or solvent-free processes are exempt. Once local competent authorities approve the supporting documents submitted by enterprises, exemption will be granted.
- B. Increasing end-of-pipe treatment efficiencies and enhancing VOCs controls: Standards for exhaust-pipe VOCs emissions and the treatment efficiency of pollution-control equipment were added.
- C. Regulating odors to reduce complaints of neighbors: Standards for exhaust-pipe odor pollutants were added, and controls on newly established operators were enhanced.
- D. Enhancing exhaust collection and reducing pollutant emissions: Regulations on exhaust-collection equipment were added. Closed exhaust-collection equipment and enclosing hood should be installed to enhance exhaust collection and the exhaust should be channeled to pollution-control equipment for treatment.

In addition to directly exempting water-based-solvent and solvent-free manufacturing processes from the regulation, the amendment also gave a grace period of two years to existing processes to respond to the stricter exhaust-collection equipment regulations and emission standards. The control on VOCs is expected to be enhanced and a balance between industrial development and environment protection reached.

8. Summit of Circular Economy Enterprises Held to Promote Resource Circulation

The 2022 Taiwan Circular Economy Outstanding Enterprise Summit was held by the EPA on 28 Oct. 2022 to encourage enterprises to increase the use of recycled materials and establish innovative reuse service models, so as to demonstrate Taiwan's determination to develop a circular economy and to promote inter-industry connections and cross-field matchmaking and exchanges. Speeches on issues such as the application of renewable energies like solid recovered fuel (SRF) by enterprises, green finance, and new green transformation were given. A special exhibition on resource circulation industries in Taoyuan City was held, and a visit to Tayuan Mill of Cheng Loong Corporation was arranged.

The summit opened with the Special Exhibition on Resource Circulation Industries in the morning, which was held in cooperation with locally unique reuse and waste processors in Taoyuan. The integration of the Taoyuan region as a resource circulation industrial settlement is a good example of industrial symbiosis and cooperation to build a local resource circulation industrial chain. The exhibition focused on local resource circulation industries in Taoyuan and divided the scope of waste processing into seven areas, namely, electronic and electric appliances, building materials, basic industries, daily life, cultural creativity, waste-to-energy and agriculture. In each area, finished products made of waste were displayed to show the process through which wastes are reused and transformed. Introductions on how resource circulation was accomplished by waste processing and reuse enterprises with upstream and downstream industries in the chain and how their communication and exchanges facilitated the local development of circular economy industries in Taoyuan were also given. After the exhibitions successful end in the morning, exhibits were kept in Taoyuan Sustainable Resource Center as permanent exhibits. In the future, groups and government agencies can make an appointment on the center's official website or by phone before visiting.

In the afternoon session of the summit, presentations on cases of enterprises applying SRF, green finance and opportunities and challenges in the face of new green transformation and a visit to Cheng Loong Corporation were organized. Representatives from the Xinwu Plant of YFY Packaging Company and Cheng Loong Corporation were invited to share cases of enterprises applying SRF to encourage industries to follow suit. The Shanghai Commercial and Savings Bank was invited to speak about how it promoted green energy financing solutions to create ample business opportunities for green energy financing, thereby providing new solutions for corporate transformation and promoting the development of sustainable energy.

PwC Corporate Sustainability Service Company was invited to share the key problems being faced by Taiwanese industries and the opportunities and challenges for green transformation. The summit concluded successfully after all participants learned about real-life waste-to-energy cases on site by visiting the Tayuan Mill of Cheng Loong Company and seeing the SRF manufacturing and utilization plant and its biogas power generation system up close.

Promoting resource circulation and increasing resource utilization efficiency are international trends. To reach net-zero emissions by 2050, the government of Taiwan will continue to lead

with policies by clearly formulating twelve key strategies and providing projections and action pathways towards net zero in 2050, so as to promote economic growth, drive private investment, create green jobs, achieve energy independence and enhance social well-being.

9. Exhibition of Circular Economy Innovation Well Received

To enhance the public's experience of how the concept of circular economy applies in real-life situations, on 12-16 October 2022, the EPA organized the 2030 Circular Economy Innovation Exhibition, which featured themes such as circulation and sharing, green and circular technologies, circular products and products combining cultural and innovative designs. Displayed in the form of a simulated environment, the exhibition attracted many people, enterprises and schools to visit.

Focused on resource circulation, the exhibition promoted products with environment-friendly designs and models of sustainable consumption and production. It included about 60 products/technologies/services whose designs were based on the concept of a circular economy. There were also products designed based on the concept of resource circulation, combining cultural and innovative designs.

There were many distinctive exhibitors on site. For example, in the resource circulation and sharing area, there was homeapp123.com, the first home appliance rental and sharing platform nationwide. The company provides a platform for people who can rent out, via the internet, electric appliances they are not using to those who need them. BYTE International Co., an exhibitor in the area of green and circular technologies, specializes in extending the lifespans of IT/3C products with its repairing expertise and provides warranties for the repairs so that consumers can buy without worries. In the area of circular design products, Guantian Black Gold is a company that successfully carbonizes water chestnut shells to make biochar that complies with European Biochar Certification (EBC) and International Biochar Initiative (IBI) Biochar Standards. In the area of cultural and innovative design, ReWood uses discarded trees, pruning debris and other discarded materials from fruit farmers to make pleasant home accessories such as charcoal potted plants. The public was welcome to explore the exhibits. In addition to the rich and diverse theme exhibit area, there were different types of circular economy experiences and activities held on site, including cloth face mask printing, art using marine waste, and turning marine plastic waste into pots for plants or holders for scented candles. The exhibition also invited fashion designers to call on professionals from different fields to think and design with circularity in mind. The public could also bring their used clothes from home to revamp on site. Moreover, there were also many "zero-waste" installation artworks in the exhibition, urging people to cherish resources more.

The exhibition was creative and diverse in merging the concept of resource circulation with daily life. It was fun, relaxing, educational, and amenable to children. All were sincerely welcome to echo this sustainable consumption activity. For more information, go to <https://circular-cross.com/>.



The EPA Deputy Minister Shen Chih-Hsiu giving a speech

10. Taiwanese Delegation Participates in 2022 Global Environmental Education Partnership Meeting

The Global Environmental Education Partnership (GEEP), jointly launched by the Taiwan EPA and the US EPA, held the 2022 Global Environmental Education Partnership Meeting in Tucson, Arizona, USA on 10 October. Thirty-four government officials, environmental education experts and scholars of non-government organizations from eleven countries gathered to exchange ideas and share their valuable wisdom, toward strengthening environmental education cooperation networks.

Jointly organized by the Taiwan and US EPAs and the North American Association for Environmental Education, the gathering was the first physical GEEP meeting held since the Covid-19 pandemic broke out three years ago. Besides those from Taiwan, participants included government representatives, experts and scholars from American Samoa, Australia, Botswana, Cameroon, Mauritius, the Netherlands, Palau, South Africa, the United Kingdom, and the United States. During the meeting, experts and consultants examined and discussed the future strategies, goals and implementation methods of the GEEP, and participants shared their experiences in developing and running regional environmental education centers.

In addition to promoting global environmental education and establishing global partnerships, the GEEP also attaches great importance to improving the abilities of regions to respond to environmental changes and to strengthening of cooperation networks. Thus, in 2019 Taiwan established the Asia-Pacific Regional Center (APRC) under the GEEP structure. The APRC is in charge of promoting environmental education and establishing exchange networks in the Asia-Pacific region so that partners can learn and share with each other, and work towards a sustainable future. The Taiwanese delegation to the meeting was led by Hsuan-wu Chang, Director of the Department of Comprehensive Planning of the Taiwan EPA, accompanied by APRC representatives Professor Tzu-chau Chang and Professor Hurng-Jyuhn Wang, along with four young environmental leaders from Taiwan.

In the meeting, Director Hsuan-wu Chang said that Taiwan is in line with the world and plays a unique role in issues such as trade, health care and the environment. As to the issue of global climate change, Taiwan is also advancing with the world toward net zero emissions, and places emphasis at the same time on the power of cooperation and the importance of enhancing

environmental education. Thus it is important for countries, while playing their own role, to also establish partnership relations with others. From the experience of organizing the 2021 Asia-Pacific Environmental Education Forum, Taiwan has learned how partnerships facilitate more dialogue and help to disseminate valuable knowledge. Exchanges and cooperation between partners will continue to strengthen further through the GEEPs APRC.

Professor Tzu-chau Chang, Project Director of the APRC, made a presentation on APRC achievements to consultants from other countries. His presentation was of assistance to the continual strengthening of environmental education efforts in the Asia-Pacific and African regions, including the future development and operation of the GEEP Africa Hub, thus strengthening a global environmental education network in which all countries can learn from each other.

Selected and awarded by the Taiwan EPA, the four young environmental leaders were subsidized to be a part of Taiwan's delegation to the forum. They have experiences in leading and implementing environmental actions with respect to climate change, plastic reduction in daily life, net-zero carbon emissions and the marine environment. They took part in group discussions with experts and consultants to stimulate more ideas and interest in environmental education.



The 2022 GEEP Meeting Participants in Tucson, USA.

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