Major Environmental Policies
Ministry Of Environment, R. O. C (Taiwan)
https://www.moenv.gov.tw/

International Cooperation

MOENV Demonstrates Taiwan's Determination to Combat Climate Change and Achieve Net Zero in COP28

The two-week long 28th Conference of the Parties (COP28) to the United Nations Framework Convention on Climate Change (FCCC) commenced in Dubai, United Arab Emirates, on 30 November 2023. Despite not being a UN member, Taiwan still registered for participation as an NGO observer as usual. Minister Shieu Fuh-Sheng of the MOENV led a delegation consisting of representatives from all government agencies to Dubai, showing Taiwan's commitment to being part of the international community in the spirit of being professional, pragmatic, and contributive". This action displayed Taiwan's participation in climate convention activities as well as pledge of international climate actions. Minister Shieu also expresses to Taiwan's friends in the world Taiwan's determination to jointly pursue the goal of 1.5°C.

Participants from all sectors of Taiwan were present inside and outside the COP28 venue. The diverse exhibitions, presentations, workshops, dialogues, and speeches spoke to the world Taiwan's advantages and strengths in the development of green technologies, which have been applied in disaster relief, disaster prevention, environmental protection, public health, green energy, and other related fields. This is the evidence to demonstrate how Taiwan fulfills the role of global citizen and is willing to share with the international community.

In 2023 FCCC conducted its first global stock take. Many countries have made net-zero emissions as their goal, but it is clearly stated in the Emissions Gap Report 2023, published by UN Environmental Programme (UNEP) in November 2023, that these joints efforts are still insufficient. The world needs to work harder to accelerate energy transition and fight against climate change. In recent years Taiwan has started taking climate-related actions in multiple aspects, such as laws, systems, and policies. Incorporating the goal of net-zero emissions by into laws, Taiwan has facilitated the carbon pricing system, formulated the 2050 Net-Zero Emission Pathway (2050 淨零排放路徑藍圖) and the 12 Key Strategic Action Plans for net-zero transition" (淨零轉型 12 項關鍵戰略行動計畫). Other actions include establishment of National Climate Change Adaptation Action Plan (國家氣候變遷調適行動計畫), which

integrates central and local efforts, building up basic overall capacities responding to climate change challenges, and enhance public awareness on climate issues. During COP 28 Minister Shieu and delegation members interacted with international participants inside and outside the venue. The world was impressed and spoke highly about Taiwan's efforts in net-zero transition in energy, industry, lifestyle, and social aspects and the vitality of Taiwan's private and public sectors in climate actions.

Minister Shieu said that, as the FCCC focuses on common but differentiated responsibilities, Taiwan, as a country ready for responsibility, should be included in climate conversations. Facing climate change, Taiwan, and the world all aim for net-zero emissions. Equipped with green technology and strong technological strengths and in constant search of practical opportunities to make contributions, Taiwan is a force for good and could be an important solution for the world against threats of climate change and in supply chain restructuring, as well as a reliable, safe and trustworthy partner.Change Adaptation Action Plan (國家氣候變遷調適行動計畫), which integrates central and local efforts, building up basic overall capacities responding to climate change challenges, and enhance public awareness on climate issues. During COP 28 Minister Shieu and delegation members interacted with international participants inside and outside the venue. The world was impressed and spoke highly about Taiwan's efforts in net-zero transition in energy, industry, lifestyle, and social aspects and the vitality of Taiwan's private and public sectors in climate actions.

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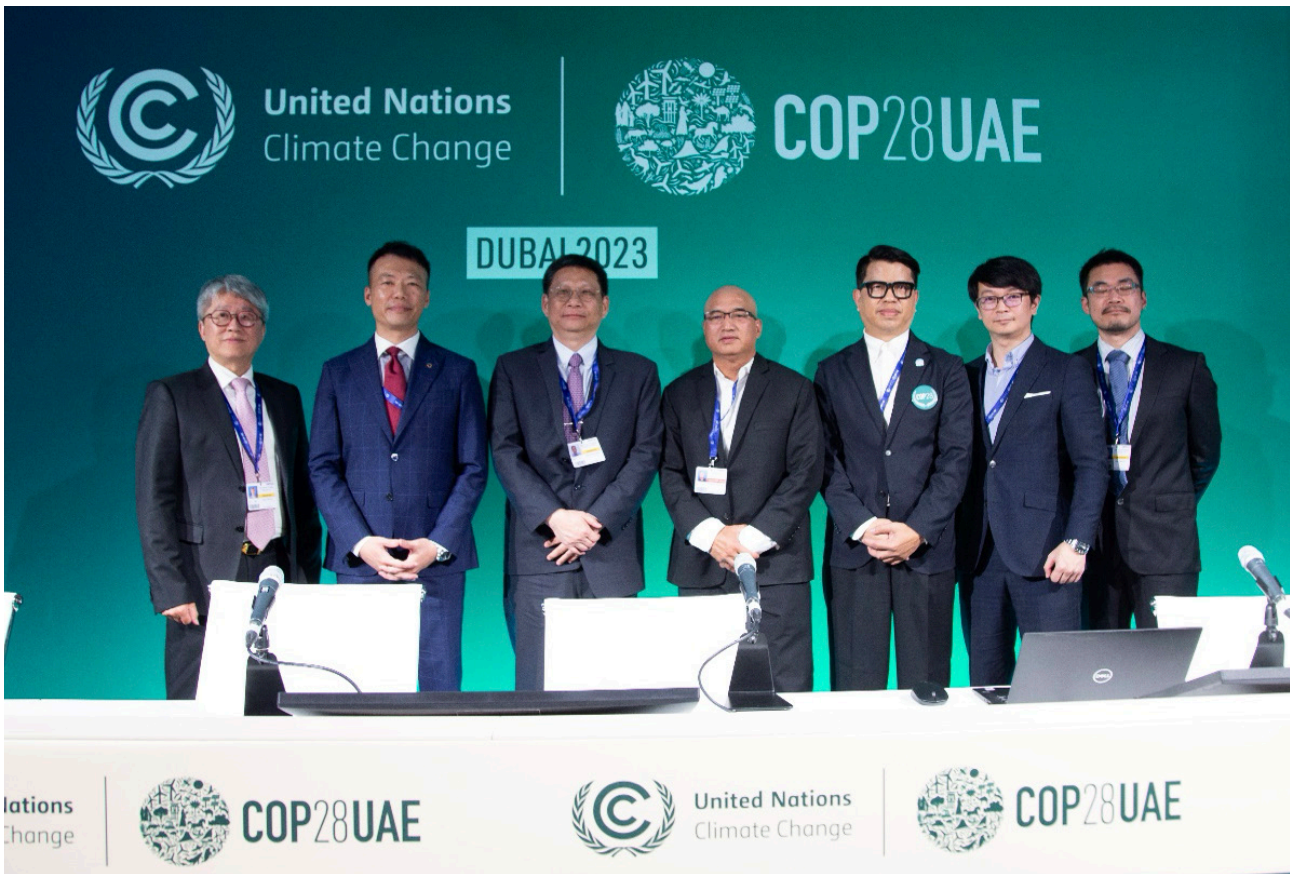
■ *Minister Shieu and delegates show Taiwan's determination to jointly take "climate actions" with the world*
Minister Shieu has bilateral talk with Saint Lucia



Event of International Technology Research Institute in COP28 venue

Environmental Inspection

2023 Monitoring Results Show Achievements of Air Pollution Controls

The MOENV produced the air quality monitoring results for the last 8 years and found decreasing trends in the concentration of all pollutants. The percentage of days with poor air quality, with air quality index (AQI) above 100, dropped from 15.09% to 6.35%. The average annual concentration of fine particulate matters (PM2.5) decreased from 20 μg/m3 in 2016 to 13.8 μg/m3 in December 2023, an improvement of more than 30%.

Despite the decreasing trends for pollutants overall, the MOENV points out that the averagePM2.5 and ozone concentrations in 2023 increased by 1.4 μg/m3 and 1.8ppb, respectively, as opposed to 2022. On the other hand, the numbers of station-days with red alerts, meaning the PM2.5 level at 54.5μg/m3, have decreased. This is primarily attributed to low wind speed and low daily precipitation in central and southern Taiwan. The low wind speed and little rain make it difficult for particulate matters to disperse, resulting in regional accumulation of pollutants. When east wind comes and coincides with high temperature and stable meteorological conditions,

ozone precursors start to accumulate in the west side of Taiwan, and the photochemical reactions fuels the generation of ozone.

The MOENV has been working with other government agencies to cut down pollutions. Comparing to 2016, the overall pollutant emission from factories and transportation has reduced by 38% and 30%, respectively, which is shown clearly in the air quality improvement. Multiple programs have been launched to cut down pollution since 2016. For example, the cooperation with Ministry of Economic Affairs to target state-owned enterprises, including Taichung Power Plant, Hsinda Power Plant, China Steel and China Ship Building Corp. (CSBC), has led to more than 50% drop in air pollutant emissions. Efforts to encourage replacement of commercial and industrial boilers with one burning natural gas has resulted in the decrease of coal- and heavy oil-burning boilers from 60% to below 20%. The program of replacing old motor vehicles has achieved in phasing out almost 50%, or 70,000, large diesel vehicles, and reducing old motorcycles from 6.98 million to 2.55 million, a decrease by 63%. and the continuous attempt to improve airborne dusts along Jhuoshui River has seen an improvement rate of over 90%, lowering exposed regions by 77% and number of days with airborne dust incidents from 59 in 2017 to 5 in 2023, an improvement rate of more than 90%.

The MOENV further pointed out that the cooperation between central and local governments has produced initial improvement for the air quality in Taiwan. However, there are still regional and seasonal issues of poor air quality, and the indicator pollutant, which was PM2.5, is now ozone. The second phase of the Air Pollution Control Program (2024 to 2027), therefore, will be focusing on precise controls with two new goals. One is, on a national scale, an 80% decrease from 2018 in the number of station-days with eight-hour average ozone concentration reaching the red-alert level, and another one is PM2.5 concentration at or below 15 μg/m3 in central and southern Taiwan. The second phase will be further coupled with the national policy of net-zero emissions and carry out measures to cut down pollutions and emissions, continuing to improve Taiwan's air quality and protecting citizens' health.

■ *Department of Monitoring and Information explains changes in average annual pollutant concentrations*

Climate Change

Revised National Climate Change Action Guidelines Announced

The Climate Change Response Act (氣候變遷因應法) was promulgated on 15 February 2023. According to its Article 9, the MOENV reviewed and amended the National Climate Change Action Guidelines (國家因應氣候變遷行動綱領), and the amendment was approved by the Executive Yuan. The guidelines are the guiding principles for climate governance in Taiwan. This amendment is the answer to the call of international climate agreements and focuses on both mitigation and adaptation, including net-zero emissions by 2050 as a vision target. Other additions are the principles of just transition, risk assessment and nature-based approaches. The guidelines will serve as basis to formulate Taiwan's climate change adaptation strategies and Pathway to Net-Zero Emissions, lead the development of low-carbon homeland that adapts to climate risks, and ensure national sustainable development.

The former Greenhouse Gas Reduction and Management Act (溫室氣體減量及管理法), promulgated in 2015, required the central competent authority to formulate the action guidelines, and the first issue was approved by the Executive Yuan on 23 February 2017. With the amendment of the Climate Change Response Act in 2023, the MOENV assembled central industry competent authorities to review the guidelines according to Article 9 of the act, taking into consideration of the UN Framework Convention on Climate Change (FCCC), its agreement, relevant international agreement, and changes and circumstance within Taiwan. The second revision's draft of the guidelines was submitted to the Executive Yuan, reviewed in the 35th meeting of the National Council for Sustainable Development on 15 August 2023, and promulgated by the Executive Yuan on 3 November 2023 as the important governance directives for climate change adaptation and carbon reduction in Taiwan. The guidelines are available on the Climate Change Administration's (CCA) website at https://www.moenv.gov.tw/cca (click on "Policy Responses to Climate Change").

On climate change mitigation, the guidelines emphasize references of the latest domestic and international scientific studies, analysis and scenario projections on climate change and also inclusion of climate change risk factors. All these are to be utilized to enhance climate change mitigation capabilities, reduce vulnerability and strengthen resilience, conduct climate change risk assessment, and develop early warning mechanisms and systematic monitoring, ensuring the sustainable development of Taiwan. The guidelines cover seven major mitigation policies, namely enhancing resilience of infrastructures; maintaining a balance between water supply and demand; facilitating the rational of land use and bolstering national land resilience; preventing coastal hazards and ensuring sustainability of marine resources; improving adaptability of the energy supply system and industries; securing agricultural production and ensuring biodiversity; and

reinforcing the public health and epidemic prevention system and improving health risk management.

For carbon reduction, the guidelines responds to Taiwan's Pathway to net-zero emissions by 2050 and the 12 key strategies by listing six major policies. They include establishing a zero-carbon energy system and enhancing stability and resilience of the power supply network; encouraging the green transition of industries and embracing a circular economy-oriented, sustainable production model; promoting the development of smart and environment-friendly transportation system and encouraging transition to net-zero transportation; building sustainable net-zero structures and promoting a low-carbon transition; boosting the development of sustainable agriculture and improving ecosystem management; and alleviating environmental burdens and building a society of full circulation and use of energy and resources.

In addition, eight complementary policies packages are included to accelerate the successful implementation of climate governance policies. They are facilitating green finance to enhance industries' climate resilience; developing a sound foundation for climate legislation; implementing a carbon pricing system; promoting scientific research and development in five key net-zero technology domains; engaging in climate science and mitigation research; encouraging the public to change its habits and awareness and build consensus; cultivating climate-change talents; and implementing just transition and citizen participation."

The MOENV stressed that the guidelines are the highest directives for national climate governance, as defined in the Climate Change Response Act. With the approval by the Executive Yuan, governments of all levels will follow the guidelines and the act. The central industry competent authorities are to develop its own carbon reduction action plans and also adaptation action plans for areas under their jurisdictions that face climate impacts before submitting them to the MOENV and then the Executive Yuan for approval. Both will also undergo reviews on a rolling basis. Local governments will formulate action plans on carbon reduction and climate change accordingly and work on building capacities of carbon reduction and climate change mitigation across multiple disciplines through horizontal and vertical integration and communication. The final aim is to achieve sustainable social, economic, and environmental development and safeguard the public's health.

W*aste*

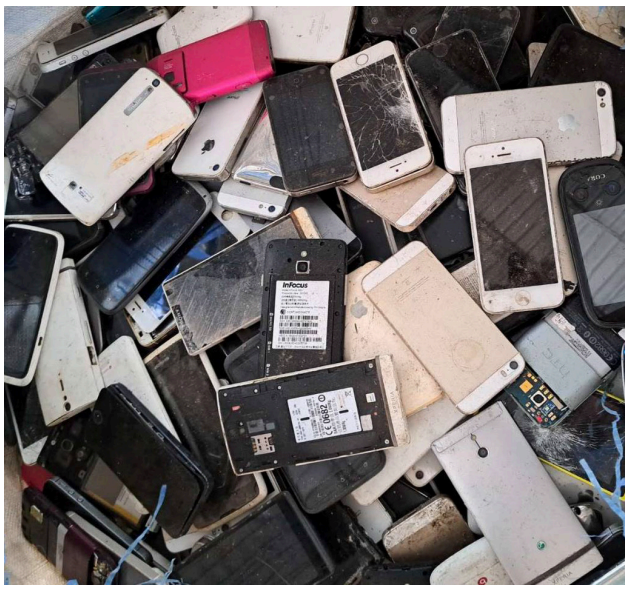
Cell Phone Recycling Included into Legislation to Extend Producers' Responsibility

New smartphones are launched every year, and six million cell phones are sold in Taiwan every year. A cell phone contains lots of chemical elements and substance

in its parts, but recycling them will large reduce the needs for new materials as well New smartphones are launched every year, and six million cell phones are sold in Taiwan every year. A cell phone contains lots of chemical elements and substance in its parts, but recycling them will large reduce the needs for new materials as well as carbon emissions. The MOENV's Resource Circulation Administration (RECA) is planning legislation of cell phone recycling, asking cell phone brands and retailers to be accountable for recycling, clearance, and disposal, allowing cell phones that are no longer in use to be recycled for reuse. It is hoped enterprises will come up with circulation services such as cell phone leasing or maintenance. The target is to recycle 15% cell phones by 2025 and 30% by 2030.

It was announced in 2006 that cell phones are an item to be recycled by the cleaning squads in Taiwan, to assist the public to recycle cell phones at home that are no longer in use. Starting from 2008, there have been collaborations with cell phone brands and retailers for recycling programs. During this period there have been legislation in USA and EU to hold cell phone enterprises accountable for cell phone recycling, such as E-wastes recycling regulations in respective states of the US, the EU's Directive on the Waste Electronics and Electrical Equipment (WEEE) and Japan's Act on Promotion of Recycling of Small Waste Electrical and Electronic Equipment (廢舊小型電子產品等再資源化促進法). Statistics of recent years indicate that more 15% of cell phones were recycled in Europe, the US and Japan. The cell phone recycling rate reached a record high of 12% in Taiwan in 2022, but there is still room for improvement.

The MOENV's survey has shown that more than 50% of people keep their old cell phones at home and do not recycle them. A deeper look reveals reasons including not knowing where to recycle them, lack of incentives, and worries about exposure of private information. Seeing this, the RECA has started working on drafting the Regulations Governing Sorting and Recycling Labels Concerning Mobile Phone Manufacturers and Importers" (應標示分類回收標誌之行動電話製造、輸入業者範圍及其他應遵行事項) while discussing with cell phone brands and retailers. The aim is to switch from the previous approach, with only promotion campaigns to encourage people to voluntarily recycle their old phones, to the new one that includes cell phone recycling into legislation and holds cell phone brands and retailers responsible for recycling. Besides continuing the current recycling, such legislation efforts will increase percentage of circulation services, such as recycling, leasing, buyback, or maintenance. The target is set to recycle 15% cell phones by 2025 and 30% by 2030. The draft regulations are expected to be promulgated in 2024.



■ *Recycled waste cell phones*

Mobile Air Quality Lab Launched as A New Milestone for Environmental Testing Technology

The National Environmental Research Academy (NERA) revealed a major technical breakthrough in 2023 with successful in-the-field performances of real-time online analysis on heavy metal components in airborne particulate matters, which previously could only be done in the laboratory. This advanced mobile laboratory is equipped with sophisticated instruments for testing, for example, mass concentration in fine particulate matters (PM2.5), organic/element carbon, positive and negative ions, and metal elements. Particularly, the gas exchange device-inductively coupled plasma-mass spectrometer (GED-ICP-MS), which was used in laboratory, is now integrated in the mobile one. This advanced equipment introduces air samples directly into analysis instrument and analyzes in-situ trace heavy metals in PM2.5. This technology improves testing efficiency very effectively and hence has set a new milestone for environmental testing technology.

The MOENV expressed that the overall concentration of fine particulate matters has shown gradual decrease over the years in Taiwan, all thanks to the hard work of environmental protection units of all levels. In Douliu, Yunlin, the average PM2.5 concentration in 2022 was 18.9 μg/m3, a significant improvement by almost 50% as opposed to 34 μg/m3 in 2003, but still slightly higher than the average concentration of other counties and cities. To find out the cause of local PM2.5 pollution and devise a more precise air pollution control strategy, the NERA deployed the new mobile laboratory in Douliu, Yunlin, to conduct tests and studies of air pollutant in the field and provide scientific evidence for MOENV to formulate air pollution control strategy.

The MOENV emphasized that the successful application of this advanced technology demonstrates the NERA's dedication and efforts in the field of environmental governance and provides a solid foundation of scientific research and data analysis for the government's work in improving air quality and protecting people's health. Looking at the future, the NERA is committed to environmental governance research and becoming the think tank for various environmental challenges, providing all a healthy and clean environment.

■ *Unveiling ceremony of the mobile laboratory*

Air Quality

9 Departments Jointly Put in NT$76.6 billion for Phase II Air Pollution Control Plan

The MOENV rolled out the Phase II Air Pollution Control Plan (from 2024 to 2027) as the continued efforts for the Phase I Air Pollution Control Plan (from 2020 to 2023) in the previous 4 years. The plan was approved by the Executive Yuan on 21 December 2023. An estimated budget of NT$76.6 billion is to be used on 37 precise reduction actions in 8 aspects through accurate governance, combining net-zero transitions and pollution and emission reduction strategies and also integrating capacities of 9 government departments. The target is to by 2027 lower the average concentration of particulate matters (PM2.5) to 13 μg/m3, and number of station-days with eight-hour ozone concentration reaching the red-alarm levels by 80% as opposed to that of 2019.

Unlike the Phase I plan where the focus was on improvement of end-of-pipe emissions from conventional stationery and mobile sources, such as stated-owned enterprises, boilers and old vehicles, the Phase II plan aims to combine net-zero emission and cross-departmental capacity for improvement of air quality from pollution sources. The MOENV is planning to put in NT$7.9 billion in several aspects, including stricter emission standards to reduce emissions of pollutants from factories and vehicles, and subsidies for electric buses, charging station installation and optimization of electric bus network for an electric vehicle-friendly environment. The Ministry of Economic Affairs (MOEA) is working to appropriate NT$1.8 billion on industrial consultation and improvement, electric logistics vehicles and energy replenishing facilities for electric motorcycles. The Ministry of Transportation and Communications (MOTC) and the Ministry of Agriculture (MOA) are expected to pour NT$1.9 billion in green transportation and improvement of riverbank airborne dusts. As a cross-departmental joint effort, state-owned and -invested enterprises, such as TaiPower, China Petroleum Corporation, China Steel Corporation and Chunghwa Post, are planning to put in a total of NT$65 billion on air pollution-reducing measures They include process improvement, optimization of efficiency of pollution control equipment and electrification of mail truck fleet.

The MOENV pointed out that the 2025 net-zero emission target is challenging. The Phase II plan will continue to enhance reduction technologies for all industries, strengthen vehicle and machinery management, promote pollution and carbon reduction strategies, and strengthen specific seasonal responses. Central and local government departments will be joining hand in lowering air pollution instead of individual departments working separately and independently. It is hoped that all government departments, industries, civil organizations, and the public work together to utiliza clean energy, develop green technologies, practice net-zero green lifestyle, promote green and low-carbon transportation, and deepen environmental education. This all-around and diversified approach will help build an environment of better air quality and in turn protect the public's health.

■ *Cooperative governance across nine departments*

International Cooperation

MOENV and NASA Jointly Launch APAC

The Asia Pacific AERONET Calibration and Training Center (APAC) was launched officially by the MOENV on 2 November 2023. The AErosol RObotic NETwork (AERONET) is a program of the US National Aeronautics and Space Administration (NASA), which participated in setting up the calibration platform at Lulin Atmospheric Background Station due to recognition of Taiwan's monitoring capacity. It will help accelerate interactions with Southeast Asian countries in terms of environmental monitoring and remote sensing, improve the quality of monitoring data from sun-photometers and contribute to climate change studies.

The MOENV Minister Shieu Fuh-Sheng pointed out that APAC will help Southeast Asian countries with sun-photometer calibration and also provide the world with valuable climate change data through cooperation with the MOENV, the Central Weather Administration (CWA) and the Taiwan Space Agency (TASA). He recalled as well how the Lulin monitoring station has been sharing data with NASA, the CWA and the TASA for 20 years. With the establishment of APAC, Taiwan is to transform from data receiver to supplier, providing useful data to Asia and Southeast Asia. This will help regional air pollution governance and carbon reduction strategies, and it is believed to be able to elevate Taiwan's status in the world.

The CWA Administrator Cheng Chia-Ping indicated that there has been ongoing cooperation on air quality between the CWA

and the MOENV, in particular forecasts and monitoring of PM2.5 and pollutants highly concerned by the public in Taiwan. The CWA has also been working hand in hand with international counterparts, such as wide utilization of NASA´s satellite data, which enhances regional observation with improved accuracy resulted from comparison with ground observation data and optimized observation quality. Administrator Cheng believed that the establishment of the APAC would give Taiwan's researchers more confidence in their own data. Besides optimizing research quality and helping nurturing talents in related field, it will boost Taiwan´s competitive edge among the international research field and also assist Southeast Asian countries.

Director General Wu Jong-Shinn of TASA expressed that TASA has been benefited from the technical service of AERONET for a very long time. A good example is the real-time delivery of accurate data from the satellite FORMOSAT-5, and there will be much closer cooperation with the following FORMOSTA-8, which will be not only a AERONET beneficiary, but also a data supplier. He believed that the establishment of APAC will assist Southeast Asian countries in precise calibrations as well as enhance their capacities of data use and analysis through opportunities of international cooperation and exchanges.
The MOENV has been working together with NASA for 20 years. Data of aerosol optical depth (AOD) obtained by the sun-photometer at Lulin Station is part of NASA's AERONET for observation, comparison and verification among global satellites. AERONET adopts advanced remote sensing technology and has more than 1,000 sensing spots across the world. Its air quality database has accumulated more than 3 decades of data that are widely used and applied around the world, often for important evaluations of changes of climate and air pollutions. The MOENV has 7 sun-photometers that are now part of AERONET. They are used for help monitor regional air quality, and some of them are located at Lulin Station, Dongsha Island and Taiping Island of Nansha for atmospheric background monitoring, greatly benefitting trends of background air quality pollution in Asia, transboundary pollution transmission and studies of long-term climate changes.

The MOENV stated that Taiwan is the leader in Asia Pacific in the development of air quality monitoring technology. The sun-photometers installed across Asian countries have to be shipped back to NASA for calibration every year, and that's why NASA wanted to establish APAC in Taiwan for the service of Asian countries. On one hand, it minimizes carbon emissions and costs for instrument shipping and, on the other, prepares for the increasing number of monitoring stations in Southeast Asia. Taiwan is expected to take up the important role as regional calibration and training center.

Director Hsieh Ping-huei of the MOENV's Department of Monitoring and Information explained that APAC is established in Taiwan due to Taiwan's successful long-term cooperation with NASA, recognition of Taiwan's technical and research and development capabilities as well as the advantage of many mountains in Taiwan taller than 3,000 meters. The unique location of the MOENV's Lulin Atmospheric Background Station of Ministry of Environment is the key to become part of APAC. The AERONET's calibration depends heavily on an outdoor calibration platform up in high-altitude mountains with a clean atmospheric background, a condition which only two AERONET-certified stations,

located in Hawaii (at Mauna Loa) and Spain (at Izaña) respectively, are qualified to provide. The Lulin Station will be certified as the third platform up to the required standards. APAC, set up by the MOENV, will take charge of AERONET calibrations for Asian Pacific countries and continue to make vital contributions for air quality and climate change in Asia. Director Hsieh said that Taiwan will be able to calibrate 20 pieces of equipment in the first year. Currently, approximately 50 or 60 pieces of equipment around Southeast Asia will be shipped to Taiwan one by one for calibration, with more expected in the long run. The MOENV will invest more resource for further enhancement as well.

The Ministry pointed out that, in addition to instrument calibration service and improvement of AERONET data quality, APAC provides education and training by helping Southeast Asian countries with technical enhancement in data use and analysis. This in turn facilitates establishment of international partnership. The AERONET-produced data contributes both directly and indirectly to the studies of global air quality and climate change, highlighting Taiwan's sustainable responsibility of and active participation in environmental monitoring.

APAC launch ceremony

***C**hemicals*

Travelers Advised on Proper Bedbug Prevention and Control

Infestation of bedbugs has been reported in many countries. Given the frequent international travels, all citizens are warned to wash clothes and check luggage for any sign of bedbugs as they come home from overseas. Do not panic bedbugs are found. Just check the clothes, luggage, furniture and furniture crevices and get rid of them with these four steps, including sunexposure, steaming, catching and washing. Pesticides are to be utilized only as the last resort.

Cimex lectularius is commonly known as bedbug. There is no evidence of them spreading human diseases, but they give very itchy bites. Bedbugs have been identified as a major pest since the past, as they used to spread across many countries. However, it seems they are having a comeback with reports of they having become quite a nuance in Europe, the US and Australia. The possible cause could be the frequent international travels, bringing these bugs hiding in luggage and clothes from one place to the next.

The MOENV urges all travelers to wash their clothes and check luggage for any sign of bedbugs as soon as they arrive at home. Also, second-hand furniture should be examined before being brought home. At home, it is necessary to clean household environments, get rid of unnecessary hoards, minimize wall crevices and check bed covers, bed sheets, pillows, blankets and mattresses for bedbugs or their excrements (or blood spots). Physical preventions, such as cleaning and checking are to be the primary measures, accompanied by chemical preventions. The rule of thumb is physical measures for small areas and chemical measures for large areas.

Straw mats or boxes at home, if found with bedbugs, can be put in a plastic bag with its opening tied out before being put under the sun. These bugs will be dead as the temperature exceeds 65°C in the bag. The idea is the same for clothes suspected of bedbugs, which are put altogether in a plastic bag tied up tightly to trap the bugs and then loaded in the washing machine for a good laundry. Or, a steam iron is a good tool to steam bedbugs to death, and vacuums are useful to capture them. It may be necessary to hire a qualified exterminator in the case of serious infestation.

There are currently permits for six general use environmental agents permits and two restricted use environmental agents, approved by and registered with the MOENV for bedbug control. If the bedbug infestation is out of control and/or affect larger areas, a qualified extermination enterprise may be hired for the extermination. Relevant information is available on the Safe Use of Environmental Agents website of the MOENV's Chemicals Administration (CHA) at https://topic.moenv.gov.tw/evsu/cp-281-10605-dc5fd-8.html. The MOENV advised that there is no shortcut to get rid of bedbugs and that one is to check crevices around for bedbugs and kill them by sun exposure, steaming, catching and washing People are urged to choose legal environmental agents and stay safe during pest control. More information is provided at the CHA's website.

MOENV Officially Launches Environmental Education Discovery Center Online

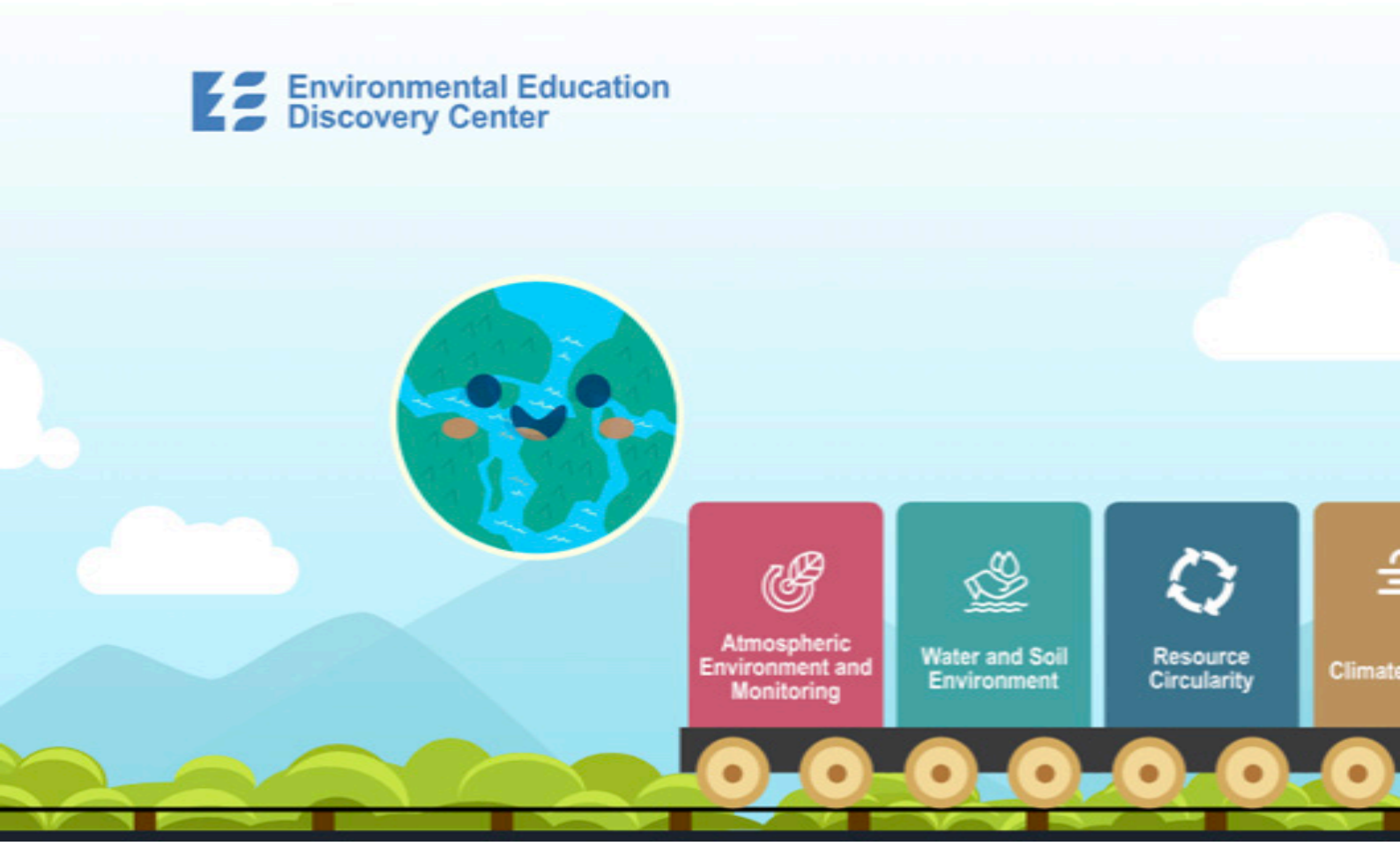
The Environmental Education Discovery Center (https://eeis.moenv.gov.tw/front/) is now officially launched online, showcasing all the MOENV's achievements on environmental education and resources collected over the years. The website is designed to be visited in 3 ways and caters to different groups. The MOENV Minister Shieu Fuh-Sheng made a film to invite everyone to explore in the hope that citizens will help promote environmental education through visiting the website and become more active in environmental protection.

The Environmental Education Discovery Center has been set up to provide high-quality environmental education resource and diverse services. Integrating the MOENV's major works and various environmental topics, the website compiles the MOENV's fruitful achievements in the field of environmental education over the years, and incorporates the concept of electronic library and designs targeting different groups. People may explore the contents in three ways, which are environmental topics (atmospheric environment and monitoring, water and soil environment, climate change and environmental education), use scenarios (environmental lectures, self-learning, participation in activities and exchanges via competitions), and county and city maps. Different contents can also search based on visitor identities (categorized by ages or social groups) so as all visitors can obtain needed resources and widen their base of environmental knowledge and capabilities.

With environmental topics as an example, search results are displayed based on the age and social group selected by visitors; the information provided is easy to understand for the age of elementary school children and becomes more in-depth and professional for college students. For use scenarios, parents may choose podcasts and illustration books easy to learn for children and discover environmental education activities that they can enjoy with their children. There are ideas available on competitive activities that school teachers can participate with their students, as well as teaching materials or programs for classroom lectures. Moreover, the county and city maps on the website provides an intuitive way to allow visitors to click on a place and examine available local environmental education resources as well as relevant results. All people are welcomed to keep checking out the Environmental Education Discovery Center for updated information.

■ *Introduction of bedbugs*

■ *Department of Environmental Protection presents the Environmental Education Discovery Center*

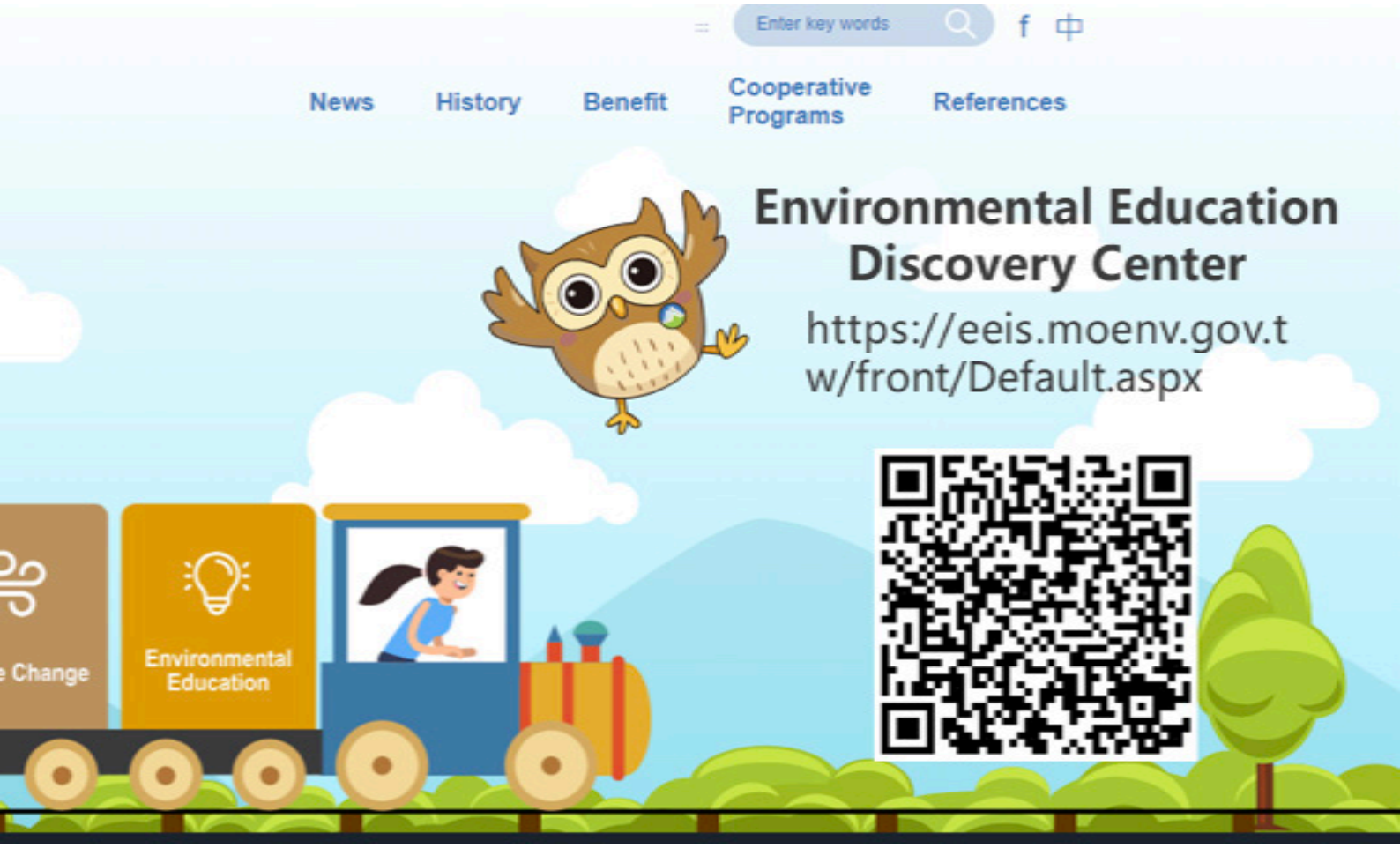


■ *Environmental Education Discovery Center homepage and QR-code link*

***C**limate **C**hange*

mendment and Announcement of Climate Change Response Act Enforcement Rules

The MOENV amended the Enforcement Rules of the Greenhouse Gas Reduction and Management Act (溫室氣體減量及管理法施行細則 **) into the Enforcement Rules of the Climate Change Response Act (** 氣候變遷因應法施行細則 **) on 29 December 2023. It was done in response to the change of the Greenhouse Gas Reduction and Management Act (** 溫室氣體減量及管理法 **) into the Climate Change Response Act (** 氣候變遷因應法 **) on 15 February 2023.**



The MOENV explained that 25 articles in total were amended and the amendment was promulgated on 29 December 2023. The key points of this amendment are as follows:

(1)Addition and revision of central and local authorities' responsibilities

Responsibilities for the central competent authorities increased from 13 to 22. The added responsibilities included inspection of results for nationwide carbon reduction and climate change adaptation; review, approval, transfer, and trading of nationwide carbon reduction credits; collection of carbon fees from emission sources; Greenhouse Gas Management Fund (GHG Management Fund) management; and registration, evaluation, and management of carbon emissions from imported goods. Other additions were evaluation, verification, calculation, approval, audit, and inspection of products' carbon footprints; control of greenhouse gases with high global-warming potentials; and evaluation and management concerning the storage of captured carbon dioxide.

The role of local governments was also strengthened as they now have 14 responsibilities instead of three

originally. Revisions involved planning and implementation of respective climate change response offices under each municipalities and county and city governments; formulation, revision, planning and implementation of the Climate Change Adaptation Implementation Programs (氣候變遷調適執行方案); and inspection and consultation that help emission sources within respective jurisdictions on operation and emission facilities and other relevant data. Other additions included climate change education and promotion in municipalities, counties, and cities; promotion for development of NGOs; and personnel training and seminars. Also, local governments now are responsible for investigation, consultation, research and development of climate change mitigation and carbon reduction within respective jurisdictions; exchanges among cities; audit and inspection of products' carbon footprints; and participation in the of climate change response work of relevant central authorities. All amendments above are an effort to promote local climate change governance.

(2)Specifications on what is mandatory for assessments and documentations for contents in climate change governance-related guidelines, goals, plans and solutions

Goals are established for every five-year regulatory phase according to the Climate Change Response Act Article 10. It is clearly stipulated in the enforcement rules that relevant central authorities are to conduct emission trend estimation and scenario analysis, and the propose electricity carbon emission factors, reduction scenarios, contributions, and estimated costs for each department. With revisions, they are to also reference and adopt NGO's suggestions collected during the preannouncement and accordingly propose growth of electricity demands and evaluate its possible impacts. The process for setting phased goals will be further strengthened by a technical consultation team consisting experts and scholars, which was established based on the Climate Change Response Act. Afterwards public hearings will be held to gather opinions.

Reduction action plans for the six major sectors shall take into consideration elements required for national climate actions suggested by UN and international climate agreements. And on 15 August 2023 Premier Chen Chien-Jen instructed to "establish annual goals and evaluate and improve every year in the 35th meeting of the Executive Yuan's National Council for Sustainable Development, Executive Yuan. As a result, "assessment indicators" and "evaluation "have been added to review and improve every year. In addition, in consideration of NGOs' suggestions solicited during preannouncement, the amendments mandated sectorial action plans to include "possible impact assessments". This is in response to the new regulations concerning a just transition under the Climate Change Response Act and aims to take necessary measures as soon as possible for the sustainable development of Taiwan's environment, economy, and society.

(3)Strengthening of regular controls and evaluations as well as reviews for improvement national reduction results

In Taiwan, the release date of national GHG emissions inventory will be advanced from 31 December to 30 June every year to comply with international standards.

Taiwan's responsibility of GHG reduction is shared among six sectors, namely

energy, manufacturing, transportation, commercial and residences, agriculture, and environment. Therefore, the action plans' annual results and reviews for further improvements are particularly important for these sectors. It is specified in the enforcement rules that central industry competent authorities are to produce annual reports by 30 September every year and, if failing to meet periodical regulation goals or assessment indicators, improvement measures at the same time. The central competent authorities are required to report the implementation of periodical regulatory goals to the Executive Yuan by 30 November every year. Moreover, local competent authorities' reduction results are to submit reduction results to climate change response office of respective municipalities, counties, and cities by 30 September every year through preparation of annual reduction reports. These reports will be published thereafter.

(4)Inclusion of mitigation goal principles and items under action plans

Based on the Legislative Yuan's Additional Resolutions for the review of the Climate Change Response Act, the enforcement rules added mitigation purposes and basic principles to the act's special chapter on mitigation. The addition states that climate mitigation is to be based on science and adapted according to local conditions with community engagement, strengthen vulnerable populations' resistance against climate impacts, and take sufficient consideration of potential impacts on human rights. Furthermore, it is added that the mitigation programs shall include key elements, such as impacts from climate changes, scenario development, risk assessment, goals, strategies, schedules, budgeting, review, control, and evaluation. These will serve as the basis for the implementation of mitigation programs for governments of all levels.

(5)Specification of information disclosure for public participation

To encourage public participation, the enforcement rules require meeting-related information to be made public by a given deadline. In addition to public hearings on central sectors' action plans, whose relevant information are to be disclosed ten days before the hearings, procedures of organizing meetings on local reduction programs have been revised, with information made available for the public seven days before. It is also stipulated that climate change-related documents and information of governments of all levels required to be made public under the enforcement rules shall be disclosed all together on website(s) designated by central competent authorities for public inquiries.