



Major Environmental Policies

Ministry Of Environment, R. O. C (Taiwan)

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International Cooperation

The Asia Pacific Circular Economy Roundtable & Hotspot 2025 Concludes with Taiwan's First Circular Economy Roadmap is Formed, Australia to Host Next

The four-day Asia Pacific Circular Economy Roundtable & Hotspot 2025, which brought together more than 500 participants from 50 countries, came to a successful conclusion on the afternoon of October 23 at Songshan Cultural and Creative Park. President Lai Ching-Te delivered a speech at the event, encouraging Taiwan to become an important hub for the circular economy in Asia. He and the four organizers - the MOENV, the Ministry of Economic Affairs, the Ministry of Agriculture, and the Circular Taiwan Network - witnessed the presentation of the forum's outcomes, symbolizing that the forum's discussions would be turned into solid action plans to promote Taiwan's circular economy from vision to practice.

In Taiwan, the transition to circular economy is gaining its momentum. Over the past five years, the average added value in Taiwan's circular economy has grown annually by 9.01%, and the average export growth rate went even higher at 19.38% annually for exports, making it a high-growth and highly promising sector within the green technology industry. This shows that the circular economy is more than an environmental issue, but also a crucial engine driving new economic growth.

A "dynamic co-creation" model was adopted for the first time in this forum to facilitate Taiwan's link to the Asian circular economy circle. Experts from 50 countries were invited to provide suggestions and feedback in real

time, jointly forming the first cross-border "Circular Economy Roadmap" in the Asia-Pacific region. It will serve as the future base to continually promote Taiwan's link to the Asia-Pacific circular industry and the new framework for policy cooperation.

The closing ceremony began with the organizers explaining results from exchanges in the forum and reviewing the important consensus and action plans reached during the forum. Afterwards, expert suggestions on the Asia-Pacific's first cross-border, co-created "Circular Economy Roadmap" were presented to the four main organizers, symbolizing the continual promotion of international cooperation and policy

exchanges among the Asia-Pacific partners. President Lai Ching-Te pointed out in his speech that the Asia-Pacific region will become the most active region for the global circular economy, and Taiwan will move forward hand in hand with partners from all countries with "Taiwan Can Lead" as its belief. The conclusion of this forum is not the end, but a new beginning; through the joint efforts of Taiwan and its Asia-Pacific partners, the circular economy will become a "cooperative ecosystem that continues to be implemented in Taiwan and linked to the Asia-Pacific region" instead of just a topic of discussion. President Lai also shared his thoughts from visiting the "2025 Circular-Cross Expo," saying that Taiwan has demonstrated its ability of

producing "circular economy products" with a full display of achievements of industry innovation and sustainable design.

Finally, CEO Freek van Eijk of the Netherlands Circular Economy Hotspot took the stage to announce that Australia will be the host country for the next Asia-Pacific Circular Economy Hotspot. The reins were handed over to the four host organizations of this year's event, symbolizing the continual legacy and expansion of the Asia-Pacific Circular Economy Exchange Platform. The forum concluded in a round of applause, marking a new chapter of Taiwan advancing the circular economy in the Asia-Pacific through actions and cooperation.



■ Experts' suggestions from the Asia-Pacific's first cross-border "Circular Economy Roadmap" were submitted to the four main organizers, symbolizing the continued promotion of international cooperation and policy exchanges within the Asia-Pacific network.



- The four-day "Asia Pacific Circular Economy Roundtable & Hotspot 2025" (APCER+ +Hotspot 2025) brings together more than 500 participants from 50 countries



- Host country for the next Asia-Pacific Circular Economy Hotspot, Australia took the reins from this year's four host organizations, symbolizing the legacy and expansion of the Asia-Pacific Circular Economy Exchange Platform.

Management Regulations on Environmental and Motor Vehicle Testing Organizations Revised to Ensure Testing Credibility by Heavily Penalizing Fraudulent Practices

The MOENV is determined to fight against test data forgery and ensure fairness and reliability of tests on environmental and motor vehicles. As a result, the Environmental Testing Organization Management Regulations(環境檢驗測定機構管理辦法) and Regulations Governing Motor Vehicle Air Pollutant and Noise Emission Testing Organizations (機動車輛排放空氣污染物及噪音檢驗測定機構管理辦法) were amended on October 2 and October 3, 2025, respectively. Centered on “ze-ro tolerance for test data forgery”, this amendment aims to increase punishment on data forgeries, hoping to deter any foul play and maintain the integrity of en-vironmental policies.

The regulatory amendment is designed to intensify management efforts and encourage integrity. Major features include the new addition of administrative controls to revoke or cancel permits, stricter restrictions on the period for a testing organization to apply for permits, heavier penalties for organization representatives and application and report signatories on behalf of testing organizations, and new provisions for commending exemplary testing personnel.

The National Environmental Research Academy of the MOENV stated that the credibility of environmental test data is important for promoting environmental

protection policies, and its accuracy is not to be challenged. This regulatory amendment demonstrates the government's determination to safeguard testing quality, and stricter management and heavier penalties are in place to maintain the reliability of testing data and rigorously ensure environmental quality for all citizens.

The MOENV will continue to supervise testing organizations, strengthen licensing and certification, and encourage businesses to jointly maintain order in the testing market, thereby contributing to the sustainable environmental development of Taiwan.

HCFC Control Regulations Amended Toward Zero Consumption

Actively responding to the global trends of environmental protection and fulfilling its commitment to the Montreal Protocol, the MOENV has announced the amended Regulations for Consumption Management of Hydrochlorofluorocarbons (氟氯烴消費量管理辦法) on October 13, 2025, now renamed Management Regulations for Hydrochlorofluorocarbons

(氟氯烴管理辦法). *Major changes under the revision include specifying products or equipment containing HCFCs; adjusting the required allocation process down to once a year; and the addition of an auction to dispose of illegally imported HCFCs for better resource recycling. The MOENV stated that the amendment demonstrates the government's determination to lower HCFC consumption down to zero by January 1, 2030.*

The MOENV pointed out that HCFCs are known for destroying the ozone layer. As a part of the international society, Taiwan is very active in shouldering its environmental responsibilities. This amendment will ensure that the control measures implemented in Taiwan are in line with the Montreal Protocol and its associated resolutions, highlighting Taiwan's determination and practices to achieve its commitment to international environmental protection.

The MOENV indicated that an application procedure for exemption was added in this amendment to align with international regulations. It is specified in the Montreal Protocol that the HCFCs used for specific purposes are not necessary to be included for consumption calculation. As a result, the application procedure for such exemption is specified in this amendment so that Taiwan's control measures are consistent with international standards. Additional revisions have established a more thorough

border control mechanism, enhanced import bans, and set up solid regulations regarding import and declaration for enterprises importing HCFCs for purposes whose HCFC consumption is exempted from calculation. Such efforts aim to tighten the overall controls and enhance their effectiveness.

The MOENV stressed that HCFC reduction is a long-term and continuous task and requires cooperation between the government and private businesses. This amendment demonstrates Taiwan's response to the global commitment to environmental protection and provides clear regulatory guidelines for industry transition. With better management and more user-friendly administrative procedures in place, Taiwan will be able to lower HCFC consumption more efficiently and contribute to the protection of the ozone layer and the Earth.

International Cooperation

Paraguay and Taiwan Signed MOU under Paris Agreement, Entering New Era of for Climate Governance Cooperation

Witnessed by Vice Minister Bau-Shuan Ger of the Ministry of Foreign Affairs (MOFA), Minister Rolando de Barros Barreto of Ministerio del Ambiente y Desarrollo Sostenible, Paraguay, and Minister Peng Chih-Ming of the MOENV signed the Memorandum of Understanding (MOU) for Cooperation under the Paris Agreement on October 1, 2025. This is the first time that Taiwan has signed an MOU, and it is in

hopes of initiating cooperation on carbon reduction and relevant technologies under the Paris Agreement's mechanism and to take actions to achieve goals under the nationally determined contributions (NDCs).

The MOENV stated that forest and land use management is a major source of greenhouse gas emissions in Paraguay as well as a potential source of carbon sinks, which has hence having become Paraguay's core reduction strategy for carbon reduction efforts. Paraguay's Nationally Determined Contribution (NDC) for Greenhouse Gases updated in 2021 reveals that it aims to reduce emissions by 10-20% by 2030 through measures such as forest conservation, restoration, and afforestation, improved livestock management, enhanced soil management, improved energy efficiency, promotion of electric vehicles, and alignment with international conventions so as to build a healthy and transparent carbon market. The MOENV and the MOFA also visited Paraguay in March 2025. With this MOU, both countries will cooperate in accordance with Article 6 of the Paris Agreement to achieve the NDCs and intensify mitigation and adaptation actions. The cooperation covers information on carbon market development, non-market approaches, knowledge, best practices, and exchanges on relevant experiences.

In addition, a forum took place alongside the signing ceremony, in which 17 enterprises, including the Green Growth Alliance, the Taiwan Carbon Solution Exchange, the MOFA and the MOENV were invited for a conversation on environmental governance

issues between Paraguay and Taiwan. In his speech, Minister Peng mentioned that Taiwan proposed NDC 3.0 last year, setting a reduction target of 28% ($\pm 2\%$) for 2030 and further increasing it to 38% ($\pm 2\%$) for 2035, goals which are both achievable via future cooperation with fellow international partners. Paraguay possesses natural advantages in renewable energy and has established a regulatory framework that complies with the Paris Agreement, making cooperation between both countries highly complementary. Minister Barreto expressed that Taiwan stands fast as a technological partner of Paraguay, and that both countries may engage in deeper cooperation in areas such as carbon market mechanisms, ecosystem services, promotion of the circular economy, and sustainability education by combining Taiwan's technological innovation with Paraguay's abundant natural resources. Both sides reached a strong consensus that pragmatic collaboration under the Paris Agreement will help drive green growth in industries for both countries.

The MOENV stated that this MOU is a cooperation agreement between Paraguay and Taiwan, which are 20,000 kilometers apart. This not only demonstrates how willing Taiwan is to work with Paraguay for climate governance but also marks the new era for the solid friendship and climate partnership between both countries.



■ Paraguay and Taiwan sign the MOU under the Paris Agreement; Minister Peng Chih-Ming (2nd from right) and Minister Rolando de Barros Barreto of Ministerio des Ambiente y Desarrollo Sostenible (3rd from right)



■ All guests witnessing signing of the MOU under the Paris Agreement between Paraguay and Taiwan

Carbon fees launched as scheduled and businesses helped for low-carbon transition in response to the tariff impacts

Request from Chinese National Federation of Industries to postpone carbon fee collection in response to tariffs, the Ministry of Environment (MOENV) stated that leading countries in Europe and Asia have recently reaffirmed their net-zero transition goals, remained firm with their goals particularly in light of extreme weather conditions caused by climate change; at the same times the global pace of green technology transformation has not slowed, and pressure on supply chains to reduce carbon emissions continues to increase. The voluntary reduction plans submitted by industries in 2025 demonstrate strong momentum for carbon reduction. A carbon fee system is indeed conducive to internal carbon pricing and green transition within businesses. Taiwan's carbon fee system will be launched as scheduled to support proactive transition for Taiwan's industries.

The industries pounded by the latest tariff policies of the US include machine tools, plumbing hardware, fasteners and motorcycle and automotive parts, where nearly 90% of businesses are small and medium in size. MOENV has broken down the emission statistics of 2024 and analyzed 464 businesses subject to carbon fees and found that one business was engaged in machine tool manufacturing, two were involved in motorcycle and automotive parts and no fastener manufacturer was on the list. For small and medium-sized enterprises (as defined in the Act for Development of Small and Medium Enterprises (中小企業發展條例), there were seven in this category. Even so, MOENV has actively proposed two major measures to support the industry and maintain the international competitiveness of those subjects to carbon fees in response to the potential impact of tariff policies on the overall industry:

I. Expand the scope for businesses with high carbon leakage risks and

i and Include Case-by-Case Impact Considerations on a case-by-case basis

The Regulations Governing the Collection of Carbon Fees (碳費收費辦法) specify that a 0.2 discount coefficient for emissions to be charged is awarded to a business subject to carbon fee which is one of high carbon leakage risk, provided that a voluntary reduction plan is proposed and approved. A business that is high in carbon leakage risk is identified based on international industry-specific identification standards. The MOENV will also assess these businesses based on several factors, such as whether a business has poor operating gross profits, has a certain proportion of profits that go to carbon fees, is affected by tariffs that have increased export costs by a certain percentage, or is subject to the risk of international commodity dumping. Businesses may apply for eligibility every year to keep carbon fees from weakening the international competitiveness of overall industry.

II. Provide subsidies and incentives for low-carbon investments and help industries with transition and upgrades

Currently, more than 90% of businesses subject to carbon fees have applied or registered for voluntary reduction plans for the eligibility for preferential rates of NT\$50 or NT\$100 per ton. The MOENV is actively reviewing the voluntary reduction plans together with the Ministry of Economic Affairs (MOEA), and will also cooperate with the MOEA on special subsidy projects,

including carbon reduction measures such as process improvement, energy efficiency improvement and low-carbon fuel substitution, as well as related technology research and development, to actively assist businesses in low-carbon transition and meet international green supply chain requirements.

Finally, the MOENV added that the carbon pricing system is one of the important tools for driving the green growth and transition in Taiwan's industries. To help industries survive the tariff crisis, businesses experiencing poor profitability or impacted by international trade policies may apply for a discount on their carbon fee-based emissions, provided that a voluntary reduction plan is proposed and approved. Furthermore, the MOENV will collaborate with the MOEA to provide subsidies and incentives for industrial transition and upgrading, ensuring that Taiwan's industries maintain their competitiveness in the global race for net-zero emissions and green technology while steadily promoting the carbon fee.

Environmental Education

Minor-Friendly Online Public Nuisance Complaint System Launched to Raise Teenagers' Environmental Awareness

Aiming to enhance awareness on public nuisance complaints for teenagers and children, the MOENV's Environmental Management Administration (EMA) established the "children's version" of the Online Public Pollution Complaint System webpage (<https://ww3.moenv.gov.tw/Public/Child.aspx>). The webpage has been linked to the section of "Environmental Education" under the Ministry of Education's website, Education Cloud - Digital Learning Portal (<https://cloud.edu.tw/>). With a vivid design, the website converts the previously rigid content regarding public nuisance complaints into information easily understandable to teenagers. There is basic information on public nuisance petitions and a detailed introduction to the process and measures regarding the handling of public nuisance disputes, in hope of raising students' awareness of protection for the environment and themselves from an early age.

A section is designed particularly on the website to improve interactions and learning effects, with fun games in place to allow students to learn about environmental

protection in a relaxing and engaging manner. The EMA stated that such efforts answer the global calls for the protection of children's rights and align with the

government's policy goals for promoting environmental education and enhancing public environmental literacy. For easy petitioning, issues may be reported and consulted through the petition hotline at 0800-066-666.

The EMA aims to inspire public concern

and participation in environmental protection and jointly create a green and sustainable home via the strategy of in-depth education. By developing environmental awareness at an early age, it is hoped that every teenager will become an environmental guardian and work together to create a cleaner and more accommodating space.

Develop awareness on protection for the environment and oneself from an early age

Children's version of public nuisance complaint available now
Improve teenagers' environmental protection awareness

Fun and educational games
Learn about environmental protection via easy interactions

Environmental Management Administration, MOENV
Online Public Pollution Complaint System
<https://ww3.moenv.gov.tw/Public/Child.aspx>

Petition hotline
0800-066-666

■ The "children's version" of the Online Public Pollution Petition Acceptance System is now online

Waste Management

Ministry of Environment explains the progress of negotiation meeting for INC-5.2 of the UN's Global Plastics Treaty

The Ministry of Environment (MOENV) had a press conference on 15 Aug, during which an online meeting with our team in Geneva, Switzerland took place, explaining to the public how the subsequent meetings of the subsequent part of the fifth session of the Intergovernmental Negotiating Committee (INC-5.2), the Global Plastics Treaty was making progress. The latest version of “Chairman’s Draft” authorizes decision makers for subsequent refined practice instead of a globally unified banning and restriction list, thus making it flexible for all member countries. In addition, this is the first time to specify the “extended producer responsibility (EPR) as a core means to facilitate circular economy while focusing on the governance and just transition of existing and remaining plastic pollutions.

Minister Peng Chih-Ming of MOENV pointed out that the alarm is rising on the increasing crisis of plastic pollution. The UN has warned that there could be more plastics than fish in the oceans by 2050 if no aggressive action is taken. Despite not being a member country, Taiwan sent a delegation to Geneva, Switzerland to stay informed on the latest international developments. However, it was never an easy task to reach an agreement among nearly 200 countries and the negotiation texts kept being revised. No matter how much progress was made for the international negotiation, Minister Peng stressed that, nevertheless, Taiwan is determined on the path toward plastic reduction regardless how much progress has been made. Taiwan will add two additional plastic reduction goals to the four existing ones with a more systematic structure.

1.Results of the INC-5.2 Meeting

The INC-5.2 meeting took place at the Palace of Nations in Geneva, Switzerland from 5 to 15 Aug. More than 3,700 people

from 184 member countries and more than 600 observer organizations attended the meeting. Director General Lai Ying-Ying of Resource Circulation Administration explained that the Treaty aims to “protect human health and environment from plastic pollutions, including those in the marine environment”. For the provisions, a globally unified banning and restriction list is no longer considered for plastic product control which has drawn public attention. Instead, the Conference of Parties (COP) will decide a list covering products of control priority, which may focus on “deliberately added micro-plastics” and certain single-use products in the short run. In addition, the Treaty specifies for the first time the “extended producer responsibility” (EPR) as a key tool to promote circular economy, while the concept of Basel Convention is adopted to ensure that plastic wastes are disposed of in a way that is harmless to environment. It is also one of the focuses of the Treaty on the existing plastic pollutions and, for this, the governance clauses are included for “existing pollutions”. The progress provides certain level of flexibility,

but at the price of limited binding power at the beginning. The cooperation and efforts of all member states in the COPs are still required in the days to come, should an agreement be reached for the Treaty, as to build these principles and framework into a solid, robust building.

However, the chairman of the meeting called it an end for the meeting at 9:15 a.m. local time in Geneva (3:15 p.m., Taipei time). The date, location and form of the next meeting will be determined and announced later. An agreement has yet been reached for the first plastics treaty in the world; its progress has certainly raised global attention.

II. Taiwan's Plastic Reduction Policies are Highly Consistent with the Treaty

Director General Lai Ying-Ying of Resource Circulation Administration pointed out that Taiwan's plastic circulation policies are highly consistent with the Global Plastics Treaty in terms of "reducing and replacing plastic products", "plastic product designing to ensure reusability and recyclability", "transitioning to circular economy by reusing plastics" and "managing existing pollutions", and have produced certain results. For reducing and replacing plastics, a number of restriction policies have been launched in Taiwan and new business models have been encouraged and developed, such as circular container rental. When it comes to product design, the Resource Circulation Administration started from pure materials, original colors, reduced use of labels and caps tethered to bottles with the principle of "4Ss for Green Design", and encouraged businesses to design products that are easily recyclable and reusable. For the transition to circular economy, Taiwan has established a highly efficient recycling system in the form of "Four-in-One Recycling System", and preferential rates are available to encourage businesses to adopt recycled materials. The government, at the same time, manages existing

pollution through strategies like "Solute to the Ocean" program, effectively removing and reducing coastal wastes.

Director General Hsieh Yein-Rui of Chemicals Administration expressed that the Treaty talks about not only plastics management, but also the management of chemicals used in plastics. The Chemicals Administration identified 7 categories of chemical substances that have been discussed in the Global Plastics Treaty. There are currently 877 operators and users who are required to operate with or use 18 categories of controlled chemical substances with a valid permit and to report and identify their uses on a regular basis. The Chemicals Administration will keep a track on the progress of the Global Plastics Treaty and adjust and/or add new controlled substances based on the international control trends.

For the rear-end waste governance, the Ocean Affairs Council said that the "environmental protection fleet" and "diver force" are established for cleaning floating and sunken garbage, and so is the "Marine Waste Renewal Alliance" to promote circulation and reuse of marine wastes and reduce long-term burdens on the environment. In addition, the Council actively communicate and cooperate with neighboring countries and international organizations, share experiences and technologies, and help countries in the region improve their marine waste management capabilities through the "*Indo-Pacific Regional Marine Waste Cooperation Platform*" (印太區域海廢合作平台). The Ocean Affairs Council emphasized that the efforts will not only strengthen international partnerships but also demonstrate Taiwan's international responsibility and contribution, while also being in line with the overall spirit of the Global Plastics Treaty.

III. Experience sharing online from Geneva

During the online press conference,

Taiwan's INC-5.2 team in Geneva indicated that the Treaty draft is a framework document subject to constant improvement and revisions. During the negotiating, production reduction and sustainable production were deleted from the draft; and the product control list and phase-out dates were removed, indicating disagreement in detail among participating countries. For the plastics lifecycle management promoted in Taiwan and the draft of “Resource Circulation Promotion Act” (資源循環推動法), the principles of green design and reduction from source are highly consistent with the spirits of the Treaty. The delegation pointed out that the plastics governance in Taiwan has gradually transitioned from controls at the rear end to the overall lifecycle management to stay in line with the Treaty. In the future, Taiwan will continue to improve all necessary measures and monitor and evaluate plastic pollution hotspots based on scientific data. At the same time, Taiwan's experience

in nationwide marine pollution control activities and platform building can become an asset for future international interaction and cooperation.

IV./Where Taiwan is going from here and what improvements to make

The MOENV indicated that Taiwan has come a long way in terms of reducing and replacing plastics, green product design, promotion of circular economy and management of existing pollutions. Taiwan will be centered on life transition and industrial transition, and promote the milestone of reduced use of single-use products through cross-departmental cooperation and industrial guidance. At the same time, the “Resource Circulation Promotion Act” is drafted to serve as a solid legal foundation for plastics circulation and reuse to promote reduction of single-use plastics, improve Taiwan's plastics governance, and share our successful experience with the international society.



■ Taiwan's delegation, consisting of staff members from Ocean Affairs Council and MOENV shared what they have observed and learned online from Geneva, Switzerland

Heading into a New Era of Environmental Management, Establishing the Department of Environmental Information Technology to Drive Digital Governance

On October 16, 2025, the Ministry of Environment (MOENV) announced the official establishment of the "Department of Environmental Information Technology". Minister Su Chun-Jung of the Directorate-General of Personnel Administration, Executive Yuan and Deputy Minister Isabel Hou of the Ministry of Digital Affairs were invited to attend the unveiling ceremony, symbolizing that Taiwan has started the full digital transformation in environmental management, and is now stepping into a new era. MOENV Minister Peng Chi-Ming stressed in his speech that the new department will adopt artificial intelligence (AI) for environmental governance, make information more transparent, and deepen public participation through the establishment of citizen science platforms and improvement of national environmental databases. At the same time, an AI customer service system is being designed that will optimize public service, while a human-oriented set of AI ethical environment management principles will be established to ensure secure and reliable AI applications.

The MOENV indicated that the Department of Environmental Information Technology will build the foundation of digital governance from the ground up. First, a national environmental database system will be constructed by integrating data on air and water quality, waste management, toxicology, environmental impact assessments (EIAs), and 15,000 environmental protection project reports and layered maps with Geographic information system (GIS) data accumulated over the years. This massive data will be optimized as the core engine for AI services and to assist decision-making, for example, in the review of EIAs or large development projects, and to encourage public participation. Regarding AI public services, an integrated intelligent customer service system will be established to provide the public with a single window for 24-hour instant consultation services, enabling people to quickly obtain answers to environmental questions. Internally, AI

tools such as smart document processing and smart procurement are being introduced to comprehensively improve internal administrative efficiency. In addition, the Department of Environmental Information Technology will collaborate with fellow agencies to promote three proof-of-concept demonstration projects annually for complex and repetitive tasks and assist in project development and risk assessment to build AI resilience and lead environmental technology into the future.

MOENV explained that there will be an AI competition for environmental agencies to deepen public participation in environmental management. It is hoped that these digital transformation measures will help Taiwan's environmental governance become more intelligent and transparent, and that all citizens will be encouraged to participate and work together towards a new era of sustainable environment.



■ Unveiling ceremony of the Department of Environmental Information Technology



■ MOENV Minister Peng Chi-Ming delivers his address at the ceremony

MOENV Minister Stresses AI and Digital Transformation in US-Taiwan held IEMN Annual Meeting

The USEPA and the MOENV's Resource Circulation Administration (RCA) co-hosted the opening of International E-Waste Management Network (IEMN) Annual Meeting in Sao Paulo, Brazil on the morning of September 16 (evening of 16 September, Taiwan time). Attendees included more than 70 representatives from Colombia, Argentina, Chile, Ecuador, the Philippines, Malaysia, Thailand, Vietnam, the US and Brazil.

In his video remarks, the MOENV Minister Peng Chih-Ming stressed the importance of adopting innovative solutions to tackle the challenges of climate change and limited resources. As the topic of this year's event centered on "Exploring the potentials of digital technology and AI applications in e-waste management", Taiwan took the chance to share results of the promotion of the digital product passport and the applications of AI in waste classification, demonstrating Taiwan's concrete actions toward a circular economy.

Minister Peng mentioned that the introduction of digital and AI technologies enhances

recycling efficiency and accelerates all countries' pace toward green growth and net-zero transition. Furthermore, the RCA representatives interacted with their counterparts at the event, hoping to work with international partners to build a more resilient and sustainable e-waste management model.

Jointly promoted by the US and Taiwan since 2011, the IEMN has become an important global platform for promoting proper e-waste management and will continue to bring in international partners to help achieve sustainable development in the world.



■ 2025 IEMN Annual Meeting in Brazil



■ Minister Peng gives a speech via video



■ Director Chu Yi-Ching of Escritório Econômico e Cultural de Taipei em São Paulo (left), Thaianne Fabio, Diretora do Departamento de Qualidade Ambiental (middle), and the RCA's representative Tseng Chih-Ping under the MOENV

Toxic Chemical Incident Response: Robodogs Introduced to Make Detection Timelier and Response Operations Safer

At a press conference on September 25, 2025, the Ministry of Environment (MOENV) announced the introduction of a “detection robodog” for response to toxic/chemical incidents, showing the government’s progress in deploying up-to-date technology for disaster prevention and in safeguarding the public. Using unmanned and intelligent equipment, detection can now be timelier, response operations safer, and overall emergency capabilities improved.

The MOENV pointed out that Taiwan uses a three-level defense scheme in its toxic/chemical incident response system, consisting of “self-help, mutual help, and governmental help”. “Self-help” is the most effective way to prevent and reduce toxic and chemical incidents. The “Toxic and Concerned Chemical Substances Control Act” (**毒性及關注化學物質管理法**) specifies that, in addition to ensuring all their personnel complete the specified training, businesses using certain substances need to assign professional responders or hire a professional institute to ensure timely response in case of an accident. A professional responder training system has been established under the Chemicals Administration and has helped train more than 17,000 responders, 3.1 times the legally required number. For “mutual help”, the MOENV has supervised the establishment of 161 organizations for joint response to incidents involving toxic and other substances of concern, involving approximately 4,300 businesses. Currently, the Industrial Technology Research Institute’s (ITRI) Emergency Response Consultation Center and the Chemical Emergency Response Association (CERA) are available to provide professional

consultation and response entity certification, to help businesses improve their response capabilities, as well as carry out incident assessments, environmental detection, protective measures and other response services.

For the final line of defense, “governmental help”, the MOENV has developed ten professional technical teams and two centers for environmental incident response, consisting of 194 responders and capable of (1) 24/7 incident monitoring, (2) providing response consultation in 30 minutes, and (3) arriving at the scene of an incident within an hour. A complete national toxic and chemical disaster response system is being built. To minimize the risk of exposure faced by responders, the new “robodog” can negotiate barriers and slopes, carry thermal imaging and gas detection instruments for reconnaissance in high-risk areas, and transmit images and data in real time. The combination of drones in the air and unmanned vehicles on the ground enables a more integrated response and highlights the advantage of smart technology deployment.

The MOENV stressed that the core of

toxic and chemical disaster prevention and response relies on effective containment at the initial stage of the incident. The ministry will continue to promote the three pillars of self-help, mutual help (through joint defense), and governmental help, and take the initiative to introduce intelligent technologies and build a more resilient toxic and chemical disaster prevention and response system. At the same time, it is necessary to urge all businesses to put

voluntary disaster prevention management into practice. Toxic incident impacts can be minimized only when preparations for prevention and response are securely in place. The government will continue to bring businesses and local authorities together to maintain a safe society, with the goal of building Taiwan into a major hub for toxic and chemical disaster response technology and training in East Asia.



■ Deputy Minister Hsieh Yein Rui of the MOENV (4th from left), Acting Director General Chen Shu-Ling of Chemicals Administration (5th from left), deputy office leader Lu Chia-Hui (6th from left) behind the MOENV's new toxic incident response robodog



■ Deputy Minister Hsieh Yein Rui giving his speech



■ Acting Director General Chen Shu-Ling explains the robodog at the press conference