



# Major Environmental Policies

June 2024

## 1. New Minister Takes Office and Announces Four Key Directions

For the first time, Dr. Peng Chi-Ming, the newly inaugurated Minister of Environment, met with the media on 21 May 2024 to speak about his vision of environmental protection. He discussed four topics: “improving environmental impact assessment reviews”; “accelerating the collection of carbon fees”; “improving air quality”; and “making the minister’s daily schedule public”. Meanwhile he emphasized that 60% of his energy will be placed on getting the net-zero path on track. He mentioned that he has a fairly good idea of 70-80% of the ministry’s affairs and is ready to work with everyone in the Ministry of Environment (MOENV).

### (1) Carbon fees are an incentive for CO<sub>2</sub> reduction instead of a financial tool

Minister Peng pointed out that President Lai Ching-Te clearly emphasized that his “green growth strategy” means Taiwan aims to undergo green economic growth, supported by carbon pricing in order to develop a net-zero path, and to point the direction for industrial development. The green growth strategy comprises “green finance,” “net-zero technology,” “green and digital transition in parallel,” “green medical care,” “energy transformation” and “increase of carbon sinks.” Minister Peng stressed that these policies require cross-departmental cooperation. There will be many “two minister” policy announcements, in order to demonstrate that the net-zero transition for the climate is not only to keep an eye on environmental protection, but also to uphold both corporate fairness and social inclusion. That is what sustainability really means.

“I am the chief sustainability officer of the Central Government, and the CSO of every company is their own Minister of Environment,” said Minister Peng, who sees his role in the government from the industrial point of view.

### (2) Acceleration of legislation

“I have been asked about when carbon fee collection will start,” Minister Peng added, feeling pressure from all sectors of society. In order to develop Taiwan’s own carbon pricing system and steadily push CO<sub>2</sub> reduction forward, on 29 April 2024 the Ministry of Environment (MOENV) preannounced the drafts of “Regulations Governing the Collection of Carbon Fees,” “Designated Greenhouse Gas Reduction Goal for Entities Subject to Carbon Fees” and “Regulations for Administration of Voluntary Reduction Plans” based on the *Climate Change Response Act* (hereinafter the Climate Act). A 60-day preannouncement period is required to allow for collection of public opinion, and presentations are provided to stakeholders during this period. At the end of the 60 days, a negotiation meeting will be held. It is expected that these sub-laws will be promulgated by the end of August, allowing the entities subject to carbon fees to start working on their CO<sub>2</sub> reduction measures and their reduction path to 2023, and to propose their own voluntary reduction plans so as to become eligible for preferred rates. The purpose is to clearly encourage entities subject to carbon fees to make larger steps toward CO<sub>2</sub> reduction.

Dr. Wen-Chen Shih, Deputy Minister and convenor of the carbon fee review committee, explained that the MOENV is working tirelessly on evaluating the impacts of carbon fee rate schemes on the economy in general. The fourth review committee meeting is scheduled for 5 July.

The first thing that the new minister must deal with is the challenge of carbon fee collection. Minister Peng indicated that Taiwan uses carbon fees as a stick for promoting CO<sub>2</sub> reduction, while there is no carrot. The experiences of other countries, however, have shown that it does not work well with only the stick. It is necessary to find a new way to get the job done. Two examples worth studying are the tax reduction scheme in the US and the climate bonds in Japan. It is necessary to make the stick and carrot work together optimally, while identifying and launching the carrot policies appropriate to Taiwan, i.e., leading the actual actions of CO<sub>2</sub> reduction with well-developed policies.

Minister Peng pointed out that there are indeed green opportunities to be had when we look at the experiences of many Taiwan-based international corporations, such as Delta Electronics, AUO and TSMC, as they have taken initiatives that lead global trends and developed their own unique competitiveness. However, the story could be different for corporations that are high in CO<sub>2</sub> emissions and struggling with issues of importing and exporting. Minister Peng called out to corporations to stay calm. Opportunities are out there as long as they are worked for. The MOENV will take the needs of different industries into consideration, and communicate sufficiently to take advantage of industrial transformation and upgrading.

As for the progress of carbon fees around the world that everybody is concerned about, such as the EU's carbon border adjustment mechanism (CBAM), the MOENV has people in the US and Europe keeping track of developments, with support provided from the Executive Yuan and Ministry of Foreign Affairs.

### (3) Review of Air Quality Standards to stay in line with WHO

"We will try to squeeze something out of nothing for progress, like squeezing a towel." When asked about air quality becoming worse after the COVID pandemic than before it, Minister Peng stressed that the improvement of air quality for public health is one of the MOENV's core duties, which it has been working on since 2016. The latest statistics show an improved trend in air quality throughout Taiwan. For fine particulate matter pollution (PM<sub>2.5</sub>), for example, the national average has dropped from 20 µg/m<sup>3</sup> in 2016 to 13.7 µg/m<sup>3</sup> in 2023, for an improvement rate of 32%. This met the air quality target of 15 µg/m<sup>3</sup> for PM<sub>2.5</sub>. To continue to improve air quality, the MOENV proposed and submitted the Stage 2 Air Pollution Control Solution to the Executive Yuan for approval, and on 29 April 2024 amendments to the Air Quality Standards were preannounced, with tighter standards. The amendments will be integrated with the eight aspects and 37 reduction strategies of the Stage 2 Air Pollution Control Solution to keep a practical and steady pace toward improvement of air quality.

The MOENV stressed that significant temporal and spatial variations in pollution spread exist in Taiwan due to multiple factors, such as migration of air pollutants from beyond our borders, pollution caused by ships at sea, the unique physical geography of Taiwan and seasonal changes in atmospheric diffusion. Taiwan is an island where the majority of the population is concentrated in small areas. Most of the pollution sources are located in southern and central Taiwan where the conditions for diffusion are poor. These are just some of the challenges to deal with regarding air quality improvement. With the preannouncement on 29 April 2024 of the tightened amendments to the Air Quality Standards, comments asking for far tighter Air Quality Standards have been received from all corners of society. In response, Minister Peng pointed out that the MOENV has been working on how to achieve the air quality targets established by the WHO in stages, while taking all influencing factors into thorough consideration for further amendments.

### (4) MOENV continues with EIA review improvement – rapid test kit for offshore wind power

Regarding EIAs for offshore wind power, there has been the issue of overlapping wind farms in the Stage 3 offshore wind power environmental impact assessments (EIAs), where multiple developers are fighting for the same wind farm site using their own EIA versions. This leads to different developers working on environmental surveys repeatedly, but only one single developer will be ultimately awarded the approved capacity to be developed, which is a waste of administrative resources. Seeing this, the MOENV started talking to the Ministry of Economic Affairs (MOEA) at the beginning of 2024 and came up with a new mechanism of review consisting of two stages, with a checklist included for a higher standard of environmental protection and monitoring. For the stage 1 review, the MOENV will examine the submitted documentation against the checklist. Those who comply with the requirements will be offered an approval letter from the MOENV for passing the stage 1 review and become eligible for the selection by the MOEA. Once the approved capacity is awarded, the review package will be submitted to the MOENV for stage 2 comprehensive review. Thus, there will only be one developer that becomes eligible for the comprehensive review, a giant leap for process simplification. It will be like a rapid test kit that takes care of both green energy development and environmental protection, a win-win for developers, environmental groups and government agencies.

- (5) The MOENV is considering adding more experts to the Fourth LNG terminal review to seek a consensus

The Fourth LNG terminal is a great concern as the new minister takes office. The MOENV indicated that Taipower has requested an extension of the review to 31 July 2024. On whether there is a deadline imposed by the MOEA for the LNG terminal review and whether Taipower's plan is involved, Minister Peng stressed that the MOENV does things at its own pace, since "the Ministry of Environment is not the Department of Environmental Protection of the Ministry of Economic Affairs."

For other issues of public concern, such as "marine ecology," "ship maneuvering safety" and "port operations," the MOENV is planning to invite an expert from each of the abovementioned fields from the MOEA, developers or NGOs, for a total of six review experts on the review panel conducting professional investigations on environmental issues, who are to find a consensus. In addition, regarding public participation, citizens and groups for and against the proposition may sign up for the review meeting as observers, and present their comments in the meeting for consideration by review experts, and speak for their own rightful interests while giving an idea of the number of people they represent. The MOENV expressed that it will take all of us working together to tackle climate change, energy transition and environmental challenges to come. The MOENV keeps an open mind for what the public has to say, both positive and negative.

- (6) The MOENV is expected to preannounce the Standards for Solar Power Developments Subject to EIA in June 2024 for the review and correction of environmentally sensitive locations and size of establishment.

The MOENV says the EIA standards for solar power development are being examined for areas needing amendments, seeing that solar power systems located at "specific sensitive locations" or "established in large size" have caused quite a stir in society in general. In addition to those proposed at important wetlands that require EIAs, it is considered that those proposed in a sensitive area like a national park or wildlife refuge and those located on a slope of a certain size (in terms of area or installed capacity) shall be subject to an EIA as well. The MOENV held a meeting with the ministries involved and local environmental protection bureaus on 10 May 2024 and reached a preliminary common ground, and it is expected to preannounce draft amendments by the end of June and promulgate them by the end of December.

Minister Peng pointed out that the MOENV will start a review of the existing EIA review system in the second half of 2024, aiming to complete it in 6 to 12 months. Having said that, the Minister also clarified that most EIA reviews, or more than 90% to be exact, can be done in under a year at present, except certain highly disputed cases.

(7) Open government in real life – making the minister’s daily schedule public

Being the former head of Open Data for Taiwan, Minister Peng made it clear that he takes the idea of open government very seriously, and suggested that the government should make its information publicly available in an open data format for public access and value-added creativity. He foresees that there will be a lot more to do for the open government, starting from the MOENV. For this, not only his official schedule and those of his deputies will be revealed on the MOENV’s website a day ahead, but also the summary of every meeting and visit will be published for public viewing as a response to the public demand for open government.



**Dr. Chi-Ming Peng, new Minister of Environment, in his first meeting with the media**



Minister Chi-Ming Peng outlines the future policy vision of the Ministry of Environment

認識環境部

核心業務

政策與法規

資訊與服務

訊息與公告

5月  
113年

21日  
週二

**部長**

**下午 02:00 彭啓明部長與記者有約 -談環境部業務展望**

地點：環境部4樓405會議室

地址：臺北市中華路一段83號

備註：1.彭部長與媒體記者說明對環境部業務推動之理念及展望。  
2.本次記者會由施文真次長陪同。

**新部長上任揭示四大重點政策**

環境部新部長彭啓明21日首次與媒體見面談環境業務展望，提出「精進環評審查」、「加速碳費徵收」、「務實改善空品」與「公開首長行程」四大主張，更強調60%的精力將用在讓淨零路徑盡快上軌道，而其他的業務也已掌握7、8成，將與環境部同仁共同努力。 [詳全文](#)

### Implementing Open Government: Publishing the Schedules of Top Officials

## 2. Joint Taiwan-Sweden Chemical Substance Control Training Held

From 21 to 23 May 2024, the Ministry of Environment (MOENV) held the “Taiwan-Sweden chemical substance preventive control training – Action plan for a non-toxic everyday environment and PFAS management training program”. Three senior officers from the Swedish Chemicals Agency (KEMI) and a chemicals management specialist were invited to Taiwan to speak on topics such as the management of per- and polyfluoroalkyl substances (PFASs). Taking the issues of PFAS and chemical substance management very seriously, Dr. Chi-Ming Peng, Minister of Environment, gave a speech at the training venue in person, saying that he hoped this event will serve to improve

**exchanges between the two countries regarding chemical substance management, and that the MOENV would learn from Swedish PFAS management experiences to improve Taiwan's PFAS management strategies.**

The MOENV pointed out that this training was part of the "National Chemical Substance Management Board" event series and covered: the "Action plan for a non-toxic everyday environment, per- and polyfluoroalkyl substances (PFASs) management"; an introduction to the regulations under the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH Regulations) of the EU; experiences in implementing regulations on classification, labelling and packaging of substances and mixtures (CLP Regulations), and; an introduction to new hazard classifications.

The MOENV stated that Sweden has more than a decade of experience in promoting its Action Plan, a national level program dedicated to reducing the risks of hazardous chemical substances to human health and the environment. The plan's central concept is that "the substances created or extracted by humans in the environment shall never threaten human health or biodiversity." In Taiwan, the same efforts are being exerted to promote the non-toxic action plan. Hopefully, these precious experiences will be learned directly from KEMI experts through this program and combined with Taiwan's unique conditions for the continuous development of our own non-toxic action plan.

The MOENV pointed out that there are more than 10,000 PFAS substances as defined by the Organisation for Economic Cooperation and Development (OECD). As a cooperative effort under the Stockholm Convention on Persistent Organic Pollutants (the Stockholm Convention), Taiwan has included perfluorooctane sulfonate, lithium perfluorooctane sulfonate, perfluorooctane sulfonate fluoride, perfluorooctanoic acid and perfluorohexane sulfonate and their salts and related compounds in the Appendix A elimination list. These substances are now Class I toxic chemical substances with management regulations established for their uses. As one of the five countries proposing the full-scale PFAS management legislation in EU, Sweden has years of experience in PFAS management. Hopefully, this event will help Taiwan improve its PFAS management system.

The MOENV pointed out that chemical substance labeling is an important part of preventive management. Proper labeling helps reduce the risks of using chemicals improperly. At this event, Swedish experts were invited to share their experiences in the Globally Harmonized System (GHS) of Classification and Labelling of Chemicals, which in turn will help Taiwan stay in line with international chemicals management regulations.

Minister Peng gave his speech and expected that the training at this event would encourage interactions between KEMI and MOENV, help Taiwan develop its own PFAS management policy and national non-toxic action plan, and complete Taiwan's chemical substance management strategies and systems to align its chemicals management mechanisms with the world.





Minister Chi-Ming Peng, instructors and trainees at the training session

### 3. Carbon Fee Collection to Be Based on International Practices Focused on Transition

There is concern among NGOs as to when collection of carbon fees will start and how they will be collected. The Ministry of Environment (MOENV) stressed once again that the acceleration of carbon fee collection has been a priority of the ministry. The MOENV is studying the carbon pricing experiences of the EU, Singapore and South Korea in order to develop multiple tools for the carbon fee system, under the existing legislative framework for diversified CO<sub>2</sub> reduction. The MOENV emphasized that the purpose of collecting carbon fees is to accelerate CO<sub>2</sub> reduction and encourage industrial transformation, rather than to increase government revenues. The industrial sector was requested to formulate feasible carbon reduction plans as the MOENV developed the related fee system package. Companies will be awarded preferred rates only if governmental supervision is implemented every year. The following have been added by the MOENV:

- (1) Specific reduction objectives are being mapped out according to the 2030 CO<sub>2</sub> reduction path.

The MOENV currently has two specific reduction objectives for industry in general: one is to reduce emissions by 42% according to science-based targets by the target year of 2023, with 2021 as the base year; the other, based on technical benchmarks, is to reach specific reduction rates using the 5-year average emissions from 2019 through 2023 as the baseline rate of emissions. Provided that the nationally determined contribution is achieved in 2030, the emission benchmark values are established for different types of emissions, such as direct and indirect emissions from the use of purchased electric power.

For example, for fixed fuel combustion, the benchmark value is defined as the heating value of the top 25% of fuel-burning industries in Taiwan (such as steelmaking, cement manufacturing, the petrochemical industry, the textile industry, papermaking and others) to be used for

calculating the emissions to be reduced by 2030. Once carbon fee collection starts, with voluntary reduction plans and specific targets already in place, the MOENV estimates that up to 24% (compared to the baseline defined by the 5-year average from 2019-2023) of emission reductions can be achieved from entities subject to carbon fees, assuming that all entities subject to carbon fees have proposed their voluntary reduction plans and have achieved the technical benchmark-based reduction rates. The total of these reductions is expected to help Taiwan reach the nationally determined contributions to emission reductions by 2030.

(2) Accelerate industrial low-carbon transition with reduction as the starting point

The MOENV indicated that the experiences from jurisdictions where a carbon pricing system is in place, such as the EU, South Korea or Singapore, have shown that free emission credits or tax exemptions are often awarded to prevent carbon leakage and encourage industrial transformation. In comparison, the preannounced draft of *Taiwan's Regulations Governing the Collection of Carbon Fees* is designed to be stricter.

In the EU, for example, 100% of emission credits are awarded unconditionally for industries on a watch list for being high carbon leakage risks, yet meet the respective emission benchmarks. However, in Taiwan, the entities subject to carbon fees are required to propose a voluntary reduction plan with specific targets for approval before the deemed quantity of emissions are adjusted, considering applicable carbon leakage risk factors. With this mechanism, those subject to carbon fees still have to pay a certain percentage of carbon fees and are obligated to pay them even though they are eligible for the emission adjustment mechanism mentioned above. The chargeable emission quantity in Taiwan is developed based on the emission adjustment schedule in steps of 0.2, 0.4 and 0.6, and this is in turn based on the phasing-out schedules for free credits internationally. In other words, contrary to rumors, Taiwan's carbon fee system will not provide large discounts for entities with high carbon leakage risks. The system is designed on the basis of emission reduction. There will be no stripping of authority from the carbon fee review committee, as has been speculated.

(3) Appropriate use of reduction credits to encourage diversified reduction in Taiwan

The MOENV pointed out that its priority is to encourage those not subject to carbon fees (small emission sources) to reduce CO<sub>2</sub> in order to maximize reduction results in Taiwan. Thus, if those subject to carbon fees use voluntary reduction credits or carbon offsets to reduce their emissions, they will be credited for 1.2 times the carbon reductions (in other words, they will be granted an extra 20% reduction credit if they use voluntary reduction credits or carbon offsets). However, the upper limit of deductions for the use of reduction credits shall not exceed 10% of the discharged emissions. In addition, a limit is imposed on the use of foreign reduction credits by those who are subject to carbon fees, but are not of high carbon leakage risk. In these cases, for the deduction of charged emissions, the upper limit is set at 5%. The standards for recognition of the source and quality of foreign reduction credits will be established based on the requirements of the Paris Agreement.

(4) Track and audit voluntary reduction plans every year

The MOENV stressed that it is planning to audit the progress of voluntary reduction plans every year, and keep track of how plans are implemented by those subjects to carbon fees and those who propose voluntary reduction plans. Enterprises are required to submit to the MOENV the progress report for their voluntary reduction plan for the previous year by 30 April of every year. Those who meet the progress targets are eligible for preferred rates for the current year. If any enterprise is found not implementing the plan as required by the central competent authority, the difference between the regular and preferred rates will be collected and improvements



required by the given deadline. For those who fail to improve by the deadline, their approved plans will be cancelled. In this case, the enterprise will have to pay for the carbon fees at the regular rate and no longer be eligible for the carbon leakage risk factor due to failure to have its voluntary reduction plan approved.

The MOENV preannounced the drafts of three sub-laws of carbon fee collection on 29 April 2024. All suggestions or comments are welcome. The MOENV and Ministry of Economic Affairs have made three presentations explaining the three sub-laws of carbon fee collection to those subject to carbon fees, and will invite NGOs concerned about the carbon fee collection system for further presentations of carbon fee sub-laws for more comments and suggestions regarding these sub-laws.

#### **4. Public-Private Regional Cooperation Mechanism Established for Resource Circulation in New Southbound Countries**

**The Resource Circulation Administration, Ministry of Environment (MOENV) held the "New Southbound Countries Regional Partnership Cooperation - Resource Circulation Industry Exchange Workshop" at the GIS Taipei Tech Convention Center on 29 May 2024. Trade and Investment Queensland and resource circulation businesses that have been operating in New Southbound countries were invited to share their insights on the latest policies and trends of these countries, to act as a bridge to help Taiwanese businesses grow in New Southbound countries.**

Chief Chen Jun-Jong of the Resource Circulation Administration said in his speech that the production of waste is increasing dramatically in New Southbound countries as their economies expand rapidly. They are urgently looking to learn from advanced countries in the areas of waste management, who have experience in dealing with waste and offer opportunities for cooperation. Taiwan is able to assist, with its experience in successful waste management and resource circulation. For example, the extended producer responsibility system, 4-in-1 recycling policy and advanced resource circulation equipment and technologies have earned global reputations. Vietnam, for example, started its own recycling fee charging systems for packaging materials, batteries, lead acid batteries, lubricants and tires based on Taiwan's recycling system.

##### **(1) Queensland has rolled out incentives to encourage Taiwan businesses**

Commissioner Juna Ferrett of Trade and Investment Queensland spoke about Queensland's waste management regulations and policies, strategies for waste management and recycling, and the current status of economic development and investment. She pointed out that Queensland has a series of incentives for investment projects and industrial partnership programs, and all businesses in Taiwan are welcome to seek investment and cooperation opportunities.

##### **(2) Taiwanese businesses share their experience in investing in New Southbound countries (India, Indonesia, Malaysia, the Philippines, Vietnam and Thailand)**

Mr. Lin Cheng-Hsiang, the New Southbound convenor of the Taiwan Environmental Manufacturers Association, indicated that waste issues are getting worse as the economy and population are growing rapidly in these countries, along with their consumption and manufacturing activities. Environmental management systems, policies and regulations differ from one country to the next, and international cooperation is needed to improve waste management. Regarding investment in Vietnam, Mr. Chen Te-Shih, manager in Vietnam of Cheng Loong Corp., recommended a cautious approach with the regulations and responsibilities for establishing

factories, and the procedures for investment and operating factories in the country. For example, the environmental protection law of Vietnam just underwent a major overhaul, causing challenges for potential and existing foreign investors. The growing pains continue as other laws are harmonized with the amended environmental protection law. Mr. Wu Chun-Yao, general manager of Enerstec, pointed out that the keys for the rubber industry businesses to enter the Thai market are to have the minimum required capital for setting up in Thailand, partnered with Thai entities owning 51% of company shares, or other incentives based on type of industry.

(3) Public-private cooperation to promote Taiwan's resource circulation methods to the world

The Resource Circulation Administration pointed out that New Southbound countries are important partners for Taiwan regarding both trade and the environment. This workshop will help more companies understand and invest in the New Southbound market, promote joint regional resource circulation cooperation and development, help New Southbound countries with waste issues, while at the same time expand the international market for Taiwan's resource circulation industry and promote Taiwan's resource circulation to the world through public-private collaboration.



Photo of resource circulation industry workshop

## 5. Online Platform Launched for More Efficient Construction and Decoration Waste Flow Management

For the convenience and legality of construction and decoration waste information registration, the Resource Circulation Administration, Ministry of Environment (MOENV) has established the "Construction and decoration waste flow management platform" at <https://waste.moenv.gov.tw>. The website officially went online on 6 May 2024, covering information on businesses dealing with construction and decoration waste throughout Taiwan. As of now, all waste disposal businesses shall register their disposal information on the platform, where they may check and confirm entries for legal waste disposal. A QR code is generated when information is entered in the platform, which serves as the on-board permit document through a smart phone, and is much more convenient for businesses that have to travel between sites.

The Resource Circulation Administration indicated that home decoration is quite different from typical large construction projects, where the former features smaller scale waste, a shorter construction schedule, and work at multiple sites. Unlike the online triple-sheet registration seen in large construction projects, waste disposal information is commonly written on paper in home decoration projects and given to disposal operators. It is frequent that information is incorrect and difficult to verify. Now, this platform allows disposal operators to register decoration waste information online (through a cell phone, tablet or computer), and a QR code is generated as an on-board permit document that can be shown on an electronic device (cell phone, tablet or computer), or, the information can be printed out and carried by truck drivers.

The Resource Circulation Administration explained that the newly established “Construction and decoration waste flow management platform” provides drop-down menus that allow disposal operators to select a legal dumping site with a waste code, reuse or disposal site, thus eliminating possible typos. The receivers may click “Receive” and confirm on the platform without the need to enter any further information. The producer, disposal operator and receiver all have to sign electronically through the platform for their specific responsibilities of waste removal and disposal.

The Resource Circulation Administration stressed that the electronic on-board permit document generated by the “Construction and decoration waste flow management platform” not only lessens the burdens of businesses regarding information registration and management, but also helps local environmental protection bureaus to know the whereabouts and quantity of decoration waste, thus it is a win-win management system.

## **6. Ministry of Environment Wins a Smart 20 Award for Innovative Application of Air Quality Sensing Technology**

**The Ministry of Environment (MOENV) has been working on the IoT (Internet of Things) for environmental sensing. For air quality, efforts range from the establishment of approximately 10,000 air quality sensors around the country to the innovation of mobile air quality sensors and systems. This year, the MOENV entered the 2024 Smart 20 Awards held by Smart Cities Connect on the topic of “Advanced Air Quality Monitoring : Innovations and Applications of Mobile Air Quality Sensors”, and won the Smart 20 Awards from among more than 700 international competitors in the category “smart city application service”. This award is not only a recognition of what the MOENV has been doing regarding innovative applications for air quality monitoring and intelligent governance, but also a demonstration of what Taiwan has done as a leader in promoting smart cities.**

The MOENV points out that it has been working hard to introduce advanced technologies such as sensors, IoT and AI big data since 2017. It has been working with 18 local governments on establishing nearly 10,000 air quality sensors as part of an IoT air quality monitoring system that gathers real-time information high in temporal and spatial resolution. This will help local governments with their pollution inspections, and expand cross-field applications for smart environmental governance.

To further improve the range and mobility of air quality sensors, the MOENV started working with the Green Energy and Environment Institute of the Industrial Technology Research Institute (ITRI) in 2020 on the development of mobile air quality sensor devices and systems for the continuous

optimization of mechanism designs and dynamic calibration techniques. Tests and verifications have been performed in multiple fields to improve sensor data accuracy and expand the scope of application.

This award was presented for the introduction of mobile air quality sensors, that not only helps detect and report potential pollution sources to be investigated, but also can be used to assist with tasks such as traffic control, monitoring sudden pollution plumes, and the management of air quality maintenance zones. It provides powerful technical support for air quality improvement in this constantly evolving intelligent environmental governance application. As an application for environmental governance, the mobile sensors have been deployed in Taipei City, New Taipei City, Taichung City, Tainan City, Kaohsiung City, Nantou County, Chiayi County and Hsinchu City.

The MOENV explained that the Smart Cities Connect has been organizing the Smart 50 Awards every year since 2017, recognizing 50 innovative and influential smart city application services. All parties, whether private businesses or government agencies, are eligible for the awards. This year (2024), saw the first Smart 20 Awards, where only the best smart city applications were selected. This award recognizes what the MOENV has done for innovative applications in the area of air quality monitoring and smart governance.

The MOENV was the first central agency in Taiwan to win this honor and was invited to Raleigh, North Carolina on 7 May 2024 for the award presentation. Deputy Director General Hu Ming-Hui of the Department of Monitoring and Information accepted the award on behalf of the MOENV and had friendly interactions with global experts and smart city leaders to discuss what Taiwan has learned from and done for promoting smart cities.



**Deputy Director General Hu Ming-Hui of Department of Monitoring and Information with Mrs. Chelsea Collier, Editor at Large Managing-Partner**





Mobile sensor (MOT) used for monitoring the plume of pollution caused by a fire



Example of how the mobile sensor (MOT) demonstration platform operates

## 7. Environmental Management Administration Promotes Voluntary Pollution Management

The Environmental Management Administration, Ministry of Environment (MOENV) invited the Taiwan Surface Finishing Association, surface finishing businesses in northern Taiwan, the Industrial Technology Research Institute (ITRI), local environmental bureaus in northern Taiwan, the Ethics Office, Department of Water Quality Protection and the Department of Atmospheric Environment of the MOENV to the “Presentation for voluntary pollution management of metal finishing” on 28 May 2024 to promote the new concept of voluntary compliance, hoping the industrial sector will move toward clean production and work with the government to create a new environmentally sustainable world. The presentation was made by Director General Hsu-Ming Yen.



**Director General Hsu-Ming Yen.**

The Environmental Management Administration (EMA) noted that metal finishing is an important part of Taiwan's manufacturing industry. As the industry continues to evolve, the wastewater generated still contains hazardous heavy metals and strong acids and bases. The technology to process wastewater is fairly mature, but it is expensive to process the hazardous sludge generated from wastewater treatment. That is why illegal dumping frequently occurs as some businesses attempt to save money. However, if wastewater containing various heavy metals can be recovered, post-treatment sludge is actually valuable due to recyclable materials therein, which can significantly offset treatment costs. To assure business owners, ITRI is commissioned to develop wastewater diversion technology, and in addition many technical consultants have also developed new technologies for this task. Businesses may search for what suits them.

The EMA has been working in alliance with prosecutors and police in recent years. Technology is widely used in inspections. Multiple high-profile environmental pollution events have been detected and owners of violating businesses have been subject to imprisonment as well as confiscation of illegal gains, amounting to tens of thousands of NT dollars. The EMA expressed that punishment is not their primary purpose and the last thing they would like to see are businesses going down like this. To solve this problem once and for all, the EMA has been working hard to promote voluntary air pollution control, wastewater control and waste disposal. These efforts are made to improve the technical ease of pollution treatment, reduce pollutant emissions at source, and realize a balance between production and environment.

The EMA urges all businesses to maintain sustainable operations. It is necessary to move beyond outdated technologies and concepts. Environmental protection should not be seen as a cost that provides no returns. For example, TSMC has made copper sheets out of copper-containing wastewater, a perfect example of turning waste into valuable products. On one hand, this achieves sustainability for industry and the environment, and on the other hand, there are fewer concerns about inspections by environmental protection bureaus.



## **8. Garbage Collection at Fixed Hours and Locations Enhances Cleaning Crew's Safety**

**To improve the safety of both cleaning team and people during garbage collection and to give citizens different choices for throwing garbage out, the MOENV's Environmental Management Administration (EMA) has started promoting garbage collection at fixed hours and locations since 2021. And 97 routes in 20 cities and counties had been funded for this trial practice. This year (2024), a subsidy of NT\$ 5,996,680 was provided for 48 trial routes in 11 cities and counties.**

The EMA points out that the common practice for most local environmental protection bureaus is to collect garbage as the garbage trucks travel along the established routes. There are currently 3,876 routes in Taiwan and people have to throw their garbage out according to the garbage truck schedule. Sometimes, the trucks are delayed in case of bad weathers, traffic jams or too much garbage to collect after long holidays. However, there are many stops along the routes at very short intervals, and most crew members stand on the trucks' tailgates to conduct their work instead of sitting in the cabin and hopping in and out very frequently at every stop. Such approach helps the operation efficiency but increases the risks of falling from a moving truck. By collecting garbage at a fixed hour and location, the crew members no longer have to stand at the tailgate and hop on and off frequently. At present, 579 routes are now on this practice with fixed schedules and locations.

The EMA held a demonstration session on garbage collection at fixed schedules and locations on 10 May 2024 to facilitate exchanges of practical experiences of garbage collection and transportation among local environmental protection agencies. It was also to encourage local governments to gradually adjust garbage collection at fixed hours and locations under the existing routes. The cleaning teams of local environmental protection bureaus and the National Workers' Union of Environmental Protection Agencies were invited for the event, and the Department Environmental Protection of Taipei City Government and the cleaning team of Luodong Township, Yilan County were brought in to share their experience in garbage collection at fixed hours and locations. The EMA says that such practice has already become a part of Taipei citizens' daily life. The garbage trucks stop at every location for as short as 5 to 10 minutes and up to half an hour. This allows enough time for the team members to carry out their work and for citizens to take out the garbage. In Luodong, Yilan, this practice is combined with recycling promotion, resulting in a 20% growth in the price of recycled materials sold. On top of that, the 110 stops reduce the time that crew members stand on the back of trucks by 50~81 minutes per route.

The EMA stresses that garbage collection at fixed hours and locations creates a win-win scenario as it is an alternative to conventional garbage disposal approach so that people do not have to run after garbage trucks and also ensures the safety of both cleaning teams and citizens. The citizens are, on the other hand, urged to follow the rules regarding garbage sorting and recycling. For instance, objects including lithium batteries, mobile charges and pressurized cylinders such as those for portable stoves are not to be mixed with other trash and thrown inside garbage trucks as they may lead to fires or even explosions. Pressurized cylinders are to have flammable gases or liquids inside emptied before given to the recycling trucks. This will ensure the cleaning teams a safe work environment while they continue to provide service and keep the environment clean.





**No need to chase garbage trucks now that garbage is collected at fixed hours and locations**



**The Department of Environmental Protection, Taipei City Government shares their experience in garbage collection at fixed hours and locations.**





**Captain Tsai of cleaning team of Luodong Township, Yilan County explains results of garbage collection at fixed hours and locations**



**Director Deng of Department of Environmental Protection, Taipei City Government shares their experience in garbage collection at fixed hours and locations**





Promotion poster of garbage collection at fixed hours and locations

## 9. Amended Permit Management Regulations Announced Concerning Waste Clearance and Disposal Organizations

The MOENV promulgated the amended *Permit Management Regulations for Public or Private Waste Clearance and Disposal Organizations* (公民營廢棄物清除處理機構許可管理辦法) on 17 May 2024. The aim is to strengthen the integrity of the review process of waste clearance and disposal organizations, stipulate the principles of permit issuance and, in lines with the efforts of integrating environmental permits, enhance the coherence between tracking of pollution flows and registration contents of various environmental permits (documents). Three articles have been amended this time and become in effect on the day of promulgation. The key amendments are listed as follows.

### (1) Specific principles of permit review

While the issuing authority receives applications, submissions, modification or extensions of clearance permits, establishment approval documents, trial operations, or disposal permits, the

scope of review shall not cover matters other than the said applications, submissions, modifications, or extensions. No obligation not specified in any regulation shall be added in any form of penalties. Any obvious mistakes, such as incorrect writings or calculations, on the part of the issuing authority shall be corrected.

(2) Integration with environmental permits

Prior to applications of issuance, modification, or extension of disposal permits and clearance permits for establishment of a storage site or transfer station, applicants shall prepare charts indicating the pollution flows regarding air, water, wastes, and toxic and concerned chemical substances. If such process involves applications, modifications, or extensions of other types of environmental permits, they are to be filed simultaneously. However, this does not apply to those that can prove lack of substantial involvement. The issuing authority may continue the review process if applications, modifications, or extensions are not filed simultaneously.

(3) Clear deadlines for permit issuance

The revision has added a clear deadline by which the issuing authority shall complete the permit approval process to prevent situations where a case remains open at the issuing authority due to the failure to issue or collect the said permit.

The MOENV indicates that this amendment provides more details regarding the issuing authority's permit reviews, which helps improve administrative efficiency and avoid delayed permit issuance. In addition, enterprises involving more than two types of permits are required to prepare charts of pollution flows before future permit applications, modifications, or extensions. They are also to submit simultaneously applications, modifications, changes, or extensions of other types of environmental permits if they are involved in the abovementioned process.

## **10. MOENV Held the 3<sup>rd</sup> Carbon Fee Rate Review Committee Meeting**

**The MOENV had the third meeting of the Carbon Fee Rate Review Committee on 7 May 2024. Chaired by Deputy Minister Wen-Chen Shih, the meeting was attended by 17 members. Starting with the previous meeting's conclusion, the MOENV presented the carbon pricing practices in neighboring countries like Japan, Korea and Singapore and the drafts of three carbon fee sub-laws, preannounced at the end of April. It was concluded in the meeting after sufficient discussions that in the next meeting the Climate Change Administration (CCA) provides assessments and estimations on industries, macroeconomy and consumer price index based on reductions and impacts under various rate scenarios, including regular and preference rates. Such assessments and estimations will serve as reference for the committee's review. The meeting information, including meeting agenda, materials and minutes, will be published on the CCA's website for thorough transparency of the review process.**

The MOENV indicates that the committee members had extensive discussions in the meeting on the mechanism accompanying Taiwan's carbon fee collection and provided many suggestions. They talked about whether tax incentives should be available for enterprises investing in reduction; that design of specific reduction targets shall take the difference of industry types and technical feasibility into consideration; that a voluntary reduction plan template shall be provided for industries' reference; how to evaluate reduction results under the adjustment mechanism during transitions; and whether a carbon border adjustment mechanism (CBAM) will be planned in the future. It was

also suggested that future collected carbon fees may be used for purposes such as green financing or development of reduction technologies.

The MOENV adds that the *Climate Change Response Act* (氣候變遷因應法) specifies that collection targets of carbon fees are required to propose their own voluntary reduction plans in order to enjoy the preference rates, so as to ensure the substantial reduction results. A complete control mechanism will be set in place by the MOENV for the review of subsequent voluntary reduction plans to ensure that national reduction goals are accomplished.

The MOENV points out that the three sub-laws regarding carbon fee collection all had their designs based on carbon reduction and now are still in the draft preannouncement stage. All suggestions and comments are welcomed. Meetings will be held for different industry types to communicate and discuss with the public.

## **11. Tightened Air Quality Standards Drafted to Reduce Pollutions in Central and Southern Regions**

**The MOENV has been working with the National Health Research Institute (NHRI) for the last eight years on the correlation between local air pollutions and public health in order to develop a health-based air pollution improvement strategy. On 29 April 2024, the MOENV rolled out the draft amendment of the *Air Quality Standards* (空氣品質標準) based on the NHRI's proven results and taking Taiwan's current air quality status into consideration. The MOENV has heard the public expectation on tightening the standards, and all suggestions and comments are welcomed to complete their formulation.**

The MOENV explains that this amendment of the *Air Quality Standards* took references from the World Health Organization (WHO) and relevant experiences in the US and the EU. At the same time gradual and practical moves have been made to tightening criteria regarding various pollutants with factors such as health impacts, current air quality status, pollution control technologies, and social and economic developments taken into accounts. Criteria of fine particulate matters (PM<sub>2.5</sub>) that concern the public the most is lowered to 12 µg/m<sup>3</sup> in this draft amendment from previously 15 µg/m<sup>3</sup> this time, 12 years after the it was set last time in 2012. In comparison, the US took 15 years to make the same adjustments, tightening the PM<sub>2.5</sub> criterion from 15 to 12 µg/m<sup>3</sup>. Responding to the public expectation for more challenging criteria, the MOENV will evaluate addition of longer-term air quality improvement goals based on other countries' experience.

The MOENV indicates that air pollution reduction has been an ongoing process since 2016 to gradually improve air quality. As of 2023, significant improvement has been observed in regional and nationwide air qualities. With PM<sub>2.5</sub> as an example, the national average has dropped from 20 µg/m<sup>3</sup> in 2016 to 13.7 µg/m<sup>3</sup> in 2023, an improvement by 32%. The MOENV points out that air quality is tougher in central and southern Taiwan than in eastern and northern Taiwan, as the central and southern Taiwan is at the downwind side of the northeast monsoon in fall and winter thanks to the barrier of Central Mountain Range. The decreased wind speed can easily lead to poor diffusion of air pollutants. For this, the second phase of the MOENV's Air Pollution Control Program (2024-2027) specifically stresses reducing air pollutions in central and southern Taiwan with a comprehensive improvement strategy on major emission sources, such as power generation industry, petrochemical

industry, vehicles and machinery, and open burning. It is expected to see that 73% of nationwide air pollutant emission reduction comes from this region in order to accelerate air quality improvement in central and southern Taiwan.

Air quality improvement is a marathon and a priority of the MOENV's tasks. The MOENV will actively carry out the second phase of the Air Pollution Control Program with joint governance with nine ministries and integration of control capacities of local governments, all continuing to work together to improve Taiwan's air quality.

## 30% drop of PM<sub>2.5</sub> nationwide from 2016 to 2023

**Goal achieved!** Average annual PM<sub>2.5</sub> Concentration < 15 µg/m<sup>3</sup>



30% drop of PM<sub>2.5</sub> nationwide from 2016 to 2023

## 12. Campaign to Keep Cigarette Butts Off Ground Launched and Starts with Change of Culture

On the World Environment Day on 6 June an event was organized by the MOENV to launch national alliance and campaign for cigarette butts off ground. Aiming to start from changing the culture, Minister Peng Chi-Ming had a talk with Minister Li Yuan of the Minister of Culture (MOC), Chang Han-Wei, advisor of the Youth Advisory Committee of the Executive Yuan, Huang Yu-Chen of Girls in the Oasis and a student of the Taipei First Girls High School, and Jason Huang, founder of Re-Think. All attendees hoped to raise public awareness and encourage all to work together to keep cigarette butts off the ground for a better environment.

"Changes make the difference as there will never be enough inspections", said Minister Peng, whose top concern after taking the office is cigarette butt littering besides climate change, resource circulation, and governance regarding air, water, waste and soil. Besides existing efforts such as issuing tickets, source management and enhanced clean-ups, the MOENV staff agree with the Minister and have come up with many ideas, hoping to do more. "How to change the mindset, which many have, of doing something despite knowing it is harmful?" Minister Peng pointed out that this campaign will be a joint effort with the MOC for cultural creativity and also civil organizations for

cooperation between public and private sectors as well as ideas from the public.

"One day foreigners would be able to tell a Taiwanese apart by his/her behavior of putting cigarette butts in a beautiful small box. This tiny act shows one's culture, one's way of life." The MOC Minister Li stated that this new lifestyle should not come from government regulations, but derive from people's feelings and honor for the love of this land. Stressing that culture is life, Minister Li pointed out that the MOC will not have the drama series for the campaign blatantly display the policy of keeping cigarette butts off the ground but present a way of life instead, just like the film "Perfect Days" portraying the care for details of one's daily life.

In her speech, Legislator Lin Yue-Chin said that Minister Peng proposed the idea of cigarette butts off the ground in his report to the Legislative Yuan after taking office. Beside the impact of smoking on health, the nicotine, copper, lead and acetate fibers from littered cigarette butts may also cause serious harms to the environments and oceans. She hoped for no more environmental pollutions through legislative or cultural efforts in order to leave a clean earth to the next generation.

Chang Han-Wei, advisor of Youth Advisory Committee of the Executive Yuan, brought up the blockbuster "Marry My Dead Body" showing that the protagonist cares about environmental protection every day and brings his date to a beach clean-up, which really impressed the audience. Advisor Chang believes that a policy has to get to the point by identifying the source, such as what the smokers are thinking and the unique characteristics of different locations.

Re-Think once had a survey on smokers in Ximending, asking them to throw cigarette butts directly into a fish tank. It was a shock to smokers who were unaware of issues such as ditches leading directly to the ocean and plastic particles polluting the marine ecosystem.

Jason Huang, founder of Re-Think, pointed out that previous studies have shown that in fact smokers do care about social opinions. Ten percent of smokers do not care, but as many as 65% have no idea of cigarette butt's harms to the environment, and 70% said that they would never litter if they had a choice. Huang looked forward to more surveys in the future to find out more problems and needs.

"It feels more powerful now working with the government," said Huang Yu-Chen, a member of the "Girls in the Oasis," a student organization of Taipei First Girls High School formed by upperclassmen when they discovered that cigarette butts are a bigger problem than garbage. While pointing out the current status of streets with "flooded" with cigarette butts, members wish for the day of "no butts" by continuously organizing clean-ups picking up cigarette butts in streets. Recalling many thumbs up as well as few cynical remarks from passers-by during their street clean-ups, she looked forward to the participation of the government and the general public.

### **Little cigarette butts, high environmental pollutions**

The MOENV indicated that approximately 36.2 billion cigarettes were sold in Taiwan in 2023. Say 25% of the cigarette butts were littered, that means at least 9 billion were found in the environment every year. A littered cigarette butt consists of residual tobacco, filter and paper wrapping. Filter is made of cellulose acetate, a artificial persistent plastic material that is non-biodegradable and will takes a decade or even longer to be biologically disintegrated once left in the environment. Residual tobacco contains more than 4,000 harmful chemical substances, such as nicotine, arson, lead, copper, chromium, cadmium and polycyclic aromatic hydrocarbons (PAHs). The chemical mixture is toxic and



carcinogenic and, once released to the environment, will be dissolved and enter into soil and water bodies including lakes and ocean, harming the environments and marine ecosystems. These substances will ultimately find its way into the food chain and cause damages to the environments and people's health.

Once littered, cigarette butts will end up on beaches and in oceans through ditches, storm drains, ditches, or rivers. They cause environmental pollutions and is also a menace to ecosystems as much as plastic wastes, given many incidents cigarette butts were ingested by seabirds or marine mammals. There are still cigarette butt litters in the living environment as an eyesore to urban environment and headache for living quality as well as a continuous hazard to river and ocean ecosystems and environments.

### **Relevant policies**

To stop dispersions of cigarette butts in the environment, the MOENV has launched a national campaign to keep cigarette butts off the ground., It includes six strategies, namely changes of culture, source reduction, inspections and reports, environmental clean-ups, government-private sector cooperation, and enhanced research There are also 21+N measures to keep cigarette butts off the ground, ensuring a clean and healthy living environment as well as a clean and sustainable ecosystem.

This first is to start from change of culture, aiming to curb the problem at the source by urging smokers forming the habits of properly putting out cigarettes and throwing them in trash cans. Joined by the MOC and Minister Li to urge the public, the idea is to create an atmosphere in which people encourage one another and work together to change for the better.

For source reduction, as cigarette butts are considered general wastes, people are encouraged to bring the butts home or throw them in trash cans after putting out cigarettes. The MOENV has youth representatives in place to advocate for no cigarette butt littering but bringing them home or throwing them in trash cans instead. Local governments are encouraged to provide facilities at non-smoking areas and appropriate location to collect cigarette butts and clean them constantly to achieve street cleanliness.

Regarding inspections and reports, the MOENV has established the Environmental Sanitation Inspection and Control Plan for intensified law enforcement. Law enforcement officers work to deter littering of cigarette butts first through visual inspections, video surveillance or AI identification and with regular reviews. Incentives are provided to encourage the public to report violations of littering to the local enforcement agencies or competent authorities with substantial evidence or factual descriptions and information.

With environmental clean-ups, clean-ups of garbage and cigarette butts has been delegated to authorities with different land jurisdictions based on the Respect to Ocean – Coast Cleanliness Maintenance Program. These authorities are notified to conduct clean-ups and maintenance through a liaison mechanism. In addition, events are held to provide green points or substantial prizes to urge the public to cut down littered cigarette butts, hence keeping them off the ground. Business premises located at littering hotspots are to take charge of cleaning their surroundings, as an effort to strengthen their concept of creating an environment-friendly stores and their sense of social responsibilities. Other measures include strengthening river garbage removal and beach

clean-ups.

Speaking of government-private sector cooperation, the MOENV recognizes citizens' infinite energy and hence has brought in civil organizations, businesses, religious groups, and the Marine Waste Governance Platform. Enterprises are urged to adopt and maintain a clean environment around their venues business places to lower random litters of cigarette butts and other wastes. In addition, religious groups and environmental groups are also invited to cooperate in policy implementation.

And finally on enhanced research and other efforts, the MOENV has begun collecting ideas on cigarette butt management and actions based on research results of plastic particles from cigarette butts in water and their environmental impacts. These ideas are proposals including methods to prevent smokers from littering cigarette butts in the public environment, innovative approaches for competent authorities, and how to create an atmosphere among the society to facilitate throwing cigarette butts in trash cans.

### **Three wishes**

- (1) After putting out cigarettes, smokers bring the butts home or throw them into trash cans.
- (2) Enterprises and households are motivated to clean up their places voluntarily and keep the surrounding environments clean to avoid the "broken windows" effect.
- (3) Homes and living environments are kept clean through the MOENV's six strategies and 21+N measures to keep cigarettes butts off the grounds.

Prizes worth NT\$200,000 to solicit ideas to cut down cigarette butt littering

Is there any way to stop smokers from littering cigarette butts? Make streets free of cigarette butts? What can manufacturers and vendors do to make cigarette butts harmless to the environment? For the first time, the MOENV has organized a competition with total prizes up to NT\$200,000 to solicit creative ideas, raising public awareness to the problem and encouraging proposals of solutions to "keep cigarette butts off the ground" and "build a cigarette butt-free environment". The event gathers creative from all sides, hoping to promote public concerns and action on the issue and make a cigarette butt-free environment result of a social movement.

The MOENV emphasized that cleaning barely scratches the surface and that elimination at the source is key to improve the problem of cigarette butts in the environment. Therefore, this competition focuses on "responsibility of manufacturers and vendors" and "habit change for smokers". Groups and individuals are encouraged to make proposals as public policy participation, develop innovative systems or practices that strengthen the environmental responsibility of manufacturers and vendors. All people are invited to use their creativity and propose technological innovation, social advocacy, and strategies to encourage smokers to throw cigarette into trash cans after putting them out, thus gradually transforming the goal regarding cigarette butts from "pick-up" to "reduction". The MOENV also stressed that designs of boxes for cigarette butts should use recycled or locally produced materials instead of environment-friendly or raw materials.

Participants can sign up for this competition between 5 June to 5 August 2024. There will be a two-stage evaluation, first with paper documents, where a MOENV-formed group will check if submitted materials are complete and select 30 proposals. In the second stage, participants submitting the 30

chosen proposals will conduct presentations and Q&A session in personal in front of the MOENV evaluation group. In the end, three winners will be chosen and receive the gold, silver, and bronze medals, and another ten excellent awards, all granted prizes ranging from NT\$5,000 to NT\$50,000. Those that pass the preliminary evaluation will also receive 10,000 green points each. All groups and individuals are welcome to participate, and there is no limit to the number of proposals.

Registration brochure is available for download at <https://reurl.cc/4rbWaV>.



The MOENV Minister Peng speak at the ceremony kickstarting the campaign of cigarette butt reduction



Minister Peng talked with the MOC Minister Li, Chang Han-Wei, advisor of Youth Advisory Committee of the Executive Yuan, Huang Yu-Chen of Girls in the Oasis and a student of the Taipei

**First Girls High School, and Jason Huang, founder of Re-Think**



**Talk between Minister Peng and Minister Li**



**Photo of attendees to launch the cigarette butt's reduction campaign**