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Feature Article

Promoting Environmental Education for All

Environmental education is the most fundamental and important link in the chain of policies that make up environmental protection. The power of environmental education lies in its potential to help citizens understand the importance of environmental protection and thus modify their values and behavior. The ultimate aim of environmental education is to have the whole population engaging in environmental protection and working towards a future based upon sustainable development.

According to Article 1 of the *Environmental Education Act*, environmental education is defined as using the provisions of the act to nurture understanding of environmental concepts and increase public awareness of environmental protection and related knowledge, techniques, attitudes and values. This is so that citizens will value their environment and take action to protect it and achieve sustainable development.

Meaningful education is always a long-term venture, and environmental education is no exception. This means that it should be integrated with basic

education policies so that it will become deep-rooted in people's minds and an accepted part of their daily lives. Only then can it be called comprehensive environmental education for all. The government's stated aim of promoting environmental education is based on the concepts of "one Earth; environmental justice; welfare for all generations; and sustainable development." The aim is to cultivate environmental awareness and environmentally-responsible behavior in everyone in order to create a sustainable society based upon reuse and resource recycling for the welfare of all generations, as stated in the *Guidelines for National Environmental Education*.

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Seven Bylaws Created Since 2011

The *Environmental Education Act* officially entered into force in 2011, and since then the EPA has created seven bylaws, including the *Enforcement Rules of the Environmental Education Act*. The new regulations provide a legal basis for the EPA's work in this area, which has both short-term and long-term targets.

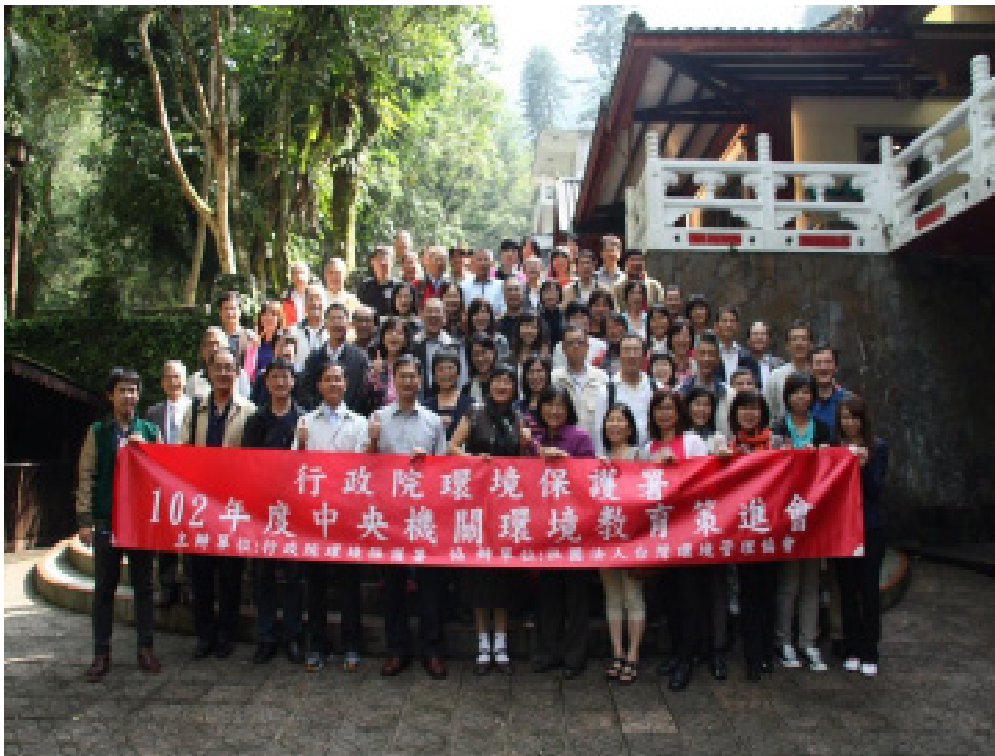
The EPA's short-term goal is to encourage all schools and government agencies/organizations to carry out their environmental education obligations while abiding by the principles of sustainable development. The long-term goals include accelerating the expansion of environmental education, cultivating a deeper public understanding of environmental concepts to encourage citizens to take action to protect the environment and achieve sustainable development.

In terms of environmental education courses and information, the *Guidelines for National Environmental Education* sets out the following eight main categories:

- 1) The EPA is charged with developing an environmental education framework that will contain graded and categorized content based upon "one Earth; environmental justice; welfare for all generations; and sustainable development."
- 2) The EPA is charged with creating an environmental education information system that will cover environmental education certification, courses, course materials, and results of research.
- 3) Each competent authority should create its own environmental education lectures and lecture materials.
- 4) Each education competent authority should supervise schools under its jurisdiction to make use of related curricula, engage campus space, create environmental education courses or teaching materials, and develop diverse educational activities.
- 5) Central industry competent authorities should work with the EPA to introduce environmental education



▶ Environmental science/engineering and environmental education workshop was held in Taipei on 26 and 27 October 2013



▶ Central government environmental education promotion workshop was held by EPA in October 2013

into their life-long learning and civil service staff training schemes.

6) Each government agency should invest more resources for academic research related to environmental education and create courses, teaching materials, educational films and promotional materials that can be easily accessed by the public.

7) Each government agency should actively disseminate environmental education information, and should seek media cooperation in publicizing environmental issues and education to encourage as much public participation as possible.

8) Each government agency should collect information from overseas on environmental education and seek to cooperate with the international community on related programs, exchanges, and events.

Working toward Providing Environmental Education to All

Making environmental education available to all involves working with a wide variety of people throughout society. It is therefore necessary to adopt

ordered implementation – from government agencies to schools to the individual, from public agencies to the private sector, from the near to the far – that will gradually expand environmental education through each segment of society. The order that the government intends to adopt is as follows:

1) Government agencies, state-run enterprises, high schools and elementary schools, and any foundation that receives more than 50% of its funding from the government should create short-, medium-, and long-term environmental education plans that take into account current environmental issues and sustainable development. Each member of staff/faculty and every student must receive at least four hours or more of environmental education annually.

2) The EPA is charged with establishing a system of electronic environmental education life-long learning passports for all citizens. During the first stage, such passports will be issued to staff in government agencies and schools; during the second stage incentives will be offered to all members of the public to encourage them to use the learning passport.

3) The Ministry of Education is tasked with encouraging universities and colleges to promote environmental education without government supervision by introducing it into current curricula.

4) Each government agency should encourage all citizens, corporations, and social organizations to actively learn how they can modify their behavior to bring about a sustainable way of life.

The rolling out of environmental education over the last two years has shown many positive results that fall into one of the following four main areas:

1. Building a Comprehensive Regulatory System

Since the implementation of environmental education the EPA has created seven secondary laws, including the *Enforcement Rules of the Environmental Education Act*. Most of the regulatory framework is now completed.

2. Establishing a Comprehensive Administrative System

The EPA has set up an accreditation system for environmental education personnel, institutes, and facilities and venues. At present, there are 75 facilities and venues, 15 institutes, and 1,927 personnel that have gained accreditation.

3. Expanding Public Participation in Environmental Education

Environmental education is currently in place in government agencies, state-run enterprises, high schools and elementary schools, and any foundation that receives more than 50% of its funding from the government. It is estimated that around four million attendees from 7,200 agencies have taken part in over 49.1 million hours of environmental education activities. The EPA is also encouraging those members of the public who wish to deepen their experience of environmental education to become environmental education volunteers.

4. Administering Environmental Education Lectures

The EPA has been supervising and guiding local governments in handling cases of violations of environmental regulations that have resulted in orders to temporarily stop operations or cease trading, or in fines of NT\$5,000 or more being issued. In addition to the above penalties, the violators are also required to attend one to eight hours of environmental lectures. As of 5 December 2013, 34,647 environmental violators have been asked to attend environmental lectures, and 25,540 attendees have completed the program for a completion rate of 73.7%.

In order to fulfill the sustainable environment aspect of the Golden Decade National Vision – unveiled by President Ma Ying-jeou in 2011 – the EPA has been expanding public participation in environmental education and has started drawing up sustainable environment action plans that will give residents a high-quality and healthy environment in which to live.

Toxic Substance

Compulsory Registration of Manufactured or Imported Toxic Substances Starts from 2014

On 22 November 2013, the Legislative Yuan passed the third reading of a draft bill containing amendments to some articles of the *Toxic Chemical Substances Control Act*. Taiwan now has a more advanced system for registering toxic substances at source that will enable effective control over the manufacture or importation of these hazardous chemicals. A strengthening of the restrictions governing Category 4 substances will help to prevent enterprises from illegally using them. A total of 17 articles were amended or added, and will come into effect one year after being announced by President Ma Ying-jeou.

Over the coming year, the EPA, as authorized by the recent amendments to the act, will be drawing up a set of management regulations to fully cover the registration and use of toxic substances. A toxic substances information platform will be established to facilitate the sharing of information such as policies, assessments, and plans from government agencies. The new regimen aims to protect the environment and citizens' health by preventing Taiwan from becoming an international testing ground for newly emerged toxic substances or new chemicals that are still in the R&D stage.

The revisions and additions also include regulations covering the registration of contractors who handle toxic chemicals, and the disclosure and protection of commercial secrets regarding toxic substances. Some existing regulations have been enhanced, including those covering the mutual assistance organizations that toxic substance transport operators must form, the public disclosure of amounts of toxic substances released into the environment, and the labeling toxic accident response vehicles must show along with their degree of exemption from normal traffic regulations. The upgrade to the toxic substance management system is fully in keeping with trends home and abroad.

The EPA is keen to point out that the revisions to the *Toxic Chemical Substances Control Act* will require manufacturers or importers of toxic chemicals

to register certain information with the EPA. This includes information on the circumstances of the manufacture/import of the chemicals, their physical forms, their chemical compositions, toxicities and exposures, and hazard assessments. Manufacture or import of such chemicals will only be permitted after the EPA has completed the registration process. Enterprises that manufacture or import new or existing toxic substances without the approval of the EPA will be liable to fines in the range of NT\$200,000-2 million for manufacturers or NT\$30,000-300,000 for importers. Failure to meet the given deadline for improvements will result in repeat fines being issued. Failure to meet two consecutive deadlines will result in operations being temporarily or permanently halted or in the offending chemicals being shipped out of the country.

The inclusion of a toxic substance point-of-source registration system brings Taiwan into line with international trends in this field. The EPA is continuing to meet with Taiwan's manufacturers to explain the registration system and the other amendments. The EPA will be inviting experts to join in-depth discussions on suitable tonnage ranges, categories, information parameters and disclosure, and post-registration submission of manufacturing/import volumes for toxic substances with the aim of formulating a set of registration regulations that are suitable for Taiwan.

Climate Change

Taiwan's Diverse Market Mechanisms for Carbon Reduction in Line with International Practice

The latest round of talks on the Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC COP19/CMP9) was recently held in Warsaw, Poland. On the evening of 19 November, representatives of Taiwan's Industrial Technology Research Institute (ITRI) and the International Emissions Trading Association (IETA) jointly held a side event on the topic of "Market and Non-Market Mechanisms in Emerging Nations." Delegates from a number of nations shared their experience and opinions, and held valuable discussions on developments and trends in international carbon markets and on trading mechanisms.

Dr. Hui-Chen Chien, Counselor and Executive Director of the EPA Greenhouse Gas Reduction Management Office, led Taiwan's delegation and gave a speech at the side event. Other overseas experts who also gave speeches included Mr. Andrei

Marcu, senior advisor at the Centre for European Policy Studies; Ms. Xueman Wang, senior counsel on carbon finance at the World Bank; Dr. Hee Chan Kang, senior research fellow at Korea's National Institute of Environmental Research; and Ms. Harmke

Immink, principal carbon advisor of South Africa's Promethium Carbon. The delegates enjoyed fruitful discussions and exchanges on key topics such as the mushrooming of carbon markets and carbon trading mechanisms among developed and emerging nations, and the current stage of the climate change convention in terms of the Framework for Various Approaches (FVA), New Market Mechanisms (NMM), and Non-Market-Based Approaches (NMA).

Dr. Chien outlined Taiwan's integrated approach to carbon reduction using market and non-market mechanisms and gave a detailed description of Taiwan's greenhouse gas emissions controls, the government's low carbon policy framework, and its vision for future development. She mentioned some specific policies for bringing about greenhouse gas reduction, including reduction in phases that began with encouraging manufacturers to voluntarily engage in auditing and reduction. This was gradually superseded by the currently-implemented Early Action Program, and the Carbon Trading Offset Program, that is linked to the UN's Clean Development Mechanism (CDM).

Taiwan's *Air Pollution Control Act* contains regulations for enforcing emissions reporting, for planning and formulating emissions standards, and for establishing the Clean Development and Carbon Rights Trading Alliance, a carbon reduction partnership between the government and the private sector. Future directions include passing a greenhouse gas reduction bill into law, and setting a cap-and-trade mechanism, with the eventual aim of building a framework that connects Taiwan's emission reduction credits with international ones. Taiwan's efforts to build a management platform for auditing, recording, and verifying greenhouse gas emissions are clearly in line with international Measurable, Reportable and Verifiable (MRV) standards. Management systems are also maturing quickly and have the potential to be easily linked to international mechanisms.

The delegates engaged in lively discussions about the role that carbon trading could play in reducing greenhouse gas emissions worldwide, its potential to stimulate development, and the issues that require particular attention. They also expressed optimism and hope regarding the ongoing development of carbon market mechanisms in many nations around the world, especially after observing how the climate change convention is producing regulatory planning downstream and transforming itself into varied ways of policy making in nations, regions, and government agencies worldwide. If the offset systems of each nation gradually adopt non-Kyoto quotas that then become the basis of each nation's carbon reduction pledge, they will lead to climate change treaties formally recognizing the value of diversified mechanisms. They could then become part of the criteria used to verify that each nation is sticking to its reduction pledge.

The delegates also mentioned the competition and cooperation inherent in the financial mechanisms of emissions trading and carbon tax regimes. They suggested that each nation should use income derived from these financial mechanisms to further improve energy efficiency and the development of renewable energy sources. From this it can be seen that reduction targets and market mechanisms are already trending toward bilateral and multilateral agreements, and are thus moving away from being administered solely by the United Nations. This trend leaves Taiwan with more flexibility and room to operate when it comes to implementing future reduction policies, and Taiwan will continue to closely monitor the dynamic development of future decisions at the UNFCCC. Taiwan's greenhouse gas reduction strategies will also continue to be based upon the convention's fundamental emission reduction principles of using lowest cost methods and maintaining cost effectiveness.

Air Quality

Emission Standards Revised for Particulate Pollution from Steel Smelting Industry Electric Arc Furnaces

Electric arc furnaces used in the steel smelting industry are a major source of pollution. In order to attain tighter control over air pollution from the steel smelting industry, the EPA has amended the *Steel Smelting Industry Electric Arc Furnace Particulate Pollution Control and Emission Standards* and changed the name to *Steel*

Smelting and Casting Electric Arc Furnace Particulate Pollution Control and Emission Standards. Details of the revisions have been posted on the EPA's Web site for public perusal (on the page labeled Latest Environmental Regulations): <http://ivy5.epa.gov.tw/epalaw/>.

Improvement of air quality is a task that the EPA takes full responsibility for. On 14 May 2012, the EPA announced the amended *Air Quality Standards*, which introduced controls for fine particulate matters (PM_{2.5}) and outlined a comprehensive set of related control strategies. The EPA is also currently actively engaged in research and consultations regarding strengthening air pollutant emission standards for stationary pollution sources in the steel smelting, glass, and power generation industries. Since there is a clear international trend toward tightening emission standards in the steel smelting industry and since the technologies for preventing and treating emissions from manufacturing processes are rapidly improving, the EPA decided the time was right to further improve Taiwan's air quality by tightening the standards.

Electric arc furnaces are used in the steel industry to smelt steel and to cast steel or grey iron. The change in the name of the regulations thus clarifies what is actually being controlled. In addition, the tightening of particulate pollutant emissions standards for exhaust vents affects electric arc smelting as follows: Exhaust vent particulate pollutant concentrations have decreased from 50 mg/Nm³ to 15 mg/Nm³ (for existing pollution sources) and 10 mg/Nm³ (for new pollution sources). For electric arc casting, exhaust vent

particulate pollutant concentrations have gone from 50 mg/Nm³ to 15 mg/Nm³ (for existing pollution sources) and 12 mg/Nm³ (for new pollution sources).

For electric arc casting, exhaust vent particulate pollutant concentration values will be implemented in two stages. Values will be tightened to 30 mg/Nm³ in the first stage (from the date of announcement), and then to 15 mg/Nm³ in the second stage (from 1 January 2017). This gives the affected enterprises ample time to adjust. To further reduce fugitive particulate matters, the EPA is also considering stiffening regulations covering dust extractor systems used in steel plants; opacity values for the periods when raw material is added to the furnace and for when the steel is removed could be adjusted to 10%, down from the current values of 20% and 40%, respectively.

The EPA is charged with improving the quality of Taiwan's environment and is thus regularly amending emission standards. The EPA hopes, however, that the affected enterprises will find ways to strive for economic development while still fulfilling their environmental obligations, thus creating a win-win situation for all concerned.

Drinking Water

Chingtan Water Quality and Quantity Protection Area Preannounced as a Catchment Area above an Important Drinking Water Intake Point

In order to protect drinking water quality for the Greater Taipei area, the EPA has drawn up a plan to reclassify the Chingtan Water Quality and Quantity Protection Area as a catchment area above an important drinking water intake point. The reclassification has been preannounced and has now entered the stage of public hearings and deliberation. In the future raising pigs within the catchment area will be subject to up to one year of imprisonment, criminal detention or a fine being issued in accordance with the *Water Supply Act*.

In order to protect the water quality for the 3.46 million residents in the Greater Taipei area, the piggeries in the Chingtan catchment area have been taken down and their owners compensated.

However, after hearing the suggestions of the Taipei City Government and the Taipei Water Management Office of the MOEA's Water Resources Agency, the EPA agreed – on the basis of Article 11 of the Water

Supply Act – to reclassify the area as a catchment above an important drinking water intake point, thus banning the raising of any pigs within the area. After the reclassification is announced, anyone who is caught raising pigs in the area is liable to a sentence of up to one year in jail, criminal detention, or a fine of NT\$500, as stipulated in Article 96 of the *Water Supply Act*.

Article 11 Paragraph 1 of the *Water Supply Act* outlines the obligations of water supply enterprises regarding protection of water sources. In addition to the *Water Supply Act* stipulation that they must gain operating permits from the competent authority for water, they must also, if deemed necessary, ask the competent authority to consult with other relevant agencies for the purpose of establishing a Water Quality and Quantity Protection Area. The *Water Supply Act* and other related regulations stipulate that activities which may harm water quality and water volumes in these areas are to be banned or restricted. Such activities include raising pigs in a catchment area above an important water intake point as stated in Article 11 of the *Water Supply Act*.

The catchment area above Chingtan on the Xindian River was first designated a water quality and quantity

protection area in 1979. At the time, the responsibility for protecting the cleanliness of water sources, overall water quality, and the security of water volumes in the area was borne by the Taipei Water Management Committee (the predecessor to the Taipei Water Management Office). In order to prevent slurry from piggeries polluting water in the area, between 1986 and 1988 the committee ordered piggeries in the Chingtan catchment area to be taken down and their owners compensated.

Since the piggeries in the protected area have already been knocked down and the owners compensated, it was therefore possible to designate the Xindian River Chingtan Water Quality and Quantity Protection Area as a catchment area above an important drinking water intake point in order to fully protect the water source. The Xindian River Chingtan Water Quality and Quantity Protection Area is 717 km² in area and lies within the boundaries of Xindian, Shiding, Pinglin, Shuangxi, and Wulai (all part of New Taipei City). Water from the area is purified at the Jhihtan, Changshing, and Gungguan purification stations and is then supplied to 3.46 million people living in Taipei City and part of New Taipei City.

Climate Change

EPA Responses to the CCPI 2014 Ranking

On 18 November 2013, Germanwatch and Climate Action Network Europe announced the Climate Change Performance Index results for 2014 (CCPI 2014). Taiwan ranked 52 among 58 rated nations. The EPA pointed out that Taiwan has seen some specific successes in recent years in carbon reduction. Taiwan's carbon emissions decreased steadily in the past five years. A gradual decoupling of economic growth and carbon emissions is also observed. However, the waiting for the Legislative Yuan's approval of the *Greenhouse Gas Reduction Act* leaves the international community with the impression that Taiwan is not totally committed to reducing greenhouse gas emissions. In the future, the EPA will work even harder on the legislation of the bill to further Taiwan's commitment to reducing greenhouse gas emissions.

The CCPI rates the performances of 58 CO₂ emitting nations by assessing and comparing 15 criteria in 5 major categories. Taiwan scored a total of 46.8 points, a reduction of 2.6 points on last year's 49.4 points. Taiwan's ranking thus remained at 52 – the same as for the previous year – putting it on par with other economic powerhouses in the region such as Japan, Korea, and Singapore.

The 58 nations are chosen due to their publication of adequate emissions data and their adoption of clearly-defined climate change actions. The assessment method used for the 2014 rankings are exactly the same as used for 2013: 15 indices falling into the 5 major categories of greenhouse gas emission levels, by-sector CO₂ emissions, renewable energy, efficiency (including energy efficiency and carbon intensity), and climate policies. The compilers of the ranking have

judged that no single nation has done enough this year to respond to climate change, so the top three places have once again been left unfilled.

Of the 58 nations ranked, 26 have seen an improvement in their position, 9 have maintained the same position, while 23 have fallen further down the rankings. Most of the countries that have climbed up the rankings – such as the UK, which has gone from 10th to 5th – have done so because their energy efficiency and policy/law making have shown clear improvements, thus affecting their overall performance.

Adapting to climate change is a huge challenge for the whole world, but Taiwan has seen some specific successes in recent years due to a combination of factors: the government's capability to mobilize its manpower, investment and participation from industry, and the ongoing efforts of a large section of the

general public. Taiwan's carbon emissions from fuel combustion saw negative growth for the first time in 2008. In addition, the emissions decreased by a yearly average of 0.6% between 2008 and 2012 – much improved compared to the average yearly increase of 2.7% for the years 2004-2007. In 2012, Taiwan's economy grew by 1.32% and yet carbon emissions decreased by 1.9%, indicating a gradual decoupling of economic growth and carbon emissions. Taiwan's hard work in responding to climate change has clearly paid dividends, and the only reason Taiwan has not improved its ranking is that other countries have improved even quicker. One of the key reasons for this is that the Legislative Yuan has yet to pass a draft of the *Greenhouse Gas Reduction Act*, which leaves the international community with the impression that Taiwan is not totally committed to reducing greenhouse gas emissions. The EPA hopes that the bill will be passed in the near future and thus improve the ranking.

Environmental Monitoring

Fruitful Results from Taiwan's Participation in the Southeast Asia Atmospheric Monitoring Program

On 11-12 November 2013, the EPA and National Central University (NCU) joined forces to hold the 7th Seven-South East Asian Studies (7-SEAS) International Experiment Results Presentation. Over 20 delegates from Taiwan, the US, Thailand, Malaysia, and Vietnam attended the announcement of the results, which included the results from Taiwan's monitoring stations at Lulin Mountain, Hengchun, and the Dongsha and Nansha atolls. The presentation also included news on the latest developments in atmospheric monitoring, which will assist participating nations in understanding international background air quality and the need to import advanced monitoring technology.

As EPA Minister Stephen Shu-hung Shen pointed out in his speech that opened proceedings at the presentation, 7-SEAS is an international atmospheric monitoring program that was instigated by the US NASA with the purpose of researching the long-distance, cross-border transmission of pollutants caused by biomass burning such as flame cultivation and agricultural burning, as well as the relationships between biomass burning, atmospheric pollutants, the environment, radiation, and climate. Continuous cooperation between the participating nations over the last few years has provided the solid foundation upon which such large-scale, systematic monitoring and experimentation can be carried out.

In his speech, senior researcher of US NASA Dr. Brent Holbern thanked Taiwan for providing a set of monitoring instruments that were sent to Doi Ang Khan in Thailand for this year's experiments. He also presented a copy of the well-known international journal *Atmospheric Environment* to the EPA. It includes details of 28 sets of results from Taiwan's participation in South China Sea regional atmospheric monitoring, proof that Taiwan's environmental monitoring capabilities have come to the attention of the international community.

The results presentation included detailed discussions covering a number of fields such as atmospheric radiation, atmospheric monitoring,

weather observation, atmospheric chemistry and the long-range transmission of pollutants. The results presentation provided a useful opportunity to increase

international technical exchanges and to increase the take up of Taiwan's atmospheric monitoring data.



▶ Minister Shen (eighth from the left) with participants in the 7-SEAS International Experiment Results Presentation

Soil & Groundwater

New Business Opportunities in Soil and Groundwater Remediation and the Blue Economy

Speaking about the “blue economy,” EPA Minister Stephen Shu-hung Shen was clear and direct: “The soil and groundwater remediation industry has for a long time been seen as something for Taiwan to be proud of. Now is the time to seize the moment and take our environmental expertise overseas to capitalize on the growing trend for remediation.” To this end, on 12 November 2013 the EPA held the Blue Economy Innovation Forum and invited the creator of the blue economy concept, Mr. Gunter Pauli, to the event to give a speech on the topic. Over 200 environmental industry experts from Taiwan's government, industry, and academia also attended the forum, and engaged in lively discussions on the subject.

The event began with an opening speech from Minister Shen. He pointed out that Taiwan's past economic miracle had left Taiwan's environment badly damaged due to a lack of environmental awareness at the time. However, starting in the 1990s the government began to conduct soil and groundwater contamination surveys and risk

assessments and to devise emergency responses for all of Taiwan's land. The concept of sustainable land use was successfully introduced into policy making, and Taiwan's remediation techniques and experience are now the envy of Southeast Asia.

In his speech about the current status of the soil

and groundwater industry in Taiwan, chairman of the Taiwan Soil and Groundwater Industry Strategic Alliance, Mr. Chen-Rong Chian, stated that he believed a combination of strength in unity deriving from alliances within the industry, and regulation and standardization from outside, would assist Taiwan's soil and groundwater remediation industry in rising to the challenge of seeking out business opportunities and gaining a share of the huge international market.

International environment expert Gunter Pauli shared his concept of a blue economy with the delegates. "Blue economy" is centered on the concept that suitable development approaches can be created to satisfy the needs of both environmental protection and business administration. He stated that Taiwan's efforts to commercialize and internationalize environmental protection are a good example of the "blue economy"

concept being put into practice. Mr. Pauli also shared details of some other examples of international environmental practices with the delegates and expressed high expectations for the future of Taiwan's environmental industry, especially soil and groundwater remediation.

Minister Shen emphasized this point in his closing remarks that "It's like the title of this event says: 'Creating New Horizons for an International Soil and Groundwater Industry with Taiwan as a Hub.' Taiwan should look to the market in Asia and aim to become the Asia-Pacific center of development for the soil and groundwater remediation industry. I believe that by forming alliances and aiming to win overseas remediation contracts on the basis of our negotiated service industry trade agreements, Taiwan's environmental protection industry has a very bright future."

Resource Recycling

Green Fee Rates for Recycling IT Products Starts from March 2014

In order to stimulate greener designs for consumer products, to stabilize the operation of the Resource Recycling Fund, and in response to revisions to the scope of responsible enterprises' recycling responsibilities, the EPA has announced revisions to the recycling fee rates for IT products. Rates for five IT products, including motherboards, have been lowered, while the rate for printers has been raised. Green IT products will be given a 30% discount and a new rate has been added for tablet computers. The revisions will take effect from 1 March 2014.

The revisions to IT product recycling fee rates were introduced after a full review of all of the relevant factors involved. These include recycling and disposal costs, the administration costs of levying the fees, the reuse value of the materials, the overall environmental impact, and the financial stability of the Resource Recycling Fund. Fees have been reduced for motherboards, hard disc drives, power source hardware, covers and casings, and keyboards. The fees for printers have been increased. In order to minimize the impact on businesses, printer fees will be increased incrementally over three years: For ink jet printers, it will go from NT\$81 to NT\$101 per unit in the first year, increasing to NT\$144 per unit by the third year.

The EPA is always keen to encourage enterprises to keep in step with the trend toward green consumption and develop eco-friendly products, and so the latest revisions include a 30% discount in the fees for green IT products carrying Taiwan's Green Mark or Energy Label certification (5% for printers). In addition, in keeping with previous revisions to responsible enterprises' scope of responsibility, these revisions include a new levy of NT\$25.3 on every portable tablet computer. External hard drives will henceforth also be subject to the same fee rate as hard disc drives. In addition, monitors are reclassified as image output devices, which includes devices with a diagonal width of 27 inches or less (over 27 inches would put them in the electrical appliances/television category). The fee rate for such devices will remain the same.



The EPA would like to remind the enterprises responsible that from 1 March 2014 recycling fees for all amounts of manufactured or imported IT products and related electronic/electrical items must be calculated and paid according to the amended rates. The cooperation of the concerned enterprises will greatly assist the EPA in the task of recycling and reusing waste IT products.

News Briefs

Battery Recycling Fee Rates to Be Adjusted in Two Phases Starting in 2014

The EPA has announced that it will raise the recycling fee rates for some dry batteries. In the same announcement, some button type battery products whose mercury contents are lower than 5 ppm are provided with a 50% preferential green rate. To ease the impact on battery manufacturers, the new rates will become effective in two phases. The first phase will be implemented starting 1 January 2014, and the second phase will be implemented starting 1 January 2015.

After reviewing the cost factors, the EPA adjusted the fee rates for the recycling of different kinds of dry batteries. In addition, in order to encourage industrial enterprises to develop green production technology to replace high-polluting dry batteries, the EPA offers a 50% preferential green rate to enterprises that manufacture low mercury-containing button type batteries including alkaline manganese, silver oxide, mercuric oxide and zinc-air batteries. These enterprises may apply to the EPA for such a green rate.

Guidelines Amended for Identification of Due Diligence of Soil Pollution

As the proviso of Article 6 Paragraph 2 of the *Guidelines for the Identification of Due Diligence of an Interested Party of Polluted Land as a Good Administrator*, some industrial entities, owing to their unfamiliarity with the regulations of the recycling of industrial wastes, are apt to pour recycled industrial wastes (such as furnace slag) into soil that is not allowed for such purposes. Actions like this can easily lead to food related health and safety concerns. In view of this, the EPA made a special effort to amend the provisory clause in Paragraph 2. Moreover, as agriculture, fishery and animal husbandry have the need to reuse such biomass wastes, the EPA added another provisory clause pertaining to exceptions in Paragraph 2.

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