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## Feature Article

### Promotion of Green Road Networks and Low-carbon Transportation

The EPA is currently implementing a number of measures related to green road networks and low-carbon transportation in order to improve air quality and reduce carbon emissions. These policies include promoting the use of low-polluting vehicles, establishing a network of battery swapping stations for electric vehicles, establishing emission control zones, and laying out bicycle paths. The above measures are being implemented step-by-step by central and local authorities working in tandem.

In recent years, the EPA has been actively promoting green road networks and low-carbon transportation in order to reduce the volumes of air pollutants and greenhouse gases emitted by road vehicles. Acting within its scope of authority, the EPA is working to establish a network of connected bicycle paths and promote the use of low-carbon vehicles. In terms of green road networks, the EPA has already subsidized the construction of 293 km of urban and rural bicycle paths and has connected most of the nation's bicycle paths into an integrated network. The EPA has also set up a geographic information system (GIS) for bicycles, so that a functioning green road network is now in place for public use. As for

promoting low-carbon transportation, the EPA has been actively encouraging Taiwan's residents to use public transportation whenever possible and reduce their dependence upon privately owned vehicles. The EPA has also been promoting the use of low-polluting vehicles and establishing a network of battery swapping stations for electric vehicles.

The current status of these measures is outlined below:

#### (1) Green Road Networks

1. Bottlenecks in implementation: Government

#### In This Issue

Feature Article: Promotion of Green Road Networks and Low-carbon Transportation .....	1
Preannouncement: Water Pollution Control Act Penalties to Be Revised.....	4
Ammonia Nitrogen Controls to Be Added to Effluent Standards for Optoelectronics Industry and Science Parks .....	5
Preannouncement: Dioxin Controls to Be Added to Effluent Standards.....	6
Enterprises Emitting Air Pollutants via Unsanctioned Channels Will Be Forced to Cease Operations.....	6
Draft of Indoor Air Quality Act Enforcement Rules Preannounced .....	7
Subsidies for the Recycling, Clearance, and Disposal of Waste to be Suspended for Violators of Environmental Laws.....	7
Carbon Reduction Prioritized by Adding Six GHGs to List of Air Pollutants.....	8
Third Batch of Enterprises Required to Report Greenhouse Gas Emissions to Be Announced.....	9
Construction Noise Controls and Inspections to Be Strengthened from 1 June 2012.....	9
National Climate Change Conference Generates Practical Ideas.....	11
News Briefs.....	12

agencies involved in establishing the green road networks include the Ministry of Transportation and Communications (MOTC), the Sports Affairs Council, and the Ministry of the Interior's Construction and Planning Agency. Each of the agencies has fulfilled its responsibility in constructing a network of bicycle paths with different functions that can be ridden on comfortably and conveniently. However, there has been insufficient lateral linkage or provision of applicable information, meaning that the public is not yet able to take full advantage of the networks.

2. Overcoming the problem: In order to provide the public with a fast and comprehensive bicycle path GIS, the EPA has spent the last two years integrating 435 bicycle paths in 21 cities and counties, as well as auditing and mapping out routes. After numerous trials, an online version and a mobile phone version of the GIS for 3,600 km of bicycle paths is now available for the public to plan out commutes or leisure rides. These bicycle paths exemplify green transportation at its best.

3. The GIS format (<http://www.epa-bike.tw/>) combines all available information, such as path, photo, and text data, on the nation's bicycle paths in one place using Google Earth software. EPA personnel have gone out on the paths around Taiwan to take sample photos of routes and route markers to verify that the routes and distances provided by the GIS are correct. In addition to suggesting suitable cycling routes, the system also gives information on bicycle rental and repair stores, washrooms and rest areas, Green Shops, battery recharging stations for electric vehicles, MRT stations, hospitals and clinics, environmental facilities, and weather forecasts. The system also provides a link to Facebook, can be downloaded to mobile phones, and has audio and video files that can be downloaded to computers – music, indeed, to the ears of the nation's cyclists.

4. The system not only enables government agencies to link up the bicycle paths that they are constructing to other paths in surrounding districts, but also



- National Green Road Network bicycle path GIS search functions include routes, weather reports, a Facebook site, mobile phone downloads, operating manual, and facilities along routes.

greatly enhances the willingness of the public to ride bicycles more often by providing the means to quickly and easily map out commuting routes and leisure excursions via downloadable mobile phone and audio-video versions of the GIS. Popularization of this kind of recreation will go a long way toward saving energy and reducing emissions. The EPA will continue to maintain and upgrade the system when necessary, and will also continue to assess new routes that can be linked to existing national or county networks for the greater benefit of all.

## (2) Low-carbon Transportation

1. Bottlenecks in implementation – One of the most attractive features of electric vehicles is that they do not emit pollutants and are thus the form of green transportation that is most worthy of being promoted. However, promotion of these vehicles has run into a number of problems, including high retail prices, consumer ignorance and reluctance to change old habits, and a driving environment that has yet to be fully adapted for electric vehicles.

2. Overcoming the problem – In order to address the issues of high retail prices and the inconvenience of having to frequently recharge batteries, the EPA has been promoting separate retailing for electric vehicles and batteries. The EPA has also been encouraging enterprises to set up electric vehicle battery swapping stations so that changing a battery will be as easy as filling up with gas, and drivers will not have to worry about maintaining batteries themselves or running out of power while on the road. Allowing drivers to change their vehicle battery at any swapping station at any time will make these vehicles far more attractive to consumers, and thus lead to greater uptake.

3. The results of the EPA's promotion of electric vehicles and battery swapping stations are as follows:

A. Subsidies for purchasing electric assist bicycles, electric bicycles, and electric scooters – In order to encourage the populace to purchase electric vehicles, since 2001 the EPA has been offering subsidies for the purchase of electric vehicles. In 2009, the EPA included electric bicycles within the scope of the subsidy scheme, with NT\$3,000 available per bicycle. Purchases of electric bicycles have consequently risen, and in 2011 the EPA received

27,964 applications for electric bicycle subsidies, an increase of 21% over the 23,023 applications received in 2010. The EPA is also playing a role in the Electric Scooter Industry Development Plan put forward by the MOEA and approved by the Executive Yuan. Since 2 December 2009, the EPA has been offering subsidies of NT\$3,000 per vehicle for owners of highly polluting old 2-stroke motorcycles who trade them in for new electric scooters. In 2011, 3,554 old motorcycles were taken off the roads in this way.

B. Encouraging enterprises to establish a system of battery swapping stations – On 14 June 2011, the EPA promulgated the Electric Scooter Battery Swapping System Subsidization Regulations (電動機車電池交換系統補助辦法) and the Electric Scooter Battery swapping Fee Subsidy Regulations (電動機車電池交換費用補助辦法). Giving subsidies to enterprises to set up battery swapping stations and battery swapping subsidies to consumers is intended to speed up the development of a wide-ranging network of battery swapping stations for electric scooters. On 4 November 2011, CityPower Taiwan Co. was the first company to receive EPA subsidies for the establishment of 30 battery swapping stations in the Banqiao district of New Taipei City. Furthermore, on 18 May 2012, the EPA approved an operational plan submitted by Kentfa Advanced Technology Corp. to do trial runs for a network of 30 battery swapping stations in Kaohsiung City.

C. Promoting electric buses – On 18 May 2011, the EPA held the Electric Bus Operating Models Demonstration Conference at which experts were shown the results of trials of various operating models and also exchanged opinions on possible future directions of development. In Taiwan, there are currently two companies that manufacture large electric buses that have passed MOTC Vehicle Safety Type Approval and can thus be legally driven on Taiwan's roads: RAC Electric Vehicles Inc. and Advanced Lithium Electrochemistry Co., Ltd. In addition, All Win Green Power Technology Corp. and other companies are working on manufacturing mid-size electric buses. In 2012, the EPA also granted subsidies to the governments of Taipei City and Kinmen County to run trials for electric buses carrying exchangeable batteries.

D. Promoting the electrification of garbage and recyclables collection trucks – At present, one garbage truck has been modified and is undergoing trial runs in Taipei City. The EPA has also given Taipei City a subsidy to modify a recyclables collection truck and conduct the necessary trials. The EPA is also subsidizing local government environmental protection bureaus in drawing up plans for modifying and running trials for garbage compactor trucks.

E. Promoting the use of electric vehicles as a part of the Low-carbon Island Project – Kinmen County

currently has six electric golf buggies running on six sightseeing paths. The EPA is working with the local government to upgrade local roads with a 40 km/h speed limit to allow the golf buggies to run on them and to set up a golf buggy battery swapping system.

F. Promoting the use of electric pallet trucks with exchangeable batteries in Hsilo wholesale fruit and vegetable market.

## Water Quality

### Preannouncement: Water Pollution Control Act Penalties to Be Revised

On 15 May 2012, the EPA pre-announced draft revisions to the Administrative Standards for Consecutive Daily Fines for Violations of the Water Pollution Control Act and the Penalty Standards for Fines for Violations of the Water Pollution Control Act. The revisions are aimed at operators who violate the Water Pollution Control Act and do not carry out improvements within the deadline given. Such violators will be issued with a single fine equivalent to the amount set by the penalty standards for the type of violation multiplied by the number of days between the passing of the improvements deadline and actual improvements being made. The Penalty Standards for Fines for Violations of the Water Pollution Control Act has also been amended to include illicit gains.

Since the Administrative Standards for Consecutive Daily Fines for Violations of the Water Pollution Control Act were first announced on 23 July 2003, 80% of cases of consecutive daily fines being levied have been for discharges of effluent that exceed pollution control standards. However, there was no requirement for the cause of pollution to be uncovered, and improvements were considered completed as long as they reported that quality of the effluent was up to standard. This led to many controversies over whether or not pollution controls were being properly implemented.

The revisions to the Administrative Standards for Consecutive Daily Fines for Violations of the Water Pollution Control Act address the current problems by stipulating that, in the future, enterprises whose effluent exceeds pollution standards will be mandated to remove the cause of the pollution as a part of required improvements. The operators will then have to send in improvement completion verification

documents to the competent authority. Before a case is considered closed, effluent must first undergo testing after the improvement deadline has passed to verify that the cause of the pollution has been removed. Enterprises that do not make the required improvements in time will be issued with a single fine equivalent to the amount set by the penalty standards for the type of violation multiplied by the number of days between the passing of the improvements deadline and actual improvements being made. Fines could thus accumulate into a considerable total, meaning that it will become harder for law-breaking operators to accrue illicit gains.

The draft revisions to the standards also strengthen control over pollution during the improvement period by stipulating that competent authorities must require operators to submit improvement plans. The revisions also allow for a greater role for specialist wastewater inspectors and technicians by stating that completed improvements must be verified by

dedicated wastewater inspectors or technicians. The revisions will help to ensure that enterprises fulfill their responsibilities to the letter of the law.

When setting the penalties for violators, consideration was also given to the fact that if illicit gains are not confiscated then it becomes more difficult to stop illegal behavior. Thus, in the interests of fairness, the draft revisions to the Penalty Standards for Fines for Violations of the Water Pollution Control Act allow for the confiscation of illegal profits of any amount.

The EPA is keen to stress that the penalty regime is based upon the principle of “encouraging lawfulness while severely punishing unlawfulness.” In addition to the recent two amendments, the EPA will in the near future conduct a thorough review of the existing penalties system with a view to improving it. The EPA sees the levying of sizeable fines as an effective way of maintaining environmental quality and fair competition.

## Water Quality

# Ammonia Nitrogen Controls to Be Added to Effluent Standards for Optoelectronics Industry and Science Parks

On 1 June 2012 the EPA preannounced the formulation of updated effluent standards for optoelectronics raw materials and components factories and effluent sewage systems in science parks. In addition to the original controls, ammonia nitrogen will be listed in two stages as controlled substances of acute biological toxicity to be included in water pollution prevention measures and testing and reporting management regulations.

If ammonia nitrogen is discharged into aqueous environments it will consume dissolved oxygen, leading to a decline in water quality and eutrophication that is harmful to water-borne organisms. According to the results of studies, the ammonia nitrogen discharged by optoelectronics industry and science parks accounts for 34% of the total volume of ammonia nitrogen discharged by Taiwan's industries, hence the need for the new restrictions. The new controls also include the special tech industry items listed in the current Effluent Standards, bringing the total number of controls for the optoelectronics industry to 33 and for science parks to 34.

Due to the nature of acute biologically toxic substances, monitoring and managing on a regular basis makes it easier for the EPA to get enterprises to improve water quality by controlling raw materials and manufacturing processes, and improving treatment facilities rather than simply tightening effluent standards. Thus controls over ammonia nitrogen will also be included in water pollution prevention

measures and testing and reporting management regulations.

The ammonia nitrogen restrictions for the optoelectronics industry and science parks will involve different maximum values and grace periods for adoption by new enterprises compared to existing enterprises. For new companies, the maximum limit has been set at 20 mg/L, taking effect from the day of promulgation. For existing companies, the maximum limit for the first stage is 75 mg/L, which will take effect from 1 July 2013, and they will have until 1 January 2015 to submit ammonia nitrogen reduction plans. The second stage will see a reduction to 30 mg/L and for most existing operators will involve upgrading wastewater or polluted water treatment facilities. The grace period will thus be longer, extending until 1 January 2017.

## Water Quality

### Preannouncement: Dioxin Controls to Be Added to Effluent Standards

On 1 June 2012, the EPA preannounced revisions to Effluent Standards due to the need for stricter risk management. The revisions add new dioxin controls for industries with the potential to produce dioxin pollution – paper pulp mills, incinerators, refuse treatment plants, premises with incinerators that employ wet or semi-dry scrubbing.

According to data released by some EU nations regarding the total annual volume of dioxin emissions, only 0.25% are water-borne. Testing in Taiwan has also shown that, after treatment, the effluent from industries that have a high potential for dioxin pollution contain levels of dioxins well below the effluent standards of 10 pg I-TEQ/L used in the US and Japan. Effluent from these industries does not thus pose a threat to the nation's surface or groundwater. However, paper pulp mills, incinerators, refuse treatment plants, and premises with incinerators that employ wet or semi-dry scrubbing have a particularly high potential to cause dioxin pollution, and so new revisions are underway. The revisions stipulate that newly-established enterprises must abide by an effluent dioxin limit of 5 pg I-TEQ/L

and that existing enterprises must abide by an effluent dioxin limit of 10 pg I-TEQ/L. The revisions will take effect from the day they are announced.

The EPA suggests that paper pulp mills switch to using chlorine-free bleach and stable wastewater treatment facilities in order to lower their dioxin emissions. Waste incinerator operators should improve their pre-incineration treatment of waste and their pollution prevention facilities in order to reduce the complexity of treating wastewater at the end of industrial processes. The EPA intends to conduct rolling evaluations of effluent standards for other industries in order to maintain the quality of aqueous environments.

## Air Quality

### Enterprises Emitting Air Pollutants via Unsanctioned Channels Will Be Forced to Cease Operations

Any public or private enterprise that is surreptitiously emitting air pollutants had better beware! The EPA recently issued a legal interpretation to make clear that emitting air pollutants via unsanctioned channels is classed as "serious polluting behavior" under Article 82 of the Air Pollution Control Act. The Act states that when a competent authority discovers "serious polluting behavior" the enterprise in question must be forced to cease operations and must also be given a heavy fine.

Although Article 82 of the Air Pollution Control Act details six forms of serious pollution violations that necessitate immediate cessation of normal operations, it does not currently include surreptitious releases of air pollutants among them. Consequently, regardless of the severity of the case, the competent authority is not allowed to shut down the offending operation.

The EPA issued a legal interpretation to give local

competent authorities more power to protect air quality. The interpretation states that the emission of air pollutants via unsanctioned channels, or changing the direction that gases are vented so that they are not collected or emitted through sanctioned pollution prevention facilities, is equivalent to what Article 82 Paragraph 7 of the Air Pollution Control Act states as being "behavior that seriously affects the air quality of neighboring areas." Thus competent authorities that uncover cases of pollutants being emitted through

unsanctioned means on public or private premises can now legally shut down the offending operations.

To supplement the announcement of the legal interpretation, the EPA is urging enterprises to undertake preemptive audits of their manufacturing processes to ascertain whether or not they are using unsanctioned channels to release pollutants.

Should any such channels be discovered, operators should immediately shut them down or remove them. They should make sure that all operations are within the scope of permits issued by the relevant competent authority so as to avoid violating the law and having their operations shut down. The EPA once again reiterates that it never pays to pollute the environment.

## Air Quality

### Draft of Indoor Air Quality Act Enforcement Rules Preannounced

On 4 June 2012, the EPA preannounced the draft Indoor Air Quality Act Enforcement Rules, which will take effect in conjunction with the Indoor Air Quality Act on 23 November 2012.

In order to effectively promote and administer the Indoor Air Quality Act, the EPA has formulated enforcement rules according to Article 23 of the Act. Among other things, the rules stipulate the required items to be included in indoor air quality management plans, indications as to lengths of improvement periods, and the format to be used for written documents.

As the EPA points out, the quality of indoor air directly affects human health and the productiveness of workers. Pollutants in indoor air has become an issue that has been gathering increasing attention in recent years, and so the EPA has been charged

under the Act with drawing up Indoor Air Quality Act regulations in order to improve indoor air quality and maintain healthy indoor environments for the benefit of everyone's health. The enforcement rules will be the legal basis for making the administration of the Act more comprehensive and complete.

The EPA urges all public premises to start the task of managing indoor air quality as soon as possible so that they can get quickly up to speed when the Act takes effect. Details of the enforcement rules have been published on the EPA Web site <http://ivy5.epa.gov.tw/epalaw/index.aspx/> in the section on preannouncements of draft laws.

## Recycling

### Subsidies for the Recycling, Clearance, and Disposal of Waste to be Suspended for Violators of Environmental Laws

The EPA recently preannounced revisions to the Management Regulations for the Review of Applications for Waste Recycling, Clearance, and Disposal Subsidies that will strengthen the management of organizations that receive recycling, clearance, and disposal fee subsidies, and streamline the subsidy application process.

In order to streamline subsidy application and evaluation processes, the EPA has established an

electronic database so that organizations can file their subsidy applications online. Following the principle of

simplifying administration to streamline procedures, some of the requirements for applicants to update information have been removed and applicants who forget to update their basic details will now be given a second chance to update, rather than having their subsidies stopped immediately.

In the addition, to encourage organizations that receive government subsidies to more closely abide by regulations, the EPA will suspend subsidies to any organization that is found to be breaking

environmental laws or is being prosecuted for illegally obtaining government subsidies. Should an organization that receives government subsidies be found guilty of polluting soil or groundwater it will not only have its subsidies suspended or cancelled, but will not be allowed to submit another application within six months. As for organizations that have subsidies suspended for obtaining them in an improper or illegal manner, both the organization and the person in charge will not be allowed to apply for subsidies for five years.

## Air Quality

# Carbon Reduction Prioritized by Adding Six GHGs to List of Air Pollutants

In order to prioritize the regulatory system for reporting greenhouse gas emissions, on 9 May 2012 the EPA officially declared carbon dioxide, methane, nitrous oxide, hydrofluorocarbons (HFCs), sulfur hexafluoride (SF<sub>6</sub>) and carbon tetrafluoride as air pollutants.

The EPA believes that there is mounting scientific evidence that greenhouse gas emissions indirectly affect our surrounding environment and human health. The EPA thus referred to the definition of air pollutants, as stated in Article 2 Paragraph 1 of the Air Pollution Control Act and relevant enforcement rules, when deciding to declare the above greenhouse gases to be air pollutants.

The EPA would also like to draw attention to the draft of the Greenhouse Gas Reduction Act, a completely new set of legislation that is currently being reviewed in the Legislative Yuan. Opinions about the greenhouse gas issue vary widely from nation to nation and thus the degrees and methods of managing the problem also differ. Taiwan's manufacturers also have divergent opinions on this issue, while still being concerned about it, and so establishing new legislation has to be done carefully and diplomatically. But even if the draft of the Greenhouse Gas Reduction Act does not pass into law this time and remains under deliberation in the Legislative Yuan, no time can be lost on the task of collecting and managing base-line information. The EPA has an obligation to use the legal tools and base-line information at its disposal to give clear legal safeguards to those enterprises that

take the initiative in voluntarily reducing greenhouse gas emissions.

The new listings can be seen as part of the existing greenhouse gas emissions reduction policy that the government has already announced to the international community, without including specific control measures. As this declaration was not a major new policy decision it was drawn up under the existing air pollution legal framework and was announced after explanatory meetings were held. Follow-up control measures will be decided after holding preannounced public meetings in accordance with current legal procedures.

In the future, the work of implementing greenhouse gas emission controls as suggested in the Air Pollution Control Act will be conducted under regulatory frameworks set out in the draft of the Greenhouse Gas Reduction Act according to the progress and content of the legislation. Successful passing of the Greenhouse Gas Reduction Act will allow management tasks to be carried out more smoothly.

**Air Quality**

## Third Batch of Enterprises Required to Report Greenhouse Gas Emissions to Be Announced

The EPA aims to keep firm control over emissions of the six greenhouse gases mentioned in the previous article, and to this end has drawn up a draft of the Third Batch of Public and Private Stationary Sources Required to Report Greenhouse Gas Emission Volumes. The draft is based upon stipulations in Article 21 of the Air Pollution Control Act, and the EPA also referred to international practices in managing greenhouse gas emissions reporting. The draft will form the basis of future management of greenhouse gas emissions and will facilitate the formulation of preemptive reduction plans among Taiwan's enterprises.

The targets of the controls in the forthcoming draft fall into two categories. The first includes industries whose levels of emissions fall under the announced EPA Principles for Promoting Greenhouse Gas Early Action and Offsetting Schemes: cement, semi-conductors, electricity generation, steel, and thin film transistor liquid crystal display (TFT-LCD).

In the second category are enterprises whose annual emissions of greenhouse gases are 25,000 tonnes or more of CO<sub>2</sub> equivalent. These industries include: oil refining, petroleum products, synthetic fibers, paper pulp mills, paper and paper products, and all public and private premises that have burners with a fuel input of gross calorific value exceeding 7.5 million kcal/h. The EPA estimates that Taiwan has 280 such premises. Reporting for all enterprises in both categories must be done online. Data on total emissions for an enterprise for the previous season must be entered into the system by the end of April,

July, and October each year. Compiled data on total greenhouse gas emissions for the previous year must be submitted by the end of January each year.

Since carbon reduction is one of the government's primary objectives it is imperative that a firm grasp of actual greenhouse gas emissions is achieved before reductions work can begin. The EPA estimates that the passing of the draft bill will bring 90% of the volume of direct industrial greenhouse gas emissions under its control. The EPA will be drawing up preannouncements as per standard operating procedure and will look to quickly bring together representatives of government, industry, and academia for expert discussions and public hearings. The EPA hopes that related regulatory announcements will be completed by the end of 2012 so that greenhouse gas management policies can be implemented at the earliest possible date.

**Noise Control**

## Construction Noise Controls and Inspections to Be Strengthened from 1 June 2012

In order to effectively address the constant problem of noise from construction sites, and with the aim of achieving zero growth in construction-related noise complaints, the EPA is putting special emphasis on promoting its Construction Noise Control Plan. The EPA is asking local governments to modify their construction site fugitive air pollution source patrol management measures for construction sites that have been the cause of frequent noise complaints. The EPA is suggesting that proactive management measures (control measures are detailed in the attached document) such as advising on noise reduction, guidance patrols, and proactive auditing, can be used to raise the effectiveness of construction noise control.

Statistics compiled by the EPA show that the number of construction-related noise complaints rose by an average of about 10% annually between 2006 and 2011. In 2010, the number of construction-

related noise complaints reached 18,000, overtaking those related to entertainment premises. In 2011, construction-related noise complaints were the only category that showed an increase for the year, reaching 20,000, a 17% increase on the figure, and by far the highest of any category. Noise produced from construction sites is clearly the public's priority concern.

The unique characteristic of construction-related noise is that it lasts for a definite period, has a fixed scope and its degree of impact on neighborhood changes dramatically depending on what stage of the project the work is at. So even though local government environmental protection bureaus (EPBs) may respond to complaints and set a deadline for improvements, the continuous and unpredictable changes in the methods and tools employed for different tasks means that follow-up inspections can never verify whether or not improvements were made. This results in a substantial gap between the passing of inspections and what people perceive, hence the increase in the number of complaints received.

In 2011, the Taipei City Department of Environmental Protection took the lead in implementing new construction-related noise inspections and management measures. As a result, the number of complaints received fell by over 1,000 compared to the same period for the previous year. These excellent results inspired the EPA to pick out Taipei City's most effective measures and integrate them into its Construction Noise Control Plan. The EPA will be asking local EPBs around Taiwan to follow the new plan and strengthen their inspections and management of construction noise. The updated measures that aim to make life quieter for beleaguered residents include:

- Increasing construction site patrols
- Advising operators to choose low-noise equipment and install soundproof cloth or blankets on the outside of buildings under construction
- Advising operators to change working hours

The Construction Noise Control Plan took effect on 1 June 2012, and the EPA is urging all construction operators to fulfill their corporate social responsibilities and employ effective noise-prevention equipment and measures to help make people's living environments

as peaceful as possible.

## Appendix: Construction Project Management Measures

1. Establishing an advisory mechanism to reduce the number of construction noise complaints

Operators who cause repeated complaints, carry out excavations, or are discovered to have insufficient noise-prevention facilities or controls in place on-site will be required to attend a Construction Noise Improvement Advisory Meeting held by the EPA every three months. Noise reduction advice will be given based on photos of actual on-site noise-prevention facilities with the ultimate aim of reducing the number of noise complaints being received.

2. Reinforcing Construction Site Air and Noise Pollution Prevention Patrols

The current system of local EPB construction site air pollution inspection patrols will see the addition of regular site inspections of the 30 largest construction sites under each bureau's jurisdiction. Each of the project stages currently being inspected for air pollution – such as site preparation, excavation of foundations, pile driving of pillars, earth retention, construction of primary structures, as well as plastering, painting, and tiling – that could also be a source of noise pollution will be subjected to noise prevention facility inspections and on-site noise level recording. Operators will also be expected to attend meetings where inspectors explain noise management policies and regulations.

3. Strengthening Proactive Audits and Inspections

Construction firms who excavate and build during times not agreed to in their noise-reduction pledge, have had multiple complaints lodged against them, or whose noise-prevention facilities are consistently found to be lacking will receive more unannounced visits from environmental inspectors. More forceful administrative means will also be adopted to force recalcitrant operators to solve their noise pollution problems.

## National Climate Change Conference Generates Practical Ideas

From 5~6 of June 2012, the EPA held the plenary of the National Climate Change Conference. Over 300 representatives of citizen groups, central and local governments, elected representative assemblies, industry, academia, and other experts filled the conference hall to discuss specific actions and short-, mid-, and long-term policies related to Taiwan's climate change response.

The plenary of the National Climate Change Conference opened on 5 June in Taipei. Over 300 representatives of citizen groups, central and local governments, elected representative assemblies, industry, academia, and other experts crowded into the conference hall to discuss specific actions and short-, mid-, and long-term policies related to Taiwan's climate change response.

The first two major topics that were discussed at the conference were: "Disaster management, basic infrastructure, use of land, and coastal areas" and "Agricultural production and biodiversity." The discussion began with a review of the disastrous flooding caused by Typhoon Morakot in August of 2009 as an example of extreme climate in action, and progressed to full exchanges of wide-ranging opinions about issues related to disaster prevention in Taiwan. It was pointed out that Taiwan has a high population density and that the ability of the land to support so many people is already being stretched to its limit. The delegates also noted that rapid economic development in the past has degraded forests, slopelands, coastal ecosystems and other coastal resources, and has given Taiwan an international image of being "Concrete Island." The delegates agreed that the potential of climate change to cause limitless harm necessitates urgent action regarding disaster prevention planning and the passing of the Land Planning Act.

Other recommendations put forward at the conference included maintaining forest diversity and taking full advantage of forests to prevent flooding. Delegates also expressed their sincere hope that the government will speed up work on departmental reorganizations, capacity building among government personnel, modifications of coordination mechanisms, and strengthening disaster-prevention policymaking. Discussions on "Agricultural production and biodiversity" focused on the significant impact that climate change is expected to have on agriculture

and the importance of maintaining biodiversity in agriculture. Delegates expressed the opinion that agricultural production should not be measured in monetary terms alone but should also include production values. Other issues related to agriculture that concerned the delegates included:

- reviewing and revising policies for fallow land
- the crucial role of production measures
- agricultural water consumption
- careful planning for the localization and mainstreaming of water footprint and biodiversity concepts
- guaranteeing the rights of wildlife
- supporting the establishment of a national biodiversity and environmental resources research institution

Two other major topics discussed were "Water resources, energy supply and production" and "Health and environmental education." On the topic of "Water resources, energy supply and production" the delegates held the common hope that the government's Energy Saving and Carbon Reduction campaign would result in the expansion of renewable energy use, and the promotion of a low-carbon economy with zero growth in electricity production. Opinions and ideas concerning the creation of energy taxes, carbon taxes, and other regulations surrounding the Greenhouse Gas Reduction Act were also exchanged. Other issues that the delegates focused on included:

- water resource utilization and related policies
- river management: soil erosion caused by the excessive construction of sediment storage dams, which also leads to sand building up in rivers and not replenishing coastal beaches
- integrating the sustainable use of water resources

with land subsidence remediation

- correcting water resource utilization policy at the earliest possible date

The discussions that centered on "Health and environmental education" saw the majority of delegates agree that the underlying concepts of the Environmental Education Act – from information disclosure to environmental education and knowledge – should become a part of everyone's lives. They also agreed that environmental education courses in community colleges should be used to promote the work of community disaster-prevention education, and that teaching methods should be more diverse. They

were also in general agreement that the process of awarding certification to environmental education premises needs rethinking, and that controls on the number of eco-tourists visiting ecologically sensitive sites needs to be restricted.

The National Climate Change Conference came about as the result of a promise made by President Ma Ying-jeou in response to suggestions by representatives of environmental NGOs, whom he met during the 40th anniversary celebrations of Earth Day on 22 April 2010. The EPA was charged with holding the conference and planned the plenary session for 5 June, as that date is also World Environment Day.

## News Briefs

### Regulations Drafted for Dedicated Indoor Air Quality Management Personnel

The Indoor Air Quality Control Act was promulgated on 23 November 2011, and will go into effect one year later. For the purpose of effectively promoting and administering the Act, the EPA has referred to Article 9 Paragraph 3 in drawing up a draft of the Regulations Governing Dedicated Indoor Air Quality Management Personnel (室內空氣品質維護管理專責人員設置管理辦法) for use in creating a system of indoor air quality specialists. The regulations cover personnel qualifications and methods of evaluation, and the awarding and revocation of relevant certification. The impact of indoor air quality on public health has been drawing more attention in recent years and the Act stipulates that operators of stated premises should formulate indoor air quality maintenance and management plans and have personnel dedicated to implementing such plans. These personnel will thus play a decisive role in effectively maintaining indoor air quality and so the EPA will be conducting continuous dedicated indoor air quality personnel training programs. The EPA is also urging all of the concerned premises to formulate their indoor air quality maintenance and management plans at the earliest possible date so that they will be

prepared when the Act comes into effect.

### Application for the "Energy Saving and Carbon Reduction Label" Ends in July

The EPA is always looking for new ways to encourage enterprises, citizen groups, and local communities to save energy and reduce carbon emissions. From now to 13 July 2012, the EPA will hold the Energy Conservation and Carbon Reduction Action Label event. Parties interested in participating in the event can go to the EPA's Ecolife Cooler Web site (<http://ecolife.epa.gov.tw/cooler>) to register. Energy Conservation and Carbon Reduction Action Label events have been held since 2009, and to date 137 enterprises, citizen groups and local communities have been awarded the action label certification, generating much attention and feedback from the public and social enterprises. Enterprises, communities and businesses interested in obtaining the "Energy Saving and Carbon Reduction Label" can go to the EPA's Ecolife Cooler Web site (<http://ecolife.epa.gov.tw/cooler>) in the Energy Saving and Carbon Reduction section to find information on the dates and places of meetings that are held to explain registration and selection procedures, and evaluation criteria.

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