Environmental Policy Monthly

Environmental Protection Administration, Taiwan, ROC

Volume IX, Issue 2 February, 2006

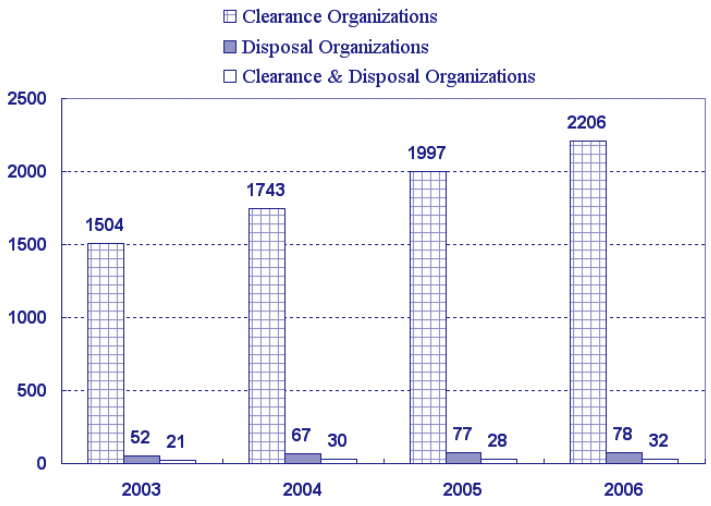
Feature Column

Strengthened Management of Clearance and Disposal Enterprises

The government has gradually fulfilled the nation's waste clearance and disposal needs through extensive preferential measures to spur the development of the waste clearance and disposal industry. The EPA is now shifting management focus toward administrative efficiency and advancement of inspection and guidance work.

In recent years, the EPA has made marked achievements in promoting waste reduction, proven by the gradual decrease in the average daily per capita volume of waste collected and the vigorous development of related environmental service industries (garbage clearance and disposal, environmental analysis, vector control and environmental consultancy). Taiwan currently has 2,316 garbage clearance and disposal organizations, comprising 2,206 clearance enterprises, 78 disposal enterprises and 32 enterprises that handle both clearance and disposal, for a ratio of 70:2:1. Of these three industry categories, waste clearance has developed the fastest over the past three years, with numbers of enterprises jumping 15%, 14% and 10% in 2003, 2004 and 2005, respectively. This sharp increase indicates that the nation's waste clearance and disposal needs are gradually being fulfilled.

EPA statistics show the waste clearance and disposal industry generates revenue of over NT$60 billion annually and its output value is steadily increasing. However, there is still a wide gap between the numbers of clearance organizations and disposal organizations, and there is a demand for appropriate regional distribution of disposal organizations. These factors have spurred fierce competition and monopolization of the market, and have impeded the normal development of the clearance and disposal industry. The EPA's management mechanisms for this industry are thus increasingly important.



The number of contracted waste clearance and disposal enterprises continues to grow each year.

In This Issue

Sound Management Mechanisms Provide Incentives

Most waste materials are typically convenient to store and easy to throw away. However, the fact that waste from different sources has vastly different properties makes waste clearance and disposal the most difficult and problematic of all environmental protection work. Before the 1999 revision of the *Waste Disposal Act* (廢棄物清理法), it was up to industry organizations to find ways to dispose of industrial waste, and the government was not actively involved. Although the EPA provided guidance and promoted the establishment and operation of waste clearance and disposal organizations, fierce competition and overly lenient penalties hampered the effectiveness of waste treatment. Inspection and management mechanisms were adequately strengthened only after the *Waste Disposal Act* was revised. The revised Act required enterprises to report waste online, and stipulated penalties and responsibilities for those generating waste. The EPA now has complete and concise legal framework stipulating the authorization, management, facilities, levies, rewards and penalties of waste clearance and disposal organizations.

Responsible for most of the nation's waste disposal work, public and private waste clearance and disposal organizations receive a great deal of assistance from the EPA. Other related agencies also provide various preferential measures that encourage enterprises to invest in environmental protection and enhance waste clearance and disposal operations. The two main preferential measures are:

1. Investment tax credits

   Recent revisions to the *Regulations Governing Application of Investment Tax Credits to Waste Recycling, Clearance and Disposal Enterprises for Procurement of Equipment and Technology* (廢棄物回收清除處理業購置設備或技術適用投資抵減辦法) stipulate that clearance and disposal organizations complying with regulations on purchasing certain automated recycling or pollution prevention equipment or technology may apply for credits on taxable income.

2. Import tax exemptions

   Public and private waste clearance and disposal organizations that have received installation permits may be eligible for import tax exemptions on imported clearance and disposal equipment and parts for their own use.

Audit and Support Systems Unified to Solve Difficulties for Industry

The EPA reports the main bottlenecks faced by the environmental service industry are the difficulties of expanding markets and services, and complying with regulations concerning land acquisition, financing, personnel training, technology research and development, establishment of industry market information, technology applications, technology transfers and establishment of technology information. The EPA has addressed these problems by combining audit and support systems into one system. On the one hand this helps enterprises comply with the demands of each regulation; on the other hand it gives them relevant administrative and technical support to increase the efficiency and capacity of waste clearance and disposal.

Onsite audits and support cover the following areas: basic information (permit documentation, qualification of technicians, online reporting, analysis information, data on reception and transport of waste, contract content and contracted

Paper audit of clearance and disposal operations.

volumes, waste flow to place of final disposal, etc.); compliance with related regulations; methods of waste collection, storage and disposal; disposal process and waste volume verification; functional operation of disposal equipment; secondary pollutants; and factory ground environmental management. If there is a need for improvements in any of the above audit and support categories, the auditor/advisor employs a special computerized management system to propose recommended corrective measures. Afterwards, the EPA follows up on the status of improvements made.

A disposal enterprise employing manual labor to sort resources.

Regulations Revised to Reinforce Waste Accountability

To address increasingly complex management issues, the EPA is currently revising the *Regulations Governing Permits for Public and Private Waste Clearance and Disposal Organizations* (公民營廢棄物清除處理機構許可管理辦法). A preliminary draft has already been released and the EPA expects to finalize revisions before June 2006. The revised regulation calls for the establishment of a computerized system for permit documents. This will simplify application procedures for enterprises and increase efficiency of administration. Considering that waste storage and transport depots could degrade environmental quality for nearby residents, the revised draft requires waste clearance and disposal organizations to submit installation plans, pollution prevention plans, and business operation plans for review. The revision also stipulates that enterprises disposing of waste in landfills must submit plans for restoration of closed landfills. Moreover, when enterprises receive a batch of waste they must first conduct a series of control measures including visual inspection, confirmation of volume entering plant, and examination of batch samples.

In the future, the EPA will continue to introduce various electronic assistance tools including electronic documents, Internet databases, and GPS, to the waste clearance and disposal organization management system. The main areas of focus will be to develop waste flow management and real time tracking systems for clearance vehicles.

1. Flow management
   - i. Promote online reporting of the business operation records of public and private clearance and disposal organizations
   - ii. Auditing and support (including dispatching of personnel to stay at plants) of clearance and disposal organizations
   - iii. Unify format of clearance and disposal permits, and update issuance procedures

2. Clearance vehicle real-time tracking system
   - i. Establish complete software, hardware and communications system for the clearance vehicle real-time tracking system monitoring center
   - ii. Enhance functions of software in monitoring center
   - iii. Maintain and expand national maps and coordinates of related industries
   - iv. Build up system, mode of operations and capacity of monitoring center
   - v. Ensure compliance by vehicles required to install GPS real-time tracking systems and enforce GPS hardware specifications
   - vi. Establish GPS real-time tracking system operation examination system
   - vii. Provide support to organizations required to install real-time tracking systems
   - viii. Adjust inspection and spot check systems

Waste Management

New Measures Launched in 4th Year of Plastic Bag Restriction

In effect for three years, the *Restricted Use Policy on Plastic Shopping Bags and Disposable Plastic Tableware* has made progress in achieving environmental education and source reduction goals. The EPA reviewed implementation status of the restriction early this year (2006) and has proposed new measures to further promote this policy.

Current control methods on the use of plastic shopping bags will be continued on "the big five" industries (see below), while the strategy for storefront food and beverage enterprises will be adjusted from March 2006 through an additional measure calling for increased recycling and reuse of plastic bags. The existing control method for plastic disposable eating utensils will be continued, and government organizations and school cafeterias will be prohibited from using disposable dishware indoors. The government will continue to provide guidance to other food and beverage vendors on how to use washable multiuse dishware. PVC bags and films will also be prohibited and restricted through source reductions and strengthened reuse and recycling efforts.

The first stage of the plastic bag restriction went into effect on 1 July 2002 at public sector establishments. The second stage went into effect on 1 January 2003, targeting storefront food and beverage shops as well as "the big five" enterprises, namely, department stores and shopping malls, bulk discount shops, supermarkets, convenience store chains, and fast food chains. These enterprises are not allowed to provide plastic shopping bags thicker than 0.06mm, and all shopping bags must be additionally purchased by customers instead of given away freely. Nearly 900,000 inspections conducted by all levels of environmental protection agencies in the past three years of implementation showed that it is impossible to get people into the habit of bringing their own shopping bags when patronizing storefront food and beverage shops. Due to the difficulty of reusing plastic shopping bags sold by storefront food and beverage shops, the total volume of plastic bags actually increased rather than decreased (now increasing at a rate of 5,000 tonnes per year).

The EPA realized that by modifying control methods so that restaurants would return to using thinner plastic bags, less plastic would be consumed compared to the current situation. To prevent plastic bags from causing pollution and to strengthen recycling and reuse, the EPA will launch a trial plan from May 2006 calling for collection of plastic bags by sanitation crews along with other sorted recyclables. After reuse channels have been fully established, the EPA will first list plastic bags as a designated mandatory recyclable for government agencies. Sanitation crews will then pick up sorted plastic bags from government agency buildings in coordination with the mandatory garbage sorting policy.

For the time being, the restricted use policy on disposable plastic dishware will be continued as planned. From July 2006, the EPA will gradually impose a ban on use of disposable dishware (including chopsticks, spoons, knives, forks) at government establishments and schools. The EPA will continue providing guidance to other establishments in using washable dishware. This step alone is estimated to reduce the generation of 2,600 tonnes of garbage annually. The EPA will focus on getting businesses at two major marketplaces (i.e., night markets) per year to make the switch to washable dishware. This is expected to reduce 100 tonnes of waste per year. Together, these two measures are anticipated to prevent the waste of 2,700 tonnes of resources per year.

The total volume of plastic bags actually increased rather than decreased.

Studies show incineration of PVC products may be the primary source of dioxin pollution. For this reason, other countries have placed controls on PVC materials. The EPA will first analyze background data on alternative technologies and cost, and then invite related industries to public hearings to discuss this issue. The new measures will be announced in September 2006 and will take effect in stages starting one half year later. The EPA made a preliminary announcement on 11 November 2005 of the *Restriction on Use of Plastic Produce Trays, Egg Cartons and Cakes and Bread Boxes* (draft) (塑膠類生鮮托盤、蛋盒及糕餅麵包盒限制使用). During the public hearing for this restriction it was pointed out that since the policy was launched, the search for alternative materials is still hampered by issues of scarcity, suitability and cost. The EPA therefore announced on 11 February 2006 that it would hold off on implementing this certain restriction for the time being.

The EPA indicated that based on international waste management trends and in keeping with the spirit of Article 6 of the *Resource Recycling and Reuse Act* (資源回收再利用法), priority consideration should be given to reducing generation of waste (source reductions) in the use of materials. After a material loses its original effectiveness, reuse should be the first choice followed by recycling, energy recovery and appropriate treatment. This modification to existing restrictions on use of plastics is a key strategy to ensure source reductions, strengthen reuse and recycling, reduce environmental pollution and use resources sustainably.

Environmental Sanitation & Toxic Substance Management

EPA to Phase Out Asbestos Building Materials

On 30 December 2005, the EPA announced that it will ban the use of asbestos in manufacturing boards, conduit, cement and fibrous cement from 1 January 2008. From the date of promulgation the EPA will not permit new registration or applications to use asbestos in building materials.

According to the *Toxic Chemical Substances Management Act* (毒性化學物質管理法), asbestos has been listed as a toxic chemical substance since 1989 and prohibited from use in replacement drinking water pipes and components. Since 1997, a ban has been in effect on the manufacture, import, sale and use of crocidolite and amosite asbestos. Most uses of asbestos building materials have been banned since the end of 2005. The EPA will gradually ban the manufacture of asbestos building materials, contingent on international controls and the Chinese National Standards (CNS).

The release of asbestos fibers during the process of cutting asbestos products has become an issue of international concern. Progressive nations are encouraging academia and industry to research and develop alternative products. Taiwan has already set related regulatory standards for laborers and workplaces using asbestos-laden materials. The Bureau of Standards and Testing, Ministry of Economic Affairs, has already revised restrictions on the use of asbestos in fiber cement board and reinforced fiber cement board to reduce harm to the environment and human health.

All future use of asbestos in building materials will be prohibited.

To minimize the harmful effects of asbestos on human health, the EPA calls on citizens to avoid purchasing building materials containing asbestos and to reduce potential exposure to asbestos in the environment. As it is difficult to determine whether a product contains asbestos based on appearance alone, workers and citizens are advised to get in the habit of wearing anti-dust masks rated N95 or above when cutting materials that may contain asbestos to reduce the risk of jeopardizing human health.

In light of health risks, the EPA is considering gradually phasing out the manufacture of asbestos building materials, and complying with the same ban dates agreed on in other nations, with the ultimate goal of completely phasing asbestos out.

Waste Management

Two Hospitals Trial RFID to Control Medical Waste Flow

The EPA is piloting a Radio Frequency ID (RFID) waste management tool with the cooperation of Taipei City Hospital Renai Branch and Jhongsing Branch. This innovative measure is expected to effectively control the flow of medical waste.

According to the EPA, the Industrial Waste Control Plan, which took effect in 1996, checks the flow of industrial waste and supervises clearance and disposal of waste to prevent environmental pollution caused by careless disposal. Taking into account the popular acceptance of electronic devices such as the Electronic Toll Collection (ETC) on the highways and Easy Card on the Mass Rapid Transit (MRT) system, a similar application combining RFID-based industrial waste flow tracking, Internet filing and GPS tracking is expected to effectively control waste flow.

The RFID control system requires industries to file online before the waste is transported to external locations. Upon filing, the data will be written onto a tag attached to the waste container. When the vehicle reaches the contractor's site of disposal, the RFID system will read the data stored in the tag and initiate a batch check, instantly identifying the contents of the containers. The onsite batch reading function is currently being tested on medical waste and a prototype interface between RFID and the current filing system is in the pipeline. This system is expected to materialize soon and undergo testing by medical organizations and their waste disposal contractors for widespread implementation and effective tracking.

Medical waste flow will have a new control system

The RFID system comprises tag, reader and application software. It is a data-entry system that allows non-contact entry and retrieval, updating of information, high volume storage, reusability, multi-party identification, and data security, all of which enable fast access to and better management of data. Such advantages are bound to improve operation efficiency and productivity.

The EPA is confident that the combination of RFID technology, online filing and GPS tracking will offer better control over the flow of industrial waste. This new system will allow immediate checking of data on each batch of industrial waste and ensure precision control over clearance activities to put an end to illegal disposal once and for all.

Noise Control

New Motor Vehicle Noise Controls See Positive Results after Six Months

To effectively control sounds generated by motor vehicles, the EPA brought into force the third phase of motor vehicle noise control standards on 1 July 2005. The new measure, which incorporates EU testing methods and stricter control standards, shows significant decrease of noise from new motor vehicles after only half a year.

According to Article 9 of the *Noise Control Act* (噪音管制法), motor vehicles for local use, whether domestic or imported, should meet Taiwan's noise control standards and obtain compliance certificates from the EPA before they are imported, manufactured, and before license plates are applied or vehicles used.

The EPA's third phase of motor vehicle noise control standards follows international regulations by adopting ECE R51-02 and ECE R41-03, currently used in EU member states. EU testing methods are the mainstream, and are practiced by many countries with strict testing procedures. Vehicles tested with new methods show lower compliance than when conducted with phase-two methods. For all vehicle models, the phase-three acceleration noise

standard value is tightened by 1~4dB(A) and the stationary noise standard value is tightened by 3~9dB(A). To meet stricter standards of testing and noise control, vehicle manufacturers are expected to enhance noise control of their products during the three-year grace period starting from 1 July 2005.

Since the phase-three noise control standards entered into force six months ago, there has been a significant improvement in new vehicle models. This substantiates the effectiveness of the phase-three standards as a control tool. Some achievements are listed below:

1. Acceleration noise from motorbikes between 100 c.c~175 c.c. has dropped 6.6dB(A).
2. Acceleration noise from motorbikes above 175 c.c. has dropped 2.5dB(A).
3. Acceleration noise from trucks over 3.5 tons has dropped 1.2dB(A).
4. Acceleration noise from sedans and station wagons has dropped 1.1dB(A).
5. Stationary noise from trucks over 3.5 tons has dropped 1.5~2.0dB(A).

Soil and Groundwater

Anshun Pollution Site Survey Results Announced

On 19 January 2006, the EPA conducted a final review of the China Petrochemical Development Corporation Anshun Plant pollution boundary expansion survey plan. Survey results confirmed that no pollution was found in benthic substrate of nearby fish ponds. However, dioxin and mercury levels in excess of control standards were found on a 170-meter section of the Jhufagang Creek east of the Luermen Bridge. The EPA has already asked the Tainan City government to submit emergency response and clean-up plans.

On 19 January 2006, the EPA conducted a final review of the China Petrochemical Development Corporation Anshun Plant pollution boundary expansion survey plan. Survey results confirmed that no pollution was found in benthic substrate of nearby fish ponds. However, dioxin and mercury levels in excess of control standards were found on a 170-meter section of the Jhufagang Creek east of the Luermen Bridge. The EPA has already asked the Tainan City government to submit emergency response and clean-up plans.

The EPA conducted a survey to carefully check evidence of pollution discovered outside the China Petrochemical Development Corp (CPDC) Anshun factory in August 2005, and to confirm pollution boundaries. The survey also looked into local residents concerns about the spread of pollution to the nearby Jhufagang Creek (竹筏港溪) and Siangong Borough (顯宮里).

Survey results showed that benthic substrate along 170 meters of river length of the Jhufagang Creek to the east of Luermen Bridge (鹿耳門橋) is seriously contaminated with pollutants. Among these pollutants, dioxin concentration was recorded as high as 101,000 ng/kg (control standard is 1,000 ng/kg) and mercury concentration reached 50.5 mg/kg (control standard is 20 mg/kg). These findings warrant priority treatment for this length of stream.

In addition, soil in one open space in the Siangong Borough north of the Tianhou Temple in Luermen was found to be contaminated with as high as 18.2 mg/kg of mercury. While this is lower than the soil pollution control standard of 20 mg/kg, it is higher than the 5 mg/kg soil pollution standard for cultivating food crops. As crops are currently being grown in this area, the EPA has requested the Tainan City Government to immediately destroy those crops, prohibit residents from cultivating food crops, and ameliorate polluted land by replacing with healthy soil if necessary. In August 2005, mercury pollution was found in the old dormitories north of the plant and dioxin pollution was found in aquaculture pond embankments south of the plant. Upon confirmation of these sparsely dispersed pollutants during the recent survey, the contaminated soil was immediately removed. Since then no new pollution has been discovered, and the area is ready to be removed from the list of control areas.

These two surveys have allowed the EPA to better understand the extent of pollution at this site. The EPA will promptly compile related results and send to the Tainan City Government to serve as a reference when formulating remediation plans in the future. The EPA emphasizes that the survey results not only help detect pollution but more importantly confirm that pollution is limited to relatively small areas where cultivation has been prohibited or controls enacted. Other fishponds in the area have not been subject to pollution and agricultural or breeding activities on these lands are not affected by the pollution.

Air Quality

New Air Pollution Controls Target Optoelectronics Industry

On 5 January 2006, the EPA promulgated the *Air Pollution Controls and Emission Standards for Manufacturers of Optoelectronics Materials and Components*. This measure targets factory emissions of VOCs, hydrofluoric acid and hydrochloric acid from manufacturers of liquid crystal displays and their components including color filters, polarizers and backlighting modules.

Taiwan's optoelectronics industry emits about 2,532 tonnes of volatile organic compounds (VOCs) every year. The recently promulgated *Air Pollution Controls and Emission Standards for Manufacturers of Optoelectronics Materials and Components* (光電材料及元件製造業空氣污染管制及排放標準) is estimated to abate over 2,000 tonnes of VOC emissions each year. While this reduction rate is low compared to the total amount of Taiwan's factory VOC emissions, the manufacture processes used in optoelectronics-related industries are more likely to use certain toxic chemical substances. Considering Taiwan's enormous population density, regulations on the optoelectronics industry are hoped to reduce the dangerous impact of concentrated industrial emissions on the environment and human health.

The EPA has already implemented the *Air Pollution Controls and Emission Standards for Semiconductor Manufacturers* (半導體製造業空氣污染管制及排放標準). The addition of the Air Pollution Controls and Emission Standards for Manufacturers of Optoelectronics Materials and Components will ensure effective control of VOCs and inorganic acids generated by the semiconductor and optoelectronics industries.

The primary methods adopted in this new measure are to: 1) stipulate treatment effectiveness of pollution prevention equipment and 2) stipulate stack emissions. Separate standards have been formulated for existing and new optoelectronics factories. Treatment effectiveness of pollution control equipment at new factories should reach 85%, effective from date of promulgation; existing factories must reach 75%, effective from 1 January 2007. Additional stipulations are included for 1) reporting, recording and storage records of raw materials, 2) operation and recording of air pollution control equipment, 3) calibration of monitoring equipment, and 4) examination and monitoring of emission stacks.

The EPA points out that this new regulation provides a one-year buffer period for existing optoelectronics manufacturers to make improvements. Factories that have not yet installed or made necessary improvements to pollution prevention equipment are behooved to do so in a timely manner by working together with the government to create a win-win solution for both the environment and economy.

Water Quality

Performance Ranking of Local Marine Pollution Prevention

The EPA recently released the results of a marine pollution assessment conducted for the first time in 2005. Kaohsiung City, Penghu County, Ilan County, Taitung County, Hualien County, and Taipei County were the top six outstanding local governments. The EPA presented awards and commemorative medals on 23 February 2006.

In coordination with "2005 Taiwan Ocean Year" events and the Executive Yuan's policy to re-establish Taiwan's identity as an "Ocean Nation," the EPA conducted the first evaluation and performance ranking of local marine pollution prevention affairs. Evaluation items included "Marine Pollution Emergency Response Preparedness," "Marine Pollution Inspection Controls," "Marine Area Monitoring," "Installation and Operation of Marine Emergency Response Center," and "Execution of Marine Pollution Prevention Affairs and Marine Environment Monitoring."

Performance evaluations were conducted on 21 counties and municipalities, excluding the four landlocked jurisdictions of Taipei City, Taichung City, Chiayi City, and Nantou County. The evaluations were conducted over

a two-stage process. For the first stage, the EPA commissioned five scholars and experts to screen the top ten performers based on a preliminary inspection of the written documentation and briefings provided by the local governments. In the second stage, the review committee presented questions and clarified uncertainties among the preliminary top ten. The committee also conducted on-site investigations, cross-checking to verify that the written documentation and the on-site results matched. This extensive process ensured an objective appraisal of local governments' marine pollution prevention work.

The results ranked the Kaohsiung City Marine Bureau in first place. This bureau is the nation's only environmental authority with ocean-going vessels that can autonomously investigate maritime pollution. The bureau's exceptional performance during its brief two-year existence warrants well-deserved recognition. Penghu County came in second, making it the only offshore county to receive honors. Ilan County, Taitung County, and Hualien County, located along the east coast of Taiwan, placed third through fifth, respectively. In the north, Taipei County ranked sixth.

In the past, marine pollution prevention work evaluation has been treated as a subset of river cleanup evaluations, making it hard to demonstrate the results of marine pollution prevention work. Therefore, a special evaluation was conducted in 2005 exclusively on marine pollution prevention work. Aside from encouraging local governments to devote effort to the management of marine pollution prevention, the evaluation helps further the actualization of the "Ocean Nation" policy.

The develpment of our country relies upon the oceans and the seas.

General Policy

Model Environmental Communities Announced

The EPA announced the selections of the 14th National Model Environmental Communities roster. Eighteen communities were honored for their exceptional environmental actions, including three outstanding awards, five runner-up awards, and ten honorable mention awards.

Selections for the nation's outstanding model environmental communities are held annually as the EPA encourages residents to utilize their community's local resources and foster environmental awareness and action. The awards have already entered their 14th year, and this year 18 communities were selected, all of them successfully passing a series of reviews. The communities were first required to have an outstanding environmental record and receive approval from their local environmental protection agencies. The local agencies then sent their recommendation to the EPA for inclusion in the final selection process. A multidisciplinary selection committee of scholars and professionals further reviewed and conducted on-site inspections to choose model communities from the 56 candidates.

14th National Model Environmental Communities

Top three Outstanding Awards	1. Baisi Community of Tongsiao Township, Miaoli County 2. Sihu Community of Chimei Township, Penghu County 3. Siali Community of Siansi Township, Changhua County
Top five Runner-up Awards	1.Shengyanglidu Community of Banciao City, Taipei County 2.Houjhuang Community of Beitun District, Taichung City 3.Guanyun Community of Yongkang City, Tainan County 4.Jhuliao Community of Dashu Township, Kaohsiung County 5.Sinsing Community of Pingtung City, Pingtung County
Top ten Honorable Mention Awards	1.Jieshou Neighborhood of Songshan District, Taipei City 2.Kangle Community of North District, Hsinchu City 3.Hujing Community of Hukou Township, Hsinchu County 4.Meizih Community of Shihgang Township, Taichung County 5.Dongchuan Borough of Chiayi City 6.Silefafawu Community of Laiyi Township, Pingtung County 7.Jianhe Community of Taitung City, Taitung County 8.Tongliang Community of Baisha Township, Penghu County 9.Sinciandun Community of Jinsha Township, Kinmen County 10.Houwo Community of Beigan Township, Lianjiang County

Among the distinguished award winners was Baisi Community, a traditional fishing village in Tongsiao Townhip, Miaoli County. Baisi residents designate the second and fourth Sundays of each month as "Community Environmental Day," and take time out to clean up the coastal driftwood washed ashore. Through ingenuity and artistry, they have created a unique "driftwood art forest" that brings alive the touch of human expression and cultural flavor into the community. Community residents have adopted 2.5 km of the seawall on top of which they have planted sod to transform the drab concrete into a verdant, pleasurable sight of interest within the community. In addition, the community also purchased an out-of-commission carriage from Taiwan Railway Corp. The inside of the carriage has been remodeled and turned into a new scenic spot used for both dining and enjoying the splendorous coastal view. This is yet another interesting highlight that attracts many tourists from outside the community.

Before greening of seawall at Baisi Community, Miaoli County

After greening of seawall at Baisi Community, Miaoli County

News Briefs

Product Overpackaging Review Fee Standards Set

On 1 July 2005, the EPA announced definitions, principles and regulations concerning the restriction on product overpackaging. This measure stipulates controls on the packaging of cake, cookie, cosmetics, and alcohol gift boxes as well as computer software CDs from 1 July 2006. Gift boxes of processed foods will be included in the restriction one year later from 1 July 2007. In consideration of the various different packaging styles and materials, situations may exist where a single blanket standard for all products may be excessively strict or contradict original objectives. In light of this, an enterprise may apply for exemption with the EPA or other entrusted organizations. If approved, the applicant may be exempt from the original standards but must still abide by stipulations written in the document of approval. Applicants must pay a review fee to the competent authority when applying for such documents.

To ensure successful implementation of the above regulations, the EPA clearly stipulates an inspection fee of NT$20,000 per product in the *Product Overpackaging Restriction Case Review Fee Standards* (限制產品過度包裝個案審查收費標準) promulgated on 24 January 2006. If an enterprise applies for an extension or re-issuance of approval documents, or applies to change the company name or the name of the responsible person, yet has made no changes to the originally reviewed product or packaging, the enterprise is then exempt from inspection fees. Enterprises that exceed the stipulated number of packaging layers or the packaging to volume ratio will be fined from NT$30,000 to NT$150,000 and required to make improvements before a given deadline.

Taiwan Ranks 24th in 2006 Global EPI Rating

During the World Economic Forum held in Switzerland on 25 January 2006, Yale and Columbia Universities issued the results of the 2006 Environmental Performance Index (EPI). The World Economic Forum made an international announcement of the results. Among the 133 countries participating in the rating, Taiwan took 24th place among the top fifth of all nations, surpassing the U.S. (28th), South Korea (42nd) and China (94th). Taiwan ranked third place in Asia, behind Malaysia (9th place) and Japan (14th). Hong Kong and Singapore were not included in the rating. In the Environmental Sustainability Index (ESI) announced in January 2005, Taiwan ranked second to last at 145th place, causing great pubic concern. While the EPI and ESI rating systems are based on different indicators, the announcement of this year's EPI scores eliminated peoples' doubts about Taiwan's environmental quality and efforts toward sustainable development.

Mercury Levels Decreasing in Rivers and Fish

The EPA commissioned the Research Center of Environmental Trace Toxic Substances, National Cheng Kung University, to conduct a "Toxic Chemical Substances Environmental Flow Survey" project in 2005. The project monitored overall content of mercury in benthic substrate and fish bodies during rainy and drought seasons in the Danshui River, Toucian River, Jhuoshui River, Dajia River, Erren River, Beigang River and Siougulan River. Results for benthic substrate showed an average measurement of 0.057mg/kg total mercury content (dry weight), lower than the average measurement of 0.275 mg/kg mercury in U.S. rivers in 2003. Compared to the average measurement of 0.090 mg/kg total mercury content (dry weight) found in an earlier study conducted in 2003 on the benthic substrate of 12 rivers including the Houlong River, it is evident that mercury contamination of river substrate is on a downward trend.

The average measurement of total mercury content found in fishes in the same seven rivers was 0.051 mg/kg (wet weight). Studies show

that over 90% of the total mercury content in fishes after conversion was methylmercury. This means that the average measurement did not exceed the 0.500 mg/kg (wet weight) standard for methylmercury content in fish and shrimp set by the Department of Health, Executive Yuan. In comparison with the 2003 study on fishes of 12 rivers, which found an average of 0.200 mg/kg total mercury content (wet weight), it is evident that mercury contamination in fishes is decreasing.

Working to decrease domestic uses of mercury and follow the international trend to gradually restrict and ultimately ban mercury, the EPA announced on 30 December 2005 that mercury would be prohibited in the manufacture of thermometers from 1 January 2008. The EPA calls on everyone to join efforts to eliminate mercury pollution in the environment by switching to electronic or non-mercury thermometers when measuring temperature at home.

Over 20 Firms Set Up in Taiwan's Four ESTPs

To promote cycling and reuse of resources, closed-loop production and the Environmental Science and Technology Parks Promotion Plan, the EPA has just approved of four more firms to establish operations in Taiwan's ESTPs. Attesting to the ESTPs' efforts to attract firms, already 20 companies have entered the parks and 10 to 20 firms are still in the application process.

All the management research buildings and laboratories approved for establishment in the four ESTPs have adopted green building design principles for the purpose of obtaining certification in the nine green building indicators. Three of them (in Kaohsiung, Hualien and Tainan) are already obtained candidacy for certification in the nine green building indicators. The Taoyuan ESTP has also included green building stipulations in its construction contract.

Firms established at the ESTPs will enjoy numerous benefits and services provided by the EPA and local governments, including subsidies to cover half of land lease costs, production subsidies, and research and development subsidies. Companies will also be provided diverse services such as assistance in establishing company image and information on domestic and foreign environmental/ renewable energy technology industries. As there is only room for a limited number of firms, the EPA calls on all willing firms to apply as soon as possible. The ESTP hotline is (02) 2381-5784.

Living Environment Information Integrated Online

The EPA has just announced the completion of the Living Environment Information System which is made available online at http://edb.epa.gov.tw/living. This is the first such system to integrate environmental quality information and electronic maps, allowing citizens to search for environmental quality data by clicking areas on the e-map. Data is available on air quality, water quality, noise control and recycling facilities.

The EPA explains that in the past one had to search different websites to obtain different types of environmental data on their living environment, and data was often incomplete when inquiries were restricted to certain themes. From 2002, the EPA spent three years gathering and compiling complete sets of environmental information on the nation's 368 townships. This information offers great support to the Living Environment Information System. In addition to allowing users to look up environmental quality data on a specific location, the system is also a convenient tool to those looking for information on areas in which to purchase a house or plan recreation events.

Activities

Outstanding Senior Sanitation Crew Members Commended

On 13 January 2006, the EPA held the "2005 Award Ceremony for Outstanding Senior Sanitation Crew Members" at the Taiwan Sugar Corp.'s Changrong Restaurant in Tainan City to commend these hard-working staff members for their stamina, courage and dedication to maintaining environmental sanitation in their localities. Those commended included 25 top performers and 174 outstanding workers among over 20,000 sanitation crew members nationwide. EPA Minister Chang Kow-lung personally presented NT$3,000 vouchers to the winners and took photos with each individual. After the award ceremony, the EPA arranged for participants to visit the Fucheng reused materials showcase center in Tainan City, which is known for its outstanding performance in recycling. The visit gave sanitation crew members a chance to exchange insights and experience with other colleagues around the nation.

In addition to awarding certificates and vouchers, the EPA expressed its utmost gratitude to these outstanding senior sanitation crew members by arranging special visits by Bureau of Environmental Inspection Director Jhang Huang-jhang to the work sites of each of the 25 top winners. In-depth interviews will be conducted while meeting with them at their workplaces to gather personal stories and experiences. These real-life stories will be compiled into a commemorative book to leave behind a precious record of the spirit and dedication behind their efforts. The EPA hopes this book can provide a model for young crew members as well as a reference for all to learn about the efforts of environmental sanitation workers.

EPA Minister Chang Kow-lung (left) hands certificate to an outstanding environmental sanitation crew member.

Activities

Former Deputy Minister Strengthens Taiwan-Japan Environmental Exchange

Former EPA Deputy Minister Tsay Ting-kuei flew to Japan on 15 January 2006 for a seven-day visit to ask Japan to help Taiwan participate in international environmental activities and help the world see Taiwan's efforts toward environmental protection. The visit was a success in strengthening environmental exchange and cooperation between the two countries.

In late 2005, the Interchange Association, Japan, invited Taiwan's environmental policy making officials to Japan to establish a cooperation model for bilateral technical exchange. Former Deputy Minister Tsay engaged in bilateral discussion concerning current pressing environmental issues, and visited sites for new PCB treatment technology, soil pollution remediation, river management and watershed community organization. Tsay came back with a strong impression that Japan's government, industry and citizens are firmly aware that action toward environmental protection increases international competitiveness.

National Environmental Clean-Up Week 2006

The EPA promoted National Environmental Clean-Up Week on 21~27 January 2006 to tie in with the year-end custom of cleaning up the household for Chinese New Year. Counties and municipalities organized a nationwide action on 21 January 2006 to sweep the streets, tidy up the environment and eradicate breeding grounds of Dengue fever vector mosquitoes. EPA Minister Chang led the day's activities and eagerly invited the public to join efforts in cleaning up household environment and create a better residential environment.

During National Environmental Clean-Up Week, sanitation crews provided clearance service for bulk waste items such as old furniture. Residents need only call up the local sanitation crew, which is then sent out at a designated time and place to pick up the furniture. Last year the nation reused and recycled 28,000 tonnes of bulk waste and sold 15,500 reused furniture items and 2,260 reused bicycles, for a income of NT$10 million. It is estimated that by 2007 the nation will have reused up to 50,000 tonnes of bulk waste. In addition to preventing the felling of 100,000 trees, this initiative provides furniture restoration jobs to unemployed people.

EPA Minister Chang joins National Environmental Clean-Up Week activities with Taichung City Mayor Hu

Environmental Policy Monthly
Taiwan, R.O.C.

Publisher
Dr. Chang Kow-lung, Minister

Publishing Directors
Chang Tzi-chin; Lin Ta-hsiung; Tung Te-po

Advisors
Chang Hoang-jang; Chang Shen-ho; Chen Chau-teh; Chen Shis-how; Chen Hsiung-wen; Chen Lian-ping; Cheng Shean-rong; Fu Shu-chiang; Ho Soon-ching; Horng Yuh-fen; Hsiao Hui-chuan; Huang Kuang-hui; Huang Wan-chu; Leu Horng-guang; Lu Chiao-song; Ni Shih-piao; Pong Sheng-ming; Wang Chen-chi; Wang Lung-chic; Wang Pih; Wu Tien-chi; Young Chea-yuan; Yueh Chang-shya

Editor-in-Chief
Roam Gwo-dong

Executive Editors
Y. F. Liang; Chang Shiuan-wu; Hsiao Lee-kuo; Liu Chien-hung; Chang Shao-wen; Peter Morehead

Editorial and translation support provided by:
Hui-kuo Consulting, Ltd., Sustainable Earth Network

The EPM has been published monthly since July 1997. The EPM is available on the EPA website at http://www.epa.gov.tw/english/webezA-3/code/main.asp

For inquiries or subscriptions to the printed version, please contact:

Environmental Policy Monthly
Environmental Protection Administration
Office of Science and Technology Advisors

41, Sec. 1, Jhonghua Rd.,
Taipei, Taiwan, R.O.C.
tel: 886-2-2311-7722, ext. 2207.
fax: 886-2-2311-5486
e-mail: umail@sun.epa.gov.tw

ISSN: 1811-4008
GPN: 2008600068

行政院新聞局出版登記證局版北市誌字第壹陸壹壹號
中華郵政北台字第6128號執照登記為雜誌交寄