



April 30, 2012

# Environmental Policy Monthly

Environmental Protection Administration, R.O.C. (Taiwan)

ISSN: 1811-4008 GPN: 2008600068

The EPM is available at <http://www.epa.gov.tw/environmentalpolicymonthly>

## Feature Article

### Environmental Water Quality Monitoring in Recent Years

The monitoring of environmental water quality is essential for publishing up-to-date environmental data, which facilitates public awareness of water quality and serves as reference material for government policy making. Continuous monitoring of water quality also allows Taiwan to participate in World Water Monitoring Day and conduct mutually-beneficial knowledge and experience sharing with other nations.

Taiwan's water monitoring system began in 1976, when testing of water samples from rivers, groundwater, reservoirs, and the ocean began in order to ascertain levels of pollution and historical fluctuations in water quality so that pollution prevention strategies and measures could be formulated. Monitoring results are published in an annual EPA report that is made publicly available. The EPA also produces analyses of changes and trends in water quality and responds to related queries.

#### Public Participation in Environmental Protection and Monitoring Data Transparency

To prevent further deterioration of water quality

and to serve as an early-warning system to detect fluctuations in water quality, the EPA planned and implemented environmental water quality monitoring around the whole of Taiwan in 2002. This was in accordance with two projects approved by the Executive Yuan: the Taiwan Rivers and Ocean Operating Management Project (2002~2004) and the River and Marine Water Quality Improvement Plan (first period 2005-2007, second period 2008-2011). A few years ago, the EPA also started to publish water quality data online to give the general public a greater understanding of environmental water quality.

The monitoring results not only give government policy makers and the general public a greater understanding of changes in environmental water

#### In This Issue

Feature Article: Environmental Water Quality Monitoring in Recent Years.....	1
Reporting Deadline for Recyclers of "Four Large Appliances" Extended with Warning System Added.....	4
Interagency Inspection Uncovers Illegal Conduct by Hazardous Waste Recycler.....	5
Incinerator Waste Heat Recovery Systems Being Promoted.....	6
Fines for Failure to Submit Environmental Education Plans.....	6
Violators of Article 19 of the Environmental Education Act Given Deadlines to Make Improvements.....	7
Two Taiwan Schools Register with Eco-Schools USA.....	8
EPA Compliance Rate for Environmental Agents in 2011 Improved Over Previous Year.....	9
EPA Responds to Earth Hour with NT\$100-200 bn Credit Fund for a Low Carbon Sustainable Homeland.....	10
Awards Ceremony for Best Landfill Operations of 2011.....	11
News Briefs.....	12

quality but also help reveal, predict, and facilitate responses to sudden changes in water quality. The data is also valuable reference material for the drawing up of pollution prevention measures by policy makers. In order to promote full public participation in environmental protection and water quality monitoring and to abide by the spirit of full disclosure of information, all environmental water quality monitoring, data is published on the EPA's Environmental Water Quality Information Web page (<http://wq.epa.gov.tw/>) so that queries may be answered and information downloaded.

The work of environmental water quality monitoring also involves collecting data on long-term changes in water quality. Aquatic environments that are monitored include 91 rivers that flow into 57 drainage basins (monitored once a month), along with 60 reservoirs, 431 regional groundwater wells, and 20 marine areas that are monitored once every season. Additionally, seawater from 14 beaches popular with visitors is monitored once a week or once a fortnight during the summer season so the public can gauge the quality of the water they are swimming or playing in. Starting from 2009, the EPA also began monitoring

water quality at some locations in the South China Sea (Pratas Island, Taiping Island, and Ban Than Reef), which gives additional depth to the national water quality database.

Determining long-term trends in changes in the water quality of various aquatic environments and establishing a long-term database are essential for formulating pollution prevention policies. Government agencies of all levels are now involved in the task of monitoring water quality in order to keep track of changes in environmental water quality and to provide data for water pollution prevention. Water quality monitoring gives the general public a greater understanding of changes in environmental water quality and increases awareness of conservation issues, as well as reassuring them that the water they use or come into contact with is safe. It also provides valuable reference material for government policy makers and allows the EPA to establish a long-term database so that the efficacy of pollution prevention measures can be appropriately assessed and suitable pollution prevention management methods and regulations can be formulated.



▶ 2011 Taiwan Centennial World Water Monitoring Day Wrap-up Presentation

The EPA has also set up an abnormalities reporting system. If water quality abnormalities are found at monitoring sites, the EPA or local government environmental protection bureau inspectors can immediately contact personnel from relevant units through a public nuisance complaints hotline. This ensures that effective inspections and onsite audits can be carried out without delay.

**Positive results that have been achieved by the EPA's water quality monitoring around Taiwan include:**

1. Regular testing of water samples from 87 rivers, 59 reservoirs, 431 groundwater wells, and 19 marine areas around Taiwan is now carried out. This has provided 100,000 items of data that have been a major contribution to national environmental databases and have allowed for the analysis of long-term changes in water quality.

2. Weekly monitoring of water quality at beaches popular with visitors is now carried out during the months of July and August. The results are produced and sent to the relevant management units with official documents. The information is then issued to the media and published on the EPA Web site to let the public know which beaches are safe for water activities.

3. Since 2009, water monitoring at some locations in the South China Sea (Pratas Island, Taiping Island, and Ban Than Reef) has shown that water quality at all of these locations meets the highest category of environmental quality standards for marine and oceanic sites. This data is an invaluable asset to national environmental databases, shows that Taiwan's marine monitoring system is in line with international norms, and also supports Taiwan's territorial claims in the South China Sea.

4. By promoting World Water Monitoring Day events, the EPA is actively encouraging the citizens of Taiwan to care more about the quality of the water in their living environment and to actively take part in protecting water resources.

5. The EPA produces topical summary analyses of water monitoring data from the site of any body of water that becomes a cause for public concern. The analyses are published on the EPA's Web site for all to read.

6. The EPA is also promoting the electronic exchange of water monitoring information. This is being done in the following ways:

- By effectively integrating information from government agencies on water quality and hydrology with data from national monitoring resources to improve the protection of water quality in accordance with the Environmental Water Quality Data Electronic Exchange Regulations that were announced on 3 December 2007 and that took effect in January 2008.

- In January 2008, all local environmental protection bureaus began uploading their water quality monitoring data. As of February 2011, 278,754 items of such data had been uploaded.

#### **Active Participation in World Water Monitoring Day Events**

World Water Monitoring Day events started in 2003 as a result of cooperation between the International Water Association, America's Clean Water Foundation, and the US EPA. September 18 was designated as annual World Water Monitoring Day. In 2006, America's Water Environment Federation took over as the main sponsor and the period for the events was extended from September 18 to October 18. All citizens of the world are invited to participate in the hope of raising awareness and concern for the water quality of their living environments, and increasing water quality protection through closer monitoring. Twenty-four nations participated on the first World Water Monitoring Day in 2003, and as many as 85 nations have taken part between 2004 and 2011.

For the last nine years, the EPA has been inviting Taiwan's citizens to take part in the events, and in 2003 as many as 1,600 people participated. In 2011, the figures approached 10,000, and for the first time members of the public were able to personally try their hand at water quality monitoring, reaching the goal of making water quality monitoring a local activity.

Of note is the fact that although it was the EPA that originally supplied all the funding and manpower for the events, community volunteers, river patrol teams, and environmental protection groups now also play a significant role. Participation in the event has led

to better protection of aquatic environments and has improved Taiwan's image on the international stage.

### Improving Groundwater Monitoring through Technical Exchanges with Other Nations

Groundwater is one of the primary sources of water for industry, agriculture, aquaculture, and many public facilities. In 2009, after examining the EPA's Environmental Water Quality Information Web page, representatives from the Korea Water Resources Corporation (K-water) came to Taiwan to learn about Taiwan's groundwater monitoring wells and to exchange ideas and technical knowledge. Topics that were discussed included: groundwater regions in Taiwan; demarcation of groundwater areas; sampling and analysis of groundwater; common problems encountered with groundwater wells; and common methods of maintaining and treating Taiwan's groundwater wells. The K-water team also gave a presentation on South Korea's groundwater use, distribution of monitoring wells, and groundwater quality monitoring methods.

Future water quality monitoring objectives include:

1. Continuing nation-wide water quality monitoring.
2. Continuing regular monitoring of seawater near beaches and in the South China Sea.
3. Continuing encouragement of public participation in World Water Monitoring Day events and public concern for protecting the quality of water in living environments.
4. Producing timely summary analyses of monitoring data related to water issues that have aroused public concern, and publishing the analyses on the EPA Web site.
5. Continuing to promote the electronic exchange of water quality monitoring data so that maximum benefit can be achieved.
6. Strengthening an international outlook among all stakeholders and bringing Taiwan fully in line with international practices through enhanced international cooperation and exchanges of related information, techniques, and methods.

## Recycling

### Reporting Deadline for Recyclers of "Four Large Appliances" Extended with Warning System Added

In 2011, in order to strengthen controls over recycling of the "four large appliances," an online system for reporting waste appliances was implemented. As of 1 April 2012, the EPA has removed the obligation of vendors to report, and now only recyclers and disposal operators are obliged to file a report for each large appliance that they receive. The reporting deadline is also extended and a new warning system is applied to violators before fines are levied.

**F**rom 1 July 2011, the EPA began requiring vendors, recyclers, and refuse disposal operators who recycle the "four large appliances" (TVs, washing machines, refrigerators, and air conditioners) to submit online reports detailing the quantity, condition, and onward receiving enterprise of the units they receive. This is to ensure that these appliances are disposed of through legally-sanctioned channels and are not disassembled in a way that could pollute the environment.

In order to facilitate the tracking of waste large appliances, and make it easier for the public to recycle their unwanted appliances, the EPA has annulled the vendors' obligation to report, as of 1 April 2012. Only recyclers and disposal operators are now obliged to file a report for each large appliance they receive.

To provide recyclers and disposal operators with adequate time to adjust to the new regime, the EPA has amended Article 17 of the Management

Regulations Governing Responsible Enterprises for Regulated Recyclable Waste, extending the time frame for online reporting from five to seven working days. The environmental protection agencies will also make an effort to educate operators who violate the regulations by first sending them a written warning. Operators who violate the same regulation five times within three months, or receive a written warning

and still fail to submit a complete report, will be fined NT\$60,000~300,000.

The revisions to the Management Regulations Governing Responsible Enterprises for Regulated Recyclable Waste have been published on the EPA's Web site (<http://w3.epa.gov.tw/epalaw/index.aspx>).

## Environmental Inspection

# Interagency Inspection Uncovers Illegal Conduct by Hazardous Waste Recycler

In the recent case of a chemical company that submitted false reports regarding the disposal of liquid waste, the EPA's Bureau of Environmental Inspection teamed up with police units and law enforcement agencies to inspect the company's premises and seize evidence. The company was discovered to have committed a number of violations, including improper disposal of industrial waste, committing environmental crimes, and causing environmental pollution.

**O**n 9 March 2012 a total of 144 personnel – 47 inspectors from the EPA's Bureau of Environmental Inspection and the bureau's Northern Branch; 8 prosecutors and 20 judicial associates from the Taoyuan District Prosecutor's Office; 16 criminal police officers from the Criminal Investigation Corps of the Taoyuan County Police Bureau; and 53 environmental police officers – split into 12 groups to simultaneously inspect 7 different premises. These were the headquarters of Taoyuan-based Amia Co. Ltd., its treatment plant for copper-containing liquid waste, its Luchu, Dayuan, and Dayuan One plants, and two affiliated companies: Persee Chemical Co. Ltd. (Hsinchu plant) and Cheng Liang Resource Recycling Co. Ltd. The inspection uncovered two instances of improper disposal of industrial waste involving environmental crimes, one violation of the Air Pollution Control Act, four violations of the Water Pollution Control Act, seven violations of the Waste Disposal Act, and one violation of the Environmental Impact Assessment Act. Fifty-two samples related to the cases were also taken.

The treatment plants for copper-containing waste of Amia Co. Ltd. and the affiliated companies were engaged in making copper products such as copper sulphate from copper-containing liquid industrial waste. They did not state true production capacities in their online reports and were suspected of transporting some received deliveries of copper-containing liquid

industrial waste to other locations instead of treating it at their plants, a clear violation of the Waste Disposal Act. Although the companies in question were in possession of licenses to treat hazardous waste, they did not properly treat all of the waste they received from manufacturers, but instead passed some of it on to unlicensed operators or even to transport operators who then dumped it. Creating environmental hazards in this way is a clear violation of criminal law. Some of the industrial-grade copper sulphate produced by the Luchu treatment plant is now untraceable due to false reporting by the operator, and the EPA inspectors and prosecutors are currently examining related evidence collected from the plant.

The inspectors also discovered that Amia Co. Ltd.'s Dayuan and Dayuan One plants improperly disposed of inappropriately treated wastewater by sending it through specially-constructed drains leading to surface and underground storage tanks, a violation of the Water Pollution Control Act. Cheng Liang Resource Recycling Co. Ltd. was found to have violated the terms of its printed circuit board recycling license issued by the Ministry of Economic Affairs for reusing industrial waste: after the electronic components were removed by their solder pot, the boards were directly crushed, a violation of recycling regulations. They were also found to have submitted false reports, a clear violation of the Waste Disposal Act. EPA inspectors took samples from 10 different

piles of waste for testing and are awaiting results before continuing with legal proceedings.

The inspectors also discovered that Amia Co. Ltd.'s Luchu plant's operator had laid a plastic pipe from their liquid waste storage tank to an outside drain, and the pipe was found to contain residual liquid waste.

Samples were taken from the pipe and have been sent for analysis. An audit of Amia Co. Ltd.'s records also shows that their treatment plant for copper-containing liquid industrial waste has been treating amounts of waste in excess of those stated in their environmental impact assessment, a clear violation of the Environmental Impact Assessment Act.

## Waste Management

### Incinerator Waste Heat Recovery Systems Being Promoted

The EPA is promoting the use of Taiwan's 24 incineration plants in district cooling and heating systems. On 13 March 2012, the EPA announced that China Steel Corp. and the Gangshan Incineration Plant are both parts of district cooling and heating systems that will benefit suppliers, recipients, and environmental protection efforts as a whole.

According to EPA statistics, Taiwan's 24 incineration plants burn approximately 6,350,000 tonnes of household and general industrial waste annually. They play a major role in alleviating Taiwan's waste disposal problems and the high-temperature steam emitted during the incineration is also used to generate electricity.

The 24 incinerators already produce around 3.07 gigawatt hours of electricity annually, of which 80% is sold, generating revenue of NT\$4.5 billion. But this still only represents about 20% of the total available heat.

This means that 70-80% of the heat from the incinerators is going directly into the atmosphere instead of being reused. If a means could be found

to raise the heat reuse efficiency of the nation's 24 incinerators to above 30%, then the additional economic benefit would be to the tune of NT\$2 billion.

As for China Steel, the EPA is keen to point out that the corporation's by-products from its smelting processes – including steam, oxygen, nitrogen, gas fuels, compressed air, condensate, and electricity – have been sold at considerable profit to dozens of surrounding enterprises such as China Petrochemical Development Corp.'s Siaogan plant; China Shipbuilding Corp., China Petroleum Corp.'s Dalin plant; and China Steel Machinery Corporation. China Steel installed cooling and heating facilities in all of the above enterprises, saving them installation expenses.

## Environmental Education

### Fines for Failure to Submit Environmental Education Plans

The EPA is keen to promote environmental education and will encourage and assist all entities that are required by the Environmental Education Act to formulate environmental education plans. To this end, the EPA has drawn up a set of protocols, one of which stipulates that entities that do not submit the annual environmental education plan by the stated deadline will be fined.

Article 19 Paragraph 1 of the Environmental Education Act states that government agencies,

government-owned enterprises, schools up to and including high schools, and any legal entity

that receives over 50% of its total funding from the government should each formulate an annual environmental education plan by January 31 every year that describes how they will promote environmental education within their organization. It also states that all personnel, teachers, and students are required to participate in at least four hours of environmental education before December 31 every year. January 31 of the following year is also the date by which the above entities must submit to the central competent authority, via the Internet, a report detailing the results of administering environmental education during the previous year.

In order to encourage compliance with the methods and procedures outlined above, the EPA has drawn up a number of protocols for dealing with violators of Article 19 Paragraph 1 of the Environmental Education Act, as follows:

1. Before February 10 every year, the central competent authority should refer to the online reporting system and send details of violators to the local competent authority that has jurisdiction over the violators.
2. Within 15 days of receiving notification from the central competent authority, the local competent authority that has jurisdiction must send out a

warning notice with a deadline that orders the violator to submit their plan online before the stated deadline. A copy of the notice must be sent to the central competent authority. The deadline for online submission of the plan must not exceed three months.

3. During the time period up to the deadline the local competent authority that has jurisdiction may hold meetings with the violator to assist them in completing the online submission.

4. After the deadline has passed the local competent authority that has jurisdiction over the violator should check the online system to see if the plan has been submitted. If necessary, personnel should be sent to the violator's premises to conduct an on-site inspection.

5. If the violator does not submit their plan within the deadline the local competent authority that has jurisdiction is authorized under Article 24 of the Environmental Education Act to levy a fine ranging from NT\$5,000-15,000. The local competent authority should also order the person in charge of environmental protection or a designated representative of the organization in question to receive one to eight hours of environmental protection lectures.

## Environmental Education

# Violators of Article 19 of the Environmental Education Act Given Deadlines to Make Improvements

The EPA recently conducted a full check on government agencies and schools to uncover violations of Article 19 Paragraph 1 of the Environmental Education Act. Lists of violators have been sent to local governments with jurisdiction over the violators and a warning notice with deadline has been sent out to each of them. If the violators do not fulfill their environmental education obligations within the stated deadline, a penalty of NT\$5,000-10,000 will be issued. The agency heads, school principals, or others in charge of environmental education will also have to attend 1-8 hours of environmental education lectures.

There are three different ways in which Article 19 of the Environmental Education Act can be contravened: by not formulating an environmental education plan for the current year, by not reporting implementation results for the previous year's environmental education plan, and by submitting a results report but not achieving full staff participation

in environmental education programs. To date, 434 government agencies have fallen foul of the regulations, and warning notices with deadlines have been sent out by the local governments with jurisdiction over the violators.

The Environmental Education Act was announced on

5 June 2010 and went into effect on 5 June 2011. In the year and a half since then, the EPA has worked together with local environmental protection bureaus and education agencies to hold nearly 70 sessions of seminars on online reporting, training courses and workshops for environmental education personnel from government agencies and schools. A dedicated hotline to deal with environmental education queries (080-000-1540) has also been set up, as has an environmental education guidance team made up of specialists who can travel wherever necessary to offer advice and guidance. As a result, of the 7,331 agencies and schools nationwide that are required to submit an annual report, in the first year the reporting rate exceeded 90%, which clearly shows that the majority of agencies and schools are fully capable of administering their environmental education

obligations according to the law.

According to the on-site analyses by the EPA, the district with the highest completion rate for environmental education in 2011 was Penghu County, at 100%. Yunlin County came in second, with 99.71%, while Lienchiang County ranked last with only 80%. In terms of submission of environmental education plans for 2012, Chiayi City, Chiayi County, Yunlin County, and Penghu County have all achieved 100%.

Information related to environmental education can be accessed from the EPA's dedicated environmental education information system Web page at <http://eeis.epa.gov.tw/>.

## International Cooperation

### Two Taiwan Schools Register with Eco-Schools USA

In March 2012, Jian-An Elementary School and the Sacred Heart Girls High School, both in New Taipei City, registered with the Eco-Schools USA program. On 26 March, EPA Minister Stephen Shu-hung Shen attended a routine weekly gathering of the Sacred Heart Girls High School, during which he presided over a ceremony for the school's formal registration with the Eco-Schools USA program. A representative from the US EPA was on site to present the registration certificate to the school, and Minister Shen gave words of encouragement to the staff and students.

The EPA points out that great efforts are being made in the international arena to promote low-carbon, sustainable lifestyles. President Ma made his ideas clear in this regard when he stated, "We need to act as responsible citizens of the world if we want to gain respect internationally. Following our success in instituting democracy we should now aim for international recognition for achievements in environmental protection, sustainability, energy saving and carbon reduction." In 2011, the EPA and the US EPA signed the Implementing Arrangement Number 9, which made these important concepts the foundation of future cooperative efforts to build sustainable communities and reduce greenhouse gas emissions.

Also as a part of implementing the Environmental Education Act, for the past year the EPA has been continuing to promote exchanges between Jian-An Elementary School, in Sanxia, New Taipei City – the winner of the 2010 National Sustainable Development

Environmental Education Award – and its sister school, Benjamin Franklin Elementary School in Edison, New Jersey, USA. Students in the two schools are using the Internet to exchange ideas and methods on how to conserve water, electricity, and resources during school hours.

In order that these exchanges may be continued in a more systematic manner, the EPA will continue to support Jian-An Elementary School's exchange program as well as the Sacred Heart Girls High School participation in the Eco-Schools USA project and the Green Flagship Awards Demonstration Plan. As winner of the Ministry of Education's 2011 International Exchange Excellence Award, and also as one of the top three high schools in the National Environmental Knowledge Challenge Tournament Finals, Sacred Heart Girls High School fully deserves to be supported to participate in programs being run by international environmental protection organizations. Teachers and students in the school are now sharing

their experiences in sustainability and energy saving and carbon reduction with the wider community in order to create a cleaner, healthier living environment and bring the goal of a sustainable homeland closer

to fruition. International cooperation and exchanges such as these help spread environmental education at the grassroots level and bring Taiwan in line with international practices.



▶ EPA Minister Stephen Shu-hung Shen (center) presides over a ceremony for the school's formal registration with the Eco-Schools USA program

## Toxic Substance Management

### Compliance Rate for Environmental Agents in 2011 Improved Over Previous Year

On 6 March 2012, the EPA published the results of its 2011 inspection and testing of environmental agents being sold in Taiwan. Of the 31,390 items inspected, 364 were found to have substandard labeling. This was a noncompliance rate of 1.16%, a slight improvement on the 2010 rate of 1.34%. Sampling of active ingredients in 160 samples showed that four were substandard, a noncompliance rate of 3.75%, which was better than the 2010 rate of 4.8%.

The four substandard products were Dr. Ant (上狠蟻博士), Ant-99 (螞蟻99, 2 products), and MANGICAP (免警蟑殺蟑堡), which were all found to contain active ingredients in quantities beyond the maximum limit. The manufacturers of the above four products have been fined NT\$60,000~300,000. It is the second year running that Ant-99 has been listed.

Environmental agents are commonly employed in homes to prevent insect infestation. To prevent the sale of dubious products the EPA supervises the yearly label inspections and ingredients testing of environmental agents by local government environmental protection bureaus. The inspections are carried out at random, and retailers, grocery stores, pharmacists, wholesalers, discount stores, flower

markets, and vendors in traditional wet markets are all targeted.

The EPA has also been paying special attention to the illegal advertising of environmental agents online in recent years. In 2011, environmental agencies examined 12,306 online advertisements, of which 11 were found to be illegal cases. The violators were fined NT\$20,000~60,000.

The EPA has published the results of its inspection and other related information on its Web site. Members of the public wishing to check on the proper licensing of environmental agents can do so through the EPA's Environmental Agent Permit Query System

at [http://mdc.epa.gov.tw/MDC/search/search\\_License.aspx](http://mdc.epa.gov.tw/MDC/search/search_License.aspx).

The EPA has also set up its Environmental Agents Safe Use Web site (<http://mdc.epa.gov.tw/EVagents/EVSecurity/EVIndex.aspx>) which teaches people how to recognize common household pests, how to use environmental agents safely, and some principles to follow when buying environmental agents. The above Web site also has a special section for children that shows them how to recognize common household pests and some easy ways to prevent them from breeding. The EPA welcomes children and their parents to make full use of the Web site.

## Eco-community

### EPA Responds to Earth Hour with NT\$100-200 bn Credit Fund for a Low Carbon Sustainable Homeland

On March 31, 2.2 billion people in 135 nations around the world showed their support for Earth Hour. Taiwan also played its part by turning off the lights in 100 well-known landmarks – including Taipei 101 for the fourth year running - and in over 10,000 stores. Over one million Taiwan residents also showed their support online, and EPA Minister Stephen Shu-hung Shen reiterated that the government will be spending NT\$100-200 billion to assist villages, townships, and cities around Taiwan to develop a low carbon sustainable homeland.

The turning off of lights in Taiwan this year was coordinated by the Society of Wilderness, which arranged for the lights in 100 of Taiwan's landmarks to be turned off for one hour between 8:30pm and 9:30pm on 31 March to show concern for our planet.

As Minister Shen pointed out, saving energy and reducing carbon emissions to achieve the goal of creating low-carbon living spheres by 2020 involves adjustments and changes both at the level of governmental policy making and at the level of personal habits. Just as Taipei 101 was able to gain LEED - EBOM Platinum Certification last year, the EPA believes that by referring to the Sustainable Jersey benchmarks it should be possible for even towns and villages in Taiwan to win green building accreditation.

The Low Carbon Sustainable Homeland Project will be funded by drawing upon the Air Pollution Control Fund to create a credit guarantee fund with a value of NT\$100-200 billion. The project will involve creating

four low-carbon living spheres in northern, central, southern, and eastern Taiwan. According to Minister Shen, at present there are 100-200 schemes for the project - such as zero carbon construction and energy saving street lights – that will undergo further assessment and accreditation. The vast scale of the project will undoubtedly create a significant green economy and many green employment opportunities.

The tallest green building in the world – Taipei 101 – will also continue to play a role through having its lights turned off for an hour every year. As Taipei 101 Executive Vice President Ringo Chao explained, not only will the outside lights be turned off but the companies leasing office space within the building have also agreed to turn off their lights for the hour.

## Awards Ceremony for Best Landfill Operations of 2011

The EPA recently held a ceremony for the 2011 General Waste Sanitary Landfill Comprehensive Inspection Awards, during which Minister Stephen Shu-hung Shen presented "Excellent" awards to the operators of six landfill sites: Bali, New Taipei City; Shanzhuku, Taipei City; Kuaiji, Taoyuan County; Lieyu, Jinmen County; Tanzi restored landfill in Shanyuan, Sanxia, New Taipei City; and Fudekeng restored landfill in Taipei City.

The Best Voluntary Improvements Award went to Husi landfill site in Penghu County for making improvements to the site – such as building a coral stone maze and planting *Gaillardia pulchella* – that are very much in keeping with the unique characteristics of the area. The operators of this site were also praised for putting resources to good use by asking the local prison community service team to assist in keeping the surrounding area neat and tidy by sweeping, cutting the grass, and pruning trees. The operators also invited local residents to participate in tree-planting activities. This site is a model for other landfills around Taiwan.

The Chunan landfill in Miaoli County won the Energy Saving and Carbon Reduction Award. After being restored, the site became an eco-park that now houses a shelter for stray dogs, an animal feeding zone, and an eco-pond made from recycled materials. The park also has a farm, which uses organic fertilizers produced by the landfill's food waste recycling plant to produce fruit and vegetables that have passed inspections, and are now donated to local disadvantaged households and daycare centers. This is a fine example of a park combining recycling, ecosystem preservation, and education that integrates well with its immediate community. Other awards given were three Most Improved Awards and three Most Visited Site Awards. In addition to praising the award winners, Minister Shen also urged the landfill operators to continue working toward optimum operational performance.

Since 2009, the EPA has been conducting inspections of landfill sites according to the General Waste Sanitary Landfill Operations Management Comprehensive Inspection Protocols. As a result of determined efforts by local environmental protection bureau officials and landfill operators, and with the assistance of the inspection team, operating techniques at each of the sites have developed and stabilized, and the improvements in operations

management are clear to see. Comprehensive inspections of landfill operations management, the establishment of a database on landfill operations and standard operating procedures have lightened administrative burdens and introduced an effective multi-layered management system. The introduction of self-assessment and reassessment systems has also allowed for the sharing of valuable practical opinions and experiences, and has won plaudits from all stakeholders.

The EPA pointed out that incineration is the main refuse disposal method in Taiwan. The bottom ash produced from the incineration process is now being reused at a rate of 53.2%, effectively reducing the amount of bottom ash that ends up in landfills, thus extending the life of landfills. However, landfills are still needed for the final disposal of bottom ash, and finding land suitable for landfills is becoming increasingly difficult on Taiwan, a densely-populated island. One answer to the problem is to enhance treatment capabilities that will extend the life of existing landfills and to make them accepted as neighborhood facilities that provide environmental education or leisure activities for local residents.

The EPA will continue to base its waste disposal policies on sustainable use of resources, such as by promoting refuse reduction, recycling and reuse. The EPA is always keen to introduce forward-looking approaches for treating refuse. For example, bioenergy centers that will produce energy from general waste is currently on the drawing board. In such a center the waste is sorted automatically by machines, and is then turned into an energy resource by a combination of pyrolysis, anaerobic fermentation, and high-speed composting. This is one of the many ways that the EPA is exploring to integrate resources, save energy, and reduce carbon emissions.

## News Briefs

### EPA Requests Taoyuan County Not to Extend AUO Discharge Permit

On 14 February 2012 the Taoyuan County government extended the discharge permit for AU Optronics Corp., in clear disregard of the conclusions of environmental impact assessments and Water Pollution Control Act regulations. As a result, on 17 February the EPA sent a letter to the Taoyuan County government asking them to revoke the extension. After not receiving a reply from Taoyuan County, on 15 March the EPA, responding to a request from Hsinchu County Government, sent another letter to Taoyuan County government demanding that AUO's discharge permit extension be revoked according to Article 117 of the Administrative Procedure Act.

### Movies Now Available on 2012 EPA Environmental Channel

In order to stimulate public concern for the environment and to encourage the public to take action, a number of environmental films are now available for viewing online, in accordance with Article 19 Paragraph 2 of the Environmental Education Act, which qualifies film viewings to fulfill the legal requirements for environmental education. Thirty-seven environmental films in three main categories - Love the Planet, Caring for Life, and Cherishing Resources - have been produced by the EPA, and are currently being broadcast on the 2012 EPA Environmental Channel (<http://hichannel.hinet.net/event/epa/>) along with 53 excellent films produced by central government departments. These films can be watched online for free from 9 March 2012 to 8 March 2013. The Online Environmental Channel education increases available learning opportunities, as well as the breadth and methods of learning. The overall goals are to cultivate responsible public behavior and attitudes toward the environment.

### Taipei City Seeks to Control Light Pollution with Fines up to NT\$50,000

In an attempt to solve the problem of light pollution in the metropolis and maintain suitable levels of illumination, the Taipei City Environmental Protection Bureau is leading the way in formulating the Taipei City Light Pollution Management Ordinance. The ordinance was approved at a city government meeting on 27 March and will be sent to Taipei City Council for review. The ordinance stipulates that illuminance and luminance from light sources, and visible light reflectance from building glass, metallic surfaces, tiles, mirrors or other reflective materials must not exceed light pollution control values. Violators will first be issued with a notice to make improvements within a deadline. If improvements are not made then installers, owners, users, or owners of the premises containing the light pollution source can be fined NT\$5,000~50,000, and ordered to make improvements within a given time period. If improvements are failed to be made within a given time period again, daily consecutive fines will be issued, and if necessary the installation must be removed.

### Earth Environment Season Events to be Held from April-June

The EPA has designated April to June as "Earth Environment Season" so that the people of Taiwan will have a chance to show their care and concern for our planet, a chance to "Love the Earth through action." During this period over 100 activities – including hands-on practice, field visits and outdoor learning – will be held by the EPA, environmental education venues, citizen groups, and local governments. All members of the public are welcome to participate, and information concerning the events has been published on the EPA's Environmental Education Information Management System Web page: <http://eeis.epa.gov.tw/front/>.

Environmental Policy Monthly  
R.O.C. (Taiwan)

Publisher  
Stephen Shu-hung Shen, Minister

Editor-in-Chief  
Tsung Yung Liu

Executive Editors  
Y. F. Liang; Yu-ling Yang; Li-kuo Hsiao;  
Shao-wen Chang; Jason Hoy

Translator  
Peter Morehead

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

For inquiries or subscriptions to the  
printed version, please contact:  
Environmental Policy Monthly  
Environmental Protection Administration  
Office of Sustainable Development

83, Sec. 1, Jhonghua Rd.,  
Taipei 100, R.O.C. (Taiwan)  
tel: 886-2-2311-7722, ext. 2211  
fax: 886-2-2311-5486  
e-mail: [umail@epa.gov.tw](mailto:umail@epa.gov.tw)

Contents Copyright 2012.

Printed with soy ink on recycled paper. 

行政院新聞局出版登記證局版北市誌字第1611號  
中華郵政北台字第6128號執照登記為雜誌交寄