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## Feature Article

### Interministerial Management of Endocrine Disruptors Strengthened

The effects of endocrine disruptors are so widespread that it is impossible to set controls under a single law or a single organization. Therefore interdepartmental cooperation is necessary for effective management. Thus the EPA convened relevant government agencies to establish an interministerial taskforce on 18 November 2009. This taskforce then set short-, mid- and long-term plans to actively manage endocrine disruptors on 6 April 2010.

A US EPA report defines endocrine disrupting substances (EDS) as substances that "interfere with the synthesis, secretion, transport, binding, action, or elimination of natural hormones in the body that are responsible for the maintenance of homeostasis, reproduction, development, and behavior."

Certain synthetic chemical substances that are released into the environment and enter the human body or other animals through the food chain mimic natural hormones, thereby affecting the human physiological control mechanism. Increased awareness has led to strengthened management of endocrine disrupting substances in the international arena. One example is the strategy proposed by Japan's Ministry of the Environment in 2005 and

launched in July 2010, to proactively announce related information and promote international cooperation on endocrine disruptors found in future chemical substances. The US House of Representatives proposed to establish the Endocrine Disruptor Screening Enhancement Act on 5 May 2010 as an update to the Endocrine Disruptor Screening Program legislated in 1996. The EU employs methods for Substances of Very High Concern (SVHC) in REACH regulations to screen and manage suspected endocrine disruptors. .

#### Interministerial Mechanism to Raise Effectiveness of Management

As endocrine disruptors are widely distributed and present in many different media, they cannot

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be controlled under one regulation or by a single organization; effective management is dependent upon interdepartmental cooperation. With support from the Consumer Protection Commission, the EPA convened relevant government agencies on 18 November 2009 to join an interdepartmental taskforce, which finalized short-, mid-, and long-term management plans on 6 April 2010, for active management of endocrine disruptors.

The "Endocrine Disruptor Management Plan" allocates responsibilities among specific government agencies for the management of endocrine disruptors in Taiwan as follows:

- Department of Health: food products, food containers, medical equipment
- Council of Agriculture: pesticides, feed, agricultural products
- Ministry of Economic Affairs: merchandise, toys
- Environmental Protection Administration: environmental agents, drinking water, indoor air quality
- Ministry of the Interior: green buildings, green building materials
- Ministry of Financial Affairs: hygiene standards for alcohol products,

Each agency is responsible for strengthening regulations, carrying out random product monitoring, and providing accurate information to the public. This strategy draws on the power of interagency cooperation to actively safeguard human health.

Regulations specifying legal control over endocrine disrupting substances in Taiwan include:

- EPA: Toxic Chemical Substances Control Act, Environmental Agent Control Act, Air Pollution Control Act, Water Pollution Control Act, Waste Disposal Act, Soil and Groundwater Pollution Remediation Act, Drinking Water Management Act, Marine Pollution Control Act.

- Council of Agriculture: Agro-pesticides Management Act, Fisheries Act, Animal Industry Act, Veterinary Drugs Control Act, Feed Control Act, Agricultural Production and Certification Management Act.

- Department of Health: Food Sanitation Management Act, Pharmaceutical Affairs Act, Cosmetics Hygiene Control Act

- Ministry of Economic Affairs: Commodity Inspection Act, National Standards of the Republic of China (CNS)

- Department of the Interior: Building Act

### Random Testing of Products to Safeguard Public Health

To date, the interministerial taskforce has achieved the following results in managing endocrine disruptors:

1. Completed the ministerial Endocrine Disruptor Management Plan.
2. Confirmed the competent authorities and regulations for household goods, products, food and the environment; domestic resources have been effectively integrated to keep pace with international trends.
3. Enhanced the legal infrastructure:
  - a. Completed revisions to the Principles for Screening and Identifying Toxic Chemical Substance.
  - b. Assessed the necessity of listing: 1) plastic shoes (children's shoes) and children's products (drawing supplies) as items requiring examination; 2) fireproof building materials and air purifiers as items requiring testing for PBDEs.
  - c. Reexamined the Sanitation Standard for Food Utensils, Containers and Packages and added restriction standards for terephthalate in plastics, and polyethersulfone (PES), polyphenylene sulfone and bisphenol A in baby bottles.
4. Carried out random testing, monitoring and safety promotion of household goods, products and food on the market

a. The EPA completed random testing of over 40 retail detergents, paints, and toys; and carried out surveys on the environmental distribution of endocrine disruptors in six rivers.

b. The Ministry of Economic Affairs completed over 7,000 random tests in accordance with toy safety standards on 40 kinds of portable lanterns, 20 kinds of children's shoes, 25 kinds of incense and joss paper, and 25 kinds of erasers on the market.

c. The Ministry of the Interior prioritized examination for phthalates (plasticizers), heavy metals, and other endocrine disruptors during its review of the Green Building Materials Label.

d. The Ministry for Economic Affairs assessed the feasibility for testing fireproof materials for PBDEs and for including air purifiers in PBDE tests.

#### Strengthening Regulations and Promoting International Cooperation

To reduce citizens' exposure to endocrine disruptors via food and beverages and to ensure a healthy living environment, Taiwan has gathered results and testing methods for substances surveyed in other countries. Apart from assessing the need to include these as testing items in Taiwan, priority is given to items for which Taiwan already has testing methods. Testing duties are then divided among the relevant

governmental agencies so that local data can be used to determine whether or not it is necessary to revise related regulations for reducing exposure to endocrine disruptors.

Current related developments include:

1. International cooperation: Carried out academic, industrial or governmental exchanges with Japan, US, EU regarding endocrine disruptor screening and risk assessment.

2. Strengthening domestic regulations: Carried out control and management of revisions, fortifications or additions to related regulations concerning the potential presence of endocrine disruptors in products, household goods, and foods.

3. Domestic surveys: Carried out inspections on the current status of endocrine disruptors in marketed products, household goods and foods, and immediately posted results of this inspection as well as announced media reports on the correct use of these products so as to reduce public misgivings and help find loopholes or gaps in current regulations.

4. Environmental education: The interministerial taskforce has held various educational activities to help the public better understand how endocrine disruptors can harm human health and the environment.

 Table: Controlled products containing environmental endocrine disruptors under each authority

Authority	Responsibility
Department of Health	Food products, food containers, food detergents, medical equipment, pharmaceuticals, cosmetics
Council of Agriculture	Agrochemicals, feeds, agricultural products
Ministry of Economic Affairs	Merchandise, daily commodities, toys
Ministry of the Interior	Construction materials
Environmental Protection Administration	Toxic chemicals, environmental agents, drinking water, banned/limited product use, Green Mark

## Feature Article

## Environmental Educator Certification and Management Regulations Preannounced

The Environmental Education Act will take effect on 5 June 2011. Related bylaws supporting the Act are now being drafted, including the Environmental Educator Certification and Management Regulations. This regulation has just been preannounced.

The EPA is currently drafting bylaws to support the Environmental Education Act (環境教育法), including the Environmental Educator Certification and Management Regulations (環境教育人員認證及管理辦法), which has just been completed. The main focus of this regulation is to develop a certification system to affirm professionalism in environmental education, as well as encourage more people to engage in environmental education. According to Article 10 of the Environmental Education Act, future certification may be obtained in any of six ways: academic experience, work experience, expertise, recommendation, testing, or training.

As for academic experience, the EPA stipulates that those who earn at least 24 university credits, including 10 credits from five core subjects—environmental education, environmental education methodology and design, environmental ethics, environmental education practices, and environmental and nature conservation—can apply for certification as an environmental educator.

The work experience requirement considers previous experience in environmental education, including all levels of government agencies, schools, businesses, or organizations for three consecutive years or for a cumulative experience of at least five years. Those who engage in volunteer work for 300 hours within three years or 400 hours within five years are also eligible to apply in this category as an environmental educator.

As for certification based on expertise, certification will be granted to authors of books or audio-video material which is helpful in environmental education. It is also hoped that people from all circles recommend people with expertise in areas related to environmental education.

As it is not always possible to provide certification using the preceding methods, people can also be recommended into the certificate system by a government agency that confers special awards commending significant contributions to environmental education. This option has been left open in order to encourage other environmental educators to look to these people as role models. Indigenous or minority peoples maintaining or passing down traditional environmental education skills, knowledge, and cultural values can also be recommended for making significant contributions to the field. The EPA views this as one way of showing the government's respect toward cultural diversity, and hopes that more people begin to see that different cultural perspectives, skills and knowledge are invaluable for the field of environmental education.

People can also enter the system by passing an examination. Those earning over 10 credits from a university in an environment-related field are eligible to take the examination for becoming an environmental educator. Those who have not fulfilled this credit requirement can take additional written and oral examinations. The written test includes questions on environmental education, environmental education methodology and skills, environmental ethics, environmental education practices, and environmental and nature conservation.

Training is another channel that has been made available for people who earnestly desire to obtain environmental educator certification but do not fulfill the above requirements for academic experience, work experience, expertise, recommendation or examination requirements. The EPA is currently planning the training curriculum, which includes a minimum of 120 hours of classes.

The EPA emphasizes that existing environmental protection regulations are predominantly controlling

or restrictive in nature. The Environmental Education Act stands apart from these regulations by promoting environmental education and sustainable development. The foundation for environmental education in Taiwan has gradually been established over the years. The next step is to upgrade the quality of education and encourage public participation rather than restrict bad behavior. Education initiatives can

be regarded as a promise to continually improve and further develop the domestic field of environmental studies. The environmental educator certification system is voluntary and encouraging in nature. The system does not prohibit those who have not obtained certification from engaging in environmental education, and thus does not affect the rights and interests of existing workers.

## Soil & Groundwater

# Principles for Demarcating and Announcing Pollution Site Boundaries and Control Areas Promulgated

The EPA convened key people in a public briefing to discuss different perspectives regarding a set protocol for county and city environmental protection bureaus to follow when announcing and managing pollution sites. Drawing on the results of this meeting, the EPA promulgated the Working Principles for the Demarcation and Announcement of Pollution Site Boundaries and Control Areas.

In light of the diverse nature of soil and groundwater pollution sites, the EPA is working to make it easier for environmental agencies to adhere to Article 12 of the Soil and Groundwater Pollution Remediation Act and Article 10, paragraph 4 of the Soil and Groundwater Pollution Remediation Act Enforcement Rules concerning the announcement of control and remediation sites and demarcation of pollution boundaries. Article 16 of the Soil and Groundwater Pollution Remediation Act stipulates that consistent principles should be followed when demarcating soil and groundwater control areas. The EPA has convened county and city environmental protection bureaus at meetings and held public hearings to discuss different perspectives regarding this issue. Results of this discussion were referred to in drafting the Working Principles for the Demarcation and Announcement of Pollution Site Boundaries and Control Areas (場址污染範圍與管制區之劃定及公告作業原則), which were promulgated on 23 February 2011.

The EPA indicated that different methods are used for demarcating and announcing pollution boundaries and control areas depending on the nature of soil and groundwater pollution, and the category of site (typically being farmland, illegal dumping sites, abandoned factories, operating factories, or gas stations). While in actual practice the announced

site is the parcel of land where soil and groundwater pollution has been verified to reach control standards. However, flexibility is allowed on a case-by-case basis. To safeguard citizens' rights and interests, follow-up work will still require compliance with timelines for listing regulated substances. After each county and city taskforce reviews and approves pollution boundary survey results or newly discovered evidence of pollution, they will issue a regular review and revision of announcements. Moreover, if a parcel of land is partitioned after being announced as a soil pollution control site, the working principles ensure fairness and rationality by clearly stipulating revision procedures including investigation, review and further entry to the site for verification.

The EPA requires that after control or remediation sites have been announced, the polluter or other potentially liable person should apply for a further investigation of pollution boundaries and ensure a comprehensive understanding of pollution boundaries before making follow-up control and remediation plans, so that emergency measures can be adopted to prevent pollution from spreading.

## Soil and Groundwater

# Soil Pollution Technician Licensing System Established

From 3 February 2011, all pollution control plans, remediation plans, inspection data and other information drafted in accordance with the Soil and Groundwater Pollution Remediation Act must be done by a certified technician.

The EPA included technician certification regulations in the Soil and Groundwater Pollution Remediation Act when the Act was revised on 3 March 2010. A grace period of one year was given to ensure people working in related fields have time to respond. The Act stipulates that by 3 February 2011, approval must be obtained from a qualified environmental engineer or applied geologist for all pollution control plans, remediation plans, assessment surveys and inspection data, pollution surveys and assessment plans.

The EPA will notify the liable party if there are parts of their pollution control or remediation plans that have not been verified by a certified technician. Failure to act on such notices more than three times may result in fines from NT\$200,000 to NT\$1,000,000. Rejection of supplementary documents for pollution surveys and assessment plans could cause successive delays to the remediation, thus further violating regulations, and incurring more fines. In the past when businesses reported soil pollution assessment survey data, related testing needed only

to be entrusted to a testing organization permitted by the EPA. Now, the case must be approved by a certified technician before being submitted to the local environmental protection bureau for review.

The EPA emphasizes that the reason for including technician certification at this time is to ensure quality and effectiveness of related plans or information. Environmental engineers or applied geologists are bound to uphold a professional perspective, review related documents and data, provide substantial evidence, and express opinions based on empirical facts. The EPA also audits each case according to the technician's documents, and technicians found violating regulations will be penalized according to related regulations under the Public Construction Commission.

Related information and charts regarding technician certification can be found in detail on the EPA's Web site for environmental engineer certification services (<http://eric.epa.gov.tw/Peeportal/>).

## Water Quality

# Korean Ship Detained to Ensure Payment for Pollution Crimes

The EPA coordinated with the Ministry of Justice in handling the case of the Korean chemical tanker Samho Onyx (Samho Shipping Company), which on the morning of 25 February 2011 was detained in the Mailiao Harbor by the Administrative Enforcement Agency, Chiayi Branch. The shipowner is charged with violating the Marine Pollution Control Act from October 2005 to 2007, and not paying the accrued fines of NT\$64,569,301.

As part of a plan developed by the EPA, Department of Water Quality Protection Director Hsu Yong-hsing led personnel to meet with Chiayi Administrative Enforcement Agency personnel at the Mailiao Industrial Harbor for the deployment of an ambush. The 2,500-tonne chemical tanker Samho Onyx was immediately detained when it docked at 8:00

a.m. on 25 February 2011. The detainment received full support from Director Shao-Chia Shen of the Administrative Enforcement Agency, Chiayi Branch, and both entities worked in tandem to carry out a smooth apprehension according to executive law and procedures.

The EPA had long set its sights on this tanker, despite its unpredictable course throughout the hazy day of 24 February 2011 near Mailliao on the west coast of Taiwan. The vessel reported that it would dock at Mailliao, yet did not enter the harbor. As the ship only needed to dock for a few hours, officials had no choice but to wait in ambush throughout the evening. The vessel was discovered preparing to enter the harbor at around five o'clock in the morning and the arrest was carried out as soon as the ship was docked.

In October 2005, another South Korean ship, the Samho Brother, was carrying 3,100 tonnes of benzene in a direct voyage to the Kaohsiung Harbor. Before dawn on 10 October 2005, the vessel was suspected to have collided off the shore from Taoyuan, and to have sunk nine kilometers from the Hsinchu City Nanliao Fishing Harbor. It was

later found that the vessel did not dispose of its chemical cargo until mid-2009. On the grounds that this company did not follow regulations in adopting measures to prevent or reduce marine pollution, the EPA has issued a total of NT\$79.5 million in fines from 2005 to 2007 for violations of Article 32, paragraph 1 and Article 49 of the Marine Pollution Control Act.

The Supreme Administrative Court dismissed appeals made by the Samho Shipping Company twice in August 2009 and August 2010, and has already completed legal proceedings. The company has paid installments of around NT\$15 million, and still owes over NT\$64.5 million. Since the account was in arrears and the company had no assets in Taiwan, it was necessary for the Administrative Enforcement Agency to detain the vessel to protect Taiwan's rights and interests.

## Ecolabeling

### EPA and Industry Cooperate to Reduce Packaging

The EPA has encouraged industry to reduce packaging by 30% annually, in part due to the success of a packaging reduction agreement made two years ago with five portable computer manufacturers. This agreement is now being expanded to include common household product brands and the packaging design industry.

From 2006 the EPA began enforcing control measures through the Excessive Product Packaging Restrictions (限制產品過度包裝), which have reduced packaging waste by approximately 7,300 tonnes per year or 27% of the total volume. Apart from restrictive measures, businesses are asked to focus on source management when designing packaging by considering green design and more lightweight materials that cut down on excessive use of materials and use more environmentally friendly materials.

In 2009, the EPA signed a packaging reduction agreement with five major portable computer manufacturers (Chunghwa Picture Tubes Ltd., AU Optronics, Chimei Innolux Corporation, Acer Communication & Multimedia Inc., and ASUSTek Computer Inc.). This agreement alone has led to impressive results with the reduction of about 3,700 tonnes of packaging waste in 2010, far exceeding the original target of 870 tonnes.

In order to continue promoting ever lighter packaging, this year the agreement will be expanded beyond these five companies to include participation from common household product brands and the packaging design industry. Methods to reduce excessive use of resources on packaging range from reducing the amount of printing to encouraging single-material packaging, all of which play a part in resource conservation and environmental protection. A total of 11 companies representing 15 products are expected to sign this agreement in 2011, which is hoped to lead to even better results in packaging reduction in the coming year.

Lighter packaging not only has a lighter impact on Earth, but also costs less and helps businesses save on expenses, yield higher profits, improve their corporate image, and create a triple-win situation for consumers, producers and the environment.

 Companies and products that signed the 2011 Voluntary Packaging Reduction Agreement

Companies	Products
Chunghwa Picture Tubes Ltd.	17-inch LCD panel shipment packaging carton (Model: 170EA)
AU Optronics Corp.	LCD Backlight Package (Model: T315HW07 V0)
	Semi-finished LCD panel (Model: T32)
Chimei Innolux Corp.	Notebook 17.3-inch panel (Model: N173O6)
	Monitor 15.6-inch panel (Model: M156B3)
Acer Communication & Multimedia Inc.	LCD Monitor (Model: BL2201)
ASUSTek Computer Inc.	14-inch Notebook (Model: U80/U41)
Cheng Loong Corporation	OAKVINE Double corrugated wine box
AIRBAG Packing Co., Ltd.	Cartridge bags (Model: ML409S)
Mao Bao Inc.	100% Effective S Antimicrobial Laundry Detergent 3500 g (Model: D39350010)
	100% Effective S Strong-Cleaning Laundry Detergent 3000 g (Model: D40300010)
	100% Effective S Strong-Cleaning Antimicrobial Laundry Detergent 3500 g (Model: D40350020)
Kuai Kuai Co., Ltd.	Gold Spring Gift Box
HairOright International Corp.	Green Tea Shampoo 400 ml
Bonny Pack Technology Co., Ltd.	Easy-strip packaging

## Environmental Monitoring

### EPA Information Security Management System Obtains ISO 27001 Accreditation

The EPA's information security management system recently obtained ISO 27001 accreditation, following the EPA's new certification for the 2010 ISO 20000 data service management system. This achievement affirms the EPA's continuous efforts in information security and service management, and lays a solid foundation for information management for the future Ministry of Environment and Natural Resources.

Since the EPA first obtained ISO 27001 certification in 2007, it has worked hard toward upgrading computer resources and Internet information security management. In addition to maintaining the operation of existing computer rooms, the EPA has complemented the Executive Yuan's promotion of information reform within government agencies by introducing Web hosting and cloud computing technology in 2009, merging the nine computer rooms of all agencies and departments. In 2010, all 104 computer mainframes were condensed into 18 units to achieve energy conservation and carbon reduction objectives for the computer room. The EPA's goal is to ensure systematic review and improvement of existing information management mechanisms so that information security risks are effectively controlled.

The EPA will be reorganized as the Ministry of Environment and Natural Resources in 2012 as part of government restructuring. The EPA is therefore establishing a comprehensive computer room that will create a "private cloud" for the future Ministry of Environment and Natural Resources. Since 2010, the EPA has also been planning the blueprint for the new Ministry, and has already completely restructured the Ministry's Internet functions. The new Ministry will still uphold the prime directives of uninterrupted service and seamless transfer throughout the process of transferring information on the mining industry, geology, national parks, forest conservation, soil and water conservation and ecological conservation, and other information. This will ensure the Ministry will uphold information security and resource sharing during the restructuring.

## Recycling

### New Regulation Puts Vendors in Charge of Recycling

The EPA is putting recycling responsibilities into the hands of retailers selling electronics and electric products (TVs, washing machines, refrigerators, air conditioners, and heaters) with the 30 December 2010 promulgation of the *Scope, Facilities, Specifications and Other Criteria for Electric and Electronic Product Vendors Required to Install Recycling Facilities* (應設置資源回收設施之電子電器物品販賣業者範圍、設施設置、規格及其他應遵行事項). This will settle recycling debates and strengthen control over end-of-life products to prevent them from polluting the environment. This regulation will take effect from 1 July 2011. More information and details are provided for residents and businesses on the EPA Web site (<http://w3.epa.gov.tw/epalaw/index.aspx>). A grace period of six months has been given to protect the rights and interests of vendors and prevent this regulation from having a negative impact.

The EPA indicated that many people have reservations that retailers who deliver purchased goods to consumers will charge additional fees when it comes time to recycle these products. In order to improve this situation and make sure people do not have a bad impression about increased recycling fees as well as to clarify the roles of consumers and vendors in recycling, the EPA has specified a number of standards for vendors of TVs, washing machines, refrigerators, air conditioners, and heaters according to Article 19 of the Waste Disposal Act (廢棄物清理法) regarding stipulations on actions required by designated electric and electronic product vendors. Vendors that do not comply with the regulation after they take effect will be subject to fines from NT\$60,000 to NT\$300,000 according to Article 51 of the Act.

The EPA emphasizes that the focus of this new regulation is to get vendors to follow standards in setting up recycling facilities, reporting recycling affairs online, and reporting information to the competent authority for review. Vendors should not charge consumers or for any reason refuse to recycle or provide clearance services to consumers, and should properly carry out management and recycling work. Consumers should comply by filling out manifests to ensure vendors uphold transparency of recycling and treatment processes. The regulation ensures the products are recycled or reused and eliminates any chance of illegal disposal or pollution. In the future, the operation bases of all the nation's more than 8,000 vendors will be required to provide recycling services to all townships, villages and communities, making it easier for all people to comply with the recycling system.

## Waste Management

# Waste Management Performance Awards to Be Conferred Biennially

In order to conserve administrative resources when selecting and conferring waste management performance awards, the EPA is integrating two regulations into one by drawing on prior experience and needs in holding selection activities. The Industrial Waste Disposal and Resource Reduction, Recycling and Reuse Award Guidelines (事業辦理廢棄物清理及資源減量回收再利用績效優良獎勵辦法) and the Renewable Resource Recycling and Reuse Award Guidelines (再生資源回收再利用績效優良獎勵辦法) have been merged into the draft Industrial Waste Resource Management Award Guidelines (廢棄資源管理績優事業獎勵辦法).

The EPA had previously established two separate regulations on 26 February 2002 and 9 July 2003 to encourage appropriate disposal of industrial waste, and actively promote resource reduction, recycling and reuse. This involves lengthy selection processes and many of the same companies participate in the award selections each year. Many industries in Taiwan are making great efforts to promote zero waste and recycling and the overall industrial waste reuse rate has already exceeded 70%. To conserve administrative resources and make waste management

performance awards more meaningful, in the future one award will be held once every two years.

The two guidelines are now being merged into the draft Industrial Waste Resource Management Award Guidelines. The new guidelines define the selection criteria more clearly and are expected to encourage more industries to participate.

Content regarding this new regulation can be viewed online under the draft regulation preannouncement section of the EPA Web site (<http://ivy5.epa.gov.tw/epalaw/index.aspx>).

## Climate Change

# Imported Pollution Prevention Equipment and Vehicle Use Certification Procedures Go Online

Imported pollution prevention equipment and vehicle use certificate applications are being put into electronic format online to save applicants work and time. The EPA has taken this opportunity to revise the format of vehicle use certificate applications. As the vehicle use certificate "review working guidelines" were set early in 1995, and differ with the current customs import tariffs and the Customs Act, review guidelines and related standard procedures have also been revised.

The EPA has completely revised three regulations: Import Pollution Prevention Equipment and Vehicle Use Certificate Review Working Procedures (進口污染防治設備及車輛用途證明書審核作業要點), the Format of Imported Pollution Prevention Equipment and Vehicle Use Certificate (進口污染防治設備及車輛用途證明書修正格式), and the Imported Pollution Prevention Equipment and Vehicle Use Certificate Review Working Procedures (進口污染防治設備及車輛用途證明書審核作業標準作業程序). The EPA established a special Web site that will allow future applicants to directly download application forms and certificates without having

to pay. This measure saves time and cost, and makes the application process more convenient.

Regarding revisions to the application and certificate format, the certificate has been changed from B4 to A4 format, and the necessary attached forms for reviewing applications and certificates are provided to make filling out forms more convenient for applicants. Each form can be individually checked to prevent applications from being rejected due to missing information on documents in the event that too many products are imported. Apart from minor modifications in compliance with the Customs Act, customs import

tariff and the views of other agencies, all other application content and methods are consistent with the original format. After downloading the certificate form and filling out the four-in-one application form, the application can be sent to the EPA for review. After approval, the certificate will be sent to the applicant as well as the arrival port customs office.

To strengthen services for the public and make the application process easier, the EPA has created an application form checklist, a Q&A explanation and other helpful tables, all of which can be found on the EPA's Web site (<http://www.epa.gov.tw/> - 首頁>便民服務>下載專區>線上表單下載>進口污染防治設備或車輛用途證明申請).

## Air Quality

### EPA Actively Promoting Battery Swap System

Since 2010, the EPA has been actively promoting a battery swap system for electric vehicles so that running such vehicles will eventually become as easy and convenient as filling an ordinary car with gasoline. A network of swap stations is being built where consumers will be able to exchange their discharged vehicle battery for a fully-charged one, removing the inconvenience of having to charge and maintain the battery themselves. The EPA's efforts are already leading to positive results.

The most attractive feature of electric vehicles when compared to standard internal combustion motor vehicles is that they do not produce any polluting emissions, which is why they are being promoted as eco-friendly forms of transport. To this end, the Executive Yuan recently approved the Electric Motorcycle Production Development Promotion Plan and the Smart Electric Vehicle Production Development Strategy and Action Plan. The EPA is actively involved in the two schemes: Forging a plan to give subsidies of NT\$3,000 to owners of 2-stroke motorcycles willing to scrap their old motorcycles and purchase new electric scooters approved by the Ministry of Economic Affairs' Industrial Development Bureau, and encouraging operators to participate in R&D for the battery swap system.

The primary concern that consumers have about electric vehicles is the limited mileage that the batteries provide, which may result in their vehicle running out of power before they arrive at their destination. The battery swap system is considered the best solution to this problem by giving consumers the option of easily

exchanging their batteries at any time without having to charge and maintain them themselves. Two Taiwan companies have already developed electric battery swap facilities and systems: City Power and Kentfa Advanced Technology Corp. Another Taiwan company – Luxgen – has already developed an electric car that has passed all of the necessary inspections, and can be legally registered and driven on public roads. Prototypes of an electric bus have also been developed by Advanced Lithium Electrochemistry Co., and are currently being tested.

Now that Taiwan has the capability to manufacture electric vehicles – motorcycles, cars, and buses – the EPA will be pushing hard for the introduction of an effective battery swap system that will allow consumers to quickly and conveniently exchange batteries for any kind of vehicle at a lower cost than running a standard gasoline or diesel vehicle. The EPA is fully committed to promoting the use of electric vehicles to reduce emissions, which will mean cleaner air for everyone to enjoy.

## News Briefs

### Soil Pollution Monitoring Standards Announced

The soil pollution monitoring standards comprise a total of six items and were announced and implemented on 31 January 2011. Pursuant to Article 6 Paragraph 2 of the Soil and Groundwater Pollution Remediation Act, if the substance concentrations exceed the monitoring

standards listed but are not due to contamination caused by external pollution after considering the geological conditions of the specified areas, the influence of environmental background factors, and solid scientific study, and after receiving approval of the EPA, these standards do not apply.

Pollutants monitoring items and monitoring standard levels are listed below.

▶ **Table: Pollutant monitoring items and monitoring standard levels, in mg/kg soil on dry basis:**

Pollution Items	Standard Monitoring Levels
As	30
Cd	10 (2.5 for food crops agricultural land)
Cr	175
Cu	220 (120 for food crops agricultural land)
Hg	10 (2 for food crops agricultural land)
Ni	130
Pb	1000 (300 for food crops agricultural land)

### Over 2,000 Lubricating Oil Collection Stations Established for DIYers

From January 2010, the plans of each county and city environmental protection bureau have been integrated to establish a nationwide system of free waste lubricating oil collection stations. The EPA is providing guidance to set up free recycling stations with a priority on existing waste lubricating oil changing services at car repair and maintenance shops, motorcycle shops, and gas stations. Businesses that receive guidance agree to expand their collection services to DIYers who do not purchase their oil products. Thus appropriate collection services are available to those who do their own oil changes. Currently, there are 2,320 such free collection stations throughout the nation that provide free collection services for waste lubricating oil.

### River Remediation Effective in Pingtung City's Wannian River

Before the remediation of Wannian River in Pingtung City, its water quality was notoriously black and odorous. To make matters worse, construction projects covered up the river and obstructed people from accessing the water. The EPA began promoting river remediation work in 2007 by successively subsidizing the Pingtung County Government to hold the Wannian River Basin Comprehensive Remediation Plan. This plan unfolded in six stages with a total cost of NT\$180 million. All construction was completed in 2010, with strategies including effluent interception, water recharge, natural

purification engineering and riverbank landscape rebuilding. The plan has greatly improved Wannian River water quality and the riverine environment has seen the reappearance of fish. After removal of the concrete pillars originally standing in the water, riverbank landscape greening and beautification construction have given a new face to the Wannian River, benefitting the 220,000 people who live along its banks.

### Taiwan Environmental Protection Administration to curb water pollution by potty training pigs

In traditional pig farms, the animals live with their waste. This causes problems, including a lower survival rate of young pigs and higher demands on labor and water for cleaning pig pens. Farmers need to use large amounts of water to flush out feces and urine from pig pens, which generates serious water pollution in Taiwan. However, Taiwan Environmental Protection Administration Minister Stephen Shu-hung Shen came up with a solution - to train pigs to use potties!

There are three major advantages to training pigs to use potties. First, it can save around 50-70% of water usage and decrease water pollution loads. Second, younger pigs are healthier due to a cleaner living environment, and their survival rate can increase by around 20%. Third, pig potties increase the efficiency of cleaning the pig pens and collecting the pig feces and urine. In addition, farmers can then utilize the droppings for methane gas energy and fertilizer.

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