



Environmental Policy Monthly

Environmental Protection Administration, Taiwan, ROC

Feature Column

Firm Measures to Trim Down Packaging

Taiwan's first stage of restrictions on excessive packaging was implemented in July 2006. According to EPA statistics, regulated product packaging has since been reduced by approximately 29.6% or 3,700 tonnes. Aside from achieving marked results in packaging reductions, this restriction measure has successfully led enterprises toward designing simpler and lighter packaging, while assuring that packaging of free accessory gifts complies with environmental demands.

During the drafting of the Excessive Product Packaging Restrictions (限制產品過度包裝), Taiwan made sure to first inform the international arena as packaging restrictions could affect products under international trade. The WTO secretariat made a 60-day preannouncement to all member nations on 24 February 2005, in compliance with the WTO Agreement on Technical Barriers to Trade. The Thailand representative offered comments to the draft restrictions; after receiving Taiwan EPA's response, no further comments were made. This restriction measure is Taiwan's first environmental regulation to require explanation in the international arena. Taiwan is the third nation, behind the EU and South Korea, to legislate regulations on excessive packaging, reflecting Taiwan's commitment to reduce packaging waste.

Advancements in packaging technology and Taiwan's rising GDP have given rise to increasingly elaborate gift box packaging in recent years. Every day the EPA receives more and more citizen complaints about the problem of sorting and recycling waste gift box packaging. The EPA is therefore addressing the issue of how to fulfill packaging requirements and reduce the environmental impact of waste packaging.

In the interest of promoting packaging reduction, the EPA began planning related policy measures and conducting public opinion polls from the year 2000. According to the 2000 poll, over 60% of citizens think gift boxes are excessively packaged in terms of too many layers of packaging, an unreasonably high packaging volume ratio, excessive cost of packaging, and excessive use of materials.

Comparing public polls in the years 2000 and 2003, the percentage of respondents who think excessive packaging of gift boxes is a serious problem rose from 60.9% to 68.9%. Meanwhile, those who expressed

Packaging Reduction Regulations Reflect Public Opinion

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unwillingness to spend more on products with excessive packaging or elaborate packaging also rose from 77.5% to 92.7%. This shows that people's environmental consciousness has matured. Citizens think that the situation of excessive packaging of products on the market is quite serious, and they support government efforts to adopt necessary restriction measures.

After first referring to other nations' experiences in implementing packaging reductions, including related regulations in the EU and South Korea, the EPA drafted restriction methods to suit Taiwan's situation. Packaging restrictions in the EU primarily stipulate: 1) packaging should be appropriately minimized as long as it still serves the purpose of protecting the product and the consumer's safety, health and acceptance; 2) the amount of toxic and hazardous substances in packaging should be regulated so as to minimize environmental impact after use; and 3) packaging should consist of appropriate materials that can be recycled, reused, composted or consumed for energy generation. This directive is currently being implemented in Britain and France.

South Korea has placed restrictions on the packaging volume ratio, packaging layers and packaging materials. The packaging volume ratio for gift boxes must be under 25%, no more than two layers of packaging may be used, and packaging containing polystyrene foam and coating, lamination or membranes made of PVC have been banned.

The legal basis for this restriction is derived from the Resource Recycling Act (資源回收再用法). Specifically, Article 13 states that "the central competent authority may officially announce and designate the restriction or prohibition of the use of goods, packaging, or containers as designated by the central competent authority on public or private premises." Article 14 specifies that "the central competent authority in consultation with the central industry competent authority may officially announce and designate enterprises as being subject to restrictions on packaging volume ratio, number of packaging layers, and types or quantity of materials used in the packaging of specified products after a specified deadline. "Importers of the specified products or products possessing similar or identical performance are also required to comply with the above regulations.

Five Types of Gift Boxes Subject to Restrictions in Two Stages

After consulting the EU and South Korea's experience in drawing up and implementing restrictions on excessive packaging, and after drawing on related regulations in the Resource Recycling Act, the draft restriction was announced on 1 July 2004 and again on 18 January 2005. During this time, 25 public hearings, discussions and forums were held until consensus was reached among all circles. The Excessive Product Packaging Restrictions were promulgated on 1 July 2005 and have been in effect since 1 July 2006. Products subject to this restriction include:

1. Pastry gift boxes: gift boxes or multiple gift boxes containing pastries.
2. Cosmetics gift boxes: gift boxes or multiple gift boxes containing cosmetics.
3. Alcoholic beverage gift boxes: gift boxes or multiple gift boxes containing alcoholic beverages.
4. Processed food gift boxes: gift boxes or multiple gift boxes containing processed food products.
5. Computer software optical disks.

Considering the demands on enterprises to make improvements to packaging, the first stage of restrictions targeted the number of packaging layers and packaging volume ratio of pastry gift boxes, cosmetics gift boxes, alcoholic beverage gift boxes and computer software optical disks. No more than three packaging layers were allowed for pastry gift boxes and computer software optical disks. No more than two packaging layers were allowed for cosmetics gift boxes and alcoholic beverage gift boxes. The packaging volume ratio for these four categories was set at one or less.

As an incentive for enterprises to limit their packaging



▶ Before and after packaging streamlining packaging volume is markedly reduced



▶ The EPA holds an annual event during the Mid-Autumn Festival to display the accomplishments of packaging reduction



▶ Smaller, lighter and simpler packaging for processed food gift boxes

to only one kind of material, enterprises using single-material packaging are permitted a greater degree of flexibility with box size. For example, multiple-material packaging of pastry gift boxes may not exceed the product volume by a factor of 6.0, while single-material packaging of pastry gift boxes are allowed a greater space coefficient of 6.9.

Processed food gift boxes have been added to the second stage of this restriction measure (effective from 1 July 2007) as processed food covers a wide range of products. No more than two packaging layers may be used for this category, and the packaging volume ratio should be under one. Enterprises in violation of this restriction could face fines ranging from NT\$30,000 to NT\$150,000, and will be required to make improvements before a given deadline.

Apart from restrictions on product packaging, related regulations require product manufacturers, importers or vendors to submit products for inspection, and provide product catalogs, target customer information, sell date, source and date of delivered product, and other related data to facilitate control measures.

Simpler, Lighter Packaging Benefits Environment, Consumers and Industry

Making it more convenient for enterprises to confirm whether packaging complies to control standards, the EPA has commissioned Societe Generale de Surveillance (SGS) in Taiwan to conduct packaging tests at a service fee of NT\$700 per product tested. Considering the numerous types of products and packaging, applying just one standard to all products could be excessively strict for some products and

may defeat the purpose of controls. Therefore, the EPA accepts applications on a case-by-case basis for individual products to be reviewed by a panel of experts invited by the EPA. Products that pass this review are not subject to the restrictions on excessive packaging, but must still comply with other special standards. After nearly one year, several enterprises have submitted products to SGS for packaging tests, and none of them have deemed it necessary to apply for a special case review.

To ensure standard measures are followed, before implementing the packaging reduction policy, the EPA first set related inspection standards and procedures, and provided training for a total of 900 person-times to local inspectors of all markets. As for outreach before implementation, the EPA coordinated with major conventions of all related enterprises to provide over 40 briefings on the new ordinances. Around 28,600 enterprises were informed of the restriction measure. Local environmental protection bureaus conducted surveys on market sales of packaged products and issued news releases to inform enterprises to make improvements. In conjunction with all major holidays, the EPA posted marketed product packaging test results and held green packaging design contests.

Throughout the promotion process, the greatest obstacle was the diversity of gift box products, which posed difficulties in setting standards. During the process of formulating regulations, the EPA gathered various gift box packaging available in domestic markets and first referred to the formulas used to calculate packaging ratios in South Korea's excessive packaging restrictions. This calculation method was found to be quite complicated, and different

formulas were required for different products based on the types of materials used or contents. After appropriate simplification and considering commercial requirements for aesthetic design, a set of calculation methods was formulated that would both be easy for enterprises to comply with and would satisfy packaging reduction objectives.

Packaging reduction initiatives have led to substantial benefits. Taking the Mid-Autumn Festival of 2006 as an example, the EPA indicates that at the time, prices began to inflate for domestic sugar, flour, and other raw materials. Even so, many enterprises did not reflect this inflation by marking up gift box prices or otherwise transferring this cost to consumers. Instead, the costs saved on packaging reduction measures

benefited consumers by allowing increased quantity of content in gift boxes.

The EPA estimates that after implementation of the first stage of this policy, regulated product packaging will be cut by 29.6% (3,700 tonnes). The second stage is expected to cut packaging of designated products by 3,200 tonnes. Both stages combined will reduce packaging by 6,900 tonnes for a total volume reduction of 26%. The Excessive Product Packaging Restrictions will lead product packaging toward use of simpler and lighter materials. Enterprises will save money on packaging, storage and transportation, and consumers will enjoy lower prices. This measure provides a triple-win situation for all three sides.

General Policy

Winston Dang Appointed EPA Minister

On 7 June 2007, the Executive Yuan confirmed that the chair of the EPA Minister would be filled by acting minister Winston Dang (陳重信). The EPA held a swearing-in ceremony for the newly appointed minister on 14 June 2007. Executive Yuan Vice Premier Chiou I-jen (邱義仁) presided over the ceremony.

Before his appointment as EPA Minister, Dr. Winston Dang was originally serving both as a non-district overseas legislator and the Director of the Department of International Affairs, Democratic Progressive Party (DPP). After graduating from the Taipei Medical University in the College of Pharmacy, he went to the US, first to Columbia University in 1968. He later obtained a doctorate from New York City University and then an MPH (Master of Public Health) from the Harvard School of Public Health. For 15 years, Dang handled environmental management work in the US EPA. As a legislator, Dang extended

great effort in promoting the Indoor Air Quality Control Act and the Greenhouse Gas Reduction Act, among other important pieces of legislation. For years, Dang has staunchly supported citizens' rights to health by actively endorsing Taiwan's bid to enter the World Health Organization.

People from all circles are curious to know the new minister's stance on the Su-Hua Expressway and other major development projects yet to be decided on. Minister Dang believes that "environmental protection and economic development can be thought of as a pair of railway tracks, advancing in parallel." Dang feels that the EPA should adopt a neutral stance, and handle affairs as they stand and according to the law. In promoting Taiwan's sustainable development and ensuring future generations have clean water and air, Dang encourages his EPA colleagues to "bravely shoulder responsibility, communicate and harmonize, treat matters objectively, and act in accordance with the law." Dang hopes to strike a balance between environmental protection and economic development during his term as minister, and ensure Taiwan's advancement toward sustainable development.



▶ Executive Yuan Vice Premier Chiou I-jen (left) presiding over the swearing-in ceremony for EPA Minister Winston Dang

EPA Minister Dang's profile

Academic achievements:

MPH in Environmental Health Management, School of Public Health, Harvard University

Ph.D. in Biochemistry, City University of New York
M.A. Program in the College of Pharmaceutical Science,
Columbia University
B.S. in the College of Pharmacy, Taipei Medical University

Other achievements:

President of Taipei Society of Risk Assessment (TSRA)
Director of Department of International Affairs, Democratic
Progressive Party

Director of Taiwan Foundation for Democracy
Legislator of the Legislative Yuan
Senior Scientist Team Leader for the Office of Pesticide
Programs, US EPA
Consumer Safety Officer of the US Food and Drug
Administration
Secretary-General of the World Federation of Taiwanese
Associations

Sustainable Development

NCSO Holds 2007 International Forum on Sustainable Development

This year (2007) the National Council for Sustainable Development, Executive Yuan (NCSO) held the first international forum on sustainable development in Taiwan. Administrative personnel and specialists representing sustainable development councils from many countries were invited to share their experiences and exchange views.

The NCSO convened the "2007 International Forum on Sustainable Development" from May 29~30. EPA Minister Winston Dang (陳重信) presided over the opening ceremonies and invited Tuvalu's Ambassador for International Environment Policy Issues and Climate Change, Enele Sosene Sopoaga, to deliver a speech on "Common Interest of Sustainable Development and Global Governance." Nearly 400 scholars, officials and civil representatives concerned about sustainable development issues attended the conference.

For this conference, the NCSO invited sustainable development council delegates from Japan, South Korea, and Finland; European Commission environmental officials; US research team members of the Yale University Environmental Sustainability Index (ESI) and the Environmental Proficiency Index (EPI); and representatives from the World Business Council for Sustainable Development (WBCSD) to deliver presentations and exchange views involving framework, function, policies, international cooperation and sustainable indexes of each nation's sustainable development council.

Former NCSO CEO and National Taiwan University professor Dr. Yeh Jiunn-rong (葉俊榮) delivered the first speech at the conference on the topic of "Taiwan's National Sustainable Development Strategy." Dr. Yeh said that the Legislative Yuan should pass the Greenhouse Gas Reduction Act draft as soon as possible, initiating a definitive response to climate change that clearly communicates Taiwan's concerns about this pressing issue. The government

must also work hard to reduce greenhouse gases by clearly communicating reduction goals and timeframes with the industrial sector. The only way to ensure the future development of Taiwan is through gradual structural adjustment of industry with the guiding principles of sustainable development leading the way.

NCSO member Ms. Alice Yu pointed out that in 2002 Taiwan passed the Basic Environment Act, and the Executive Yuan also established the NCSO and drafted related policies. However, there are still three major issues which need to be addressed, including a lack of understanding and common consensus on: 1) Taiwan's unfair treatment by the international community, 2) environmental issues between Taiwan's government and the industrial sector, and 3) Taiwan's NGOs lack the power to make an influential impact.

Former member of the Presidential Commission on Sustainable Development of the Republic of Korea Dr. Moonkyu Kang, Japan Council for Sustainable Development Secretary General Ms. Miwako Kurosaka, Finnish National Commission on Sustainable Development Secretariat Representative Ms. Tuire Nikulainen, Former State Minister of the Interior for Berlin Prof. Dr. Dieter Heckelmann, and WBCSD's Dr. Howard Klee were invited to this conference to introduce their respective nations' sustainable development councils and WBCSD sustainable development policies. The EC Environment Directorate-General International Affairs Director Henrik Laursen presented a detailed introduction on "European Union: Sustainable



▶ Foreign delegates Ms. Miwako Kurosaka from Japan, Ms. Tuire Nikulainen from Finland and Dr. Howard Klee from the US (left to right)

Development and International Cooperation." Finland's delegate also introduced the Sustainable Development Indicators in Finland, and the Yale University's ESI and EPI research team representative Dr. Christine Kim introduced the ESI and EPI statistical methods and policy applications.

Foreign guests exchanged views with other attendees, and during roundtable discussions, further exchanges of ideas took place with the NCSD members, Deputy Director and work teams involving sustainable development promotion and cooperation.

Waste Management

Garbage Sorting and Incinerator Ash Management Regulations Reinforced

The EPA recently promulgated revisions to regulations designed to prevent final disposal of incinerator ash from endangering human health and the environment. These revisions clearly define waste sources and services of contracted clearance organizations, as well as set regulatory standards for incineration ash treatment.

On 28 May 2007, the EPA released revisions to Articles 14, 27, and 36 of the General Waste Recycling, Clearance and Treatment Regulations (一般廢棄物回收清除處理辦法) to reinforce general waste sorting and waste incineration ash management. These revisions were enacted to clearly define the general waste source and services of contracted public waste clearance and cleanup organizations, as well as set regulatory standards for waste incineration ash treatment that are below the hazardous industrial waste overall toxicity equivalent concentration standards set for dioxin and the hazardous heavy metal Toxicity Characteristic Leaching Procedure (TCLP) solubility standards in Chart 4. They also establish standards for proper packaging and labeling, which makes the final disposal process of incinerator ash safer for human health and the environment. On 29 December 2004, the EPA promulgated the General Waste Recycling, Clearance and Treatment Regulations designed to effectively manage the sorting, storage, disposal, recycling, clearance, and treatment of general waste. Growing environmental consciousness during recent years has increased

people's demands on quality of life. Thus, in the beginning of 2007, the EPA began making revisions to this regulation to prevent environmental pollution through reinforced management of general waste sorting and control of waste incinerator ash. Public hearings and negotiations were held in accordance with legal procedures. The opinions and views gathered from public and private interests were incorporated into the revisions.

Article 14 of the revised regulations defines the general waste source and services of commissioned public waste clearance and cleanup organizations, clearly establishing that those generating the waste are responsible for sorting. The EPA indicates that Toxic Characteristic Leaching Protocol (TCLP) test standards were used in the past to determine the harmfulness of dioxin waste. However, TCLP does not lend itself to testing for dioxin as dioxin is fat-soluble. Article 27 of the revised regulation addresses this by referring to developed nations in drafting regulatory controls on dioxin waste, and regulations on incineration ash containing dioxins and heavy metals were revised in accordance with standards

set for dioxins in hazardous industrial waste overall toxicity equivalent concentration standards and the hazardous heavy metal TCLP solubility standards in Chart 4. Controls are applied to incinerator ash containing overall toxicity equivalent of 1.0 ng-l TEQ/g for 17 compounds including 2,3,7,8-chloride dioxin and tetrahydrofuran. A dioxin overall toxicity equivalent concentration and solubility tests on heavy metal toxicity characteristics must be conducted on each batch of fly ash derivatives and quarterly on bottom ash. The final disposal process can begin only

after full compliance with regulations has been met. The EPA will step up modifications at nine incinerator ash plants regarding the packaging and labeling following fly ash treatment to reduce the hazards to human health and the environment caused by the transportation and final burial of fly ash derivatives. Article 36 of the revised regulations specifies that waste incinerator plants have one year to complete these modifications. Details of these revised articles can be found on the EPA's website: <http://w3.epa.gov.tw/epalaw/index.aspx>

Toxic Substance Management

Ten Chemicals under Risk Assessment

Marked progress was made toward the management of POPs during the Conference of the Parties of the Stockholm Convention on Persistent Organic Pollutants held in early May 2007. The conference resulted in a technical manual on Best Available Techniques and Best Environmental Practices and approval of a Global Monitoring Plan. In addition, it was decided that 10 chemical substances will undergo risk profiling under the convention's screening process.

The UN Stockholm Convention on Persistent Organic Pollutants held its third Conference of the Parties (COP3) in Dakar, Senegal for five days ending on 4 May 2007. The EPA sent a delegation to participate as an NGO at this year's convention. Marked progress was made on POPs management at the convention. A manual for Best Available Techniques and Best Environmental Practices was established and participants approved of a Global Monitoring Plan. Most important was the addition of 10 chemical substances to undergo the convention's screening process and enter the second stage of risk profiling. The EPA indicated that this year's convention has not yet added these 10 substances under regulatory control, but is still maintaining the prior list of 12 regulated chemical substances. The

EPA emphasizes that it will keep close watch on the convention's assessment progress and carefully consider future control measures on related chemical substances.

The EPA explains that the convention's Persistent Organic Pollutant Review Committee (POPRC) reported its assessment of economic impacts of five POPs (Pentabromodiphenyl ether, Chlordecone, Hexabromobiphenyl, Lindane, and Perfluorooctane sulfonate) under regulatory controls. According to convention regulations, now that this assessment has been made and reported to the Conference of the Parties, a decision can be made as to whether to include the said chemicals under regulatory controls. The POPRC also explained that it has already reviewed five additional substances proposed by member nations -- commercial octabromodiphenyl ether, pentachlorobenzene, short-chained chlorinated paraffins, alpha hexachlorocyclohexane, and beta hexachlorocyclohexane -- for their chemical constituents, persistence, bioaccumulation, potential for long-range transmission, and effects on human health. The review concludes that these five substances accord with screening requirements. It was thus resolved during COP3 that these five substances will enter the next stage of risk profiling. The EPA indicates that the technical manual for Best Available Techniques and Best Environmental Practices established during this conference sets forth concrete suggestions for curtailing and finding alternatives to POPs. The Global Monitoring Plan



▶ Three Taiwan EPA delegates participating in the Conference of the Parties of the Stockholm Convention on Persistent Organic Pollutants

passed during this conference will facilitate in making the future.
practical advancements toward controlling POPs in

Water Quality

Preannouncement of Revisions to Effluent Standards

Considering overly lenient effluent standards for building wastewater treatment facilities, the EPA has made a preannouncement of draft revisions to the Effluent Standards. The revisions will allow special effluent standards for some industries under special conditions to ensure consistency with related regulations.

On 14 May 2007, the EPA made a preannouncement of draft revisions to the Effluent Standards (放流水標準), which is posted on the draft ordinance preannouncement section of the EPA's website.

There are two main components to this revision. The first one refers to the Water Pollution Control Measures and Test Report Management Regulations (水污染防治措施及檢測申報管理辦法) promulgated on 16 October 2006. The revisions will allow special effluent standards for some industries under special conditions to ensure consistency with related regulations; the revised content will not have a great impact on enterprises. The second component of revisions adjusts standards and applicable targets for building wastewater treatment facilities. New buildings affected by this revision for which building permits have been applied after 1 January 2008 must install building wastewater treatment facilities.

The EPA states that the Effluent Standards have already undergone four revisions since the last revisions to the building wastewater treatment facility effluent standards were promulgated on 24 December 1997. Articles concerning building wastewater treatment facility effluent standards had not been revised. Consideration has been given to the Construction and Planning Agency's "Building Wastewater Treatment Facility Design Technology Regulations" drafted in 1998, which referred to

Japan's "Septic Tank and Combined Treatment Tank Construction Methods" in setting BOD effluent standards at 20mg/L. This differs greatly with Taiwan's existing BOD standard of 80mg/L for premises with discharge volume under 50 CMD.

According to the results of an EPA survey in 2006 on testing of treatment functions, effluent water quality of facilities with small-scale discharge volume during normal operation have BOD under 30mg/L 90% of the time -- far better performance than required under existing standards. Onsite investigations show BOD of effluent is consistently under 50 mg/L during normal operation. The fact that the designed treatment efficiency of existing building effluent treatment facilities complies with the 50 mg/L standard, attests that current standards are indeed too lenient and should be reviewed and revised. New restrictions on building wastewater treatment facilities in the revised Effluent Standards will apply to those who applied for permits after 1 January 2008. This will serve as a guideline for designing, using and managing building wastewater treatment facilities.

The EPA has taken authority to revise effluent standards and lighten the pollution load on water bodies. All circles are asked to regularly clean building wastewater treatment facility sludge and maintain normal operations to ensure proper functioning and to reduce the potential for pollution of river environments.

Air Quality

Taiwan to Set Greenhouse Gas Reduction Targets

The Legislative Yuan has recently completed its review of the draft Greenhouse Gas Reduction Act. While some articles still require negotiations between political parties, the Legislative Yuan has preliminarily approved the goal of curtailing emissions to 2005 levels between the years 2025 and 2030.

The EPA finalized the drafting of the Greenhouse Gas Reduction Act (溫室氣體減量法) one year after the Kyoto Protocol took effect. The draft Act underwent revisions during several meetings in the Executive Yuan, and was submitted to the Legislative

Yuan in September 2006. The Act underwent review during a meeting of the legislature's Sanitation, Environment and Social Welfare Committee on 7 May 2007.

The legislature has just completed its preliminary

review of the Greenhouse Gas Reduction Act (draft). While great advancements were made prior to the first reading of the Act, consensus has yet to be reached on emissions trading regulations and whether emission allocation methods should use compensatory measures or not. Some articles still require further negotiation between political parties. On the bright side, long-debated reduction targets have finally been agreed upon after much discussion in the legislature. It was decided that Taiwan would work toward reaching 2005 emission levels by the years 2025 to 2030. The setting of clear reduction targets both addresses the wishes voiced during many sustainable development and energy forums, and provides a point of reference to guide industry. Clear goals allow industry to respond early in building capacity for greenhouse gas

reductions and planning related measures. Decisive measures also earn the international arena's support of Taiwan's efforts toward greenhouse gas reductions. This meeting reviewed both the Executive Yuan version of the Greenhouse Gas Reduction Act (draft) and the version proposed by the Legislative Yuan committee. In both versions, regulated industries' greenhouse gas annual average emissions should accord with greenhouse gas efficiency standards, and consensus was reached on emission inventories, records and inspection systems, which are significant in building capacity for greenhouse gas reductions. In the future, enterprises will be required to annually register inventory data on the EPA's designated platforms.

Recycling

Reused Toner Cartridge Procurement Prioritized in Schools and Government Offices

In order to increase recycling and reuse of resources and encourage the public to use recycled materials, the EPA is requiring government organizations and schools to purchase reused printer toner cartridges. This measure is hoped to provide incentives to toner cartridge companies to adopt recycling and reuse business strategies.

In order to increase the recycling and reuse of copy machine toner cartridges in Taiwan, the EPA is requiring schools and government organizations to purchase refilled printer toner cartridges based on control measures in the Resource Recycling Act (資源回收再利用法). This ties in with the EPA's promotion of green procurement through the Green Mark government procurement measures among government organizations as well as private businesses and groups. It is hoped that expanded influence of green consumerism will incite toner cartridge companies to adopt product recycling and reuse business strategies.

To enhance resource recycling and reuse, the EPA has listed refilled copy machine toner cartridges among 15 other items listed under Article 22 of the Resource Recycling Act for priority purchases by government organizations since 3 August 2005. Refilled toner cartridges and other environmentally preferable computer equipment must make up at least 60% of annual government spending in this category of products.

Presently most toner cartridge companies in Taiwan have adopted a low-price printers and high-price materials business strategy, making them relatively

unwilling to promote reuse of toner cartridges. Incentives to increase these companies' willingness to comply with recycling measures include issuing the Green Mark ecolabel, and listing Green Mark products as designated products for government green procurement. This stipulates that toner cartridge companies or their agents doing business with government organizations must take responsibility for recycling toner cartridges. Presently, 52 products from Taiwan Fuji Xerox and Hewlett-Packard conform with standards and have received the EPA's Green Mark. Additionally, Hewlett-Packard, Taiwan Xerox and Fuji Xerox Taipei Branch are applying for the Green Mark. Toner cartridge recycling companies CyberTek, AProTech and Taiwan Green Device also have 232 products total among them that have received the EPA Green Mark. Since the EPA has included refilled toner cartridges among designated government organization green procurement items, the recycling rate of these products has gone up considerably.

The EPA is also actively promoting laboratory research in Taiwan through assisting businesses in applying for Green Mark status. Since the end of March this year, the EPA has helped 12 labs conduct tests on lead, cadmium, mercury, chromium VI, PBBs and PBDEs.

The work of these labs has helped companies meet green testing needs while accelerating the process of obtaining EPA Green Mark verification.

Recycling

Four More Types of Lighting Waste Listed for Recycling

Working to more effectively manage the recycling and treatment of lighting waste, the EPA has revised related clearance and treatment regulations, earmarking four additional types of lighting waste for recycling beginning 1 July 2007.

On 9 May 2007, the EPA issued a preannouncement of draft revisions to the Lighting Waste Recycling, Storage, and Treatment Methods and Facility Standards (廢照明光源回收貯存清除處理方法及設施標準) to improve recycling efficiency and maintain environmental quality. This notification is posted in the preannouncement section of the EPA website's (<http://w3.epa.gov.tw/epalaw>). The EPA welcomes comments and opinions within the stated timeframe from members of the general public on the draft content. All opinions and comments will be considered in the final drafting to make the standards more complete.

The EPA said the Lighting Waste Recycling, Storage, and Treatment Methods and Facility Standards took effect on 11 September 2002 to avoid environmental pollution due to mishandling during recycling, storage or treatment of lighting waste by recyclers. The revision slated to take effect on 1 July 2007 will add

to the list of mandatory recyclables circular fluorescent light tubes, self-ballasted fluorescent lamps, compact fluorescent lights, and incandescent light bulbs with socket diameter of 2.6 centimeters and above. This draft is aimed at increasing the amount of recycled lighting materials.

The EPA emphasized that aside from increasing the ratio of waste lighting that meets recycling and reuse stipulations, in order to keep up with international environmental protection trends and enhance related domestic treatment technology, the EPA will also review any weak regulations to find ways to strengthen them. Additionally, the EPA will enhance control facilities and measures for recycling, storage and treatment methods that tend to create pollution. This will hopefully lead to a sounder waste lighting management process and help achieve the ultimate objective of a sustainable environment.

Ecolabelling

Green Mark Promotional Giveaway, Buy Green Products Online

The EPA held nationwide Green Mark and green consumption activities on the eve of World Environment Day on 5 June 2007. The activities encouraged the public to buy environmentally friendly Green Mark products as well as publicized the EPA's new website where these products can be purchased online.

To increase public awareness of Taiwan's Green Mark ecolabeling system and the concept of green consumption, the EPA is working with department store retailers around the island, including B&Q, to encourage the purchase of more environmentally friendly, low-polluting, recyclable products. These stores were asked to showcase environmental products and assist with a promotional giveaway, which offers prizes for consumers that collect the labels of a certain number of Green Mark products.

The promotional giveaway coincided with the week of World Environment Day from 2 June to 10 June 2007.

The aim of the giveaway was to popularize green consumption with any buyer purchasing just two Green Mark products eligible for a prize redeemable at designated sites in cities and counties around Taiwan. City and county environmental protection bureaus also held environmental quiz giveaways, DIY environmental creativity events and Green Mark product activities at various times and locations throughout the week. These activities provided a fun way to help the general public gain a deeper understanding of green consumerism.

The EPA launched its Buy Green website (<http://www.buygreentw.net>) on 31 May 2007 to serve the public's

green purchasing needs. From 31 May to 10 June 2007, environmentally friendly laundry detergent was among four products available for a buy one get one free promotion, including a free set of environmentally friendly tableware with the purchase.



▶ EPA Department of Supervision Evaluation and Dispute Resolution Deputy Director Tsai Hong-de (center) presiding over Green Mark press conference

The EPA explains the website was set up to offer consumers the convenience of shopping for green products from the comfort of their homes. Shopping online allows the green-conscious consumer to do his or her part in reducing negative impacts on the environment. Presently, the main products for sale on the site include Green Mark cleaning products, OA office supplies and non-mercury batteries. Other products include printer tone cartridges, office machines, biodegradable plastics, plastic floor pads, recycled paper products, building materials and household electrical appliances. Interested parties are welcome to become franchises of the site. The EPA encourages consumers to change daily habits and use more renewable and recyclable resources to combat the problems of depleted resources and global warming. Simple changes made by consumers with the environment in mind will add up to benefits for everyone.

General Policy

Generous Subsidies Attract 43 Firms to Set Up in ESTPs

Generous subsidies for land, production, and research and development drew 43 companies to set up operations in Taiwan's four Environmental Science and Technology Parks (ESTP).

Working to actively promote eco-industry, strengthen resource recycling and advance environmental technology, the EPA set up four ESTPs around Taiwan: the Benjhou Industrial Park in Kaohsiung County, the Fenglin Development Complex in Hualien County, the Taoyuan ESTP in Taoyuan County, and the Ta-Hsin-Ying Industrial Park in Tainan County.

According to the EPA, firms that set up operations in ESTPs enjoy a number of favorable terms ranging from a pleasant environment, subsidies to cover up to 50% of land leases, financial support for production and R&D, access to information on domestic and foreign environmental protection and renewable energy technology, as well as corporate image building. Enterprises also enjoy diverse opportunities to lease or purchase land in the mass production zone, experimental facilities, offices or laboratories.

Since the inception of the program, 43 companies have set up in these ESTPs, many of which are foreign or joint venture companies, and have a positive impact in terms of upgrading environmental technology. So far many companies have completed

factory establishment and have begun to form cycling industrial chains of resources and energy, thus creating an industrial ecosystem in the ESTPs.

The EPA emphasizes development of an ecological infrastructure in the ESTPs while combining the strengths of peripheral industries in order to provide an optimal and competitive investment opportunity for the growth of green industry. The goal is to boost green industry and promote a green supply chain that links the entire spectrum of upstream raw materials, component supply, mid-stream production, downstream assembly, testing and end-users. Cooperation and resource integration between companies will help enterprises reduce operation costs and benefit economy, environment and the society at large.

The EPA will continue to invite businesses in Taiwan to attend briefings and participate in environmental trade fairs overseas to draw international attention. Three briefings are already scheduled in 2007 to welcome all interested parties. Detailed information will be posted online at <http://ivy3.epa.gov.tw/H/ESTP/>. Recently, environmental protection technology

and the renewable energy industry have been in the spotlight due to rising energy prices and increased necessity to recycle waste resources.

For more information, please call the service line at (02) 2381-5784.

News Briefs

Mandatory Recycling of Electric Fans Postponed to October

In September 2006, the EPA announced that enterprises must recycle all desk fans, standing fans, wall fans, window fans, ceiling fans, extractor fans and all other electric fans with motors that run at 152 watts or below, effective from 1 July 2007. The industry has reflected that the peak sales season for fans is from July to September, and manufacturers and vendors usually establish pricing and contracts before February each year. The industry voiced its concern that with the Electric Fan Recycling, Clearance and Treatment Fee Rates being announced on 16 February 2007, it has not had ample time to respond to this measure, which will significantly impact manufacturers and importers. The EPA has thus extended the implementation date to 1 October 2007 to lighten the impact on industry.

Online Sale of Foreign Environmental Sanitation Agents Penalized up to NT\$300,000

Current online trading trends have given rise to instances of individuals selling foreign environmental sanitation agents online. The EPA has stressed that the small quantities of environmental sanitation agents brought into the country by travelers is restricted to use by that individual only and may not be sold. Those found selling such substances

illegally could face fines ranging from NT\$60,000 to NT\$300,000. To prevent such behavior, the EPA has notified online trading companies to inform its trading members about relevant regulations on environmental agents. Meanwhile, inspections and clampdowns have been reinforced. Those caught selling environmental agents online will be punished according to regulations and the source of those goods will be tracked down.

Corporate Environmental Award Selection Underway

The registration deadline for the 16th Corporate Environmental Awards event was 30 May 2007. For more information on this event, please refer to the EPA Corporate Environmental Award website (http://ivy2.epa.gov.tw/out_web/k/excel/excel.htm).

2007 Environmental Analytical Chemistry Symposium Held in May

The EPA Environmental Analysis

Laboratory held the 2007 Environmental Analytical Chemistry Symposium for one and a half days starting on 11 May 2007. Now in its 21st year, the goal of this symposium is to further the development of academic research in environmental analytical chemistry, to advance R&D and improvements in environmental and occupational safety of testing and analysis technology, as well as to strengthen technical exchange between domestic and foreign environmental analysis personnel. Research papers presented at the symposium covered five main topics: emerging environmental pollutant analysis, bioanalysis applications in environmental analysis, development of environmental analysis technology and methods, practical research in environmental analysis and other topics concerning environmental analysis issues. A total of 44 papers were presented on stage and 79 papers were posted for review during the symposium.

▶ Award-winning group of Wuhua Elementary School students performing at "Recycle-It's My Style" Rap Contest



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