



Environmental Policy Monthly

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

Feature Column

New EPA Minister Stephen Shu-hung Shen to Focus on Sustainable Development

The position of EPA Minister officially changed hands on 20 May 2008. The newly appointed EPA Minister is Stephen Shu-hung Shen, former commissioner of the Taipei City Department of Environmental Protection (DEP). Shen previously directed several EPA departments and served two terms as commissioner of the Taipei City DEP. Shen's wealth of experience at both central and local government levels ensures aptitude in developing and implementing environmental policy.

Newly appointed EPA Minister Stephen Shu-hung Shen was first brought onboard the Taipei City government when Ma Ying-jeou served as Taipei City Mayor. Shen saw to the implementation of the "Solid Waste Per-bag Trash Collection Fee" policy,

which effectively reduced Taipei City's garbage volume by nearly half. He took leave in 2003 and held the position of Dean of General Affairs at Jinwen University of Science and Technology. Shen returned to serve as Taipei City DEP commissioner in 2006.



▶ EPA Minister Stephen Shu-hung Shen

Five Visions, Five Administrative Focal Points

Minister Shen's press release upon assuming office stated his belief that environmental protection and sustainable development are a measure of the welfare of a nation's people; sustainability should therefore be given prime consideration in the formulation of national policy. Taiwan can create real examples of green lifestyles and green industry to

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lead international trends and transform the crises of greenhouse gas emissions and environmental degradation. This will raise Taiwan's international competitiveness and image, and create a healthy and sustainable new Taiwan.

Five visions for environmental protection outlined in President Ma's environmental policy white paper:

- Proactive and just environmental policy
- Cycling and diverse natural ecology
- Renewable and energy-efficient low-carbon homeland
- Clean and healthy living environment
- High quality and contented social atmosphere

EPA Minister Shen stated the EPA's future administrative focus will be "institutional sustainability, energy conservation and carbon reduction, resource recycling, industrial sustainability, and grassroots education." This will provide each agency with a foundation for environmental sustainability to support them in contributing to the process of national development.

The EPA will not only propose environmental policy but will also push for the inclusion of environmental protection in national policy. Environmental policy should not stand independent of other policy; as a matter of ensuring integrated policy, environmental impacts should be assessed at the planning stage of all major national policies. Environmental impact assessments conducted after planning policy easily create antagonism between economic development and environmental protection. Antagonism invites procrastination toward public policy and ultimately impacts national development and citizen rights and interests.

For the sake of national security and adapting to climate change, Shen will push for timely establishment of the Greenhouse Gas Reduction Act (溫室氣體減量法). This act will provide a legal basis for implementing plans to achieve reduction measures outlined in reduction goals. The plan set in President Ma's election campaign platform is to return national greenhouse gas emissions to 2008 levels between the years 2016 and 2020. To keep up with the

international community, Taiwan aims further to cut emissions to 2000 levels by 2025; and 50% of 2000 levels by 2050.

To achieve these objectives, the EPA will begin planning and participating in energy conservation and carbon reduction policies and laws and regulations. President Ma also announced the Energy Tax policy, which is meant to establish a fair, open and efficient energy market in order to raise national energy efficiency and thereby reduce carbon emissions. The goal for the next four years is to raise energy efficiency by 2% per year in terms of comprehensive energy conservation and carbon reduction measures in the areas of industry, transportation, building, community and school planning.

Nationwide Promotion of Per-Bag Trash Collection Fee, Toward a Resource-Cycling Society

As Taipei City DEP commissioner, on 21 July 2002, Shen proposed a goal to achieve total recycling and zero landfill by 2010. This was implemented through the per-bag trash collection fee, free recyclables and food waste collection service, cross-regional cooperation with Keelung City, extending the lifetime of the Shanjuku Landfill, reuse of gutter sludge, incinerator residue and fly ash, and zero landfilling of post-disaster waste.

Taipei City thus fully implemented per-bag trash collection on 1 July 2000, reducing the daily volume of trash by 56.7%, from 3,695 tonnes in 2000 to 1,599 tonnes in 2008. The recycling rate jumped to nearly 40%, attesting to the success of the pay-per-bag system in achieving the objectives of garbage reduction and resource recycling. These environmental achievements attest to Stephen Shuhung Shen's contribution toward promoting these measures while in office.

Now leading Taiwan's environmental work, Minister Shen will continue to promote garbage reduction and resource recycling so that Taiwan strides toward a "Zero Waste, Complete Sorting" society that recycles all its resources. Since Taipei City and Shihgang Township of Taichung County have successfully promoted the per-bag collection fee system, in the future, it is hoped that this effective garbage reduction mechanism can be expanded throughout the island.

Enhancing Environmental Quality in Pursuit of Sustainable Development

In staying abreast with international trends, Taiwan will proactively participate in and comply with national and city environmental sustainability initiatives promoted by the world's leading organizations. This will open eyes to Taiwan's overall international performance and ensure dialogue and interaction with the world. In terms of concrete objectives, Minister Shen hopes to raise Taiwan's ranking to the top 25% of the Environmental Performance Index (EPI), as well as raise the quality of life in Taipei and Kaohsiung. The goal is for these two international cities to gradually rank among the world's top 50 cities, surpassing Hong Kong and Osaka, and on even par with Singapore and Tokyo.

About EPA Minister Stephen Shu-hung Shen:

Academic background:

Doctorate degree from National Taiwan University (NTU) Graduate Institute of Chemical Engineering (1977~1982)

Master's degree from National Taiwan University (NTU) Graduate Institute of Chemical Engineering (1973~1975)

Graduate degree from National Taiwan University

(NTU) Department of Chemical Engineering (1967~1971)

Experience:

Minister of Environmental Protection Administration, Executive Yuan (May 2008~)

Director of Taipei City Department of Environmental Protection (2006~2008)

Dean of General Affairs at Jinwen University of Science and Technology (2003~2006)

Deputy Executive Director of Taipei City Sustainable Development Committee (2003~2006)

Commissioner of Taipei City Department of Environmental Protection (1999~2003)

Director of Technology Monitoring Division and Office of Science and Technology Advisors, EPA, Executive Yuan (1995~1996)

Director of Department of Water Quality Protection, EPA, Executive Yuan (1992~1995)

Deputy Executive Secretary of Environmental Protection Working Group, Executive Yuan (1990~1992)

Director of Environmental Analysis Laboratory, EPA, Executive Yuan (1990~1992)

Director of Department of Supervision Evaluation and Dispute Mediation, EPA, Executive Yuan (1989~1990)

Director of Department of Air Quality Protection and Noise Control, EPA, Executive Yuan (1987~1989)

Feature Column

Toward Greener Packaging

Taiwan's Zero Waste policy prioritizes voluntary reductions at the source of waste. Restrictions on excessive packaging were extended nationwide in July 2007, with outstanding results in reducing waste. Businesses and citizens are gradually accepting products that integrate green packaging design concepts.

In recent years, Taiwan has performed well in end-of-pipe waste recycling and treatment. Source reduction of waste has also gradually gained importance as a strategy to enhance Taiwan's environmental quality. Packaging reduction is an important part of attaining the EPA's Zero Waste goals.

Public Poll: 80% of Respondents Support Packaging Reductions

Based on results of public polls taken by the EPA in 2000 and 2003, over 60% of respondents thought gift products were over-packaged. The main problems

with excessive packaging are: too many layers, packaging volume ratio is too large, packaging is too expensive, and too many different types of materials are used in packaging. Over 70% of people said they are not willing to pay higher prices for over-packaged or elaborately packaged goods. In the 2000 survey, 82.4% of respondents were supportive of government regulation to restrict over-packaging. Public support increased to 91.4% in 2003, showing that even more people think gift products are over-packaged and back government measures to control over-packaging.

In 2005, the EPA announced the Restrictions on Excessive Packaging according to Article 14 of the

Resource Recycling and Reuse Act (資源回收再利用法). The first stage of the restrictions took effect on 1 July 2006, regulating the packaging volume ratio and layers of packaging on cake and cookie gift boxes, cosmetics gift boxes, alcohol gift boxes and computer program CDs. The second stage of the restrictions took effect on 1 July 2007 to include gift boxes of processed foods.

Reduction Results Exceed Expectations through Control and Incentive Measures

The EPA estimates the Restriction on Excessive Packaging curbs the use of 26,600 tonnes of packaging for designated products each year. After the second stage was implemented, overall packaging volume decreased by 7,300 tonnes for a reduction of 27.4%. This far exceeds original reduction goals of 6,900 tonnes and 26%, respectively.

Comparing the results of inspections carried out in the last halves of 2006 and 2007 (from July to December), the percentage of vendors' products (in designated categories) with substandard packaging dropped from 7.54% to 0.13%. For manufacturers and importers, the percentage dropped from 0.21% to 0.02%. This shows a majority of businesses have begun to reduce packaging. Based on opinion polls of EPA administrative affairs, 82% of citizens supported policy to restrict over-packaging in 2005. By 2006, over half of citizens felt that over-packaging of gift boxes was not as prevalent, showing that the restriction policy has had good results in terms of waste reduction and citizen awareness.



▶ *After and before packaging reductions*

Apart from control regulations, the EPA holds green packaging design contests to encourage businesses to voluntarily design their own green packaging. Over 100 businesses participated in the 2005 and 2007 contests. Guidelines for this year's (2008) green packaging design contest have been announced, and entries will be accepted from April 13 to July 31. Designs will be scored based on green concepts (60%), economic and environmental benefits (10%) and creativity (30%). A Green Packaging Design Checklist was published to raise designers' awareness of green design, minimize the environmental impacts of packaging waste, and raise consumers' awareness of green packaging design products.

Since the outset, local environmental protection bureaus have complemented the EPA's restrictions on excessive packaging by holding events to promote green packaging design and packaging reduction. For example, the Taipei City Department of Environmental Protection got businesses within its jurisdiction to sign a "Packaging Reduction Declaration" and refuse to buy products with excessive packaging. The Taoyuan County Environmental Protection Bureau established a Green Packaging Mark with criteria including smaller packaging volume ratios and smaller products than required by law.

Industry to Cooperate on Developing Green Packaging Evaluation Tools

The challenges in promoting green packaging design include the enormous variety of products and their individual packaging requirements. The EPA is currently setting quantifiable control standards for the packaging of all products.

Packaging designers keen on creating environmentally friendly packaging still face a dearth of environmental information and are not necessarily clear on what green packaging actually is. Aside from holding various green packaging contests and seminars, the EPA is developing tools for evaluating green packaging design. Such tools will guide the packaging design industry and product manufacturers to adopt low-polluting, resource-conserving and recyclable green design concepts in their product packaging and consider the lifecycle of packaging materials based on principles of tangibility and simplicity. These tools will provide quantifiable data on packaging reduction and environmental benefits to help industry carry out green

packaging design.

The EPA will also hold related seminars to guide businesses in using this software. This will provide opportunities to extensively collect feedback from users and all circles. The EPA will draw on related foreign technological developments, and continually upgrade and popularize this software. In the future it is hoped that the packaging of most products on the market will go through green design evaluation processes to ensure reduction of packaging materials and toxic materials.

The Restrictions on Excessive Packaging set the stage for green packaging design. As global energy prices rise and greenhouse gas reductions start to take off, reduction of packaging and toxic substances

can resolve many problems at once by ensuring a high resource use rate, reducing energy consumption, lowering packaging manufacture and logistics costs, and reducing environmental impacts.

In the short term the EPA will seek the cooperation of packaging and product manufacturers to establish tools for evaluating green packaging design, and popularize their use. It is hoped that these tools can be integrated with lifecycle analysis and supply chain management tools. This will ensure green packaging design is considered at the stages of product design, manufacturing and marketing. This will create concrete environmental and economic benefits and achieve win-win solutions for the environment and the economy.

▶ Chart 1. Restrictions on Excessive Packaging

Product type	Layers of packaging		Packaging volume ratio
Gift boxes	Cakes/cookies	Up to 3	Up to 1
	Cosmetics, alcohol, processed food	Up to 2	
Computer program CDs	Up to 3		

▶ Chart 2. Packaging Volume Calculations

Packaging volume = \sum unit product volume \times required space coefficient		
Required space coefficient	More than one packaging material	Cakes/cookies: 6.0
		Others: 2.7
	One packaging material	Cakes/cookies: 6.9
		Others: 3.1

Recycling

Korean Recycling Association Draws on Taiwan's Experience

The Korea Paper Carton Recycling Association (KPCRA) director Moon-Hie Ahn led a delegation of 25 people to visit the EPA on 28 May 2008. Both sides exchanged experiences and views on recycling, and KPCRA responded affirmatively to Taiwan's recycling performance.

KPCRA was established in 2003, with members including drink manufacturers and recycling and treatment enterprises. The organization is responsible

for recycling and reuse of paper containers in Korea. During their visit to Taiwan, the group called on the EPA and observed Taiwan's sanitation crews,

recycling stations, recycling businesses, and treatment plants. This breadth of observation gave them a comprehensive understanding of Taiwan's recycling work and overall operations.

During their visit, the EPA explained Taiwan's recycling and mandatory sorting policies and how they have been implemented. Both sides exchanged views about recycling issues. KPCRA was impressed by Taiwan's ability to integrate the resources and strengths of government and private systems to implement operating models for recycling. The group was also impressed with implementation results and said that Taiwan's recycling system can serve as a reference for increasing the efficiency of Korea's

future recycling system.

Taiwan's garbage recycling rate has reached 38.7%, marking successful resource recycling achievements and serving as a shining example on the international stage. This is not only the result of the government's active promotion of recycling policy, but is also largely dependent on citizen cooperation. The EPA therefore calls on citizens to keep up the good example in sorting and recycling resources. By getting into the habit of reducing waste at the source, Taiwan will move closer to the goal of becoming a Zero Waste society that recycles all its resources.

Contact information: 02-23705888 ext. 3000

Climate Change

EPA Works with Universities to Save Energy and Reduce Carbon Footprint

Of all Taiwan's schools, colleges have the greatest energy consumption. The EPA has taken the lead to work with the National Central University to reduce carbon emissions. Management of hot water boilers alone has reduced carbon consumption by 107 tonnes.

The EPA indicates that all of Taiwan's schools consumed about 3.26 billion kilowatt hours (kWh) of electricity in 2006, showing a 6.5% increase compared to 3.06 billion kWh in 2005. Taiwan's 162 colleges were the biggest electricity consumers, accounting for 62.9% of all school electricity consumption. This was far higher than that of 474 high schools and vocational schools, which only accounted for 16.8% of all school electricity consumption, and higher than all elementary and junior high schools which accounted for 20.3% of all school electricity consumption.

Some of the reasons why colleges use so much more energy than other schools are because of the times students are on campus, building design, and the type of equipment used. Responsible for two thirds of all school electricity consumption, colleges should put energy conservation and carbon reduction into practice.

Although the Executive Yuan has requested all government agencies and schools to ensure no growth in energy and fuel consumption, colleges are pressured to raise the quality of life on campus and therefore continue to purchase more and more

equipment that is not energy efficient. Now pressed with the goal to conserve energy and reduce carbon, Taiwan's colleges are being put to the test.

To assist colleges in carrying out campus energy conservation and carbon reduction, the EPA is working with the National Central University to help evaluate school dormitory energy conservation and carbon reduction performance. Since 2005, NCU has taken the initiative to regularly manage their hot water boilers. Electric heaters have been used in place of boilers during off-peak times. After three years of trials, this measure was shown to reduce 107 tonnes of carbon in 2007, compared to 2005 figures. It also cut NT\$1.53 million in fuel expenses for boiler units. Due to these outstanding results from 2008, apart from a small number of apartment suite dormitories, all other dormitories have begun managing their hot water systems to reduce energy and carbon consumption.

The EPA has asked energy conservation experts at the Industrial Technology Research Institute to evaluate energy and carbon consumption of dormitory air conditioning, lighting, and other electrical equipment as well as student living habits. The EPA

indicated that NCU's experience shows there is much room for improvement in conserving energy on campus. For example, schools can install higher efficiency lights and electronic ballasts, adjust drinking water machines to heat up only during off-peak hours, and other measures to effectively reduce energy demand. NCU found that by adopting energy saving

and carbon reduction measures, the school can reduce 758 tonnes of CO₂ emissions and save NT\$2.9 million on electricity bills.

For more information, please visit the following CO₂ reduction information website: <http://co2.saveoursky.org.tw/index.aspx#>

Water Quality

Water Pollution Penalties Tightened

Serious incidents involving water pollution and illegal piping of wastewater will not be treated lightly in the future. The EPA has announced the Standards on Penalties for Violations of the Water Pollution Control Act. The standards adopt the principle of proportionality in that the strictness of standards is based on how serious the pollution is. This is an improvement over past methods, which lacked penalization standards and often resulted in local law enforcement agencies issuing minimum penalties for most water pollution cases.

The new penalization standards take into consideration different degrees of polluting behaviors depending on volume, concentration, effects on water bodies and degree of responsibility. Penalties vary according to severity of pollution, so that those responsible for serious pollution incur heavy penalties. The principle of proportionality has been adopted to effectively stop detrimental or serious water pollution.

Revisions to Article 66~1 of the Water Pollution Control Act (水污染防治) were promulgated on 12

December 2007. This gave the EPA the authority to set penalization standards based on pollution characteristics and violation circumstances. According to Article 18 of the Administrative Punishment Act (行政罰法), penalties should be issued with reference to the degree of responsibility, the impacts incurred and the benefits gained by violating rules of conduct in the administrative act. The violator's financial status can also be taken into consideration.

For more information please call 02-23117722*2800

Recycling

HID Lamps to Be Recycled from July

High Intensity Discharge (HID) lamps have a high illumination rate and are commonly used in parks, streetlights, outdoor lighting and in shops. The use of HID lamps has increased in the wake of global trends to conserve energy. The EPA has already drafted HID lamp recycling, clearance and treatment fee rates, and will announce HID lamps as a recyclable item officially starting from 1 July 2008.

The EPA points to a growing environmental consciousness of citizens in recent years; the concept of recycling resources has already become a habit of everyday life for most people. The number of discarded lamps collected for recycling has also steadily grown in recent years. The EPA has announced a list of lamps that should be recycled including straight and round fluorescent lamps, fluorescent bulbs with attached ballasts, compact fluorescent lamps, and HID lamps, which have become popular in recent years due to growing energy conservation trends. Fluorescent lamps

contain phosphor and minute amounts of the hazardous metal mercury. Appropriate treatment after disposal is critical in order to prevent mercury from entering the environment, causing environmental pollution and harming human health.

The EPA states that as the recycling and treatment technology of HID lamps is complex, recycling, clearance and treatment costs are relatively higher than that of straight fluorescent lamps. Collection of HID lamps for recycling officially commences on 1 July 2008. The EPA has drafted recycling, clearance

and treatment fee rates for HID lamps, starting at NT\$32.48 per kilogram. This fee will be collected from manufacturers and importers to comply with the polluter pays principle. Economic incentives are hoped to free up recycling and treatment system operations, enhance the recycling efficiency of fluorescent lamps, increase the recycling ratio of hazardous substances, reduce environmental loading, and protect citizen health and living environments.

The EPA indicates that the formulation of HID lamp recycling, clearance and treatment fees has a bearing

on the rights and interests of domestic lighting manufacturers and importers. The EPA has followed legal procedures to convene discussions and briefings with related industries and their unions, environmental organizations, the Industrial Development Bureau, MOEA, and local environmental protection bureaus. This will ensure that when HID recycling, clearance and treatment fee rates are announced, the fluorescent lamp recycling system will work more smoothly, and in favor of human health, resource recycling, and environmental sustainability.

Water Quality

Industrial Wastewater Regulations Revised

The EPA announced revisions to the Water Pollution Control Act Industry Classifications and Definitions, and the Types and Scope of Industries that Must First Report Water Pollution Control Measure Implementation Plans to better manage pollution from industries with lower pollution discharge volumes. These revisions have been posted on the EPA website: <http://w3.epa.gov.tw/epalaw/index.aspx>.

The EPA explains the main reason for revisions to the Water Pollution Control Act Industry Classifications and Definitions (水污染防治法事業分類及定義) was to add “experiment, testing and research laboratories and environmental analysis organizations” to its list of targeted industries. Waste effluent generated by these organizations was formerly not subject to treatment according to the Waste Disposal Act (廢棄物清理法). Also added to the list of targeted industries are car-washing businesses located in protected areas that generate over 10 or 20 cubic meters of wastewater, and use over 12 or 24 cubic meters of water per day, or 360 or 720 cubic meters of water per month.

Revisions have been made to the definitions of hospitals and medical organizations to specify the inclusion of pathology institutions and clinics with dialysis facilities. The revisions also add criteria on applications of clinics with over 20 dialysis stations. Deleted from the list of targeted industries are those subject to regulations on BOD, COD and suspended solids, or any one of 57 specified industries for which definitions are unclear.

The focus of revisions to the Types and Scope of Industries that Must First Report Water Pollution Control Measure Implementation Plans (應先檢具水污染防治措施計畫之事業種類、範圍及規模) was to remove conditions already covered by other regulations and complement revisions made to industry classifications and definitions. Affected industries include those using pipes and ditches to discharge wastewater for treatment elsewhere, or integrated fishery operations with fish raising area over 0.5 hectares.

The EPA indicates that businesses originally subject to the above regulations but now taken off the list are encouraged to proactively contact their local environmental protection bureau and apply to cancel their permit. If they don't apply for cancellation, they must wait for it to naturally expire according to the expiration date on their permit. The EPA reminds these businesses to remain in compliance with relevant regulations on building wastewater treatment facilities in order to avoid penalties. For more information, please call 02-23117722*2800

Waste Management

Incineration Plants in Hsindian and Lize Show Outstanding Performance

On 8 May 2008, the EPA held an awarding ceremony for the 2007 evaluation of incineration plants. Former EPA Minister Winston Dang personally handed over outstanding performance awards to Taipei County's Hsindian Plant and Yilan County's Lize Plant.

Second place awards were granted to five other incineration plants: Taipei City's Beitou Plant and Muzha Plant, Taipei County's Shulin Plant, the Taoyuan County Plant, and the Chiayi City Plant. A special award was given to the Taichung County Environmental Protection Bureau and the Kaohsiung County Environmental Protection Bureau for regional cooperation. The Tainan City Incineration Plant and the Keelung City Incineration Plant earned awards for outstanding operation performance. Kaohsiung City's South District Plant and Chiayi County's Lucao Plant were awarded for innovative research, and Taichung County's Houli Plant and Taipei County's Bali Plant received awards for voluntarily initiating improvements.

Working to guide and raise efficiency of incineration plant operations, the EPA has been conducting annual onsite audits and evaluations of incineration plant operating performance and administrative compliancy from 2001. The results of the 2007 evaluation were derived from the onsite audits of 22 municipal waste incineration plants currently under operation. After evaluating operating performance and administrative compliancy, the evaluation committee rated Taipei County's Hsindian Plant and Yilan County's Lize Plant as the top performers. Second place awards were given to five other incineration plants: Taipei City's Beitou Plant and Muzha Plant, Taipei County's Shulin Plant, the Taoyuan County Plant, and the Chiayi City Plant.

Special recognition was given to local governments joining in cooperation to solve waste treatment problems and increase the efficiency of incineration operations. The Taichung County and Kaohsiung County EPBs were granted the Regional Cooperation Award to affirm their active efforts to assist other governments in treating waste. The Tainan City

Incineration Plant and the Keelung City Incineration Plant received the Outstanding Operation Performance Award. Innovative Research Awards were conferred to Kaohsiung City's South District Plant and Chiayi County's Lucao Plant. Voluntary Improvement Awards were granted to Taichung County's Houli Plant and Taipei County's Bali Plant for extending every effort to improve operation performance.

While conducting audits of municipal waste incineration plants, the EPA found that each plant was competent in handling technical operations, especially in terms of pollution control and power generation efficiency. It is worth noting that in the process of conducting this year's evaluation it was discovered that each plant took initiatives to make improvements and conduct research on international environmental issues including energy conservation and carbon reduction, as well as carry out equipment upgrades in response to operating times. All of the incineration plants included in this evaluation were given good grades for these voluntary initiatives.

After the awarding ceremony, Minister Dang visited the Tainan City municipal waste incinerator's "social welfare facilities." Dang commended the plant for its initiatives to create social benefits, including a spa that draws on the plant's energy resources as well as its OT (operate-transfer) strategy, which creates a win-win solution for the government and the private enterprise that now runs the plant. The Minister also asked all local environmental protection bureaus and incineration plant operators to make every effort to ensure sound management and technical operations. Dang encouraged plants to come up with opportunities for people to come into contact with the plants so as to create a positive environmental image.

For more information, please call 04-22520817

Recycling

ESTP Firm Receives Energy Globe Award

A firm based in the Kaohsiung Environmental Science and Technology Park, Epoch Energy Technology Corporation (EETC), received the international 2007 Energy Globe award for its efforts in clean production, and research and production of environmental facilities. EETC Chairman Lin Wen-zhang was invited to participate

in the Energy Globe awarding ceremony at the European Commission headquarters in Brussels, Belgium on 26 May 2008.

Epoch Energy Technology Corporation (EETC) was approved by the EPA to set up operations in the Kaohsiung County ESTP. Its main products are solar heaters and oxy-hydrogen generators. Its evacuated tube solar water heaters are purportedly more efficient than flat plate collectors, and reach higher temperatures faster. The company's oxy-hydrogen generator breaks apart hydrogen and oxygen in water to create clean-burning hydrogen fuel that can reach temperatures from 800~3,000 Celsius, making it suitable for welding, cutting metal and heat treatment processes. Clean water and electricity are the only inputs required to make this hydrogen fuel, which is safe for the environment, doesn't cause pollution even if it escapes into the environment, and provides a clean and inexpensive heat source. The product creates fuel on the spot for immediate use, making storage unnecessary and reducing the chance of explosion. With water as its only raw material, it is a renewable energy source with no worries about deficiency in supply. The product doesn't consume any other resources and thus is a step toward reducing our dependency on fossil fuels.

The Energy Globe award is an internationally renowned environmental award that gained EU support in 2000. Its purpose is to increase national and individual awareness of environmental problems and provide solutions such as preserving resources,

researching renewable energy, and using energy with low pollution emissions. Awards are given in the categories of Earth, Fire, Water and Air and award recipients receive 10,000 Euros. Over 6,000 entries have been received to date. In 2007 alone there were 853 entries from 109 nations. A televised awarding ceremony took place at the European Commission headquarters in Brussels, Belgium on 26 May 2008, broadcast to about three billion viewers around the world.

This marks the first time for an entry from Taiwan to win the Energy Globe award. EETC's participation in this international awarding ceremony shows the world Taiwan's involvement in environmental protection and sustainable development.

The EPA states the main purpose of ESTPs is to encourage and introduce green industry in Taiwan. There are currently sixty firms set up in Taiwan's four ESTPs. More cooperation with high tech environmental industries is hoped for in the future. Inflating energy prices and the urgent need to turn waste into resources pushes trends in environmental protection and renewable energy. Land and positions available in the parks are limited. Interested businesses can contact the ESTP firm recruitment hotline at (02) 2381-5784.

Environmental Education

Awards Presented to Sow the Seeds of Environmental Protection

The EPA held a joint awarding ceremony for the 2007 Environmental Professionals Award, the 2007 Award for Environmental Groups and Volunteers, and the 16th National Model Environmental Community Award. Former EPA Minister Winston Dang personally attended the ceremony to commend these groups and individuals that have contributed to environmental protection at various levels, as well as encourage more people to get involved in environmental work.

Former EPA Minister Winston Dang said the awarding ceremony provided a chance for all these organizations and personnel to gather together and receive appreciation for their selfless contributions to environmental protection. Dang expressed hope that their environmental actions will spread and motivate other people to get involved in

protecting the environment and jointly create a clean, comfortable and harmonious living environment.

All recipients of the Environmental Professionals Award have had long-term involvement in environmental protection work, and some have made special contributions to the environment. For example,

Borough Chief Mr. Li Fang-liang of Jhongpu Borough, Sansia Township, Taipei County received a special award for perseverance in protecting the environment despite inconvenience of mobility due to polio. Mr. Li provided training to ecological stewards, worked to protect the mountain forest ecology, and hosted events for Taipei County including the Firefly Festival, the Butterfly Festival and the Birdwatching Festival. Mr. Li held outreach activities and briefings to encourage more citizen participation. He adopted concrete actions proving that despite physical imperfections, all people can work to make a better environment.

The Award for Environmental Groups and Volunteers was given to those who have made outstanding contributions toward promoting environmental work

and quickly spreading awareness of environmental policies. For example the Hualien Volunteer Association has over a hundred members over 50 years old who have worked hard to collect over 150,000 kilograms of recyclables over three years despite their age. These environmental groups are a sign of local powers dedicated to environmental protection.

In all there were four categories of awards granted to 64 recipients. The National Model Environmental Community Award and the Award for Environmental Groups and Volunteers were given to 29 recipients. The Environmental Volunteer Award and the Environmental Professionals Award were given to 35 recipients.

Recycling

Bulk Waste Recycling Reaps NT\$100 Million in 2007

Discarded furniture can be collected and refurbished for reuse or shredded into sawdust as a fuel for boilers or as an ingredient in compost. It has become an environmental trend to make full use of old furniture and recycle it into a resource, and the EPA is putting great effort into promoting this meaningful work.

For many years furniture and other types of bulk waste was either incinerated or landfilled. This practice was neither economical nor environmentally friendly. Since the EPA began promoting the reuse of bulk waste in 2003, now 18 local counties and cities have set up furniture restoration operations and citizens are opening up to the idea of second hand furniture.

Over 16,000 pieces of furniture were recycled in 2007, generating NT\$12.5 million in value. Second hand furniture shops received over 28,000 visits and some furniture was donated to minority welfare groups or low income households. Ten bulk waste shredding plants have been established. Together these plants processed about 28,000 tonnes of discarded furniture and branches into sawdust, which is used in making compost or as a fuel for boilers. In one year, the money saved on waste treatment fees in addition to the income from recycled products created about NT\$100 million in value.

The EPA says that recycling furniture is both

environmentally friendly and saves energy. It is an important component of the Zero Waste policy. People in possession of old furniture that can be restored are asked to call up their local sanitation crew for collection service. With rising oil prices, more and more factories are turning on to sawdust as fuel for their boilers. Businesses looking for cheap and environmental alternative energy sources can contact their local environmental protection bureau to inquire about cooperation opportunities to receive sawdust from furniture.

The EPA hopes its efforts to promote recycling of used furniture will encourage people to place more value on this resource and its importance in terms of environmental protection, sustainable use of resources and social welfare. The more people who begin recycling and using restored furniture, the faster the market will develop and the sooner Taiwan will become a Zero Waste society that sustainably uses its resources.

For more information, please call 04-2252-1718 x 320.

News Briefs

Business Recycling E-News Launched to Aid Communication

Universal Internet access has reduced the use of paper. The EPA has launched the Business Recycling E-News for

to replace the paper version of this newsletter. The new service provides instant and diverse information to businesses responsible for recycling as well as readers from all circles. Subscriptions to the E-New can be requested through the "Business Recycling Report System" website: <http://recycle1.epa.gov.tw/sys/business/>.

Business Recycling E-News takes the place of the old hardcopy newsletter, issued expressly to provide guidance and establish a channel for communication with businesses responsible for recycling their products. Content includes feature articles, EPA activities and news about recycling. Cartoon sketches accompany the news information to replace the long-winded style of the former newsletter. Abundant and animated content is hoped to attract the interest of more readers in the recycling field.

Restrictions on Manufacture, Import and Sale of Batteries to Be Revised

Responding to revisions made to the Business Registration Act (商業登記法), namely, deletion of the "For-Profit Business Unified Certification System" which annuls for-profit business registration certificates, the EPA has made a preannouncement of revisions to Article 6 of the Restrictions on the Manufacture, Import and Sale of Dry Cell Batteries (限制乾電池製造、輸入及販賣). In the future, when designated battery manufacturers and importers apply to the EPA for certification documents, the only basic information required is company registration, commercial registration, or certificates issued by other competent authorities.

Revisions to the Business Registration Act were promulgated by the Ministry of Economic Affairs on 16 January 2008, canceling the former for-profit business registration certification issuance system. In the future, companies and other commercial enterprises will not need to obtain for-profit industry registration, and will only need company registration and commercial registration.

Kick the Habit! Towards a Low Carbon Economy

Urging residents to practice low-carbon lifestyles, the EPA has recruited the Polar Bear and the Taiwan Black Bear to serve as carbon reduction ambassadors. People are urged to save these ambassadors by reducing their carbon footprint. While the Polar Bear and the Taiwan

Black Bear live far apart, they both suffer the effects of global warming, which currently threaten their very survival. As such, it is only appropriate that the Polar Bear and the Taiwan Black Bear were chosen as the "Carbon Reduction Bears" as a symbol to remind people of the dire need to reduce our carbon footprint.

"Kick the Habit! Towards a Low Carbon Economy" is the theme chosen for this year's International Environment Day. The EPA is launching a series of activities to wake people up to the reality of global warming and start changing everyday habits to reduce greenhouse gas emissions. For more information, please call 02-2311-7722 x 2750



 *The Carbon Reduction Bears*

Free Gifts for Purchases of Green Mark Products

The EPA held a series of World Environment Day activities from May 31 to June 8 to familiarize people with Green Mark products and green consumerism, reduce environmental loading, and complement World Environment Day activities focused on green consumption. Among the events held this week were a chance to exchange receipts of Green Mark products for a gift, promotion of environmental products and Green Stores, carbon reduction activities, and environmental product shopping activities. Consumers can pick up a gift at a designated Green Store in exchange for purchase receipts from Green Stores or product containers of three Green Mark products. For more information on the dates and locations of this activity, please check the EPA Green Living Information Website (<http://greenliving.epa.gov.tw/>) or contact your local environmental protection bureau.

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