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## Feature Article

### Pursuing a Low Carbon Sustainable Homeland

Building on the foundations of existing initiatives for low carbon cities, the EPA is actively promoting the Low Carbon Sustainable Homeland Program to further pave the way for a sustainable society. The original seven concrete approaches to carbon reduction have been expanded into ten major operational functions. Future work includes a yearly evaluation mechanism at each of the various levels including regional living spheres, counties and cities, townships and districts, and villages and boroughs. This evaluation mechanism will assist in gradually establishing a system that will help all of these levels comprehensively and simultaneously implement the ten operational functions.

Now, not only confronted with extreme changes in weather due to global warming and climate change, the world is also facing rapid depletion of traditional energy sources based on fossil fuels, the use of which has posed a serious threat and impact to the ecology, environment and economy. One of the most important and difficult challenges of this century is implementation of energy conservation and carbon reduction measures in the fight against global warming. Many nations are mitigating negative impacts through the adoption of response measures to reduce energy consumption and greenhouse gas emissions. There is a general consensus that

concrete actions need to be taken at the local level as well.

#### Vision of a Low-Carbon Society Draws Upon the Experiences of Other Nations

Added to the threat of the greenhouse effect, the international community has also been plagued with skyrocketing energy prices, financial crises, and food security crises in recent years. Thus since 2009 various nations have signed onto the Green New Deal, a mechanism that integrates clean low carbon energy sources with a low carbon industry economy

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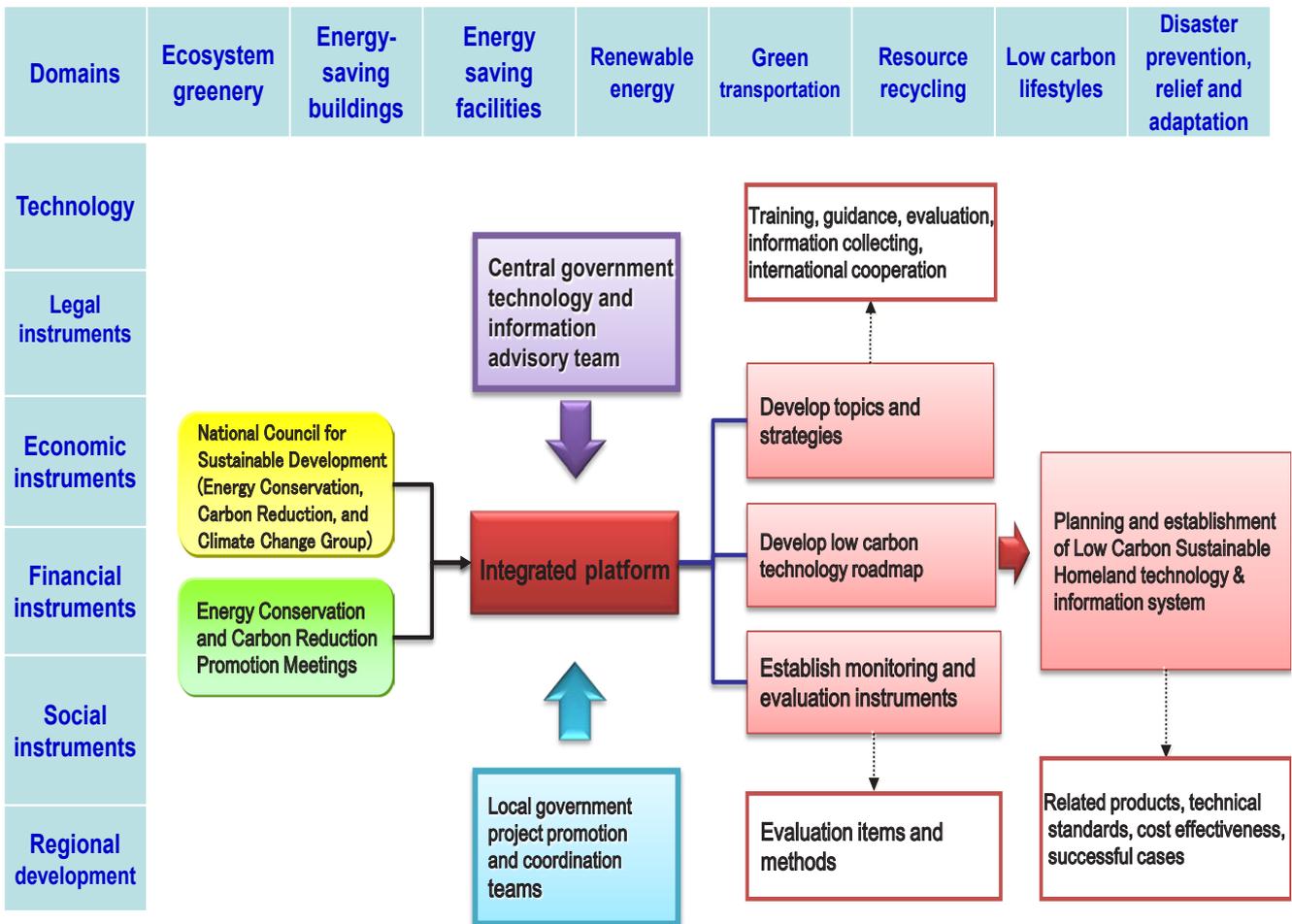
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and the building of low carbon societies. Setting overall carbon-reduction targets and encouraging everyone to work toward reaching these targets is seen as a way to create green employment and eliminate energy poverty.

Heeding the call of international development trends, Taiwan has set national greenhouse gas reduction targets, committing to return to 2005 emission levels by the year 2020. During the 2009 National Energy Conference, a detailed schedule was set for turning Taiwan into a low carbon nation. The EPA took up the task of building a "low carbon homeland," firstly by working with county and city governments to evaluate 52 model low carbon villages, boroughs and communities. This initiative sought experts in carbon reduction to help communities diagnose their carbon reduction potential and plan feasible, long-term, concrete carbon reduction measures. The EPA has also developed a fair competition mechanism to choose key low carbon cities that can develop the implementation of energy conservation and carbon

reduction strategies.

This fits with President Ma Ying-jeou's directive to develop such a mechanism that encourages counties and cities to take action as they vie to be selected as a model site. Thus county magistrates and city mayors personally lead their teams to participate in the low carbon city competition. The fair competition mechanism evaluated how these teams integrated related resources in their comprehensive low carbon plans and visions, using innovative, feasible administrative measures and actions that had the potential to reduce carbon emissions. By August 2011, four model low carbon cities were chosen to represent Taiwan's four regional living spheres: New Taipei City in the north, Taichung City in the center, Tainan City in the south and Yilan County in the east. In the future these model jurisdictions will have the task of cooperating with adjacent jurisdictions to develop low carbon living spheres with distinctly local aspects. With the addition of Penghu and Kinmen as designated low carbon islands the whole of Taiwan's



▶ Chart: Operating mechanism for cross-county and cross-city establishment of a low carbon sustainable homeland

territory is now contained within the scope of the Low Carbon Sustainable Homeland Program.

Based on sustainable development objectives, the fundamental concept behind developing low carbon cities is to reap multiple benefits in terms of economic growth, environmental protection, ecological conservation, social justice and related policies. The goal is to reduce carbon emissions and ensure a secure energy supply while responding to environmental impacts. Yet the establishment of low carbon cities must also keep sustainable development in mind, as over-emphasis on the planning of a single measure could actually lead to an overall increase in carbon emissions. From the perspectives of development and material life cycles, carbon emissions should be evaluated on multiple levels. Sustainable development should be seen as the overriding goal; carbon reduction is just one aspect that can help attain this ultimate goal.

#### Realizing a Low Carbon Sustainable Homeland through Implementing Sustainable Cities

The EPA's Low Carbon Sustainable Homeland Program draws on the foundations of the low carbon city framework and extends this to the development of a sustainable society. In doing so, the original seven concrete approaches to carbon reduction have been expanded into ten major operational functions. The original seven approaches are ecosystem greenery, energy-saving buildings, energy-saving facilities, renewable energy, green transportation, resource recycling, and low carbon lifestyles. The additional three approaches are: disaster prevention, relief and adaptation; legal and financial instruments; and social behavior and evaluation instruments.

The EPA has developed the Low Carbon Sustainable Homeland Promotion Organization Framework, which mobilizes the integration of manpower and resources of the EPA departments involved. This framework also oversees the establishment of low carbon sustainable homeland promotion offices of county and city governments that are likewise entrusted to coordinate local township and district offices in establishing low carbon sustainable promotion offices. These ground level units are thus able to work together in promoting low carbon sustainable villages and communities. The county and city governments in each of Taiwan's four living spheres (in northern,

central, southern, and eastern Taiwan) designated to promote low carbon sustainable cities are entrusted to convene other counties and cities in their area to work together in organizing cross-county and cross-city organizations that promote efforts toward a low carbon sustainable homeland. Local meetings are convened so that operations are consistent at both central and local levels and communication is maintained between central and regional administrations. An integrated work coordination platform effectively utilizes existing resources to strengthen regional integration and coordination, thus keeping central and regional offices aware of local administrative focuses.

As the building of a low carbon sustainable homeland involves a great deal of expert technology and knowledge, the Low Carbon Sustainable Homeland Program framework draws on the technical advice and coordination of representative experts in industry, government, academia, and research sectors, who are convened into technology and information advisory teams. Effective integration and coordination of resources and manpower is achieved by having the representatives of each designated local government and township organization convene their own promotion and coordination teams.

A group of experts is organized under each operational function. These teams hold intensive meetings and discussions, and work together to come up with focal topics and solutions including practical improvement measures, training, guidance, evaluation, compilation of information, and international cooperation. They plan the content and framework of technology information systems and establish information integration platforms, which include the establishment, maintenance and advisory support of related products, technical standards, companies, cost effectiveness, benefits, and successful examples. A technically feasible roadmap is worked out for each operational function drawing on local resources including related technical measures and strategies. A monitoring and assessment mechanism (including items, methods, and evaluation indices) is also provided to assist each low carbon sustainable living sphere carry out its plans. The EPA has the task of integrating all of this work into the Low Carbon Sustainable Homeland Program. Related organizations are asked to help review and revise regulations and measures to ensure that work is carried out and that the low carbon concept and

actions are integrated not only into economic and social development but all aspects of life.

### Combining Central and Local Efforts toward the Golden Decade of Sustainability

In order to achieve the national vision for a Golden Decade of Sustainability, in 2011 the EPA selected New Taipei City, Taichung City, Tainan City and Yilan County as model low carbon jurisdictions. A comprehensive organizational framework for promoting the project is structured by working at each level of administrative organization and integrating expert technology and information advisory teams. The Low Carbon Sustainable Homeland Program aims to build the capacity of 52 model low carbon sustainable communities and 6 low carbon sustainable demonstration cities by coordinating with 22 county and city governments. This all-encompassing cooperation scheme will include all of Taiwan's 369 townships and 7,815 villages/boroughs to engage in parallel operations so as to accelerate the formation of low carbon living spheres. The establishment of a low carbon sustainable homeland requires multiple aspects of expertise involving administrative entities, carbon reduction technology, the legal system, financial and social instruments, transportation, and natural and built environments. To clarify the different methods of applying these various fields of professional knowledge at each scale, be it community, village, city, or regional living sphere, the EPA has categorized the ten operational functions as they relate to the different levels of administration and geographic factors for village, borough, township, city and central organizations (see chart). This scheme will facilitate systematic and comprehensive implementation of strategy and operational functions

by civic organizations and industries linked in cooperation.

In addition, the EPA has requested each county and city government to establish low carbon sustainable homeland promotion offices, with the four low carbon sustainable model cities in northern, central, southern and eastern Taiwan convening other cities in their area to work together to organize cross-county and cross-city promotion and coordination teams and establish a coordination and integration work platform that connects all the various organizations, agencies, and sectors.

The Technical and Information Advisory Team is composed of academic organizations, research organizations, industry associations, energy service companies (ESCOs) and expert representatives of related organizations. This team provides low carbon sustainable promotion offices with: 1) expert knowledge in each area of operational function (concerning application and research and development of technical, economic, financial, legal, and social instruments); 2) Related low carbon products, technical standards, cost effectiveness, and benefits; 3) Monitoring administration and evaluation mechanisms and other information collecting advisory services; and 4) The latest practical improvement measures, training, guidance, evaluation, international cooperation and other important issues and solutions concerning the promotion of a low carbon sustainable homeland. In the future, annual evaluation mechanisms will be applied to each level of implementation (regional living spheres, counties and cities, townships and districts, and villages and boroughs) to gradually build an operational function system geared toward comprehensive implementation at all levels simultaneously.

## Environmental Inspection

### No Maximum Limit to Fines for Profiting from Environmental Law Violations

The EPA is ushering in a new regime of environmental inspections, audits, in-depth verification, and unlimited fines for operators who profit from breaking environmental regulations. The Administrative Penalty Act allows the EPA to calculate the amount of illegal profit that violators have earned and force the offending operator to pay back the amount and/or pay a fine of an amount with no set maximum. Dealing with the problem of illegal gains by the standard method of issuing sizeable fines are expected to help protect the environment by reducing cases of illegal pollution.

**E**PA analysis of violations of environmental regulations that resulted in fines in 2011 show that there were 15 cases where illegal profits could be proven, resulting in a total of NT\$55.58 million in fines. Typical violations included: neglecting to invest in necessary equipment, neglecting to introduce necessary operational practices, operating with insufficient facility functionality, neglecting to hire a licensed waste disposal operator to dispose of waste, and failing to spend adequately on items included in the operator's stated environmental impact assessment commitments.

Making in-depth verification a part of the new inspection regime is aimed at curbing illegal conduct, such as manufacturers clandestinely discharging wastewater during sanctioned operations or other such polluting practices. The new regime will see selected premises being inspected on multiple occasions as opposed to the current method of inspecting a number of premises in the same area on the same day. Emphasis will also shift away from inspection results to reasons for the inspection,

The in-depth audits will be divided into three main stages:

1. Drawing up worksheets and verifying the operator's registered information before the inspection of the premises begins.
2. Checking facility operations – inspecting volumes of wastewater entering and leaving the premises, electricity consumption, amounts of chemicals added to the wastewater and collating of each onsite wastewater treatment process and recorded data.
3. Should the inspection of facility functions uncover

irregularities that do not accord with the findings of stages 1 and 2, an in-depth inspection of the functions in question will be conducted according to an inspection checklist.

Since last year, when full recovery of illegal profits became normal practice, the EPA has been mustering personnel in all of its departments to work on formulating working protocols and administrative handbooks for the inspections and penalty system in order to strengthen the enforcement of environmental laws. Constructing the penalty system has also entailed creating FAQs and educational guidance, and amending each of the penalty determination standards. The EPA has also been holding educational activities in order to demonstrate the government's commitment to enforcing the new regime, and also to enhance the training of inspectors. An "important links" section has also been created on the EPA's Web site and the operators' online submission site (Environmental Management System) so that operators can have easy access to the information that will help them better understand the new regime.

When dealing with offending operators the EPA will carefully consider the following parameters as set out in administrative law: degree of responsibility, degree of environmental impact, profits obtained from violating administrative law, and ability of violators to pay fines. If the violation is serious enough to warrant stoppage of operations then an Order of Cessation of Operations will be sent immediately, without exception. At the same time, improvements will continually be sought in order to prevent unscrupulous operators from continuing to violate environment laws by polluting the environment.

## Soil & Groundwater

### Gas Station Pollution Checked through Verification and Preventative Measures

Since 2001, the EPA has been conducting ongoing soil and groundwater pollution inspections of the nearly 3,000 gas stations around Taiwan and expects to finish the series of general inspections in 2012. The EPA is simultaneously adopting a dual approach of pollution verification and pollution prevention strategies to prevent further soil and groundwater pollution at gas stations.

From 2010-2011 the EPA conducted soil and groundwater pollution inspections on the 400 or so gas stations that were built between 2003 and 2006. A total of 32 sites were discovered to have soil or groundwater pollution in excess of pollution control standards (seven of which are situated along freeways). Three of the 32 sites are now listed as remediation sites:

As for the stations with pollution in excess of control standards, although the water was not part of the local supply of drinking water it was still being used to wash customers' vehicles and station facilities. Local environmental protection bureaus have now ordered these stations not to use their groundwater. Fortunately, gas station forecourts consist of a thick layer of concrete and so it is unlikely that any volatile organic compounds (VOCs) from the polluted groundwater will affect public health. Remediation and improvements to all 32 sites will be conducted according to the regulations laid out in the Soil and Groundwater Pollution Remediation Act, and will be conducted by the station operators at the earliest possible date under the strict supervision of a team of environmental protection personnel and experts.

In order to get a firm grasp on the problem of gas station pollution, since 2001 the EPA has been conducting, in batches, ongoing soil and groundwater pollution inspections of the approximately 2,700 gas stations around Taiwan. Statistics for 2011 show that 2,250 stations have so far been inspected and it is expected that the series of general inspections will

be completed in 2012. Besides conducting general inspections, the EPA has also been conducting annual inspections of facilities and equipment at selected gas stations in accordance with the Regulations for Installation and Management of Facilities for Preventing Pollution of Groundwater Bodies and Monitoring Equipment in Gas Stations (地下儲槽系統防止污染地下水體設施及監測設備設置管理辦法). The purpose behind these inspections is to ensure that gas station owners are employing good operating practices and are able to adequately manage all of their operations themselves. The EPA believes that simultaneously adopting a dual approach of pollution verification and pollution prevention strategies will effectively prevent further soil and groundwater pollution at gas stations.

To date, the EPA, working in conjunction with local environmental protection bureaus, has discovered 190 cases of polluted gas stations, which amounts to 8.43% of the total investigated stations. An overall analysis of the operators involved showed that four companies - Mech-President Corp., Formosa Oil, Shan-Loong Transportation Co., and Youni Oil – are responsible for a high proportion of the polluted sites. The EPA is calling on all gas station operators to conduct regular monitoring of all of their premises, and add extra inspections of those gas stations that are situated within downtown business districts or densely-populated areas so that potential pollution problems can be dealt with before they impact surrounding residential environments.

## Air Quality

### Ambient Air Quality Standards to Include PM<sub>2.5</sub>

Fine particulate matter (PM<sub>2.5</sub>) refers to particles suspended in the air that are microscopic in diameter. They can have a negative impact on human health by lodging in lung tissue. Incidences of lung cancer are increasing in Taiwan, which are suspected to be linked to the presence of fine particulate matter in the atmosphere. The EPA recently invited representatives from relevant government agencies to a public hearing to discuss revisions to ambient air quality standards that would see the addition of controls on fine particulate matter.

In recent years the problem of the public health impact of fine particulate matter (PM<sub>2.5</sub>) has aroused concern from many quarters. During a speech given at a public activity last April, President Ma Ying-jeou pledged that he would urge the EPA to include PM<sub>2.5</sub> on the list of pollutants in air quality control at the earliest possible date.

Most PM<sub>2.5</sub> is emitted by major stationary sources such as factories, power plants, oil refineries, and steel foundries. Other sources include: dust from bare earth, particularly when vehicles drive over it; microscopic particles produced by living organisms; and, decomposition of dead micro-organisms. As Taiwan is an island nation it is also possible to gauge quite

accurately the impact of pollution from neighboring nations on local air quality; it is estimated that 37% of Taiwan's PM<sub>2.5</sub> originates overseas. The reason why PM<sub>2.5</sub> is such a health concern is that the particles' microscopic size – less than 1/28th the diameter of a human hair – allows them to lodge deep in the lungs and cause harm to health.

The EPA is currently working on a draft revision of the

air quality standards and has looked at the standards that are currently being enforced in Japan and the US. The EPA would like to set a maximum value of 35 µg/m<sup>3</sup> per 24 hours, with an average annual maximum daily value of 15 µg/m<sup>3</sup>, which is currently the strictest standard being implemented among other countries. The EPA would also like to adopt the US method of manually testing for PM<sub>2.5</sub> once every three days.

## Air Quality

### EPA and MOTC Increase Subsidies to Rejuvenate Taxi Fleets

Taxis generally run up a higher daily mileage than most vehicles and thus their engines wear out relatively quickly. Replacing old taxis with new ones can help reduce emissions and increase fuel efficiency, which accords with government environmental protection and energy saving and carbon reduction policies. The Ministry of Transportation and Communications (MOTC) now offers a subsidy of NT\$30,000 per vehicle to replace taxis that are over ten years old. This will be supplemented with a NT\$10,000 per vehicle subsidy from the EPA's Air Pollution Control Fund. It is expected that the increase in the subsidy to NT\$40,000 per vehicle will accelerate the rejuvenation of taxi fleets.

According to MOTC statistics there are currently around 87,000 taxis on Taiwan's roads that carry approximately 797 million passengers annually, accounting for approximately 30% of the total public transport passenger volume. Of these vehicles, it is estimated that around 30% (26,000 vehicles) are over ten years old. The MOTC now offers a subsidy of NT\$30,000 per vehicle to encourage the replacement of taxis that are over ten years old, and initial estimates suggest that 5,000 or so taxi owners will accept the subsidy. The EPA is calling upon all owners of taxis older than ten years to take advantage of the subsidy. Motor vehicle offices nationwide are now accepting subsidy applications.

Since its inception, the EPA has been concerted in its efforts to reduce vehicle emissions. The average taxi travels around 60,000 km annually, about quadruple the average car, and the majority of them also operate in congested urban areas. EPA estimates suggest that replacing 5,000 taxis older than ten years will lead to an annual reduction of 87 tonnes of air pollutants and 6,000 tonnes of CO<sub>2</sub>. Offering economic incentives to taxi owners to replace old vehicles will reduce emissions, improve urban air quality, and increase fuel efficiency, which accord with the government policy on energy conservation and carbon reduction.

## Waste Management

### Waste Management System Revamped to Eliminate Illegal Dumping

The EPA recently struck a blow against the practice of illegal dumping by revamping its Illegal Dumping Management System (IDMS; Web site: <http://waste24.epa.gov.tw/idms/>). The improved system now includes GPS installed in refuse collection vehicles, closed-circuit television (CCTV) installed at refuse treatment plants, and the application of satellite remote sensing. The scope of inspection patrols for environmental protection officials has also been clarified, adding to the tight net of controls and monitoring systems that prevent incidents of illegal dumping. The updated system went into effect on 30 December 2011.

The EPA points out that the overhauled system has greater functionality due to the addition of the following new functions:

- Members of the public can now report cases of suspected illegal dumping to the EPA and use the system to follow progress on each individual case.
- Juridical organizations can now immediately access information online.
- The EPA and local environmental protection bureaus are now able to publish online full details (site photos, site information, types and quantities of waste being dumped, etc.) of illegal dumping sites discovered by their own patrols or by members of the public. This will facilitate the follow-up work of cleaning up and controlling the site.

The system also incorporates the principle of "zone of responsibility": a local environmental protection official and a member of the EPA's Bureau of Environmental Inspection have been assigned to each zone. In the event of reported instances of illegal dumping not being recorded and handled through the IDMS, the officials in charge of the zone in question will be held personally responsible.

Technology is also being applied in the battle against illegal dumping. It is now mandatory for industrial waste disposal vehicles to be fitted with GPS so that they can be tracked at will. Satellite remote sensing technology can assist on-the-ground inspectors by providing enhanced image interpretation and spatial potential analysis of sites susceptible to illegal dumping (at municipal boundaries, on river embankments, on empty lots, etc.). Disposal operators, recycling operators, and specially-designated industries are also required to install real-time CCTV systems to assist in tracking the movements of waste disposal vehicles and to monitor each load of waste as it enters or leaves the premise. The application of these technologies provides highly accurate information, allowing for better management of incidents of illegal dumping.

The EPA has already formulated a set of six main standard working procedures relating to the clean-up of illegal dumping sites. These are:

- registering the site and its type upon discovery
- delegating responsibility for clean-up
- conducting an investigation into the dumping site
- setting deadlines for the completion of the clean-up
- setting out clean-up working procedures
- restoring the environment and registering the site

The EPA has also designed hazardous waste assessment and emergency response mechanisms for initial emergency clean-ups of illegal dumping sites that harbor hazardous waste posing a threat to the immediate environment. The EPA has already begun an audit of all of the known sites of illegal dumping around Taiwan. Initial estimates indicate that there are over 160 sites that will continue to be registered as ongoing clean-up/restoration operations.

The EPA would like to emphasize that illegal dumping is a serious violation of the Waste Disposal Act and that cases uncovered through the use of the IDMS will immediately be handed over to the relevant law-enforcement agency for further investigation and possible prosecution. Offenders will be punished in accordance with the stipulations of the Waste Disposal Act and the Administrative Penalty Act.

The IDMS will be operated and adjusted according to practical needs. For example, planning is underway to combine the IDMS with the current EcoLife patrol system and with the river and mountain patrols that will be administered by the planned Ministry of the Environment and Natural Resources, in order to ensure that every square inch of land in Taiwan is adequately protected. Members of the public can play their part in maintaining environmental quality by using the IDMS to immediately report cases of illegal dumping and send in relevant information so that polluters can be caught as soon as possible.

**Recycling**

## Guidelines Revised for Vendors with Recycling Facilities for Electronic and Electrical Goods

In order to increase the recycling of the "four big appliances," on 1 March 2012 the EPA announced revisions to the Guidelines for the Establishment of Recycling Facilities by Vendors of Electronic and Electrical Goods. The revisions allow vendors to adopt simplified reporting and management procedures that are in tune with the actual delivery process for large appliance recycling. The revisions will take effect on 1 April 2012. Details can be found on the EPA Web site: <http://ivy5.epa.gov.tw/epalaw/>.

Following the implementation of the guidelines, from 1 July 2011 there has been a marked increase in volumes of the "four big appliances" (TVs, washing machines, refrigerators, and air-conditioners) that have been recycled via the recycling counters set up by the vendors to receive old appliances directly from their customers. The overall condition of appliances being recycled has also improved. The recent revisions will have the effect of simplifying the reporting procedures for appliances delivered to recycling centers and reducing environmental pollution by raising recycling effectiveness, while still protecting consumer rights.

In future, the EPA will make it much easier for consumers to hand their old appliances over to vendors for recycling, eventually eliminating reporting procedures for vendors, and extending the period of time that vendors have to make payments. Consumers can thus rest assured that their old appliances will be properly recycled with minimum inconvenience to

themselves. The EPA will also maintain the protection of consumer rights by ensuring that vendors do not refuse to accept old appliances or charge customers for removing or recycling old appliances as long as the old appliances were originally bought from the vendor in the same quantity. The aim of the aforementioned measures is to alleviate the consumer's hassle of removing old appliances.

The EPA would like to remind vendors that starting from 1 April 2012, all vendors of products announced as designated electrical and electronic goods will have to abide by the new regulations. The EPA is also calling on all vendors to advise customers of their consumer rights regarding recycling when buying a new large appliance. Consumers are also asked to do their part in protecting the environment by ensuring that they ask vendors for an invoice when exchanging an old appliance for a new one.

**Recycling**

## EPA to Provide NT\$20 Million to Encourage Recycling Innovation and R&D

In order to encourage academia and industry organizations to research and develop new ways to recycle waste, the EPA will provide an annual total of NT\$20 million in grants to qualified organizations as a part of its Innovation, Research, and Development Plan for New Methods to Recycle Recyclable Waste. The maximum grant that any given proposal can receive annually will be set at NT\$2 million.

Currently, there are 33 categories of products that have been announced by the EPA as regulated recyclable waste. These include waste vehicles, waste containers, waste electronic and electrical goods, waste communication devices, waste tires, waste lighting products, spent lead-acid batteries, and other spent batteries, among other items. As a result of the promotion of the EPA's Resource Recycling Four-in-One Plan – the "four" being the public, local

refuse collection teams, recycling operators, and the Resource Recycling Management Fund – Taiwan now has a stable, efficient recycling system.

In order to encourage research and develop new ways to recycle harmful waste and reduce pollution emissions during the recycling process, and also find new ways to use renewable resources, starting from 2012 the EPA will provide an annual total of NT\$20

million in grants to qualified organizations.

The grants will be offered for R&D into recycling methods and carbon footprint calculations for recycling methods for waste bioplastics, waste electronic and

electrical goods, and each category of spent battery. These are all products that pose a particular challenge to the existing system of resource recycling. The maximum grant payable to a single proposal has been set at NT\$2 million for each year.

## Air Quality

### Violators of Ordinance on Idling Vehicles Will Be Fined Starting from June

Taking into account relevant foreign laws and the experiences from the Environment Protection Bureaus of various counties and municipalities, the EPA completed the Ordinance on Idling Vehicles and set standards for fines that will be enforced from 1 March 2012. From March through May there will be a grace period for promotion and warning purposes. However, effective from 1 June 2012, any parked vehicle idling for more than three minutes will be subject to a fine. The EPA urges drivers to turn off their engines whenever they park their cars or motorcycles so as to improve the ambient air quality.

On 8 April 2011, the Legislative Yuan passed amendments to the Air Pollution Control Act after the third reading. The amendments included provisions on idling vehicles and standards for fines set by the EPA. By taking into account relevant foreign laws and the experiences from Environment Protection Bureaus of various counties and municipalities, the EPA has come up with an "Ordinance on Idling Vehicles" and "Fine Standards on Drivers in Violation of the Idling Vehicles Ordinance" (draft). The provisions of these drafts were announced on 7 November 2011, and a public hearing was held on 23 November, to which relevant governmental agencies, groups and local environmental protection organizations were invited for open discussion. The EPA then modified the Ordinance and the Fine Standards as per the opinions and comments voiced in the hearing.

According to the Ordinance, any motor vehicle parked at a public or private parking lot or on a road

(excluding highways, expressways and speedways), or any other space for the parking, transport, or relay of motor vehicles, should turn off its engine if it stands still for more than three minutes. Drivers in violation of the Ordinance will be subject to fines of NT\$1,500 for motorcyclists, NT\$3,000 for drivers of small cars, and NT\$5,000 for drivers of large vehicles. For repeated offenders and drivers, fines can be levied for each repeat offense, and the fees can be charged on an incremental basis as per the figure of the first offense.

The EPA maintains that the anti-idling ordinance will not only help reduce wastage of fuel, but also enhance ambient air quality and protect the health of the public. Therefore, any repeat offenders will be severely punished. The purpose of such an ordinance and its relevant fine standards are not to penalize the general public, but to cultivate the habit of turning off engines when motor vehicles are parked.

## Eco-labelling

### Taiwan Shares Green Living Experience on International Stage

Aiming to market Taiwan's environmental and low carbon products on the international stage, the EPA displayed Taiwan's Green Mark and Carbon Label products as well as an interactive game on Taiwan lifestyles of health and sustainability (LOHAS) at the Hong Kong LOHAS Expo held by the Kowloonbay International Trade and Exhibition Centre, from 10~12 February 2012. The event provided visitors the chance to learn more about Taiwan's progress in promoting green lifestyles and green consumption.

The EPA took this opportunity to show a film introducing the green design concepts behind LOHAS products by Suntech Solar Technology Co., Ltd. and Hair O'right International Corporation. The EPA also did a presentation on Taiwan's Strategies and Experience in Promoting Green Consumption, showcasing Taiwan's efforts to promote environmental protection and expand green business opportunities. The talk was followed by a pop quiz with prizes for correct answers.

The Hong Kong LOHAS Expo conveyed green consumption concepts in the themes of food, clothing, housing, transportation, education and entertainment. Among the exhibits included an interactive hands-on urban farming exhibit showing organic gardening tips, as well as an organic farmers market to familiarize people with organic produce featuring some of Hong Kong's in-season organic produce. Another display encouraged people to get in touch with the environment by sharing information on ecological and recreational tours in Hong Kong and Taiwan. Yet another display encouraged people to adopt environmental and healthy lifestyles through natural healing, introducing ways to heal others and themselves, massage therapy, flower therapy, music

therapy, fasting, taichi, and chigong.

The EPA's participation at this expo allowed a chance to show off Taiwan's Green Mark and Carbon Label products, present lectures on green living, show a film and give out prizes to attendees who answered a pop quiz. The EPA also displayed an interactive game in which participants got to know about environmental protection in Taiwan by piecing together a puzzle on Green Mark products and green living concepts. Environmental gifts were given to participants in the many interactive events and displays as a way of driving home environmental concepts and achieving environmental education objectives.

Environmental protection knows no borders and requires action from every individual to create new green lifestyles and a sustainable future. The EPA was keen to take advantage of this opportunity for international exchange to show Taiwan's accomplishments in green living and consumption. Sharing valuable experiences at events such as this puts Taiwan's achievements on the international stage while also taking steps toward global sustainable development.

## News Briefs

### Light Bulb Recycling Rate Reaches 75%

The fluorescent light tubes and energy-saving light bulbs used in homes and offices all contain mercury, and the EPA is keen to remind members of the public to wrap used light bulbs carefully before disposing of them in recycling containers in order to prevent mercury from polluting the environment. According to EPA statistics, the volume of used light bulbs being recycled annually has risen from 523 tonnes in 2002 to 5,200 tonnes in 2011, a recycling rate of 75%. This is the equivalent of 26 million 120 cm 40W fluorescent light tubes. Most of the materials used to make light bulbs can be recycled after treatment, including the glass, aluminum, iron, copper, mercury, plastic, and phosphor powder. These materials can even be reused to manufacture renewable light bulbs, which is an excellent example of resource recycling and reuse.

### Revisions to Standards for Determining Specific Items and Scope of EIAs for Development Activities Announced

On 20 January 2012, the EPA announced revisions to the Standards for Determining Specific Items and Scope of Environmental Impact Assessments for Development Activities. The main points of the revisions are:

1. Regulations have been added governing the timing of the decision as to whether or not factories and waste treatment or clearance operators should conduct environmental impact assessments (EIAs).
2. Conditions dictating the application of free trade area EIA regulations to free trade areas within the control areas of international airports or international ports built after 2 March 2000.
3. Regulations governing EIAs for farm product processing premises (excluding indoor areas with facilities used exclusively for packing and distributing farm products).
4. Regulations governing EIAs for oceanic installations of equipment to monitor weather, earthquakes, and marine phenomena.
5. Regulations governing the suspension of EIAs for sediment dredging as a part of post-disaster rebuilding approved by the industry competent authority.

### Recycled Plastic Container Inspection and Certification Manual Revised

The EPA recently announced revisions to the Regulated Recyclable Waste Recycling, Clearance and Treatment Inspection Certification Manual. The revisions mainly concern:

1. Adjustments necessitated by the addition of bioplastic containers to the list of subsidized items from 1 March 2012.
2. After taking into consideration the fact that expanded polystyrene containers are light and break down easily, and that volumes of such containers being recycled on outlying islands are low, the EPA has eliminated the minimum weight per batch of expanded polystyrene that recycling centers can accept. The aim is to increase recycling rates for such containers.
3. Since plastic lining and padding can be easily distinguished from other waste containers, and is not one of the items on the list of recyclable products, plastic lining will henceforth be categorized as "miscellaneous material."

### Dr. Yeh Shin-Cheng Appointed EPA Deputy Minister

Dr. Yeh Shin-Cheng, former head of National Taiwan Normal University's Graduate Institute of Environmental Education, has been appointed deputy minister of the EPA. Deputy Minister Yeh took office on 20 February 2012.

Deputy Minister Yeh is a graduate of both National Taiwan University's Department of Civil Engineering and its Graduate Institute of Environmental Engineering. He later went on to earn a doctorate in water resources and environmental systems from Cornell University. He has lectured at National Kaohsiung Normal University and National Chi Nan University. While working in academia, Vice Minister Yeh tirelessly promoted many different aspects of the field of environmental education including climate change education, disaster prevention education, and water resource education. He is also the author of

many journal articles and much course material on these subjects. Yeh has a keen sense of civic responsibility, having once been president of the Chinese Society of Environmental Education. He also had a hand in the creation of Taiwan's Environmental Education Act, and after the act was passed into law he was appointed to the National Environmental Education Evaluation Committee and the committee's certification team, where he continued to assist the EPA in promoting environmental education.

### Regulations on Records of Toxic Substance Handling and Release Amounts Simplified

The EPA recently completed revisions to the Toxic Chemical Substances Handling and Release Amount Records Management Regulations. The main points of the revisions are as follows:

1. So that handling records for toxic chemical substances and reporting forms reflect actual requirements more accurately, the EPA has removed the tables from the above regulations. In future, such tables will be announced by the central competent authority.
2. Reporting for Class I, II and III toxic chemical substances must now be done on a monthly basis in order to strengthen controls of the movement of toxic chemical substances and to facilitate extraordinary inspections.
3. In order to simplify administrative procedures for operators, volumes of toxic chemical substances that remain unchanged no longer need to be reported every month. A single report submitted before 1 October every year is now acceptable.
4. Handlers of Class I, II, III and IV toxic chemical substances who wish to notify local competent authorities that they are ceasing to handle toxic chemical substances, must first submit handling records and release records of amounts.

Details of the above revisions have been published on the EPA Web site dealing with environmental regulations: <http://ivy5.epa.gov.tw/epalaw/index.aspx>

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