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Feature Article

"Golden Decade, National Vision of Sustainable Environment" Announced

Responding to global climate change and resource conservation trends, Taiwan is not only in the process of establishing the Ministry of Environment and Natural Resources, integrating each agency's work on pollution prevention and nature conservation, but is also strengthening the protection of environmental resources and keeping a balanced ecosystem. President Ma Ying-jeou has proclaimed this as the "Golden Decade, National Visions," a scheme consisting of Four Assurances, including the promise of environmental sustainability and social justice. This policy will revolve around the concepts of green energy, carbon reduction, creation of an ecosystem preservation-based homeland, and disaster prevention and relief.

Environmental Sustainability is listed as the Fifth Vision in the "Golden Decade, National Visions." Policy ideals for this include new forms of energy that prioritize energy conservation and carbon reduction as well as the safety and preservation of a healthy environment. These concepts build on current trends in energy conservation and carbon reduction, development of clean energy and expansion of green production. Green energy and recycling of resources is beneficial to the rebuilding of both urban and rural environments. Other focal points include national land planning and watershed management so as to make further progress in water resources utilization, nature conservation, integrated waste management, pollution clean-up, ocean and wetland protection, and the creation of an ecosystem preservation-based homeland. New highlights include the utilization of cloud computing technology in disaster prevention and relief, strengthening community coordination of disaster prevention, as well as further initiatives to restore ecological balance such as slope stabilization, flood prevention, reforestation, degraded habitat restoration, and maintenance of national land security.

The EPA has adhered to this vision for environmental sustainability in setting forth the following three environmental protection core policies for the next

In This Issue

decade:

1. Green Energy and Carbon Reduction

Tasks in this area include expediting the restructuring of industry to develop low-carbon energy and promote renewable energy installations, gradually decreasing dependence on nuclear energy, developing sound market and legal mechanisms that foster energy conservation and carbon reduction, and establishing support for green lifestyles that emphasize energy and water conservation.

Goals:

· Reduce national CO_2 emissions to 2005 levels by the year 2020

· Annually increase energy efficiency by over 2% so that energy intensity decreases 12% below 2010 levels by the year 2016, and 18.3% below 2010 levels by the year 2020

· Increase total installed capacity of renewable energy to 4.58 million kW by 2016 and 6.04 million kW by 2020. Annual power production for these years is projected at 12.2 kWh and 16.1 kWh, respectively (equivalent to the annual power consumption of 4.03 million households)

· Create a low-carbon homeland and foster new ways of living that conserve energy and reduce carbon emissions so that all citizens are partaking in green consumption

Strategies:

· Put maximum effort into promoting renewable energy

· Develop sound energy conservation and carbon reduction market mechanisms, legal infrastructure and implementation systems

· Expedite low-carbon production and promote regional integration of energy and resources

· Expand research and development of new energy technologies and their applications in the green energy industry

· Promote a low-carbon homeland and lifestyles that emphasize energy and water conservation

2. Ecosystem preservation-based homeland

Tasks in this area include promotion of national land planning and watershed management, resource recycling, pollution reduction and ecosystem conservation, and spreading new concepts of living more harmoniously with mountains, forests, rivers, oceans, wetlands and all natural resources in a manner that brings society closer to the goal of creating a healthy sustainable ecological homeland.

Goals:

· Emphasize sustainable development in national land planning to ensure equal emphasis is put on development, conservation and disaster prevention

· Continue to strengthen information transparency and public participation to ensure human and environmental rights

· Promote resource recycling for zero waste, and pollution prevention to conserve and protect the ecosystem

· Implement development of water resources through control of overall consumption and watershed management so as to establish sustainable water environments

· Develop reasonable and diverse development of water resources, including the construction of the Hushan Reservoir, which is slated for completion by 2015, as well as the planning of the Black River Niaozui Artificial Lake

· Plan river, gutter, and groundwater recharging facilities for the Zhuoshui River and western Taiwan, and a groundwater recharging plan in conjunction with the Dachaozhou Artificial Lake

· Strengthen reforestation to create green shields for a sustainable environment, increasing forest cover to 59.78% in five years and 60.23% in ten years

· Protect biodiversity by setting up nature conservation areas, with 80 areas planned within five years and a total of 83 within ten years

· Improve Central Mountain Range ecological corridors, and ecosystem protection and management in the foothills on the edges of urban areas, as well as expand national park boundaries and nature trails

· Promote wetland conservation and strengthen marine protection and coastal restoration to restore natural balance in these areas.

Strategies:

· Develop a comprehensive national land planning system

· Create clean and amenable environments

· Create integrated management and development of watersheds and water resources

· Strengthen reforestation

· Strengthen ecosystem conservation

· Strengthen marine protection and sustainable utilization of marine resources

3. Disaster prevention and relief

Tasks in this area include promotion of climate change adaptation, nuclear energy safety, integrated slope stabilization and flood prevention, water and soil resource conservation, land subsidence prevention, building of capacity and efficiency for disaster prevention and relief, and improvement of disaster-related early warning and evacuation procedures, so as to create safe environments.

Goals:

· Promote climate change adaptation and implement national land security and conservation

· Maintain international-level standards in holding nuclear power safety evaluations

· Carry out integrated slope stabilization and flood prevention and planning in disaster-prone areas in order to minimize the threat of natural disasters

· Improve planning in flood-prone areas to free people from fear and anxiety of inundation

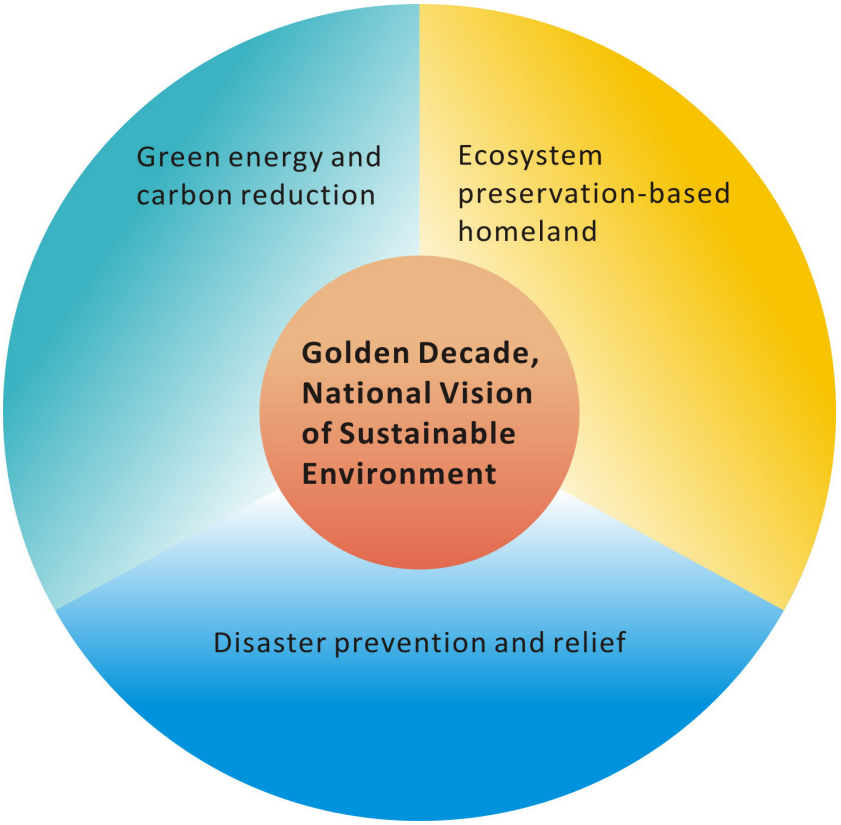

Figure: The EPA's "Golden Decade, National Vision of Sustainable Environment" includes the three core policies of Green Energy for Carbon Reduction, Ecosystem Preservation-Based Homeland, and Disaster Prevention and Relief

· Strengthen capacity for disaster early warning monitoring and evacuation

· Develop community autonomy and civil participation in networks for prevention and relief so as to improve efficiency in preparing for and responding to disasters

· Uphold the principles of "prepare for the worst" and "an ounce of prevention is worth a pound of cure" to strengthen disaster preparedness, deploying troops in advance and always being ready for disaster response, so that people can live in greater safety and peace of mind

Strategies:

· Promote climate change adaptation and implement national land security and conservation

· Upgrade nuclear power safety

· Develop comprehensive planning for disaster prevention

· Plan for effective control of land subsidence

· Strengthen capacity for monitoring, early warning and evacuation in disaster-prone areas

· Enhance basic-level government capabilities for disaster prevention and relief, and help communities build capacity to prevent and deal with disasters independently

· Implement pre-disaster evacuation and troop deployment

Feature Article

Indoor Air Quality Management Act Passes Third Reading

On 8 November 2011, the Legislative Yuan passed the Indoor Air Quality Management Act (室內空氣品質管理法) after the third reading, making Taiwan the second nation after Korea to implement an indoor air quality management act. The implementation of the Act also demonstrates President Ma Ying-jeou's dedication to putting his environmental protection agenda into action.

The Indoor Air Quality Management Act extends the prior focus on air pollution controls for outdoor air into the realm of indoor air quality management of public facilities. This clearly shows the government's ongoing emphasis on the public's indoor living environment. The Act will be implemented by various agencies working together to protect the health of all citizens, and will take into effect one year following its promulgation by the president.

The EPA stated that it will complete the drafting of related bylaws in the coming year, including the Indoor Air Quality Management Act Enforcement Rules, Indoor Air Quality Standards, Inspection Management Regulations, Specialist Employment Management Regulations, guidelines for penalty fees as well as announcements of batches of public facilities to undergo regulation. Other work to be done includes establishing a platform to provide guidance on improving indoor air quality control management, and holding professional training courses and related introductory activities to promote the implementation of legislation on the management of indoor air quality in public facilities.

The EPA explained that after the promulgation of the Act, an announcement will be issued notifying the first batch of indoor public facilities to comply with indoor air quality standards. Environmental protection bureaus will conduct periodic inspections of announced facilities, and sub-standard facilities will be issued a notice along with a deadline for improvements to be made. For those facilities failing to make the stipulated improvements in compliance with regulations, a fine of NT$50,000~NT$250,000 will be levied against the facility operators, management, or its users. Environmental protection bureaus shall also require public facilities to post a notice sign at their entrances during this designated improvement period, clearly notifying the public of their sub-standard indoor air quality and about the progress of improvements underway. This measure will make the public entering these facilities aware of indoor air quality conditions. For certain public facilities attracting large public gatherings and those with large numbers of people entering and exiting, or for those with special air quality demands, further requirements of installing automatic monitoring equipment to continuously monitor indoor air quality will be enforced. These

monitoring results must be released immediately and clearly displayed either inside the facility or at its entrance so that the public understands the prevailing conditions.

Air Quality

Emission Standards for Steel Smelting Plants to Be Tightened

With trends toward stricter steel smelter emission controls in other countries as well as advances in domestic emission treatment technologies and facility designs, the EPA recently preannounced revisions to the Steel Industry Smelting Plant Air Pollutant Emissions Standards (鋼鐵業燒結工場空污物排放標準).

The Steel Industry Smelting Plant Air Pollutant Emissions Standards were first announced by the EPA in 1993. During these last 18 years that they have been in effect, apart from adding standard values for carbon monoxide there have been no adjustments to any other emission standards from steel plants. Steel manufacturers have been operating for many years in Taiwan, employing conventional smelting processes. However, the international trend is towards stricter emission controls for such plants, and there have also been advances in emission treatment technologies and facility design. After assessing actual emissions from steel smelters in Taiwan, consulting emission control regulations and technologies in other nations, and conducting a feasibility study into applying these to domestic steel smelting plants, the EPA determined that there was room for making the air pollutant emission concentration standards stricter.

The main changes to the draft include:

• The standard for particulate concentrations for existing pollution sources will be adjusted from 75 mg/Nm3 to 30 mg/Nm^3. For new pollution sources it will become 20 mg/Nm^3.

• The limit for concentrations of sulfur oxides will be adjusted from 250 ppm to 175 ppm, starting from the day of promulgation. Smelting plants that were built after 1 January 1987 will be required to reduce emissions to no more than 100 ppm by 1 January 2016. For smelting plants that were built between 1 January 1979 and 31 December 1986 the reduction of emissions to 100 ppm or lower must be completed by 1 January 2018. For new smelting plants, the maximum permitted emissions value has been set at 50 ppm.

• For existing pollution sources the current limit of 290 ppm for NO_X emissions will be reduced to 100 ppm; for new pollution sources the limit for NO_X has been set at 65 ppm.

• For smelter operators who notify the local competent authority at least three days before firing up their smelters, the above emissions standards will not be applied to particulate pollutants that are emitted during the first two hours of operations as dispensation to the special nature of the smelting process. However, these initial emissions will still have to be within limits set by the Stationary Source Air Pollutant Emissions Standards.

Waste Management

Energy Efficient Low-Carbon Garbage Trucks Mark New Era in Refuse Disposal

The EPA is constantly looking for ways to implement the government's policy on energy conservation and carbon reduction, and to show its commitment to reducing emissions of other greenhouse gases. To this end, the EPA has been studying how to convert Taiwan's 4,500 or so garbage trucks to low-carbon operations. In August of this year, the EPA imported a Hydrostatic Regenerative Braking (HRB) system manufactured by the German company Bosch Rexroth, which was retrofitted onto Taiwan's first energy-saving high-pressure hybrid electric garbage truck. On 26 November 2011, Mayor Ming-Hui Huang of Chiayi City and EPA Minister Stephen Shu-hung Shen decorated the vehicle at a rolling out ceremony, marking the beginning of a new era in low-carbon refuse collection in Taiwan.

The EPA pointed out the government policy to ensure that garbage never contacts the ground means that garbage trucks make frequent stops to collect refuse, thus the vehicles follow a constant cycle of slowing down and speeding up, resulting in highly inefficient use of energy. Their fuel consumption is considerably higher than trucks of a similar weight and hence their emissions of NO_X and particulate pollutants are also higher. In the new, German-style high-pressure hybrid electric refuse collection vehicles, the HRB system converts part of the momentum lost during braking into hydraulic pressure. When the vehicle starts moving again a high-tech on-board computerized system then converts this hydraulic pressure into kinetic energy that helps to propel the vehicle. In this way the HRB system helps reduce fuel consumption, assists acceleration, reduces wear on the brake pads, and increases the lifespan of the engine.

After retrofitting the HRB system on Chiayi City's high-pressure hybrid electric garbage truck, a series of tests indicated energy saving/carbon reductions of up to 25%. Assuming that the vehicle is on the road for 260 days per year and travels for 100 km per day, the saved energy translates to 2,950 liters of diesel, equivalent to an annual reduction of 7.7 metric tonnes of CO_2 emissions. In monetary terms, this is equivalent to an annual saving on fuel costs of NT$88,000 and a saving on brake pad costs of NT$20,000.

In keeping with global trends to conserve energy and reduce carbon emissions, and in order to help local governments upgrade garbage trucks, the EPA has formulated the next stage of its Low-Carbon Refuse Collection Vehicle Upgrade Plan. The rolling out in Chiayi of Taiwan's first high-pressure hybrid electric garbage truck is just the beginning: within 10 years, as a result of continual advancements in energy-saving/emission-reducing technologies for vehicles, the EPA will start to introduce more hybrid- and fully-electric garbage trucks, and electric refuse compression technology, which will usher in a new era of low-carbon refuse collection in Taiwan.

Environmental Education

Guidelines for National Environmental Education Awards Drafted

The EPA has issued a preannouncement of a draft of the Guidelines for the National Environmental Education Awards (國家環境教育獎獎勵辦法), formulated in accordance with Article 21, Paragraph 2 of the Environmental Education Act (環境教育法).

It is said that a good education will bear fruit for many decades to come, and environmental education is very much a case in point, as it is a cornerstone of national sustainable development. The Guidelines for the National Environmental Education Awards have been drawn up to streamline the current system of selection criteria while adhering to the Environmental Education Act in terms of determining which candidates are suitable for awards. The regulations will reduce the number of awards and increase the monetary value of each award. At present, six categories of entities eligible for the awards have been created: private enterprises, schools, public sector bodies (including government agencies, state-run enterprises, and juridical entities that receive over 50% of their funding from the public), non-governmental organizations, communities, and individuals. It is hoped that expanded eligibility will encourage more effort from both the public and private sectors and increase participation in environmental education.

To assist local governments in their task of promoting environmental education, preliminary drafts of the working procedures for the Guidelines for the National Environmental Education Awards will be drawn up by local governments. Local governments will be allowed to grant awards to a number of deserving candidates. Local governments will also send in the names of the top performers in each category to the EPA for final judging to decide an overall winner. The new modifications will not only strengthen the participation of local governments and encourage them to care more about the effectiveness of environmental

education in their own jurisdictions, but will also serve to highlight the meritorious efforts of award recipients to promote environmental education. Having both the central and local governments commend deserving candidates in this way will make the awards more meaningful and will increase the numbers of award recipients. By raising the profile of national environmental education awards it is hoped that more groups and individuals will engage more fully in the work of environmental education, which will be a positive reflection of the government's commitment to environmental education.

Air Quality

EPA Announces Simplified Testing Procedures for Imported Low-Emission Vehicles

In order to encourage car dealers to import low-emission vehicles, the EPA announced that nine models of imported low-pollution vehicles will be eligible for revised emission inspection compliance certification after passing simplified emission testing procedures.

A combination of a recovering economy and a weak American dollar has led to an increase of imported vehicles. As of June, 3,220 vehicles have been imported so far this year, an increase of 80% compared to the figure for the whole of 2010 and 1.4 times the annual average for the last five years for foreign vehicles in use.

In order to maintain air quality with fewer inspections and also to use existing inspection capacity more effectively, the EPA, after testing imported in-use vehicles from January 2010 to June 2011, has selected some low-pollution models (see Web site) to be eligible for emission inspection compliance certification under Articles 4~6 and 13 of the Regulations Governing Issuance, Revocation, and Cancellation of Compliance Certification for Gasoline and Alternative Clean Fuel Engine Vehicle Emissions Inspections. This will result in a simplified emissions testing procedure for these vehicles, and accords with the EPA's target of simplifying administration and making life easier for all.

The nine low-pollution vehicle models announced by the EPA were selected from those imported in-use vehicles tested between January 2010 and June 2011 that achieved the EPA's threshold values by having a failure rate of less than 1.5% on the initial emissions inspections and by being some of the over 30 vehicles that passed every item on the secondary checklist. The announcement of the new system of emission inspection compliance certification and simplified emissions testing procedures will hopefully encourage car dealers to import more of the approved low-pollution vehicle types and so reduce the numbers of high-pollution vehicles on Taiwan's roads.

The EPA is also encouraging members of the public who are considering buying an imported in-use car and wish to do their part in protecting air quality to consult the announced list of low-pollution vehicle types. (http://ivy5.epa.gov.tw/enews/enews_ftp/100/0915/113018/1000915%E6%96%B0%E8%81%9E%E7%A8%BF%E9%99%84%E8%A1%A81.doc)

Waste Management

Environmental Permit System to Be Online Next Year

The EPA one-stop Web site for information on applying for environmental permits – air pollution, water pollution, refuse disposal, and toxic substances – is known as the Environmental Management System (EMS). Starting next year, applicants for the above permits will be able to use the Internet to submit information and obtain permits. New services include electronic signatures, electronic fee payment, and electronic permits. The planning phase for the new system will be finished by the end of 2011, in time for official launching next year.

The EPA began the task of integrating the application systems for the various environmental permits in 2006, and to date has produced digital versions of all the application forms. The EMS has

also become a one-stop platform for environmental permit applications, with four branch systems for air pollution, water pollution, waste treatment, and toxic substances permits. At present, the EMS system contains information on 42,180 enterprises that have applied for such applications. On average, the EMS handles around 40,000 requests per month from applicants to update permit details. Statistics show that between 2006 and 2010, approximately 19,000 cases concerning applications, changes of details, transfers for air pollution, water pollution, refuse disposal, or toxic substances permits were handled annually.

The current system of applying for environmental permits entails filling out forms online via the EMS system, then printing them out and affixing seals and signatures. Hard copies marked with the EMS reference numbers are printed out and then mailed to the relevant environmental protection agency for evaluation. The required fee is either paid in cash in person or with a money order. When the environmental protection agency has finished evaluating the application the permit is mailed to the applicant, again in the form of referenced paper documents. With the introduction of the electronic system the whole process – application and payment of fees, evaluation, and issuance of permit – can now be done online.

The new online system for processing applications can be divided into four main processes: electronic verification, electronic signature, electronic payment, and the electronic issuance of permits. For enterprises this entails logging on to the system with an electronic pass, filling out the online forms, adding an electronic signature, waiting for the application to be accepted, and then paying the required fee. For the environmental protection agency, the process involves logging on to the system with an electronic pass, reviewing the application, adding electronic signatures to approved applications and then sending the electronic permit to the applicant.

Environmental Inspection

CPC Refinery in Kaohsiung Fined Heavily for Illegal Wastewater Discharges

During an in-depth audit of the records of China Petroleum Corporation's (CPC) Kaohsiung refinery in August, the EPA's Bureau of Environmental Inspection (BEI) discovered that the refinery illegally took advantage of a procedure for discharging wastewater during heavy rainstorms to discharge wastewater that contained volatile organic compounds (VOCs) into the Houjin River. This resulted in a foul stench noticed in the areas around Houjin, Tsoying, and Nantzu. Analysis of all possible causes by the EPA revealed the connection between the stench and the illegal discharges, a violation that showed striking similarities to 55 other illegal wastewater violations that CPC has committed over the last 3 years. As a result, the EPA has asked the Kaohsiung City Government to review its granting of permission to CPC to use the current discharge notification procedure, and has fined CPC according to the Administrative Penalty Act.

According to CPC's discharge notification records, during heavy rains the storm overflow drainage system that surrounds over 100-hectares both upstream and downstream of CPC factories channels runoff directly into a main drainage canal, where water collects. The initial volume of the storm overflow is diverted to storage tanks so that it can later be sent on to a wastewater treatment plant. If rainwater levels exceed the upper limit shown on the sluice gate in the main drainage canal, then CPC would discharge the overflowing rainwater (that has unavoidably become mixed with polluted wastewater from the refinery) into the drainage canals outside the factory. For safety reasons, before carrying out this procedure CPC would notify the Kaohsiung City Environmental Protection Bureau that they plan to discharge the collected rainwater/wastewater through the main drainage canal. However, the EPA's Southern Branch BEI compared records of discharge volumes and discovered that CPC was using the procedure on days when there was little or no rain, when there was no danger of the sluice gate in the main drainage canal being breached, to illegally discharge stored wastewater in violation of the emergency discharge regulations laid out in Article 18 of the Water Pollution Control Act.

The Houjin River is 21.6 km long, has a total drainage area of 7,688 hectares, and flows through a number of districts in Kaohsiung City including Dashe, Renwu, Chiaotou, Niaosong, Tsoying, and Nantzu. After rainstorms, the section of the river between Zhuzimen Bridge and Demin Bridge turns a deep red color and gives off an unpleasant odor, leading to numerous complaints and castigations from local residents. The EPA's investigation into CPC's illegal discharges of stored wastewater during rainy weather has proven that their wrongful practice lies at the root of the problem. The EPA has asked Kaohsiung City Government to fine CPC in accordance with the Administrative Penalty Act for the 55 incidences of illegal discharges over the last 3 years, and also demanded to be reimbursed for the cost of incinerating the residual polluted mud and the cost of disposal of the post-incineration ash. The EPA is also pushing CPC to conduct full inspections of their drainage pipes, to remove any silt or mud, and to return to full marine discharging. Since the stricter inspections regime has been implemented there have been no further complaints about foul odors from residents in the area surrounding the Houjin River.

Climate Change

Science and Policy Dialogue in Asia a Win-Win for Climate and Health

The International Conference Series held on 7 November 2011 primarily focused on the pollution sources, impacts, and reduction controls of large cities and other areas, and their impact on the climate. Systematically organized and comprehensively depicted reports were presented revealing the results of large-scale research conducted over the past ten years via the funding of dozens of member nations of the International Geosphere Biosphere-Programme (IGBP) and the efforts of hundreds of researchers. These results provide feedback for the international community to consider and a reference for governments to draft control policies in response to climate change and air pollution.

The EPA commissioned the Research Center for Environmental Changes, Academia Sinica, the IGBP, the International Global Atmospheric Chemistry (IGAC), the Asia Pacific Ocean Research Center of National Sun-Yat Sen University (APORC/NSYSU), and National Taiwan University to jointly organize the International Conference Series. The meeting focused on international research projects, climate change, air pollution, and regional policy perspectives. The agenda and lecture content are available at the seminar Web site (http://apc2011.rcec.sinica.edu.tw/registration.htm).

Academia Sinica subsequently held a related forum for experts from 8~10 November 2011, and following the event compiled an official document that will be published in the handout material provided and presented at the Planet Under Pressure Conference in England in March 2012. It will also be included in related study results at the June 2012 "United Nations Conference on Sustainable Development (Rio+20)" and the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC).

At this international conference, the results of comprehensive research providing up-to-date knowledge of the roles and interactive effects air pollutants have on climate change were archived. These studies explore the feasibility of various reduction proposal options and can be used as references for the international community and governments to draft policies based on results of scientific study. By bridging the gaps between the individual themes of traditional science, health, and policy making, prior and existing policies can be assessed to formulate reference data for future environmental policies. This approach is expected to provide an adequate response to the variegated impacts from climate change and air pollution, thus contributing to improvements in environmental quality and public health.

Note: The International Geosphere-Biosphere Programme (IGBP) was founded in 1987, and currently provides the largest scope and most

comprehensive research coverage of any global climate change research organization in the world. It is directly sponsored by the International Council for Science (ICSU), whose current president is former President Emeritus of Academia Sinica, Dr. Lee Yuan-tseh. In 2004, the IGBP completed the Phase 1 Project Synthesis, and is presently working on the Phase 2 Project Synthesis.

Eco-community

Taiwan-Germany Low-Carbon Cities Forum Initiates Dialogue

On 21~24 November 2011, the EPA held the 2011 Taiwan-Germany Low-Carbon Cities Forum – Urban Sustainable Development Experiences in four different locations: Yilan County, Taipei City, New Taipei City and Tainan City. The forum marks the start of policy dialogue and experience sharing between cities in Taiwan and Hamburg, Germany.

The four days of forum discussions were jointly held by the Deutsches Institut Taipei and the Taiwan Institute for Sustainable Energy. Two noted experts from Germany were invited to speak at the forum: Mr Rudiger Schweer, head of the climate change office of the Hesse State Ministry of Environment, Energy, Agriculture, and Consumer Protection; and Christian A. Maas, former State Secretary for the Environment and Urban Planning of the City State of Hamburg, and currently a lawyer and environmental consultant for government departments. The two distinguished guests gave speeches titled "Sustainable Urban Development in Germany" and "Hamburg's Winning of the EU Green City Award," and then engaged in fruitful discussions and exchanges of experiences with other delegates.

As EPA Minister Stephen Shu-hung Shen pointed out in the opening speech of the forum, the German government has had many successes in the design of systems for implementing policies regarding sustainable energy and climate change mitigation and adaptation. For example, their Renewable Energy Feed-in Tariff is designed to accelerate the development of renewable energy sources by raising household electricity rates to pay for subsidies supporting renewable energy electricity suppliers. This policy has a number of benefits: encouraging private-sector investment has led to greater diversity and electricity generation capacity for renewable energy sources, promoting the advancement of related technologies has helped to lower operating costs and raise the international competitiveness of green industries, and domestic job opportunities have been created. Germany's development of renewable energy sources such as hydroelectric power, wind power, solar power, bioenergy, and geothermal energy has not only satisfied electricity demands but has also offset some of the demands for heating and fuels. Germany's use of diverse energy resources both raises their usage rate of available energy resources and saves both energy and costs while reducing emissions. It is a carbon-reduction policy worthy of emulation.

Eco-labelling

EPA's First Environmentally Friendly Wedding Gift Certificates Set New Low-Carbon Trend

The EPA recently held a Low-Carbon Weddings contest to encourage brides and grooms to have weddings that save energy and reduce carbon emissions. The contest was well-received throughout Taiwan, and many couples participated. Eighteen model couples were selected nationwide to enter the Low-Carbon Weddings finals, and the two couples that eventually won gift certificates worth NT$100,000 for environmentally friendly products.

The central region low-carbon wedding was held at noon on 26 November 2011 at Banyuan Japanese Restaurant in Yunlin County. EPA Minister Stephen Shu-hung Shen personally made the trip down to Yunlin to give a speech praising the couple and to present them with "environmentally friendly wedding gift certificates" worth NT$100,000 that can be exchanged for green products, and a free honeymoon night voucher from one of the hotels participating in the EPA's "Let's go green!" plan.

The Yunlin couple's wedding was chosen as a model example of low-carbon nuptials due to the prevalence of local ingredients and the avoidance of using species of concern on the menu, along with simple wedding cookies made by Children Are Us Foundation using minimal packaging, and carbon footprint-labeled wedding nougat produced by Dahesong Salico Co.

The couple's choice of wedding apparel was also laudable: the groom wore a suit he had owned for some time and all the bridal gown and accessories were rented, reducing unnecessary waste. As for the wedding transport, the groom stayed close to the restaurant on the night before the wedding so that he wouldn't have to travel far to collect his bride, and the guests arrived together in a hired coach, measures that minimized vehicle emissions. The choice of noon as the time for the banquet was also intended to reduce emissions by relying on natural sunlight instead of artificial lighting.

Other eco-friendly options at the wedding included an electronic album of wedding photos and the use of the public address system to inform the assembled well-wishers about the eco-friendly concepts that underpinned the style of the wedding. Also, in lieu of giving out mementos of the wedding, the couple donated NT$40 per guest to the United Way of Taiwan, thus all in attendance could derive some satisfaction at having done something for the greater good.

EPA Minister Stephen Shu-hung Shen (first on right) at a low-carbon wedding handing the newlyweds a check for NT$100,000

News Briefs

Amendments to Regulations on Enterprises Responsible for Recyclable Waste Preannounced

In order to increase the effectiveness of the collection and recycling of bioplastics, on 21 November 2011 the EPA preannounced revisions to Articles 19 and 20 of the Regulations on Enterprises Responsible for Recyclable Waste, to the effect that operators responsible for dealing with bioplastics are no longer legally required to recycle them. The EPA pointed out that since 1 March 2010, when such operators began recycling bioplastic containers, the recycling rate has not been high and there has been

a problem with other materials being mixed in with the bioplastics. This has had a negative impact on the post-treatment quality, and hence resale price, of renewable materials derived from the bioplastics. Starting from 1 January 2012 the EPA will thus be abandoning the old regime of requiring operators to recycle bioplastics themselves and will adopt a system of charging and subsidizing the operators for the collection of bioplastics. It is hoped that the new system of enforcement for the common good with the help of economic incentives such as subsidies will improve the effectiveness of recycling of bioplastic containers, and alleviate the problem of bioplastic interfering with the established plastic recycling system.

MOEA Regulations for Administration of Joint Industrial Waste Removal and Disposal Organizations Amended

On 16 August 2000, the MOEA and the EPA jointly formulated the Regulations Governing Administration of Joint Industrial Waste Removal and Disposal Organizations. Three follow-up modifications were promulgated, and on 16 October 2008 the title of the regulations was changed to Ministry of Economic Affairs Regulations Governing Administration of Joint Industrial Waste Removal and Disposal Organizations. The latest amendment on 24 October 2011 to Articles 16 and 25 of the regulations addresses the need for strengthening the management of products produced during the treatment of industrial waste by joint waste removal and disposal operators. The main points of the amendment are as follows:

· Joint removal and disposal operators must now report online the product categories, content, frequency of production, and any facility breakdowns.

· Taking into account the need for a grace period for joint removal and for disposal operators to familiarize themselves with the new online procedures, the latest amendment to Article 16 came into effect on 1 December 2011.

River Stewardship Event Held in Northern Taiwan

On 18 November 2011, the EPA held the "Streaming 100 Years, Preserving Our Environment" — Northern River Care Event at the Yilan Sports Park in Yilan County. Over 600 people participated in this event, including EPA Minister Stephen Shu-Hung Shen, Yilan County Deputy Magistrate Ze-Cheng Wu, local government officials representing the northern regions of Taipei City, New Taipei City, Taoyuan County, Keelung City, Hsinchu City, Hsinchu County, Hualien County, Taitung County, and Lienchiang County, along with river patrol teams who gathered together to show their enthusiasm and concern for protecting rivers. Minister Shen said that in recent years, aside from focusing on remediation of northern waterways such as Tamsui River Basin, Nankan River, and Lao Jie River, more extensive remediation work will be executed at important waterways in other counties and cities such as Touchian River, Keya River, Dezikou River, Meilun River, Beinan River, in addition to urban waterways such as Tianliao River in Keelung City and the Chung Gang Drainage Channel in New Taipei City. The cooperative efforts of the northern region's ten county and city governments and the river patrol teams have combined effectively to make great improvements and progress.

Centennial Cleaners Awards Held in Kinmen

The Centennial National Model Cleaners Awards Ceremony was held at Kinmen University on 1 November 2011. EPA Minister Stephen Shu-hung Shen was present to give out the awards and praise the 100 model cleaners nominated by city/county Environmental Protection Bureaus and selected by the EPA for their unstinting work day in day out maintaining a clean environment around the nation. The awards were not only intended to encourage cleaners to keep up their good work but also to let the general public know about their hard work and contribution to society. In celebration of the centennial of the founding of the nation, the EPA decided to select 100 model cleaners to receive awards. Holding the Centennial National Model Cleaners Awards Ceremony on the scenic and historically significant island of Kinmen was intended to add extra significance to the honor and leave the model cleaners with indelible memories of a special day in their lives.

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