Nov, 2007

Environmental Policy Monthly

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

Feature Column

China's Economic Development Creates Domestic and International Environmental Pollution

China's environmental loading is becoming increasingly critical as its economy continues to grow. Not only is China threatening its own environmental quality, but neighboring countries are also affected by transboundary pollution from China. Under pressure from within and from abroad to improve the situation, the world is watching closely to see how China will balance the economy and the environment.

Since the end of the 20th century, following China's policies to reform and liberate its economy have resulted in the advantages of abundant labor force and land. China's economic strength has continually increased in step with globalization trends. However, such economic development comes only at a high price in terms of environmental quality. The Organization for Economic Cooperation and Development (OECD) issued its Environmental Performance Review of China in Beijing in July 2007. The review pointed out that despite China's outstanding performance in terms of economic development, environmental pollution has become severe. The report states that current environmental degradation is linked to rapid economic development.

In February 2007, China's State Environmental Protection Administration (SEPA) stated that the central government's Eleventh Five-Year Plan aims for a 4% increase in energy conservation each year and a 2% reduction in emissions each year. However, as it turned out, in 2006 major pollutant emissions did not decrease, but increased. Pan admitted that the state of the environment in China is quite severe and that the environment and the economy are in an obvious state of conflict to a degree unprecedented in history. Pan stated that economic development is exhausting China's resources and environment, and that environmental resource problems have already posed a serious challenge to the goal of forming a harmonious society.

For example, the demand for economic development, electricity output from thermal power plants has grown by a large margin this year, and sulfur dioxide and heavy metals from the burning of coal are being emitted into the air in great quantities, causing serious problems with air pollution and acid rain. In 2005, surveys showed that one third of the nation's land has been affected by acid rain, which seriously

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threatens soil quality and food security. Some lands even receive acid rain during 100% of precipitation events.

Not only is the domestic environment under threat; neighboring nations are gradually subject to the influence of transboundary pollution from China. For example, South Korea's National Institute of Environmental Research (NIER) issued a report in March 2007 stating that diesel vehicles are responsible for only 8% of the suspended particulate matter (PM) in its atmosphere while 60~80% of suspended PM is blown over from China with sources being construction sites, windblown soil, and illegal smelting operations. These sources account for ten times the amount of PM originating from diesel vehicle emissions.

Situated to the east of China, Japan is particularly affected. The June 2007 issue of the Yomiuri Newspaper reported that Japan's National Institute for Environmental Research analysis shows that China's NO_X emissions are converted to photochemical peroxide compounds and transmitted to Japan by wind. This has caused serious photochemical pollution in Japan, affecting urban and rural areas alike. The report called on the Japanese government to promptly conduct air pollution monitoring in Asia, and requested China to take countermeasures.

Taking Taiwan as an example, analysis of the northeastern winds over the last three years shows an annually increasing ratio of industrial pollution and dust from China. For example, on 20 October 2007, air pollution from China carried long distance by northeastern winds affected the entire island of Taiwan. On that day, the Mt. Lulin monitoring station showed an average mercury concentration of 3.01 ng m-3 with a peak hour concentration of 4.20 ng m-3, much higher than the background concentration of 1.1 ng m-3, attesting that northeastern winds are indeed transporting air pollution from China. Apart from well-documented dust storms, industrial pollution, and acid rain from East Asia or combustion of biomass in Southeast Asia, the effects of China's mercury air pollution on Taiwan are equally noteworthy. EPA Minister Dang said in an interview with Reuters in Washington D.C. in August 2007,"If mercury is in food, you can refuse to eat it, but you can't refuse to breathe."

Not only neighboring countries, but also countries across the Pacific Ocean as far as the US, have pointed to the problem of transboundary pollution from China, which is responsible for 25-40 percent of global mercury emissions according to the US publication Foreign Affairs (Sep/Oct 2007). USEPA Administrator Stephen Johnson told the Financial Times (2006) that since it began tracing mercury sediments, the USEPA has detected a large portion of mercury sediment with sources in China and India. Johnson said that the US West Coast has detected chemical substances and particulates that have been transmitted through the atmosphere from China. Johnson told Beijing authorities that,"Pollution -- especially mercury pollution -- knows no international borders."

Facing demands for environmental quality both here and abroad, how China will promote economic development in the future while protecting the environment has become a focal issue in Taiwan and the international community.

Column

Greenhouse Gas Reductions Require Joint Effort

A lack of clear-cut legislation accompanied by a wait-and-see attitude in the international arena have held back government efforts to implement greenhouse gas reduction measures. Once the Greenhouse Gas Reduction Act is finalized, Taiwan can establish a reduction system as well as build capacity and create strategies for responding to climate change. In doing so, the EPA will keep an eye on developing cooperation between the international arena, government and citizens.

The implementation of greenhouse gas reductions has become a hot issue in recent years. The first step was in 1991 when the United Nations Environmental Programme (UNEP) and the World Meteorological Organization (WMO) organized a group of international scientists to establish the Intergovernmental Panel on Climate Change (IPCC). Since then, global average surface temperatures have continually risen, and the IPCC has observed that predictable climate change and its effects are related to warming events caused by human activities. If current trends aren't turned around, climate change will seriously affect the human living environment, with the gravest consequences occurring in Africa and island states.

Taiwan Strives to Comply with International Treaties Voluntarily

Over the past few years, the US, Europe and Australia have experienced large forest fires and heat waves as well as severe hurricanes that have damaged ecosystems as well as caused death and loss of property, livestock and crops. Also affected by global warming are the dry regions of Africa and East Asia, which are experiencing even greater reduction of rainfall. Experts indicate that global warming is exacerbating desertification and could reduce water sources by a quarter in continental Africa by the end of the century, resulting in "water refugees."

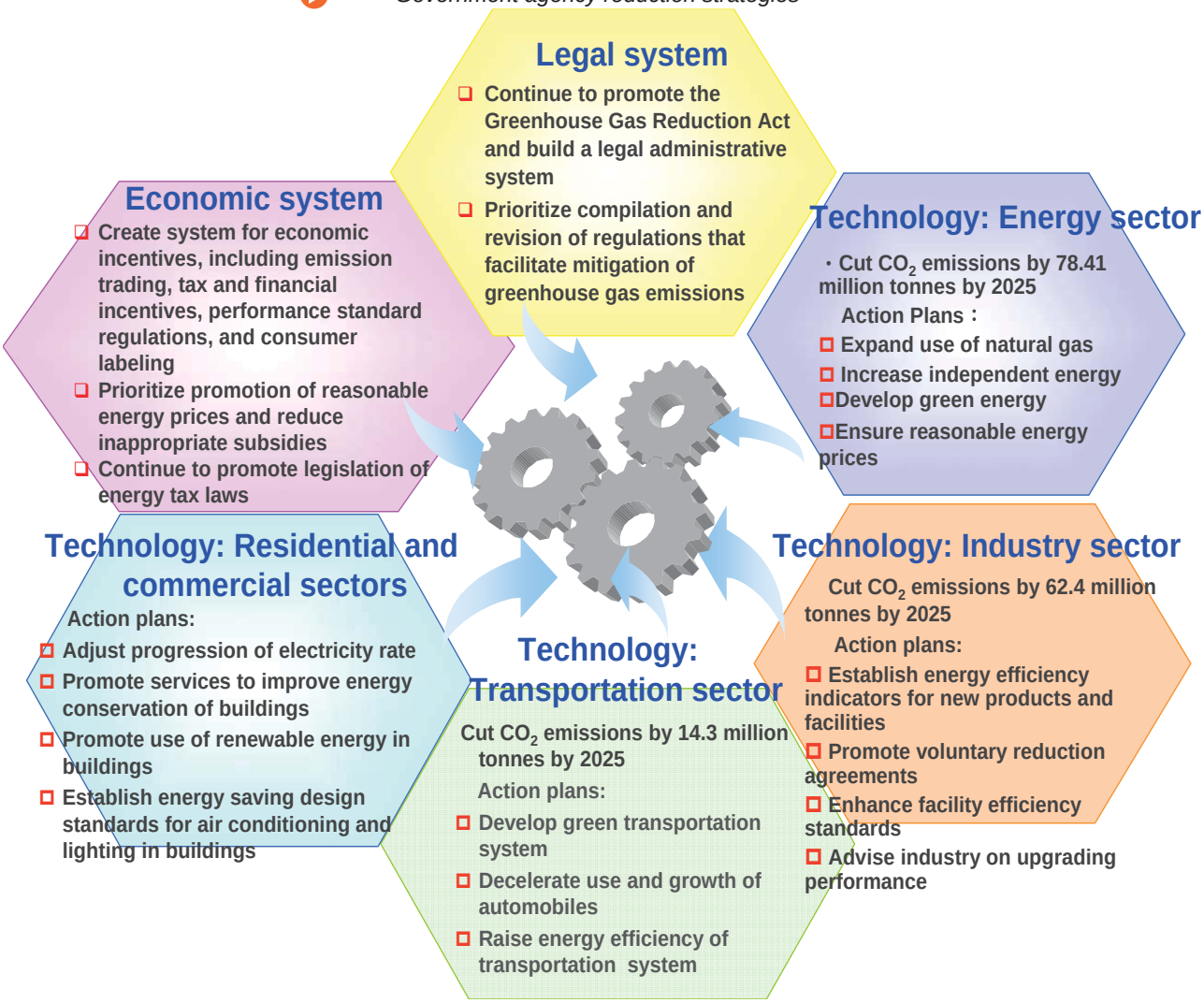
Scientists predicted global temperatures will reach record highs in 2007 with abnormal extreme weather becoming more frequent in all regions. Numerous international media sources have mentioned climate change is significantly shaping the worlds of politics, finance and science this year.

In the past, Taiwan has taken the initiative to adhere to international environmental treaties even though it has been denied signatory status. Since the Montreal Protocol went into effect in 1989, the government of Taiwan has strived to act on the level of an international signatory nation by staying abreast of other developed nations in compliance with related regulations in the Montreal Protocol. Taiwan is taking the initiative to complement the Protocol's agenda on controlling ozone depleting substances (ODS). These actions have not only earned applause from the international arena, but have also spared the electronics industry exports from being subject to trade sanctions under the Montreal Protocol. Taiwan is now drawing upon this successful experience in responding to the Kyoto Protocol.

Taiwan Strives to Comply with International Treaties Voluntarily Government and Industry Initiate Joint Reductions to Respond to Kyoto Protocol

While Taiwan is not a signatory to the Kyoto Protocol, all the related government agencies are already

Government agency reduction strategies



actively promoting various domestic reduction measures, including:

Climate Change and Kyoto Protocol Response Working Group:

The National Council for Sustainable Development (NCSD), Executive Yuan, has reinforced coordination and liaison between government departments and the civil sector to strengthen mechanisms for Taiwan to respond to climate change and the Kyoto Protocol. In January 2005, the NCSD established the Climate Change and Kyoto Protocol Response Working Group with the Premier serving as convener. This heightened level of government response matches similar actions taken in Japan.

Greenhouse Gas Reduction Act

The EPA drew up the Greenhouse Gas Reduction Act (draft)（溫室氣體減量法）in 2006, marking a first among developing countries to establish controls on greenhouse gas emissions, and showing Taiwan's determination to keep global warming in check. The Greenhouse Gas Reduction Act (draft) was approved by the Executive Yuan on 20 September 2006 and has been sent to the Legislative Yuan for review.

Greenhouse Gas Reductions: Nationwide Energy Conference in 2005

1. In response to the Kyoto Protocol and to promote CO_2 reductions, the Executive Yuan convened a national energy conference from 20~21 June 2005 to re-examine Taiwan's energy and industry policy. Related government agencies have already formulated 191 action plans in accordance with the conclusions reached in this meeting, 58 of which are designed to make substantial reductions. The designated agencies are already actively promoting these action plans.

2. Encouraging voluntary reductions from the high-tech industry, the EPA has already signed memorandums of cooperation on voluntary emission reductions with the Taiwan Thin-Film Transistor Liquid Crystal Display Association (TTLA) and the Taiwan Semiconductor Industry Association (TSIA). Meanwhile, measures are being taken to actively promote a voluntary industry greenhouse gas inventory and registration system. From 1 July 2007, a national greenhouse gas registration platform was formally introduced and to date already 52 enterprises have taken the initiative to report information.

Education

The environmental documentary "An Inconvenient Truth "is being shown on campuses nationwide and the EPA is integrating the strengths of civil environmental and community groups to train seed teachers on how to encourage citizens to reduce CO_2 and greenhouse gas emissions.

Establishment of Legal Mechanisms to Support Reduction Targets

Notwithstanding active response measures promoted in all circles, greenhouse gas reduction work currently underway in Taiwan is experiencing the following bottlenecks:

1. A wait-and-see attitude both here and abroad: International negotiations are slow, and there is a high degree of uncertainty about new regulatory mechanisms after 2012. More education is needed to change attitudes toward international response to climate change.

2. Insufficient legal authority:

   The Greenhouse Gas Reduction Act (draft) focuses on government authority, reduction policy, and education. The Act sets regulations for actual problems of procedural mechanisms in formulating response measures, reduction implementation methods, and implementation tools. The Act serves as a bridge to integrate domestic policy mechanisms and participate in international cooperation, and in doing so, reduce relative uncertainties of policies. Meanwhile, the Act sets the course for gradually tightening regulations in stages and referring to international development experience and the domestic state of affairs to gradually initiate adoptable executive control measures and fine tune as the situation develops.

The draft Act was approved in the Executive Yuan on 20 September 2006, and was promptly passed to the Legislative Yuan for review on 26 September 2006. On 27 December 2006, the Legislative Yuan convened an assembly of the Sanitation, Environment and Social Welfare Committee, to review the first version of the Act on 7 May 2007. Legislator Wang To-far（王塗發）and Legislator Wang Jung-chang（王榮璋）introduced the proposal, and 22 articles were approved and 10 articles were reserved. Consensus on the reserved articles still awaits negotiation between parties. If the Act is not pushed through in time, related emissions

trading systems and compulsory control measures may not be implemented due to lack of legal authorization.

Currently lacking clear legislation for promoting greenhouse gas emission reduction, businesses have adopted a wait-and-see attitude, making it hard for the government to make headway. Once the Greenhouse Gas Reduction Act receives final approval, it will serve as the legal basis for all levels of government to promote reductions. It will also form the groundwork for reduction systems and new economic incentives and business opportunities. Furthermore, this Act will show the world Taiwan's stance and actions toward mitigating global climate change and make the international community aware of Taiwan's efforts to make reductions.

General Policy

Minister Dang: Green Consumption Benefits Pacific Island States

Rising ocean levels due to global warming is causing several South Pacific island states to gradually disappear. EPA Minister Winston Dang expressed his gratitude to all consumers of Green Mark products, as green consumption is one way of caring for the earth and benefiting the residents of South Pacific island states.

In a recent interview, EPA Minister Dang said that he began to realize how products can save energy and water when he learned of the Energy Star program while living abroad. At the time, Dang was quite excited to learn of Taiwan's equivalent of the Energy Star certification -- the Green Mark eco-label.

Feeling the influence of global trends, environmental awareness has been on the rise in the last few years, leading us toward a positive direction. Minister Dang is most grateful for this development, and expressed that this success can be attributed to two factors. On one level, environmental groups' strident calls have been successful in educating the public. While NGOs have been spreading awareness in the streets, the EPA has been busy cleaning up the streets together with the citizenry. Over the past ten years, Taiwan has made great progress toward protecting the environment.

Minister Dang believes that economic development is not in conflict with environmental protection and the two can co-exist in harmony. Raising an example, Dang said that in the future as energy sources and resources become scarcer, businesses will become ever more aware of the need to integrate green consumption concepts into their products, and thus ensure the coexistence of economic development and environmental protection.

Dang expressed that despite Taiwan's shortage of natural resources, he is extremely confident about promoting green industry in the future. Not one to rest content with the current accomplishments in promoting government green procurement, Dang feels that even greater capital should be invested. The minister emphasized that the EPA should set a leading example by raising its investment in green procurement, and take the lead before expecting other government agencies to initiate change.

As for how to implement green procurement and international cooperation, the minister expressed that climate change and global warming are serious issues, and the world has already come to a consensus on sustainable development concepts. Dang hopes to use environmental protection as a form of foreign diplomacy. For example, global warming causes the ocean level to rise and several South Pacific island states are gradually disappearing underwater. In the act of developing their own economies, wealthy nations are expropriating these peoples' right to survive. Therefore, efforts to reduce energy consumption and cut CO_2 emissions will help these states to survive. This is exactly what the minister's hopes to do for South Pacific island states.

The minister put in a plug for the environmental product online procurement website (http://www.buygreentw.net) set up especially for the sale of Green Mark products. Dang expresses thanks to each consumer who has used this online purchasing system as each purchase of green products is not only a way of caring for the earth, but also indirectly benefits the residents of South Pacific island states. Minister Dang hopes that all those who care about this planet will invest in environmental products and green consumption.

Waste Management

Import and Sale of Mercury Thermometers to Be Restricted from July 2008

Rising ocean levels due to global warming is causing several South Pacific island states to gradually disappear. EPA Minister Winston Dang expressed his gratitude to all consumers of Green Mark products, as green consumption is one way of caring for the earth and benefiting the residents of South Pacific island states.

The EPA indicates that mercury is a persistent, bioaccumulative substance that can seriously harm the environment and human health even in minute quantities. Currently, nations worldwide are taking measures to control and ban mercury products. The EPA from 2005 began conducting feasibility assessments for carrying out mercury product source reductions and discovered that each year Taiwan uses as many as 527,000 mercury thermometers each year. If each thermometer contains 1.2 grams of mercury, this adds up to about 632 kilograms of mercury per year, equivalent to the amount of mercury contained in 52.7 million fluorescent light tubes. Mercury thermometers are in widespread use in most homes and health institutions making them widespread and numerous. The frequency of broken thermometers during use and the difficulty of recycling and treating the spilled mercury means there is a potentially high risk of exposure. Technology for alternative electronic thermometers is already mature, and these products are already in widespread use. Related regulations for testing these instruments are already established and will be implemented on 1 January 2008.

The EPA issued a preannouncement of the draft Restrictions on the Import and Sale of Mercury Thermometers（限制水銀體溫計輸入及販賣）on 11 October 2007. This stipulates that from 1 July 2008, importers may no longer import mercury thermometers. However, for importers that have already obtained an import permit from the industry competent authority before the promulgation date of this restriction, the expiration date on the permit shall remain valid.

At first, vendors will be prohibited from selling mercury thermometers, while vendors selling to medical institutions will not be subject to this restriction until 1 July 2011. Medical institutions will neither be allowed to sell mercury thermometers in bulk or retail, nor give them away. Out of consideration for vendors with products already in stock before the promulgation date, and to avoid infringing on the rights of importers, the restrictions will be carried out in stages. Priority is placed on banning the flow of mercury thermometers to households and other non-medical organizations, and then gradually banning mercury thermometers in medical institutions after the import permits of current importers expire. According to the draft restriction measure, importers that violate regulations will be fined from NT$60,000 to NT$300,000. Vendors that violate regulations will be fined from NT$1,200 to NT$1,600.

The EPA calls on the public to make an effort to not buy mercury thermometers and switch to using electronic thermometers or alternative products. Mercury thermometers currently used in homes should have a hard safety container to provide appropriate protection, and special care should be taken to avoid breakage during use. If a mercury thermometer should break, standard cleaning equipment should not be used, and by no means should vacuum cleaners be used. Needle disposal containers or suction balls can be used to retrieve spilled drops of mercury. Retrieved mercury should then be properly sealed and stored to prevent risk of mercury poisoning. The EPA is currently working on setting up recycling channels for mercury waste from households.

Air Quality

LPG Retrofit Can Save NT$4,000 a Month, EPA Minister Sets Example

Facing imminent energy scarcity and inflating oil prices, EPA Minister Winston Dang has taken the lead to retrofit his vehicle to use LPG. After making the changes, the minister's car saves an average of NT$4,000

each month. Dang calls on other government agencies to retrofit their public vehicles.

As oil prices continue to rise, the EPA is encouraging the public to use bi-fuel cars (locally referred to as "LPG cars"). Fueling up with LPG costs NT$17.7 per liter, and the EPA provides a subsidy of NT$2 to make up for the price difference so consumers actually only pay NT$15.7 per liter. This is comparable to the price of unleaded gasoline at NT$15 per liter in 2006. Bi-fuel cars are preferable in that they generate less exhaust than conventional automobiles.

While EPA Minister Dang was delivering a report recently in the Legislative Yuan, one legislator commented that ministers' sedans are commonly 3,000cc or 4,000cc vehicles so if the government is going to advocate energy conservation, why not take the lead by first retrofitting these vehicles.

Minister Dang replied that he hopes that all of the nation's public vehicles and 96,000 taxis are retrofitted with LPG bi-fuel engines or low-polluting cars that save money and energy and are better for the earth. Dang said that after retrofitting his 3,000 cc sedan as a LPG bi-fuel vehicle that uses both LPG and gasoline, he saves about NT$3,800 per month. The EPA's two deputy ministers have also retrofitted their vehicles, and currently the EPA has four LPG bi-fuel public vehicles. Early on in mid-August the minister reported to the Executive Yuan that future purchases of public vehicles must go toward low-polluting vehicles. While gradually replacing its fleet, the EPA also calls on the nation's many taxis to be retrofitted as LPG bi-fuel vehicles.

Minister Dang indicated that Taiwan currently has about 12,000 LPG bi-fuel vehicles. It costs about NT$46,000 to retrofit an average vehicle. After making the retrofit, the minister's vehicle saves about NT$3,000~4000 in fuel costs per month. Taxis could save as much as NT$10,000 per month. Currently Taichung County, Taichung City, and Changhua County subsidize NT$25,000 per vehicle in gas vouchers toward the newly purchased and retrofitted LPG bi-fuel vehicle. In addition, retrofitters give retrofit drivers discount coupons for NT$1.5 off each liter.

Minister Dang said that one of the main reasons why the number of LPG bi-fuel vehicles is not going up is because LPG filling stations are few and far between. Dang said that currently Taiwan only has 20 LPG filling stations. Kaohsiung has 6,600 taxis but only two filling stations. The EPA is now working with the Bureau of Energy, Ministry of Economic Affairs, and Chinese Petroleum Corp to expedite the addition of more LPG filling stations in the near future.

The EPA indicates that the technology for retrofitting gasoline and LPG bi-fuel vehicles is already quite mature. Statistics show that one liter of LPG can get up to ten kilometers on the highway. If it takes 45 liters to fill a tank of LPG, there should be no problem driving all the way from Taipei to Kaohsiung on one tank. After the tank is empty, the vehicle automatically switches over to the gasoline fuel system with no worries about the engine turning off.

Waste Management

RFID to Control Hazardous Industrial Waste Flow

Radio Frequency Identification (RFID) has become one of the most progressive technologies of the day. The EPA has chosen certain industrial waste treatment facilities to trial run RFID, which is expected to gain more effective command over the flow of industrial waste during clearance and treatment processes.

Radio Frequency Identification is a method of computer data input advantageous in its ability to read and write data without making physical contact. RFID can be used to update information and store large quantities of data. There's no limit to the number of times it can be used, and it can read many identification tags at one time, all the while providing optimal data security. This speeds up data access time, increases management efficiency and saves manpower.

Collected hazardous dust currently makes up the bulk of the nation's hazardous industrial waste in temporary storage. To effectively command the amount and flow of stored waste from the steel industry, this year the EPA selected one steel industry source and hazardous dust treatment plant to trial run an RFID system. The system is being used to control the flow of hazardous dust during clearance and treatment processes.

This year the EPA has begun an experiment to read onsite electronic identification tags at a hazardous dust treatment organization. Preliminary steps are also being taken to develop RFID and existing report system integrated prototype interface. Based on this

prototype system, a trial run can later be conducted on the designated steel industry source and its commissioned clearance and treatment enterprise. In addition, a global positioning system (GPS) can be integrated to immediately read electronic identification data concerning the clearance vehicle's waste information through the clearance vehicle's reader. The vehicle then automatically transmits this data to the EPA's database. This allows instant control of clearance vehicle locations and basic data on the waste they are carrying.

The EPA indicates that by adopting integrated technological applications for industrial waste control using RFID, GPS and online reporting, it will be able to effectively control data on the clearance and treatment of industrial waste. In the event of illegal dumping of industrial waste, there's a greater chance of retrieving related information on the disposed waste so as to enhance the effectiveness of industrial waste management and control.

Air Quality

Smoke from Construction Machinery Kept in Check

In order to cut costs, some construction companies use illegal or substandard petroleum products, which emit black smoke and pollute the air. This year the EPA has conducted random checks of petroleum products used in construction machinery at over 90 construction sites.

Where large-scale machinery is in operation all day long at construction sites, construction companies frequently cut costs by using illegal or substandard petroleum products that generate black smoke or other substances harmful to human health, and pollute the air. Addressing this problem, the headquarters and southern branch of the EPA Bureau of Environmental Inspection have been reinforcing inspection of construction machinery at construction sites since May 2007. This includes sampling and chemical testing of fuel products used to put an end to the emission of black smoke from construction machinery.

According to the southern branch of the BEI, since May 2007 it has conducted random testing of petroleum products from construction machinery in public construction projects and medium- to large-scale construction projects southern Taiwan. By September 2007, it had already inspected 91 construction sites and taken 123 samples. Eight of these have tested substandard and penalties have been issued according to regulations.

BEI stated that in order to protect the air quality of southern Taiwan, the BEI will continue to reinforce inspections of construction sites. Aside from inspecting pollution prevention equipment, it will also strengthen random testing of petroleum products used in construction machinery. If construction machinery oil is found to have sulfur content in excess of standards, construction companies could be fined from NT$5,000 to NT$100,000 according to regulations. For violations occurring at a factory, penalties range from NT$100,000 to NT$1 million.

In southern Taiwan, northeastern seasonal winds starting in October each year frequently cause poor air quality. It is hoped that these measures induce construction companies to help reduce pollution by sticking to legal petroleum products and appropriately maintaining machinery.

EPA conducts random checks of petroleum products used in construction machinery at construction sites

Water Qualtiy

EPA Advises on Greywater Recycling

To conserve water resources and ensure proper recycling of greywater (non-septic household wastewater) from buildings, the EPA has announced recommendations to assure sanitary and environmentally friendly conditions when recycling greywater.

Seeking progressive use of water resources, reduced pollution from household wastewater, and increased recycling of greywater from buildings, the EPA announced the Building Greywater Recycling Recommendations (建築物生活污水回收再利用建議事項) on 15 October 2007 as a reference for the design, maintenance and management of building greywater recycling facilities. The recommendations support multiple uses of post-treatment building greywater including flushing toilets, landscaping, irrigation, spraying down dust, and washing cars, streets and floors, provided that it does not come into contact with humans and that it adheres to recommended quality standards.

The following points should be taken into consideration in the design, operation, maintenance and management of household wastewater recycling facilities:

1. Recycling operations should comply with water quality requirements for wastewater treatment facilities in terms of treated water quality and reuse applications. Sites may consider installing supplementary treatment equipment as necessary including settling tanks, filters, reverse osmosis, or activated carbon. To ensure sanitary water quality of recycled greywater, a disinfectant unit should be installed at the final stage after water passes through any of the abovementioned supplementary processes.
2. For recycled greywater that has undergone treatment in the abovementioned supplementary treatment facilities, the site may install a storage pond provided that holding time does not exceed two days.
3. Pipes containing recycled wastewater should not be connected to tap water pipes and should be dark green and clearly marked "recycled wastewater" in white characters.
4. Chlorine disinfectant equipment should be installed and should function properly to maintain the proper amount of chlorine in recycled wastewater.
5. In cases where recycled wastewater after treatment contains over 0.5mg/L of iron, operators should beware of clotted pipes and should regularly clear out obstructions.

To ensure the sanitation of recycled greywater, quality testing and monitoring of building recycled greywater should be conducted as follows: 1) take one water quality sample at least once each season at each water quality sampling location; 2) the water should be tested for residual chlorine at least once a week at each water quality sampling location. For operations that recycle over 100 cubic meters of wastewater per day, after adding chlorine disinfectant, operators should install residual chlorine continuous monitoring equipment and keep continual monitoring records. The amount of chlorine added should be adjusted according to the results of these records.

The Building Greywater Recycling Recommendations and water quality recommended values can be downloaded from the EPA website at http://w3.epa.gov.tw/epalaw/index.aspx.

General Policy

Urban Noise and Odors Comprise Bulk of Public Nuisance Complaints

The EPA has announced the results of statistical analysis on public nuisance complaint cases for the first half of 2007. Most cases concerned either noise or odors. The highest ratio of complaints came from urban areas in the Taipei area, accounting for 40% of all complaints nationwide.

The EPA announced results of statistical analysis on public nuisance complaints handled in the first half of 2007. Environmental agencies received 68,840 complaints in the first half of the year for an average

of one complaint every 3.5 minutes. The most numerous complaints were noise (32%) and odors (24%), both nuisances closely related to peoples daily lives and sensory perceptions. In some urban areas, the number of complaints concerning noise from construction work and business premises, and odors from commercial practices had increased compared to the same period last year. This shows that noise and odors have already become the primary public nuisance problems affecting urban residents' quality of life.

In recent years, the EPA has established diverse service channels for receiving complaints including telephone and internet. After handling complaint cases, environmental agencies notify those informants with contact information regarding results of handling the situation, and carry out a survey regarding their satisfaction of handling the complaint case. About 1.2% of people were dissatisfied with the handling of complaint cases. In those cases, the environmental agency immediately strengthened supervision and reviewed the situation. Pollution cases that are repeatedly complained about are regularly screened and the EPA proactively follows up with these cases to gain command of the pollution situation and ensure it is handled appropriately.

According to analysis, an average of 30 public nuisance complaints were filed for every 10,000 people in the first half of 2007. The rate was highest in Taipei City, with 68 complaints filed for every 10,000 people. A regional look shows the greatest number of complaints was from Taipei City and Taipei County, which together accounted for over 40% of all complaints filed nationwide. This shows that residents of urban Taipei are relatively more sensitive to environment related public nuisances.

Taking a look at the objects of public nuisance complaints filed in the first half of 2007, the biggest target was other residents, followed by businesses, factories, and construction sites. Further analysis reveals that residents were most frequently targeted for environmental sanitation problems, while businesses and factories were targeted for odors, and businesses and construction sites were targeted for loud noise. This gives a picture of the public nuisance issues citizens are more concerned with.

Statistics show that in the first half of 2007, environmental agencies followed up on over 9,000 public nuisance case handling satisfaction surveys. Regarding survey respondents level of satisfaction with the handling of complaints, 43% expressed satisfaction, 43% said the response was acceptable, and only 12% expressed dissatisfaction.

Air Quality

Hydrometers to Curb Illegal Fuel Products

Working to put an end to illegal petroleum products, in addition to conducting unscheduled roadside stop-checks, the EPA has purchased hydrometers. The new technology is expected to raise sampling efficiency during inspections.

The EPA Bureau of Environmental Investigation (BEI) has collaborated with the Environmental Police Force to conduct unscheduled roadside stop-checks at major intersections in all counties and cities to protect air quality by inspecting sulfur content of diesel fuel. Samples contain not only the easily detectable black diesel gas used by fishing boats, but also other types of illegal fuel products less easily determined by appearance alone. These findings have necessitated the purchase of hydrometers -- the EPA's new secret weapon in the crackdown on illegal fuel products. Hydrometers will raise sampling efficiency and can reduce administrative costs of sampling on a large scale.

The EPA indicates that the cost of fuel is mainly what drives diesel vehicle owners to use illegal fuel products. Most users are large passenger or cargo vehicles. Most illegal products on the market are fishing boat fuel, smuggled fuel products and products mixed with unidentified solvents. Sampling of fuel is carried out by environmental authorities in collaboration with police authorities at roadside stop-checks along highways and at major roadways in all counties and cities. Fuel used by construction site machinery has recently been added to the scope of inspection and sampling.

When pulling over vehicles, inspectors first sample fuel products via sensory testing for abnormal color or odor. Fuel used by fishing boats is easily identified by its black color, but solvents are clear just like regular fuel products and thus harder to identify and easier to go unnoticed during inspection. Hydrometers primarily target fuel those fuel products that are harder to identify by comparing density against baseline

standard fuels.

The EPA indicates that in recent years agriculture and fishing authorities have revised subsidization methods for fishing boat fuel, requiring fishing boats to install recording instruments. The Ministry of Economic Affairs' Bureau of Energy and environmental authorities have established many levels of control making it more difficult to obtain illegal sources of fuel. These measures in addition to heavy penalties issued by environmental authorities for violations found during roadside checks have already led to a steady decline in the number of vehicles found using substandard fuel.

News Briefs

Waste Bare Copper Wire Relisted as Industrial Material

On 30 October 2007, the EPA issued a preannouncement of draft revisions to the Categories of Industrial Waste in Demand as Industrial Materials (屬產業用料需求之事業廢棄物種類). Looking to stop trade channels for stolen power cables, the EPA revised items to this announcement on 22 May 2007 to control the export of bare copper wire. This measure has already effectively stopped channels for the export of bare copper wire. However, it has also created problems for those exporting bare copper wires that legitimately belong to products. Therefore a revision has been made to the categories: exported waste bare copper wire is relisted under the category of "waste single metal" so that its export need not adhere to Article 38 of the Waste Disposal Act, which requires application for permit from the county or city competent authority.

The EPA states that the revised draft also adds two new items to the list: waste copper flakes and waste aluminum residue. This will expand the breadth of available industrial materials and make their export and import more convenient.

Taiwan-UK-EU International Seminar on Voluntary Greenhouse Gas Reduction and Emissions Trading

In order to learn from international experiences in promoting voluntary greenhouse gas (GHG) reduction and emissions trading, the EPA and the British Trade and Cultural Office jointly held the International Seminar on Voluntary GHG Reduction and Emissions Trading on November 1, 2007. With the assistance of the European Economic and Trade Office, the EPA invited emissions trading consultants from the EU and the UK, as well as experts in voluntary GHG reduction, in order to help Taiwan develop the most feasible strategies for GHG management schemes through exchange and sharing of experiences. Minister Winston Dang of the EPA, Mr. Michael Reilly, Director of the British Trade and Cultural Office, and Mr. Guy Ledoux, head of the European Economic and Trade Office, gave opening remarks at the seminar as the first step toward a sound partnership among Taiwan, the UK, and the EU.

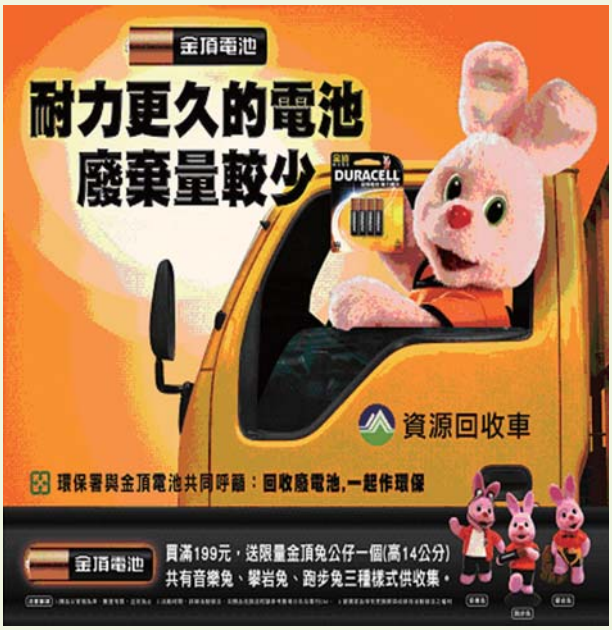
The speakers invited by EPA consist of experts from the PricewaterhouseCoopers and BP of Australia, and Cambridge University of the UK, of which the expert from the PricewaterhouseCoopers is EU ETS consultant recommended by the EC Environment Directorate. Although Australia has not ratified the Kyoto Protocol, its experiences in voluntary GHG reduction and registry scheme can provide our domestic industries, officials, and experts with many new insights.

Minister Winston Dang gave opening remarks at the seminar

Importer Promotes Recycling of Waste Batteries

Taiwan recycled approximately 4,289 tonnes of dry cell batteries in 2006, for a recycling rate of 47.81%, surpassing the

European Union's targeted standard rate of 45% by the year 2016. Procter & Gamble Taiwan Ltd. expanded the scope of its public welfare activities by voluntarily advocating the recycling of waste batteries. From 1 October 2007, the company enlisted one of its product mascots, the "Duracell bunny," to help promote battery recycling alongside the company's other products. This promotion event featured an educational poster and a public welfare commercial for major TV broadcasting stations to encourage the public to recycle, with the added incentive of a special reward gift for all those who turn in their used batteries.



One importer voluntarily advocating the recycling of waste batteries

Industrial Waste Recycling Performance Commended

On 1 November 2007, the EPA held the award ceremony for enterprises with the best performance in industrial waste recycling and resource reduction in 2007. Thirteen companies were awarded for outstanding performance and one company was awarded for fine performance. Central government industry competent authorities were invited to take part and display the fruits of their efforts to promote resource recycling. The following companies received awards:

Outstanding Performance

Industry (Group I): AU Optronics Corp, Taoyuan Branch; General Instrument of Taiwan; Taipower Third Nuclear Power Plant

Medical care (Group I): Tri-Service General Hospital

Medical care (Group II): Mackay Memorial Hospital, Taitung Branch; Chiayi Christian Hospital

Education: Tzu Chi College of Technology; National Ping Tung University of Science and Technology; Cardinal Tien College of Healthcare and Management

Technology & Science Park: United Microelectronics Corporation Fab 8D Plant; AU Optronics Corp L6A Plant; Taiwan Semiconductor Manufacturing Company

Waste clearance and treatment: Southern Taiwan Science Park-Tainan Science Park Resource Recycling Center

Good Performance

Industry (Group II): Gsharp Corporation

Glass Recycling Festival

A decade since the EPA established the Resource Recycling Fund, great achievements have been made in diversifying channels for recycling waste glass, for example in asphalt roads, building exteriors, hollow pavers, bricks and other building materials. This year the EPA cooperated with the Hsinchu City Environmental Protection Bureau to promote the recycling of waste glass by holding a waste glass festival on 13 October 2007. The EPA indicates that Taiwan recycles around 150,000 tonnes of waste glass bottles every year -- the equivalent of approximately 300 million 600cc bottles. Recycling of these waste glass bottles not only results in the production of more glass products, but also saves electricity needed to melt down glass bottles. The energy saved is enough to provide Hsinchu City with electricity for 60,000 people for one year.

Environmental Policy Monthly
R.O.C. (Taiwan)

Publisher
Dr. Winston Dang, Minister

Publishing Directors
Chang Tzi-chin; Chang Feng-teng; Tung Te-po

Editor-in-Chief
Dr. Y. F. Liang

行政院新聞局出版登記證局版北市誌字第1611號
中華郵政北台字第6128號執照登記為雜誌交寄

Executive Editors
Chang Shiuan-wu; Hsiao Lee-kuo; Chang Shao-wen; Peter Morehead

Editorial and translation support provided by:
Hui-kuo Consulting, Ltd.,
The EPM is available on the EPA web-site at http://english.epa.gov.tw/en/FileDownloadPage_EN.aspx?path=420

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Environmental Policy Monthly

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ISSN: 1811-4008
GPN: 2008600068