



Environmental Policy Monthly

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

Feature Column

Renewable Energy Promotion to Focus on Stable Electricity Price

The government is promoting an economy of the people with all sides calling for reduced electricity prices at just the time when wholesale rates for electricity from renewable energy are about to be set in January 2010. New renewable energy development schemes are bound to incite doubt about whether electricity cost inflation will have a negative impact on the economy of the people. The EPA points to Germany's experience with promoting renewable energy. Germany has not only avoided negative impacts but has stabilized electricity prices with positive results for the economy.

Germany's renewable energy system has induced private investments by using 5-7% of profits to provide a safety net for electricity prices so as to maintain an investment environment that yields a net profit without going over the top. Also, government policy backed capital financing and a guaranteed twenty-year return on investment create a stable foundation for the renewable energy investment market. Germany uses an annually diminishing subsidization strategy to spur the development of renewable energy technology in a way that brings down costs and expedites the transformation of traditional fossil fuel power plants. After a decade, Germany's renewable energy power generation has

grown 15%, surpassing the original goal of 12.5%. However, electricity prices have only gone up 3%, erasing any worries that renewable energy cannot be had at a low price. In fact, the industry has generated an additional 250,000 jobs and enormous green energy business opportunities.

Furthermore, in its promotion of renewable energy, Germany has adopted a tax-free investment plan so that all increased costs of electricity will be shouldered entirely by those who use the electricity. Although the initial price of electricity is high, the renewable energy market is gradually expanding, and after low-cost renewable energy technology is introduced, the

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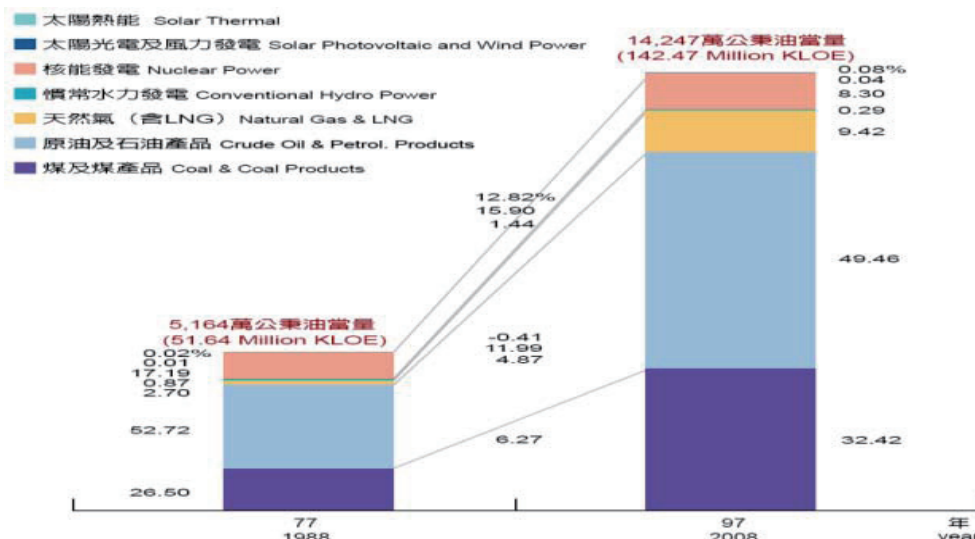
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cost of electricity has come down to a more stable price. Compared with other countries that use tax policy as a means to expand public investment and stimulate the economy, Germany does not use tax to encourage renewable energy. This not only frees the government of financial burden but also generates more employment opportunities and a more efficient green energy industry with bright prospects for the economy overall.

Taiwan depends on imported energy for 98% of its energy consumption and domestic oil prices are tied to fluctuations in international oil prices. The government has no choice but to allocate a great deal of funds for purchasing foreign fossil fuels and conventional power plants. Now in the face of international pressure to reduce carbon emissions, the only option is to accelerate and expand the domestic renewable energy market, increase the

ratio of self-providers, make the best use of domestic fallow land and wasted resources, and assist private enterprises to develop Taiwan's solar, wind, hydro and biomass renewable energy sources. These steps can foster the growth of green energy and create a stable and sustainable renewable energy market.

The development of green energy will no longer be on our shoulders and green industry will have a high potential for further development in Taiwan. The current energy policy makers should learn from Germany's experience in maintaining a reasonable price on renewable power. Taipower in particular should heed this major trend and step outside its conventional method of operating power plants. Current trends can be seen as an opportunity for Taipower to take an active role in leading the transition by investing in renewable energy development.



▶ Taiwan's Current Status of Energy Supply

Waste Management

Two Acts Merged into the “Waste Resource Cycling Promotion Act”

Working toward the goals of environmental sustainability and zero waste, the EPA is merging the Waste Disposal Act and the Resource Recycling and Reuse Act into one Waste Resource Cycling Promotion Act. The Act heralds a new era in which society cycles all resources. In December, the EPA held three public briefings on the new Act in northern, central and southern Taiwan.

The EPA states that progressive nations are adjusting waste disposal policies and expanding the field of management, shifting from mere waste disposal to integrated management methods entailing conservation, sorting and reuse of resources. Taiwan currently manages waste and renewable resources

through two acts: the Waste Disposal Act (廢棄物清理法) and the Resource Recycling and Reuse Act (資源回收再利用法). The Waste Disposal Act strictly treats all discarded materials as “waste,” while the Resource Recycling and Reuse Act holds flexible criteria of renewable resources according to

economic and technical feasibility of recycling and reuse in fluctuation with the market and other factors. These inconsistencies in waste and renewable resource management systems pose difficulties for businesses.

The Waste Resource Cycling Promotion Act merges some of the regulations of the Waste Disposal Act and the Resource Recycling and Reuse Act. It also prioritizes waste resources as valid material resources, and complies with Taiwan's Zero Waste policy to promote green design, green production, green consumption, green procurement, source reductions, reuse, resource recycling and reuse, reduce the use of raw materials, promote efficient cycling and reuse of resources, and gradually achieve Zero Waste goals. The main points of this draft Act are as follows:

1. Strengthen source reductions including green design, green production, manufacturers' recycling responsibilities, green consumption and green procurement.

2. Reevaluate waste resource sorting methods and classify reusable and recyclable materials as "reusables" and non-reusable and non-recyclable

materials as "waste."

3. Implement management of enterprise resource recycling, adopting a dual-tier system based on fee collection principles and enterprises recycling their own materials.

4. Implement polluter-pays principle by collecting funds for disposal and treatment of industry waste resources.

5. Reevaluate waste disposal responsibilities and establish reasonable waste disposal responsibilities.

6. Strengthen reuse management methods with exceptions announced by the central competent authority for materials that are inappropriate for reuse due to being hazardous to human health or potentially polluting the environment. Reuse organizations should obtain a permit from competent authorities, who are required to strictly manage such affairs.

7. The original principles of environmental protection and sanitation in waste management have been retained with an additional article on environmental sanitation.

Water Quality

Legislators Reconsider Collection of Water Pollution Fees in 2010

On 10 December 2009, the Legislative Yuan's Sanitation, Environment, Social Welfare and Labor Committee reconsidered and passed the budget for the EPA's 2010 water pollution prevention fund. Water pollution prevention fees are currently not being collected and will begin next year.

The EPA indicated the collection of water pollution control fees is based on the polluter pays principle and is regulated in the Water Pollution Control Act (水污染防治法). This Act stipulated that beginning in 2006, each year the EPA was to compile a water pollution control fund budget according to regulations and send this to the Legislative Yuan for review. Yet for four consecutive years the Legislative Yuan had cut the budget to only NT\$1,000 and currently this fee is not being collected. In 2010 the water pollution control fund budget was originally to be deleted again to NT\$1,000 but after reconsideration by the Legislative Yuan's Sanitation, Environment, Social

Welfare and Labor Committee the original budget was restored. If the Legislative Yuan passes the draft in the future, this will confirm that collection of the fee will continue.

The EPA stated that the fees will be collected in the next collection period after the Legislative Yuan passes the budget review. Therefore if the fund budget passes three readings in the Legislative Yuan, fees will begin to accrue from 1 July 2010, and the actual fee payment collection period will be from 1~30 January 2011.

The EPA explained that once it is confirmed that water pollution control fees will be collected, collection will begin with industries and industrial zone sewer systems according to the 25 April 2002 deliberation of resolutions to the Water Pollution Control Act. After four years, collection will then begin from residential areas and public sewer systems. In order to lighten the load on enterprises, at the outset an annual reduction method will be adopted, with a 50% reduction in the first year, 40% off in the second year and so on until the sixth year at which time the full fee will be collected.

The EPA indicated that water pollution fees are calculated based on discharge so that those putting out less pollution have lower fees. This scheme provides an incentive to reduce pollution. The EPA estimates that in the first year water pollution

fees of around 80% of businesses will be under NT\$10,000.

Fees collected will be exclusively used for water pollution control work to expedite improvements to water body water quality. Collected water pollution fees are set aside for purposes detailed in Article 11 of the Water Pollution Control Act. Priorities include water body remediation, riverbank ecological engineering improvements and maintenance, providing guidance to industry to improve wastewater treatment, and water pollution control technology research to improve the water quality of water bodies. A portion of collected fees will be allocated to related industry authorities including the Ministry of Economic Affairs, the Council of Agriculture and the Ministry of the Interior to be used for providing guidance to improve pollution from factories and pig farms, as well as to build and operate sewer systems.

Climate Change

Deputy Minister Chiau Engages in Environmental Diplomacy at Copenhagen

Under EPA Deputy Minister Chiau Wen-yan's leadership, Taiwan's delegation to the Denmark Copenhagen 15th Convention of the Parties to the UNFCCC and the Meeting to the Parties of the Kyoto Protocol (COP15/ CMP5) led multiple environmental diplomatic exchanges setting a new mark for international environmental cooperation.

Upon entering the meeting venue on 14 December 2009, EPA Deputy Minister Chiau began networking with representatives of several key nations, international organizations, and ally nations. That day Local Governments for Sustainability (ICLEI) invited the Taiwan delegation to attend the Global Mayors Forum along with important figures including ICLEI Chairman David Cadman, ICLEI Secretary-General Konrad Otto-Zimmermann, and ICLEI Oceania Deputy CEO Martin Brennan. This forum also formally introduced and welcomed Mr. Chiau as the Deputy Minister of the Taiwan Environmental Protection Administration, and expressed sincerity and good will to Taiwan. During an interview with French media, Deputy Minister Chiau explained Taiwan's stance and strategies for responding to climate change. Chiau talked about recent impacts of extreme climate events including Typhoon Morakot, as well as the initiative to legislate the Greenhouse Gas Reduction Act, and the promotion of sustainable city and sustainable islands plans. Chiau shared with the international community Taiwan's concrete results and determination to reduce greenhouse gases.

On 15 December 2009, Deputy Minister Chiau accompanied colleagues from the EPA and the Industrial Technology Research Institute to meet with GEF and representatives of EU nations and ally nations for intensive and in-depth discussion of exchange activities. Apart from thanking each nation's support of Taiwan's participation in the UNFCCC, Taiwan representatives took the initiative to invite them to visit Taiwan and participate in Taiwan's future international conferences and activities to gain a better understanding of Taiwan's methods and plans to respond to climate change. The Taiwan delegation also exchanged views with expert organizations and scholars including carbon finance research organizations, consulting companies in Asia and the Chicago Climate Exchange, sharing the concepts and methods behind Taiwan's effort to promote carbon rights. The delegation received an overall positive response and an affirmation of Taiwan's active participation in international carbon exchange market mechanisms.

Climate Change

EPA Launches Taiwan UNFCCC Website

To increase awareness at home and abroad about Taiwan's willingness to comply with UNFCCC appeals and to obtain wider international support, on 15 December 2009, the EPA launched a Chinese-English Web site (www.epa.gov.tw/unfccc) to promote the campaign: "Toward UNFCCC – TAIWAN is willing to contribute global community."

The EPA indicated that this Web site not only elaborates on Taiwan's special environment, unique characteristics, and level of contribution, but also introduces Taiwan's greenhouse gas reduction policy, concrete actions, and efforts made toward international environmental issues. Internet users can view short films on the Website and see the 27 November 2009 videoconference between Minister Stephen Shu-hung Shen and Denmark representatives in government, industry and academia. More information on Minister Shen's November 2009 visit to the European Union is posted on the Web site.

In 2009 the EPA sent a delegation to Copenhagen, Denmark, to participate in the 15th Convention of the

Parties to the UNFCCC and the Meeting to the Parties of the Kyoto Protocol (COP15/CMP5). One exhibit showed how Taiwan's government is responding to climate change, special reports on Typhoon Morakot, voluntary actions taken by industries in Taiwan, and low carbon city initiatives. All of the information presented in Copenhagen is now available in English on the Web site. This Web site will also continue to update latest information to let others understand the latest developments to the UNFCCC.

The EPA encourages all to check out this Web site and appeals to all to support Taiwan's participation in the UNFCCC to raise more people's awareness of carbon reduction and to take practical actions to prevent global warming.

Climate Change

Taiwan Carbon Emissions Policy Receives International Approval

On 15 December 2009, Taiwan's representative delegation was invited to attend the International Emissions Trading Association COP15/CMP5 peripheral meeting titled, "Carbon Market Developments Across Asia." EPA representatives shared Taiwan's current stage of managing and planning greenhouse gas reductions with attending international figures, and discussed how to utilize more effective economic market tools to plan greenhouse gas emission reduction management policy, while also jointly establishing and participating in international carbon market mechanisms.

The EPA indicated that this peripheral meeting held by IETA was presided by Korean consultant CJ Park, with discussion carried out by the Japan Bank for International Cooperation (JBIC), Korean Carbon Finance (KCF), Mitsui & Co, Chicago Climate Exchange (CCX) and Taiwan's representative Jian Hui-zheng, Deputy Director of the Department of Air Quality and Noise Pollution Control.

Deputy Director Jian introduced Taiwan's progress in legislating regulations to reduce greenhouse gases, promoting industry greenhouse gas inventories,

planning the establishment of an emissions trading platform, third-party certification and other capacity building work. Jian explained how Taiwan complies with the UNFCCC's three principles for monitoring, reporting and verifying emissions. Jian also explained the strategy to gradually plan a domestic management system that links up with the global carbon market. Emphasis was given to Taiwan's pursuit of sustainable development, working toward carbon reduction objectives in major environmental impact assessment development cases, and appealing to market mechanisms to create a reduction market that

is on track with international markets.

Taiwan's vision in responding to climate change, and planning and complying with international trends incited widespread approval from foreign experts and organization representatives at the meeting. After the meeting the delegation exchanged experience and insights with each of the guests resulting in a round of genuine international exchange. This was advantageous to raising Taiwan's international visibility, and planted a foundation for Taiwan's future participation in the international carbon-rights market. Regarding current progress in COP15/CMP5

discussions, the majority of representatives at the meeting agreed that each nations' reduction emission plans and international carbon market should have indicative effects. Taiwan's representative reiterated that Taiwan's greenhouse gas reduction goals will follow the outcomes of international post-Kyoto advisory talks. Taiwan is willing to bear equal but different responsibilities and continue to promote capacity building work for responding to climate change. Taiwan will encourage industry to develop preliminary reduction actions, and jointly work toward concerted global reduction actions and obligations.

Soil and Groundwater

EPA Assisting Houbi Farmland to Treat Chromium Pollution

The EPA is actively assisting the Tainan County Government in examining a recent case of chromium contaminated farmland in Houbi Township, and has issued results of an investigation into the scope of pollution.

The EPA indicates that soil pollution inspections revealed five parcels of land to have chromium contamination in excess of soil pollution control standards. Where crops were grown for human consumption on two of the plots (no. 615 in Chung Jia An sector, and no. 1-11 in Beng Pi sector), the Tainan County Government has controlled the plots and prevented the dissemination of the crops. It has also requested Chaoxiang Technology Co. Ltd. to immediately pull out and burn the crops. Food crops were not planted in the remaining three plots (no. 587 in Jia An sector, no. 1-8 in Beng Pi sector, and no. 637 in Jia An sector).

The EPA indicated that the scope of soil contamination was centered around Chaoxiang Technology Co. Ltd., and soil sampling was conducted within 300 meters of this property. Monitoring results showed that most land within 200 meters of Chaoxiang met pollution control standards, and chromium concentrations decrease with distance from Chaoxiang. Chromium contaminated soil is therefore highly correlated with the enterprise's operations.

Monitoring results of plot no. 637 in Jia An sector showed chromium, cadmium, copper and lead in excess of soil pollution control standards, in addition to high concentrations of zinc (115,000 mg/kg), which

is already over 20 times greater than pollution control standards. The EPA suspected samples taken were actually waste materials rather than soil due to the high concentration of zinc. Further steps will be taken to find evidence of illegal dumping and ascertain responsibility.

Regarding media reports of arsenic concentrations exceeding soil pollution monitoring standards on plot no. 813 in Si An sector, the EPA has probed into possible sources of arsenic and carried out inspections of adjacent plots. Monitoring results show that concentrations of arsenic in soil were lower than monitoring standards and a look at the inspection locations showed higher concentrations in soil samples near irrigation canals. The EPA will supervise the Tainan County Government until a better understanding of the pollution is reached and appropriate treatment has been carried out.

The EPA stressed that where soil pollution control standards have been violated, the Tainan County Government should follow the Soil and Groundwater Pollution Remediation Act (土壤及地下水污染整治法) and require polluters to carry out improvements. Apart from actively providing assistance, the EPA will continue to oversee local governments' proactive handling of pollution cases.

Waste Management

Mandatory Recycling of Bioplastic Containers in March

To strengthen recycling and treatment of bio-plastics such as PLA and PHA, and promote resource recycling and reuse in general, the EPA has announced revisions to Materials or their Containers Designated for Recycling, Clearance and Treatment by Manufacturers and Importers, and the Scope of Enterprises Responsible for Recycling, Clearance, and Treatment (應由製造、輸入業者負責回收、清除、處理之物品或其容器，及應負回收、清除、處理責任之業者範圍). The revisions list bioplastic products or containers as mandatory recyclables. Industry will be required to appropriately label bioplastics and ensure their recycling and reuse. The revision will take effect on 1 March 2010.

The EPA indicates that it is now common to find bioplastic products and containers on the market, including cups for Slurpees and Frappuccinos, salad boxes at McDonalds and Mos Burger, as well as egg cartons and containers for meat. Once bioplastics become announced as mandatory recyclables, people will need to sort them from regular garbage and give them to recycling trucks for collection. Recycling enterprises will then be responsible for sorting and recycling bioplastics.

Consideration has been given to efficiency in collecting recycling fees and management costs for responsible enterprises. Once bioplastic products and containers are announced as mandatory recyclables, enterprises that manufacture or import bioplastics will be responsible for reporting amounts and paying recycling fees. Manufacturers of bioplastic products and containers will be required to report manufacture amounts as a way to control recycling labels.

The EPA emphasizes that once the revision is announced and implemented manufacturers and importers of all bioplastic raw materials, products and their containers listed in the revision will be required by the Responsible Enterprise Regulated Recyclable Waste Management Regulations (應回收廢棄物責任業者管理辦法) to register and report these items. They will also be required to label these products according to the Scope of Enterprises Responsible for Marking Relevant Recycling Labels on Goods and Containers, Size and Locations of Label Designs, and Other Binding Matters for Recycling Labels (應標示回收相關標誌之物品或容器責任業者範圍、標誌圖樣大小、位置及其他遵行事項).

Revisions to the Materials or their Containers Designated for Recycling, Clearance and Treatment by Manufacturers and Importers, and the Scope of Enterprises Responsible for Recycling, Clearance, and Treatment are posted on the EPA Web site (<http://ivy5.epa.gov.tw/epalaw/>).

Water Quality

Green Energy on Pig Farms Saves Energy and Protects Environment

Production and management methods at conventional pig farming operations cause serious environmental problems. EPA Minister Stephen Shu-hung Shen met with Council of Agriculture officials, Taiwan Sugar Corporation and organizations concerned with pig farming on 13 December 2009 to see how the Yunlin County Pig Farming Association provides guidance on using green energy for pig farming operations. Noting that these methods save energy and protect the environment, Minister Shen said it is worthwhile for agriculture agencies to step up promotion of green energy on pig farms.

In the past, pig farming operations have caused pollution due to conventional operating methods that use large amounts of clean water for washing out pens. This not only depletes groundwater resources, but also creates a large amount of wastewater that

causes odors and muddies up waterways. Excessive moisture around the pens also increases the rate of lung infections among young pigs.

In order to alleviate these problems, the Yunlin

County Pig Farming Association commissioned the development of new technology that uses green energy on pig farms. Defecation facilities are designed to concentrate pig urine and feces into one trough, where it is vacuumed out before fermentation generates odor problems. The excrement is then moved via tanks that are set on a system of rails. After collection the manure is processed into organic fertilizer or allowed to ferment in a closed system to generate methane and organic fertilizer. These collection and processing methods curtail the amount of water pollution and provide a way of recycling this resource.

The EPA indicated that the Yunlin Pig Farming Association provides guidance on how to set up green energy systems on pig farms. This mainly entails installation of improved defecation facilities, which collect 95% of excrement, thereby decreasing extraction of groundwater, mitigating land subsidence, saving on wastewater treatment costs, and preventing

river pollution. Recycling of manure creates methane for power generation, thereby mitigating the greenhouse effect. Further processing of manure into organic fertilizer helps decrease acidity of farmland soil. Enhanced sanitation at pig farms decreases disease among young pigs and ensures more pigs reach maturity.

Green energy on pig farms is one response to global environmental trends to conserve energy and reduce carbon emissions, and effectively improves environmental problems on conventional pig farms. This new technology prevents pig farms from causing odors and decreases chances of complaints from neighbors. Pig farms no longer need to fear environmental inspections. The EPA is therefore gearing up to promote this measure of reducing pollution at its source in a way that saves energy and protects the environment. In the future the EPA will recommend these methods to agricultural agencies and include them in its planning of ecological farming villages.

Climate Change

“Taiwan Carbon Label” to Aid Carbon Reduction Goals

On 15 December 2009 the EPA held an award ceremony for the Taiwan Carbon Label Logo Contest and revealed the new official logo. A total of 1,286 contest entries were received and judged with the “Care for Environmental Protection, Reduce Your Carbon Footprint” design by Mr. Chen Wenshun chosen as the best logo to represent the Taiwan Carbon Label.

During the award ceremony EPA Minister Stephen Shu-hung Shen explained that the Taiwan Carbon Label depicts a footprint using a green heart and a leaf, accompanied by the chemical symbol for carbon dioxide “CO₂” and a number indicating the product’s “carbon footprint” located in the green heart. The logo captures the message that we need to care for nature and Earth by reducing our carbon dioxide emissions. The logo is hoped to increase green consumption and bring about a low carbon society.

Global warming and climate change are already important international issues and all nations are analyzing the carbon footprint of products throughout their lifecycle, and labeling products with this information to encourage consumers to decrease their carbon consumption. In response to global warming, the EPA held a Taiwan Carbon Label Logo Contest from September to October 2009 adopting the theme “Don’t Make Earth Sigh, Toward a Low Carbon Society.” A total of 1,286 creative entries were

received and underwent a selection process resulting in one first place design, two second place designs and two third place designs. The first place design was chosen as the Taiwan Carbon Label.

The EPA explains that the numbers appearing on the Taiwan Carbon Label represent the total amount of greenhouse gas emissions generated during the entire lifetime of the product, converted into equivalent amounts of carbon dioxide for easy comparison. Effective implementation of energy conservation and carbon reduction initiatives requires a detailed inventory of greenhouse gas emissions generated during each stage of a product’s lifecycle, including obtaining of raw materials, manufacture, transportation, sale, use and waste disposal. This helps in finding opportunities to reduce carbon emissions along the supply chain. Labeling of carbon dioxide emissions helps consumers understand and prioritize purchase of products that were made with lower carbon dioxide emissions.

The EPA is actively inventorying factory greenhouse gas emissions while also providing guidance to enterprises on how to calculate and verify the carbon footprints of products. In the future the EPA will continue to promote the Taiwan Carbon Labeling System, with several related projects lined up including:

- Establish a carbon footprint calculation system for Taiwan products
- Advise industry on auditing product carbon footprints

and applying for carbon labels

- Establish a product carbon label verification system
- Spread awareness of products with carbon labels

These projects will see to the inspection, issuing and use of carbon labels. The carbon labeling system will offer consumers the choice to buy low carbon products and will lead Taiwan on the road to becoming a low carbon society.



- ▶ This winning logo design will be used as the Taiwan Carbon Label



- ▶ Minister Shen (third from left) reveals Taiwan Carbon Label

Environmental Inspection

Roadside Inspections of Diesel Vehicles Effectively Prevent Illegal Petroleum Products

By reinforcing roadside inspections where diesel vehicles frequently exit and enter roadways, the EPA is clamping down on diesel vehicles using low-grade diesel fuel and generating heavy exhaust that affects air quality. Last year's inspections led to good results.

Taking central Taiwan as an example, roadside checks were conducted in the vicinity of quarries in Nantou County where gravel trucks frequently enter or exit roadways. In 2009 a total of 403 diesel trucks were inspected and 38 fuel inspections were conducted and found to be in compliance with diesel fuel standards. This shows that reinforced inspections and heavy fines over the past years have greatly reduced the use of illegal diesel fuel. The EPA stresses that it will continue to carry out roadside inspections in order to maintain good air quality.

Excessive concentrations of sulfur in diesel fuel increase SOX and particulate pollution emissions, which are not only dangerous to the human respiratory system but are also the main cause of acid

rain. The EPA therefore actively sets up check points on roadways to prevent the use of illegal fuel products that often contain excessive sulfur. Implementation in central Taiwan has shown good results with illegal fuel found in 5.91% of cases in 2005, 1.78% of cases in 2006, 0.71% of cases in 2007, 0.23% of cases in 2008 and no cases in 2009. This attests to effective control over emissions from mobile pollution sources.

Increasing the quality of fuel products is an important part of the EPA's control measures to improve vehicle emissions. This year the EPA is actively coordinating with Taiwan's two fuel manufacturers to continue upgrading vehicle fuel quality, which will in turn improve environmental air quality. On 29 July 2009,

the EPA announced plans to tighten control standards on the content of diesel fuel for vehicles. Sulfur content of diesel for vehicles has been lowered from 50ppmw to 10ppmw, marking a first among Asian nations. New standards will take effect on 1 January 2012 to tie in with the EURO 5 implementation date.

As fuel prices continue to rise, the EPA is carrying through with its fuel inspection program in hopes of

preventing enterprises from considering the use of illegal fuel. Future inspections will focus on quarries where diesel vehicles frequently enter and exit roadways. Inspection efforts will be expanded to include fuel storage tanks and fuel used by heavy machinery. The EPA will also inspect sulfur content of fuel products used in construction site machinery such as generators and excavators to clamp down on dishonest enterprises that use illegal fuel.

Air Quality

Air Pollution Emergency Response Simulation Strengthens Response Capacity

The EPA co-held the “Industrial Zone Air Pollution Event Emergency Response Exercise” in December 2009 to build the capacity for county and city governments to carry out emergency responses to air pollution events. The EPA indicated that it invited all county and municipal environmental protection bureaus (EPBs) to take part in the training. From 2010, these EPBs will hold training sessions in their own jurisdictions.

As a follow-up to the December 2008 Dafa Industrial Zone air pollution incident, the EPA announced the “Air Pollution Event Response Standard Procedures” on 26 October 2009 to strengthen county and city EPB air pollution emergency response capacity. The procedures ask all county and municipal EPBs to strengthen air pollution data collection instruments, personnel allocation and training. On 23 December 2009, the EPA jointly held the “Industrial Zone Air Pollution Emergency Response Exercise” with the Kaohsiung County Government. Experts and scholars were invited to speak and other EPBs and related government agencies were invited to observe. The training event was a simulation to help county and city EPBs rapidly identify pollution sources and oversee improvements, strengthen onsite air quality monitoring, improve rescue and evacuation procedures, and immediately and accurately report onsite handling progress which serves as a reference for decision-making in response to air pollution events.

To strengthen inspection and control of industrial zone air pollution for areas at risk such as nearby schools, hospitals, and neighborhoods, and to prevent air pollution emissions, the EPA drew on prior experiences of air pollution incidents, including one of unknown origin in December 2007 at the Kaohsiung County Dafa Industrial Zone, and cases from southern California’s “Hot Spots Program.” The EPA has made plans to strengthen industrial zone

air pollution control and emergency response. On 16 February 2009 the EPA mandated county and city EPBs to prioritize establishment of basic data for pollution sources in their jurisdiction. Then on 26 February 2009 the EPA mandated EPBs to assess pollution of industrial zones at potential risk. The EPA also assists EPBs to establish industrial zone pollution fingerprint databases to help when public nuisance or complaint cases about air pollution occur. Pollution fingerprint data coupled with weather conditions can facilitate rapid gaining of control over pollution sources, issuance of penalties, supervision of improvements, and prevention of pollution from spreading.

EPA statistics of industrial zone complaints over the years made use of GIS to show industrial zone pollutants and emissions at different distances from sensitive areas (hospitals/schools). Inventories were then conducted at 32 industrial zones selected for potential high risk. Pollution source inventories were 100% completed for each industrial zone. Stationary pollution sources found during inventory work were also included in control work and currently 81% are already under control. A goal of 100% has been set to ensure command over operating data of pollution sources at potentially high-risk industrial zones. This will serve as a reference to reinforce monitoring and control.

The EPA indicated that after inviting county and

municipal EPBs to partake in this simulation, from 2010 EPBs will be required to hold simulations on their own. Results will be used as a reference when evaluating county and city government performance in implementing air quality improvement and maintenance plans. Meanwhile the EPA will continue to strengthen industrial zone pollution inspection and control work, and establish industrial zone air pollution

background data and map inspection systems. High-risk pollutants and manufacturing processes that are prone to causing air pollution incidents will be selected for researching air pollution incident prevention and control mechanisms. Hazardous air pollutant inspections and evaluations will be conducted with reference to US EPA campus hazardous air pollutant inspection plans.

Waste Management

Five LCD and Notebook Computer Companies Work with EPA to Lead Packaging Reduction Trend

On 28 December 2009, five of Taiwan's largest LCD and notebook makers—Chunghwa Picture Tubes, Ltd., AUO, Chimei, BenQ, and Asus—met with the EPA to sign a packaging reduction agreement. They promised that in 2010 they will achieve a 10% reduction in packaging of eight LCD and notebook products and invest in design of environmentally friendly packaging material.

The EPA estimates that by the end of 2010, these five large enterprises can reduce over 870 tonnes of packaging waste each year on these eight products alone. This cooperation is therefore significant in showing how voluntary actions can lead to economic growth while also caring for our Earth.

The EPA stated that since it began promoting packaging reduction in 2006, controls have been set for five main types of commonly seen products, including gift boxes and CD computer programs. Inspection results show improvements in overpackaging of regulated products, with an estimated reduction of 7,300 tonnes of packaging material and a reduction rate of 27%. In recent

years the EPA has taken further steps in promoting the concept of green packaging design that saves resources, is easily recycled and is low-polluting. Enterprises are reminded that green design has already become an essential part of product marketing, and product packaging is no exception. Green packaging design has already become a basic standard for product design in most countries. Products without environmental packaging will lose competitiveness in the future.

The EPA indicates that this agreement for voluntary reduction of packaging among these five enterprises will cover over 85% of LCDs and over 37% of notebooks on the domestic market.

News Briefs

EIA Monitoring Strengthened to Ensure Environmental Promises Are Carried Out

To prevent and alleviate the negative effects of development on the environment, and maintain a high quality living environment, the EPA conducted monitoring of 428 environmental impact assessment cases in 2009 for regulated development activities. Out of those monitored, 37 cases were penalized due to violations of EIA regulations. This effectively put the function of EIA supervision mechanisms into play.

The EPA has already carried out monitoring of EIAs for various categories of development in 2009, including construction of the high-speed rail and industrial zone development. Most of the cases have adhered to the promises stated in their EIA by implementing related environmental protection policies or pollution prevention measures. However there are still 37 development cases

that have not yet implemented promises and have led to violations of EIA regulations. Penalties have been issued according to the Environmental Impact Assessment Act (環境影響評估法) ranging from NT\$300,000 to NT\$1,500,000 as well as a mandated deadline for making improvements.

Drug Containers to Be Recycled from January 2010

To ensure appropriate recycling and treatment of drug containers and encourage the recycling and reuse of used containers, the EPA has specified over-the-counter drugs and prescription drugs (limited to those bottled by the manufacturer) as mandatory recyclables, effective from 1 January 2010. Users should sort these containers from their garbage as recyclables and give them to recycling trucks.

The EPA indicates that before people recycle drug

containers they should first dispose of any remaining drugs by putting them in their garbage instead of flushing them down the toilet or sink. Apart from giving these containers to the sanitation crew, people can give their used drug containers to recycling enterprises or place them in recycling bins in designated shopping areas such as supermarkets, wholesale markets, pharmaceutical store chains, or convenience store chains.

Drinking Water Inspections for Heavy Metals and VOCs Up to Standard

From January to December 2009 the EPA randomly tested 364 tap water supply systems and 36 small water treatment facilities for 21 drinking water quality standards including heavy metals (arsenic, lead, selenium, chromium, cadmium, barium, antimony, nickel, mercury and silver), volatile organic compounds (trichloroethylene, carbon tetrachloride, 1,1,1-trichloroethane, 1,2-dichloroethane, vinyl chloride, benzene, p-dichlorobenzene, and 1,1-dichloroethylene), villiamite, anion surfactants and total trihalomethanes of disinfectant byproducts. Test results showed adherence to standards at each sampling point and apart from vinyl

chloride and total trihalomethanes, all other analyses showed 100% compliance with standards.

Environmental Agent Permit Applications Go Online in March

From March 2010, environmental agent permits can be applied for online. The EPA stated that revisions to regulations have already been implemented to put the permit application process online and complement the Ministry of Economic Affairs' revision of regulations regarding company, business, and factory registration so that all documents are put under one company name. Also, to strengthen the quality of environmental sanitation agents, it is stipulated that the successful content analysis of that particular application must be tested by a testing organization that is designated by the EPA or holds a testing permit. Moreover, it is stipulated that when a company applies for a sales permit or permit extension for mosquito incense it must provide a test report that has been taken within one year regarding dioxin content. This extra specification was made to minimize risk of human or environmental exposure.

Activities

32 Shopping Center Cafeterias Promote Green Chopstick Program

The EPA held a chopstick reduction program inviting department stores and wholesale stores with cafeterias to implement a chopstick-free voluntary waste reduction measure. The cafeterias agreed to provide washable chopsticks and not automatically give out disposable chopsticks with takeout food. A total of 32 enterprises participated with Pacific Sogo Department Store, Shin Shin Department Store, New Taimall Global Company's Nankan branch, Ming Yao Department Store, and Taipei Financial Center Corporation taking the lead in responding to the source reduction policy by providing washable chopsticks in their cafeterias before this agreement with the EPA. The other 27 enterprises will begin implementing this policy in 2010.

Aiming to conserve resources and reduce the use of disposable products, from July 2008 the EPA implemented a policy asking four of the largest convenience store chains to not automatically give disposable chopsticks to customers. The same policy is now expanded to include department store cafeterias. The policy is estimated to cut the use of 44

million pairs of chopsticks and reduce 350 tonnes of waste. This is equivalent to preventing the felling of 11,000 twenty-year-old trees, and the emission of 320 tonnes of carbon dioxide.

First Dual-Function Monitoring/Education Regional Monitoring Well Established

On 16 December 2009 Gangzi Elementary School in Penghu County established the first regional groundwater monitoring well with the dual function of monitoring and education to ensure groundwater conservation concepts are deeply planted in school environmental education. The EPA stated that the nation has established 431 monitoring wells to regularly monitor groundwater quality. As it is hard to obtain land for these wells, many are located on public properties such as elementary and junior high schools. Being the first integrated well for both monitoring and education, it is hoped that regional groundwater quality monitoring wells for background water quality monitoring can enhance Taiwan's environmental education materials on groundwater conservation. Related groundwater monitoring information is posted on the National Environmental Water Quality Data Web site (<http://wqshow.epa.gov.tw/>).

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

Publisher

Stephen Shu-hung Shen, Minister

Editor-in-Chief

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Yu-ling Yang; Li-kuo Hsiao;

Shao-wen Chang; 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/File-DownloadPage_EN.aspx?path=420

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ISSN: 1811-4008
GPN: 2008600068
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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