

From: "James Middleton"
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Date: Wednesday, April 23, 2014 11:43AM
Subject: Zero Waste Policy Taiwan

Dear Legco Members,

Herewith relevant Taiwan's Zero Waste policy for your information.

Kind regards,

James Middleton

Chairman

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Taiwan

- Waste Prevention Targets

As a result of community pressure, in 2003, TEPA adopted a zero waste policy. Initially, the definition of zero waste included incineration, but

after criticism from community organizations, the wording adopted in December 2003 defined zero waste as "effectively recycling and utilizing resources

through green production, green consumption, source reduction, recovery, reuse, and recycling."3 In addition, the policy established waste diversion targets of 25

percent by 2007, 40 percent by 2011, and 75 percent by 2020. Unlike most diversion figures, these referenced a static baseline of 8.33 million tons of

waste generated in 2001.

- Separation at Source Legislation

In 2005, Taiwan adopted a two-phase program under the Waste Disposal Act, which required people to separate waste into recyclables, food and residual waste.¹⁴ In the first phase, the program was implemented in seven cities and ten counties. The second phase, extending source separation to the whole nation, started in 2006. By that time, Taipei was also operating a Pay As You Throw system that was later implemented in Xinbei as well (see box). Taiwan's Waste Disposal Act requires the public to take their recyclable waste directly to the collection

trucks. The trucks—collecting recyclables, food waste, and residual waste—are managed by collection crews hired by the government. They travel together, so

people can take out all the materials at the same time.

The waste-collection crews are required to sort the resources after they are collected.¹⁵ Every municipality has sites where materials are sorted and sold for

recycling; sometimes they are sold mixed to recyclers who separate it themselves.

Taiwan Waste Disposal Legislation

http://trade.ec.europa.eu/doclib/docs/2006/october/tradoc_130546.pdf

Attachments:

ZW%20Taiwan.pdf

Handout-1a-
Regulations.pdf

tradoc_130546.pdf

Zero_Waste_Policy_for
Municipal_Solid_Waste_in_Taiwan
(1400P3B).pdf

Community Action Leads Government Toward Zero Waste

By Cecilia Allen



A garbage collector in Taipei separates bones from recyclable kitchen waste. (photo: Allianz SE)

The island of Taiwan faced a waste crisis in the 1980s because of lack of space to expand its landfill capacity. When the government turned to large-scale incineration, the community's fierce opposition not only stopped the construction of dozens of burners, but also drove the government to adopt goals and programs for waste prevention and recycling. These programs and policies were so effective that the volume of waste decreased significantly even while both population and gross domestic product increased. However, the government, by maintaining both pro-incinerator and waste prevention policies, has capped the potential of waste prevention strategies because large investments in incineration drain resources that could otherwise be used to improve and expand them.



TAIWAN

Population: 23 million
Area: 36,192 km²
Population density: 642/km²
Average annual rainfall: 2,500 mm
Average temperature range: 5°C to 35°C
Altitude: 0 - 3,952 meters above sea level
Waste diversion rate: 48.82%
Waste generation: 0.942 kg/capita/day
Spending on waste management per capita: US \$25.40 per year

In the 1980s, the combination of high population density, rapid industrial growth, landfills reaching full capacity, and lack of space for new dumping grounds led the Taiwan Environmental Protection Agency (TEPA) to adopt incineration as the priority for waste treatment, followed by landfilling. This shift was reaffirmed in 1990 with a plan to build 21 large-scale waste-to-energy incinerators, and again in 1996 when investors were solicited to build another 15 municipal solid waste incinerators to meet the national goal of at least one incinerator per county.

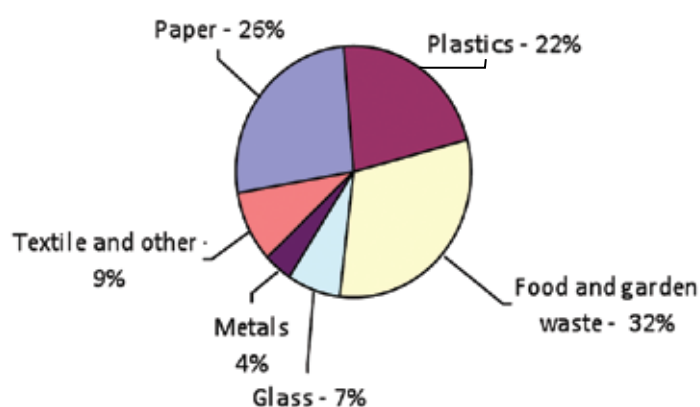
Dozens of anti-incineration meetings were held and communities organized widely against these plans. This grassroots movement was consolidated in 2002 with the creation of the Taiwan Anti-Incinerators Alliance (TAIA). As a result, by 2002, only 19 of the 36 planned incinerators had been built. The total capacity of those 19 incinerators was 21,000 tons per day, while nationwide municipal solid waste production was less than 20,000 tons per day.¹ Despite strong community resistance, TEPA was still holding to its plan to expand incineration capacity immensely. In fact, a third of TEPA’s budget for 2003—NT \$3.7 billion (US \$127 million)²—was allocated to waste incineration, while only NT \$100 million (US \$3.4 million) was

intended for composting. A total of 122 community organizations signed a letter to the government warning of overcapacity of existing incinerators, as well as the environmental and health problems of incinerator emissions, and urged the government to put resources instead into safer and sustainable alternatives like waste prevention, recycling, and composting.

Waste Prevention Targets

As a result of community pressure, in 2003, TEPA adopted a zero waste policy. Initially, the definition of zero waste included incineration, but after criticism from community organizations, the wording adopted in December 2003 defined zero waste as “effectively recycling and utilizing resources through green production, green consumption, source reduction, recovery, reuse, and recycling.”³ In addition, the policy established waste diversion targets of 25 percent by 2007, 40 percent by 2011, and 75 percent by 2020.⁴ Unlike most diversion figures, these referenced a static baseline of 8.33 million tons of waste generated in 2001. Incineration was still part of the overall waste treatment plan for the nation, albeit with a lower priority than the measures included in the zero waste definition.

Figure 1. Municipal Solid Waste Characterization in Taiwan



Source: Li-Teh Lu, et al, 2006

Minimizing Packaging and Disposables

TEPA’s approach to waste prevention put a strong emphasis on Extended Producer Responsibility (EPR)—making producers responsible for changes in design and production to reduce the waste generated by their products and packaging. Producers also manage their own items after they are discarded, taking back materials for reuse or disposal. This approach combines mandatory reduction goals, voluntary agreements, and incentives for businesses and industries.

Restricting the weight of boxes. In 2006, the government adopted restrictions relating to packaging for computer software CDs and gift boxes for pastry, cosmetics, alcoholic beverages and food. In 2009, TEPA signed a packaging reduction agreement with five major portable computer manufacturers that eliminated about 3,700 tons of computer packaging waste in just one year.

Banning disposable tableware at schools and government agencies. In 2006, TEPA requested government agencies and schools to stop using disposable tableware, and in 2007 the requirement was extended to paper cups.

Reducing plastic bags and plastic packaging. In 2007, TEPA required supermarkets to prepare plans to reduce plastic packaging. The businesses had to meet waste reduction targets of 15 percent and 25 percent in the first and second years, and 35 percent in 2011. Stores began to use thinner packaging and to sell goods unpackaged (30 percent of the products were sold unpackaged by the second year of implementation). According to TEPA, the average reduction rate in the first year was 21 percent, and by

2009 had reached 33 percent. According to TEPA, the amount of plastic from non-renewable resources used for packaging was reduced by 1,400 tons between July 2007 and December 2009. Operators who fail to reach the specified targets, or do not submit reduction plans or reduction results to the EPA, are fined NT \$30,000 - 150,000 (US \$1,000 - 5,000).⁵

Encouraging a reduction in disposable chopsticks. In 2008, the government asked stores and cafeterias to provide reusable chopsticks and not automatically give out disposable chopsticks with take-out food. This policy is estimated to cut the use of 44 million pairs of chopsticks and reduce 350 tons of waste per year.⁶

Reducing disposable cups. In 2011, fast food, beverage, and convenience store chains were required by TEPA to provide discounts or extra portions to customers who brought their own cups. Stores that do not implement this measure are required to give customers NT \$1 (US \$0.03) for every two cups they return as an incentive to get shops to recycle their own cups.⁷

Maximizing Recycling

Resource Recycling Management Fund. Taiwanese legislation requires manufacturers and importers of mandatory recycling items like packaging and containers, tires, some electric and electronic goods, automobiles, batteries, and fluorescent lamps to report them, label them, and pay a fee to the Resource Recycling Management Fund, based on the material, volume, weight, and level of recycling. The fund is used to cover collection and recycling costs and provide subsidies to companies and governments to develop reuse and recycling systems. Recycling facilities are audited to confirm the actual amount of materials recycled and assure that operations meet the regulations. **This recycling system is called the four-in-one system, highlighting the**



Volunteers taking apart audiotapes sell the separated materials (plastics, metals) to recyclers, and the income is donated. (photo: Taiwan Watch Institute)

Pay as You Throw Systems in Taipei and Xinbei

In two Taiwanese cities, Pay As You Throw (PAYT) systems have proved to be remarkably effective in rapidly boosting source separation of waste.

In 2000, the city of Taipei changed its waste collection payment system from one based on the amount of water used per household to PAYT: residents were required to purchase certified bags—available in shops throughout the city—to dispose of their residual waste. This served as an incentive for people to both reduce waste and separate at source. It is estimated that by 2003, the introduction of this system had reduced waste production by 28.3% compared to 1999 and had increased the recycling rate from 2.3% to 23%.

Xinbei, the largest city in Taiwan, started gradually introducing a PAYT system in 2008. By January 2011, the entire city of 3.9 million people was covered by PAYT. The results here were even more impressive than in Taipei: by 2011, residual waste had dropped 47.3% compared to 2008 (2,497 tons per day in 2008 and 1,316 tons per day in 2011).

Sources: Li-Teh Lu, et al, 2006, and Taiwan Watch Institute

cooperation of residents, local governments, recycling businesses, and the Recycling Fund Management Board.⁸

Mandatory beverage container take-back.

Most businesses which sell beverages are required to install receptacles to drop off empty containers; these include supermarkets, convenience stores, cosmetics shops, gas stations, fast food restaurants, and shops with beverage vending machines.⁹ There are a total of about 14,000 such

drop-off sites. Violators are subject to a fine ranging from a minimum of NT \$60,000 (about US \$2,000) to a maximum of NT \$300,000 (US \$10,200).¹⁰

Mandatory e-waste take-back.¹¹ As part of the four-in-one system, Taiwan announced mandatory recycling of e-waste in 1997 and coordinated residents, recycling businesses, local governments, and the Recycling Fund Management Board to monitor the recycling process.¹² **In 2010, the government passed legislation that requires retailers selling electronics and electric products to take back and recycle these products.**¹³ According to the policy, the retailers may not charge consumers for this service or refuse to recycle. Consumers are asked to fill out forms to ensure vendors uphold transparency of recycling and treatment processes. Vendors that do not comply with the regulation are subject to fines of NT \$60,000 - \$300,000 (US \$2,000 - \$10,000).

Separation at Source

In 2005, Taiwan adopted a two-phase program under the Waste Disposal Act, which required people to separate waste into recyclables, food



Waste collection trucks with barrels for food waste collection (left) and large bags for recyclables (right). (photo: Taiwan Watch Institute)

waste, and residual waste.¹⁴ In the first phase, the program was implemented in seven cities and ten counties. The second phase, extending source separation to the whole nation, started in 2006. By that time, Taipei was also operating a Pay As You Throw system that was later implemented in Xinbei as well (see box).

Taiwan's Waste Disposal Act requires the public to take their recyclable waste directly to the collection trucks. The trucks—collecting recyclables, food waste, and residual waste—are managed by collection crews hired by the government. They travel together, so people can take out all the materials at the same time.

The waste-collection crews are required to sort the resources after they are collected.¹⁵ Every municipality has sites where materials are sorted and sold for recycling; sometimes they are sold mixed to recyclers who separate it themselves.

Food Waste Recovery

Recovery of source-separated food waste is covered by the Food Waste Recovery and Reuse Plan. By 2009, 319 townships had food waste recycling systems. The total volume of food waste collected per day rose from 80 tons in 2001 to 1,977 tons in 2009. Approximately 75 percent of the recovered food waste is sold to pig farms for about NT \$400 (US \$13.70) per ton. Most of the rest of the food waste is composted. To encourage food scrap recovery, the national government provides subsidies to local governments for education, promotion, and composting facilities.

Breaking the Correlation Between GDP and Waste Generation

Economic growth and waste reduction often seem contradictory goals: more wealth almost always creates more waste. Taiwan is providing evidence



Composting activities by the trash collection team of a township (Shigang) in central Taiwan. (photo: Taiwan Watch Institute)

that aggressive waste prevention programs can break this correlation. **Waste generation in Taiwan dropped from 8.7 to 7.95 million tons between 2000 and 2010, despite a 47 percent increase in GDP in the same period.**^{16 17} At the same time, the population also grew, so in 2010 per capita waste generation was 12.7 percent lower than in 2000. A combination of several factors contributed to this achievement. The landfill crisis in the 1980s and 1990s resulted in higher awareness and motivation on the part of individuals and community groups to work towards waste prevention and recycling. Furthermore, a widening gap between rich and poor concentrated much of the wealth gain in a small subsection of the population. Those who saw stable, or even declining, incomes would not be expected to generate increased waste. However, this alone does not explain the reduction in waste generation during that period. While more research is needed to analyze these and other factors, such a remarkable drop in waste generation must be attributed in large part to successful waste prevention policies.

As shown in Table 2, the waste diversion rate in 2010 was 48.7 percent. That figure applies to materials that were recycled or recovered through compost, animal feed, etc., instead of being landfilled or incinerated. The residuals (i.e., waste going to landfills or incinerators)

Table 1. Trend in Waste Generation, Population, and GDP in Taiwan

| | Population | GDP (US \$ millions) | Waste Generation (tons) | Waste Generation (kg per capita) |
|-------------------|------------|----------------------|-------------------------|----------------------------------|
| 2000 | 22,100,000 | 293* | 8,700,000 | 394 |
| 2010 | 23,100,000 | 430 | 7,950,000 | 344 |
| Comparison | + 4.52% | + 46.7% | - 8.6% | -12.7% |

*Data from 2001.

Sources: <http://sowf.moi.gov.tw/stat/month/m1-09.xls>, and http://eng.stat.gov.tw/public/data/dgbas03/bs4/ninews_e/10002/ewtotal10002.pdf.

dropped from 1.14 kg per capita per day in 1997 to 0.48 kg per capita per day in 2010.¹⁸

Waste Incineration vs. Waste Prevention

While the government publicizes its waste prevention and recycling policies, incineration still plays a major role in Taiwan's waste management system, as reflected in Table 2 above. Thanks to the community's passionate resistance to waste incineration, Taiwan has not fully implemented its original plan to build many new burners, and the amount of waste incinerated in the country has remained fairly constant since 2002. Still, the costs of incineration are so high, and require such

Table 2. MSW Production and Treatment in Taiwan

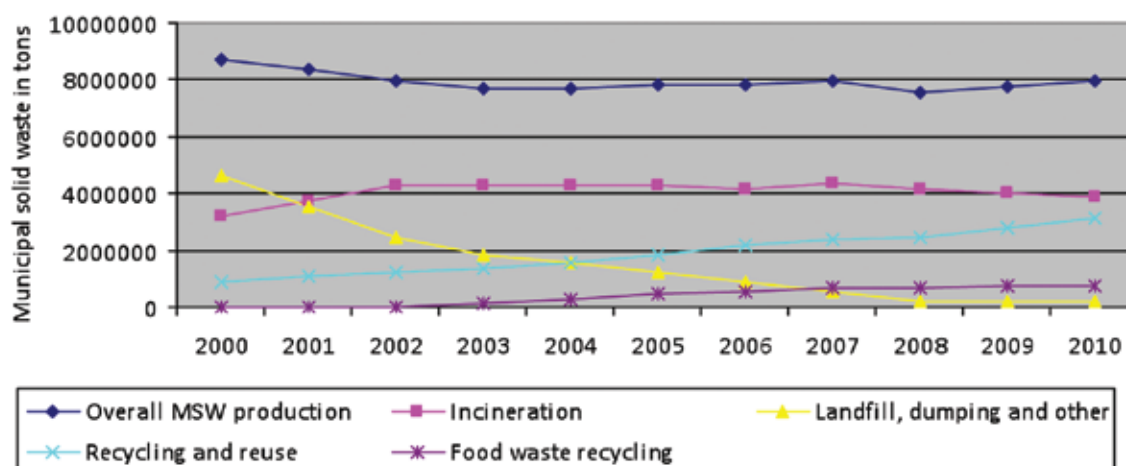
| 2010 | Tons per year | % |
|---------------------------------|------------------|--------------|
| Garden and bulky waste recycled | 80,217 | 1% |
| Food recycled | 769,164 | 9.6% |
| Garbage recycled | 3,035,617 | 38.1% |
| Subtotal Recycled | 3,884,998 | 48.7% |
| Landfilled/buried | 181,771 | 2.28% |
| Incinerated | 3,888,641 | 48.8% |
| Other | 2,191 | 0.02% |
| Subtotal Disposed | 4,072,603 | 51.1% |
| Total Waste Generated | 7,957,601 | 100% |

Source: Based on data published by TEPA, <http://www.epa.gov.tw/en/statistics/c4010.pdf>.

a large percentage of the budget, that the potential of waste prevention and materials recovery efforts are drastically curtailed.

Currently there are 24 incinerators operating in Taiwan, and they receive 60 percent of the nation's municipal solid waste and 40 percent of its industrial waste. Nonetheless, since 2004 the incinerators have been facing a shortage of materials to burn as well as problems due to community complaints about the emissions. **The three incinerators in Taipei had to cut their operations by half, at least partly because there were not enough materials to burn.**¹⁹ Furthermore, the government promotion of ash "recycling" in construction and pavement work

Figure 2. Solid Waste Production and Treatment in Taiwan (2000 - 2010)



Source: Based on data published by TEPA, <http://www.epa.gov.tw/en/statistics/c4010.pdf>.

represents a serious environmental liability in Taiwan, given that many toxics remain in those ashes. Since many companies are not willing to use the ash in their own pavement, and there is not enough storage space, the ash is often spread in places like farms, posing a huge environmental threat.

An analysis of the waste being burned in municipal waste incinerators in Taichung, Taipei, and Tainan showed that 48.6 percent of it is organic (i.e., kitchen waste and organic yard waste), while non-organic recyclable resources account for 9.3 percent. Thus, **57.9 percent of what is being burned is**

recyclable or compostable. This number is probably much higher. For instance, 30 percent of what the government considers garbage—unrecyclable paper products such as bath tissue, and other soiled paper—is compostable.²⁰

Huge investments required for the construction and operation of incinerators drain funds for years that could otherwise be used to boost resource recovery. Typically, a contractor pays for the construction of the incinerator, and the government is then committed to making payments to the contractor for 20 years, as shown in Table 3 below.

Table 3: Subsidies Given by TEPA to Local Governments (2011)

| | Program | NT \$ (thousands) | USD \$ |
|-------------------------------|---|--------------------------|-------------------|
| Zero Waste | Zero waste projects | 309,925 | 10,610,000 |
| | Collection, separation, and reuse/recycling of waste from building decoration and overhauling | 24,015 | 822,000 |
| | Food waste recycling | 158,600 | 5,429,000 |
| | Bulky waste recycling | 48,990 | 1,677,000 |
| Total for Zero Waste | | 541,530 | 18,538,000 |
| Waste Incineration | Incineration ash “recycling” | 353,000 | 12,084,000 |
| | Amortization of incinerator construction costs | 1,002,214 | 34,310,000 |
| Total for Incineration | | 1,355,214 | 46,394,000 |

Source: TEPA.

Table 4: TEPA Budget for General Waste Management (2011)

| Source | Program | NT \$ (thousands) | USD \$ |
|---|---|----------------------|--------------------|
| Subsidies provided for local governments to implement projects or policies of general waste management | Education and promotion | 30,000 | 1,027,000 |
| | Vehicles for waste collection | 328,500 | 11,246,000 |
| | Design the facilities for manure treatment | 1,000 | 34,000 |
| | Collection, separation, and reuse/recycling of waste from building decoration and overhauling | 24,015 | 822,000 |
| | Zero waste projects | 309,925 | 10,610,000 |
| | Food waste recycling | 158,600 | 5,429,000 |
| | Bulk waste recycling | 48,990 | 1,677,000 |
| | Incineration ash "recycling" | 353,000 | 12,084,000 |
| | Amortization of incinerator construction | 1,002,214 | 34,310,000 |
| | Disposal of waste created by emergencies (typhoons, etc.) | 96,000 | 3,286,000 |
| Sub-total Subsidies | | 235,2244 | 80,525,000 |
| Developing and implementing national government policies | General policy making on zero waste, source prevention, and recycling programs | 17,300 | 592,000 |
| | Implementation of policies on waste separation and recycling and EPR | 6,742 | 230,800 |
| | Implementation of policies on disposable waste reduction, mercury product (e.g., battery) restriction, package reduction, and green package design | 14,800 | 506,000 |
| | Policy making on waste disposal | 5,500 | 188,000 |
| | Monitoring of incineration ash "recycling" | 3,000 | 102,700 |
| Sub-total National Policies | | 47,342 | 1,618,700 |
| EPR (resource recycling fund operated by TEPA) | Subsidies for recycling, collection and disposal companies; subsidies and incentives for recycling systems and reuse; expenses for disposal services paid by the enforcement authority on behalf of others; auditing and certification, other expenses. | 1,392,726 | 47,679,000 |
| Total | | 3,792,312 | 129,822,700 |

Note: Figures in US \$ are rounded to facilitate reading.

Source: TEPA.

Waste prevention and recycling policies in Taiwan seem to be yielding good results, and there is immense potential for further advances. Recovery of organic waste can certainly improve, as the investments and programs related to this are very limited, and food and garden waste represent the largest municipal solid waste stream. Likewise, there is great potential to learn from the Pay As You Throw system, which has succeeded in reducing waste and

increasing separation at source in Taipei and Xinbei. The people of Taiwan have expressed deep opposition to the practice of burning waste and a willingness to engage in waste prevention and recycling practices. Unfortunately, the very large investments in waste incineration and "recycling" of incinerator ash take away money needed to further increase prevention and recovery.

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- 1 Taiwan Watch Institute.
- 2 Exchange rate: US\$ 1 = NT \$ 29.21.
- 3 TEPA: Review and Outlook of Trash Treatment Program, December 2003.
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- 9 Until 2002, there was a refund when taking bottles back to retailers. This system was discontinued by TEPA after finding an imbalance in the recycling fund. Misguided reporting by the industry of the number of bottles placed on the market did not correspond to the number being returned and led to reported recycling levels that surpassed 100%. Since TEPA was paying the refunds and recycling for the bottles actually recycled and the industry was paying for the amount of bottles they declared to put in the market, the fund went out of balance.
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www.no-burn.org
June 2012

This case study was originally published as part of *On the Road to Zero Waste: Successes and Lessons from around the World* (GAIA, 2012). *On the Road* profiles nine diverse communities, each providing a real-world example of authentic progress toward the goal of zero waste. None has yet achieved this goal, and a few still employ practices that are incompatible with zero waste, such as incineration. Nonetheless, each community has achieved considerable success with one or more elements of zero waste and has something to teach us. For more case studies, visit: www.no-burn.org/ZWcasestudies.

Recycling Regulations in Taiwan and the 4-in-1 Recycling Program

Countries around the world have developed policies that aim to reduce municipal solid waste (MSW) and enhance recycling. In Taiwan, MSW management policies are centered on an “extended producer responsibility” (EPR) concept that requires manufacturers and importers of new products to fund recycling. EPR was first established in Taiwan when the Waste Disposal Act was amended in 1988. Since then, new regulations and systems, including Taiwan’s signature “4-in-1 Recycling Program,” have been implemented. This handout provides an overview of the evolution of recycling policies in Taiwan.

Recycling Regulations in Taiwan

Three amendments to the Waste Disposal Act (WDA) make up the foundation of the recycling system in Taiwan:

1. In 1988, Article 10-1 of the WDA required for the first time in Taiwan that manufacturers and importers bear financial responsibility for recycling by forming associations to fund recycling.
2. In July 1997 the requirement changed with another amendment to the WDA that established the 4-in-1 Recycling Program. Instead of forming associations to fund recycling, manufacturers and importers now had to pay a recycling fee to Environmental Protection Administration Taiwan (EPAT) and offer collection of waste for recycling from consumers. The fees would feed into the Recycling Fund, which subsidizes collection and recycling by licensed enterprises and is the key element of the 4-in-1 Recycling Program. The Fund’s establishment marked a milestone in the history of Taiwan’s recycling regulations. This amendment also led EPAT to create the Recycling Fund Management Board (RFMB) to operate the Recycling Fund.
3. In 2001, the Waste Disposal Act was revised again, expanding regulations under Article 10-1 to clarify responsibilities of manufacturers, importers and recyclers under the 4-in-1 Program.

Handout 1

Workshop Materials on WEEE Management in Taiwan

October 2012

The provisions of key Articles of the WDA are summarized below.

1. Article 5 of the Waste Disposal Act

Recyclable wastes generated by households and small businesses must be collected for recycling by municipal collection teams. Regulated recyclable waste (RRW) is defined to include 13 categories and 33 items such as metal containers, aluminum containers, glass containers, and plastic containers. The recycling of RRW is eligible for subsidy from EPAT's Recycling Fund. The full list of RRW is given in Chart 1; categories 11, 12 and 13 define waste electric and electronic equipment (WEEE) in Taiwan. In addition, Article 5 enables EPAT to require local environmental protection bureaus (EPBs) to collect certain items including waste paper, CDs, cell phones and chargers for recycling, although those items are not classified as RRW and their recycling is not eligible for subsidy.

Handout 1

Workshop Materials on WEEE Management in Taiwan

October 2012

Chart 1: Regulated Recyclable Waste Under the 4-in-1 Recycling System

| | | | |
|-----------------------------|--------------------------------------|--|----------------------------------|
| Containers | 1. | waste metal containers(1998) | |
| | 2. | waste aluminum containers(1998) | |
| | 3. | waste glass containers(1998) | |
| | 4. | (1) waste tetra pak brand containers, paper containers(1998) (2) waste paper tableware(1998) | |
| | 5. | waste plastic containers | |
| | | (1)Polyethylene Terephthalate,PET (1998) | (2)Polyvinylchloride,PVC (1998) |
| (3)Polyethylene,PE (1998) | | (4)Polypropylene,PP (1998) | |
| (5)Polystyrene,PSfoam(1998) | | (6)Polystyrene,PS non-foam(1998) | |
| | (7)other plastics(1998) | (8)bio-plastics(2010) | |
| 6. | waste containers of pesticides(1998) | | |
| Materials | 7. | waste batteries(1998) | |
| | 8. | waste automobiles/motorcycles(1998) | |
| | 9. | waste tires(1998) | |
| | 10. | waste lead-acid batteries(1998) | |
| | 11. | waste computer appliances | |
| | | (1)waste laptops(1998) | (2)waste shells(1998) |
| | | (3)waste motherboards (1998) | (4)waste monitors(1998) |
| | | (5)waste hard-disks (1998) | (6)waste printers(2001) |
| | | (7)waste power packs (1998) | (8)waste keyboards (2007) |
| | 12. | waste electrical appliances | |
| | | (1)waste televisions (1998) | (2)waste washing machines(1998) |
| | | (3)waste refrigerators (1998) | (4)waste air-conditioners (1998) |
| | | (5)waste fans(2007) | |
| 13. | waste light bulbs/tubes(2002) | | |

The first year of regulation is indicated in parentheses for each waste item.

2. Article 15 of the Waste Disposal Act

Manufacturers and importers of new RRW products and their packaging and containers, as well as certain raw materials, shall bear responsibility for collecting these materials for products when they reach their end-of-life. Collection points for RRW items are required at certain retail locations, like supermarkets and convenience stores.

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3. Article 16 of the Waste Disposal Act

The manufacturers and importers described in Article 15 shall register with EPAT and pay recycling fees based on the quantities of new RRW products put on the market. The fee rates are set by EPAT and recycling fees are deposited by the Recycling Management Fund into commissioned banks. Fees paid by manufacturers on items that are exported can be reimbursed by EPAT. EPAT shall establish a Recycling Rate Review Committee (RRRC) to review fee rates based on RRW component materials, per unit weight or volume of RRW, annual cost of municipal RRW collection, the value of recycled or reused RRW products, cost of private collection, recycling and disposal (of non-recyclable components), collection and recycling rates (verified through auditing), auditing and verification costs, the financial condition of the Recycling Fund, and other relevant factors.

4. Article 17 of the Waste Disposal Act

The Recycling Management Fund shall be used for the following purposes: (1) subsidizing licensed RRW collectors and recyclers; (2) the provision of grants and awards for collection and recycling systems; (3) funding municipal RRW collection; (4) funding auditing of subsidized collectors and recyclers; (5) other uses related to general RRW recycling approved by EPAT.

5. Article 18 of the Waste Disposal Act

EPAT shall issue standards for the operations and facilities for the collection, transportation, and recycling of RRW. The Auditing and Certification Groups (ACGs)¹ commissioned by EPAT shall monitor whether subsidized enterprises are in compliance with these standards and certify the volume of collected and recycled RRW to ensure the accuracy of subsidy payments. Collectors and recyclers of a certain scale or larger shall register with local environmental protection bureaus (EPB) and report collection or recycling volumes to the EPBs. Collectors and recyclers may apply to the Recycling

¹ It should be noted that the ACGs do not confer any “certification” to subsidized recyclers as the R2 and E-Stewards programs do in the United States. Instead, the ACGs verify that subsidized enterprises are in compliance with their regulatory requirements and that they receive subsidy amounts corresponding to the amount of material recycled according to EPAT’s standards.

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Fund for subsidies based on these certified volumes. Some enterprises, like WEEE collectors, may not be eligible for subsidy, but must still be licensed to operate by their local EPBs.

6. Article 19 of the Waste Disposal Act

At the time of production or import, manufacturers and importers shall mark new RRW products with EPAT's standard recycling logo. Manufacturers, importers and retailers designated in Article 15 shall install collection facilities and take back RRW products at their end of life.

7. Article 20 of the Waste Disposal Act

EPAT may dispatch personnel or credentialed professionals to enter the facilities of retailers, manufacturers and importers, and RRW collection, storage, transportation and recycling operations. EPAT may also request relevant information from such enterprises. For manufacturers and importers, EPAT may inspect sales or import volumes of new RRW products, distributors and retailers of new RRW products, and raw material suppliers to ensure proper application of recycling labels. For subsidized collectors or recyclers, EPAT may inspect collection and recycling volumes of RRW. When necessary, EPAT may obtain tax records for further inspection.

The 4-in-1 Recycling Program

Before January 1997, although the Waste Disposal Act had required manufacturers and importers to recycle RRW, the collection channels were not coordinated, so the collection rate was low. Furthermore, manufacturers and importers did not invest in recycling facilities installation due to underdeveloped regulations and incentives. In 1997, EPAT created the "4-in-1 Recycling Program" to better connect all parties involved in RRW collection channels, including community residents, recyclers and collectors, local governments, and the newly established Recycling Fund. Through the incentives associated with the Fund, the 4-in-1 Recycling Program has increased recycling rates and reduced the amount of solid waste sent for disposal. The structure of the 4-in-1 Recycling Program is illustrated in Figure 1.

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Figure 1 4-in-1 Recycling Program

1. Components of the 4-in-1 Recycling Program

(1) Community Residents

Community residents make up the foundation of the 4-in-1 Recycling Program. Residents who deposit their waste at local collection points serviced by municipal collection teams must separate their recyclable, non-recyclable, and organic wastes.

In addition to community residents, there are many citizen groups such as Tsu-Chi Foundation (a Buddhist organization), Homemakers United Foundation, and Conservation Mothers Foundation that work to increase recycling in communities and schools. These groups conduct recycling education programs, collect RRW for donation and reuse, and collect RRW for sale to recyclers.

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As of 2011, there were a total of 3,200 communities and 3,500 schools carrying out recycling. Through requirements and voluntary actions, RRW collection points have been installed in public places such as national parks, scenic spots, public transportation stations, as well as chain stores and supermarkets. These expanded collection channels make it convenient for citizens to send RRW for collection and recycling.

(2) Recycling Industries

Private recyclers and collectors buy waste materials, including WEEE, from residents, communities, commercial enterprises and others in order to recover commodities from these wastes and generate revenue in the process.

(3) Local Authorities

Municipalities and local governments organize municipal collection teams to collect RRW and other wastes from community collection sites. They sell RRW and other MSW of value to private recyclers and give a portion of the income back to the local government in order to fund grants for community waste collection sites.

(4) Recycling Fund

The Recycling Fund is the most important aspect of the 4-in-1 Recycling Program because it subsidizes municipal RRW collection as well as private collectors and recyclers who meet EPAT's environmental and safety standards. Under the 4-in-1 Recycling Program, manufacturers and importers of new RRW products, including electrical and electronic equipment, are required to pay fees to EPAT depending on the quantity of items they put on the market. These fees feed into the Recycling Fund, which is managed by RFMB.

Currently the recycling fund collects NT\$7,000,000,000 (NT\$7 Billion) per year from manufacturers and importers, which is distributed to trust funds and special income funds. The trust funds are used to subsidize private collectors and recycling enterprises that meet EPAT standards. Special income funds are dedicated to education, research and development, auditing, grants for

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municipalities and citizen groups, and administration of the 4-in-1 Recycling Program. The Recycling Fund has greatly advanced recycling in Taiwan. For example, money from the nonprofit fund been used to purchase more than 1,300 recycling vehicles for municipalities since 1998 so that collection of recyclables can be carried out more than twice per week. Money from the special income fund has also financed 273 storage facilities for 326 municipal collection squads since 1998.

2. Management Structure

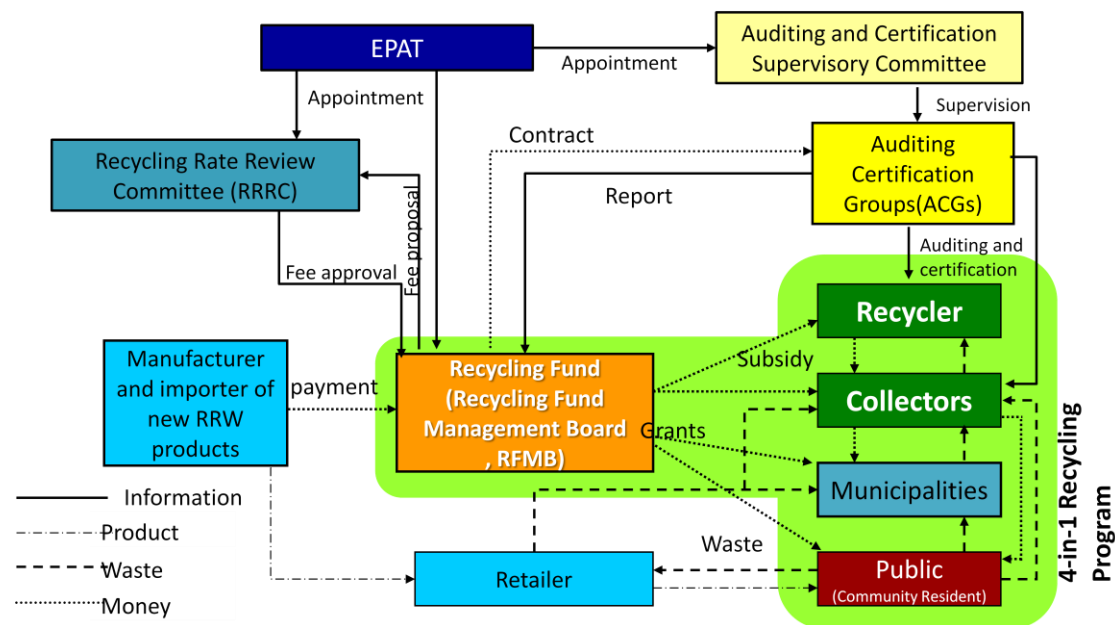


Figure 2 Management Structure of the 4-in-1 Recycling Program

3. Online Reporting Tools

Under the 4-in-1 Recycling Program, online reporting systems are available for manufacturers and importers, recyclers, collectors, auditing and certification groups, and local EPBs.

Waste Disposal Act

Original 28 articles promulgated by presidential order on July 26, 1974.

Revisions to Articles 5, 6, 11, 15, 18 and 22 and addition of Article 24-1 promulgated by presidential order on April 9, 1980

Revisions to all 36 articles of this Act promulgated by presidential order on November 20, 1985 Revisions to Articles 4, 11 and 20 and addition of Articles 10-1 and 23-1 promulgated by presidential order on November 11, 1988.

Revisions to Articles 10-1, 23-1 and 31 promulgated by presidential order on March 28, 1997.

Revisions to Articles 5, 13, 17, 22 and 34 and addition of Article 34-1 promulgated by presidential order on July 14, 1999.

Revisions to Articles 4 and 35 promulgated by presidential order on January 19, 2000.

Revisions to all 77 articles of this Act promulgated by presidential order on October 24, 2001 Revisions to Article 51 promulgated by presidential order on June 2, 2004.

Chapter 1 General Principles

Article 1

This Act is formulated for the effective clearance and disposal of waste, improvement of environmental sanitation and maintenance of public health. The regulations of other laws shall apply to those matters not regulated by this Act.

Article 2

Waste referred to in this Act is divided into the following two categories.

1. General waste: solid or liquid waste, including garbage, excrement and urine, and animal carcasses, from households or other non-industrial sources that is sufficient to pollute environmental sanitation
2. Industrial waste:
 1. Hazardous industrial waste: waste produced by industry that is toxic or dangerous and the concentration or volume of which is sufficient to influence human health or pollute the environment
 2. Industrial waste: General industrial waste: waste produced by industry that is not hazardous industrial waste

The central competent authority in consultation with the central industry competent authority shall determine determination standards for the hazardous industrial waste in the foregoing paragraph.

The disposal of ionizing radioactive waste shall be performed in accordance with the relevant the atomic energy regulations.

"Industrial" in Paragraph 1, Subparagraph 2 means agricultural, industrial and mining plants and sites, construction enterprises, medical organizations, public and private waste clearance and disposal organizations, joint industrial waste clearance and disposal organizations, laboratories of schools, agencies and groups, and other enterprises designated by the central competent authority.

Article 3

"Designated clearance area" as referred to in this Act means a clearance area officially announced and designated by the enforcement authority based on environmental sanitation needs.

Article 4

"Competent authority" as referred to in this Act means the Environmental Protection Administration, Executive Yuan, at the central government level, the municipal government in special municipalities and the county or city government in counties or cities.

Article 5

"Enforcement authority" as referred to in this Act means the environmental protection bureau of a special municipality government, the environmental protection bureau of a county or city government and the public office of a rural township, urban township or city.

The enforcement authority shall establish dedicated units for the performance of recycling, clearance,

disposal and waste investigation work for general waste.

The enforcement authority shall be responsible for the planning of land to be used for the recycling, clearance and disposal of general waste, and shall coordinate with and grant preference to the relevant agencies for the acquisition of the land.

The recycling, clearance and disposal of general waste shall be performed by the environmental protection bureau of the special municipality government in special municipalities and by the environmental protection bureau of the provincial city in provincial cities. In counties, the recycling and clearance of general waste shall be performed by the public office of a rural township, urban township or city and the disposal of general waste shall be performed by the environmental protection bureau of the county; when necessary, the county may commission the public office of a rural township, urban township or city to perform disposal work.

The environmental protection bureaus of counties shall complete the adjustment of general waste work pursuant to the foregoing regulations prior to July 14, 2004 and shall be in centralized management of said work.

The central competent authority shall determine the general waste recycling items in Paragraph 2. However, special municipality, county and city competent authorities may add other general waste recycling items based on special requirements within their jurisdiction areas, and the added items shall be submitted to the central competent authority for future reference.

Article 6

When the competent authority or industry competent authority plans the establishment of waste disposal facilities pursuant to the regulations of this Act, for those circumstances in which the land to be used involves modifications to urban planning, the competent authority or industry competent authority shall coordinate with the urban planning competent authority and perform the modifications pursuant to Article 27 of the Urban Planning Act; for those circumstances in which the land involves modifications to the use of non-urban land, modifications and rezoning shall be carried out in accordance with the law after approval of the acquisition of the land through appropriation or allocation. Land for which rezoning as a waste disposal zone has been completed and that is public land may be allocated, or leased or sold to the founder, and shall not be subject to the restrictions of Article 25 of the Land Act.

Article 7

For the joint establishment of waste disposal sites and performance of waste clearance and disposal work, special municipality, county or city competent authorities may draft establishment management regulations, and, after receiving central competent authority approval, may establish a regional joint clearance and disposal unit.

Article 8

When existing waste storage, recycling, clearance or disposal facilities are caused to have insufficient power due to natural disaster, major accident or other urgent matters and there is concern of polluting the environment or influencing human health, the central competent authority shall cooperate with the central industry competent authority and relevant agencies and, after receiving Executive Yuan approval, may designate emergency waste disposal methods, facilities, sites and deadlines and shall not be subject to Article 28, Article 31, Paragraph 1, Subparagraph 1, Article 36, Article 39, Article 41 of this Act, Article 13 of the Water Pollution Control Act, Article 24 of the Air Pollution Control Act, Article 16 of the Environmental Impact Assessment Act, Article 15 of the Company Act, Article 8 of the Business Registration Act or restrictions related to land use controls of the Urban Planning Act, Regional Planning Act or Statute for Upgrading Industries.

Article 9

The competent authority may, on its own or through a commissioned enforcement authority, dispatch personnel bearing identification documents to enter a public or private premises or intercept waste or surplus earth and gravel clearance equipment to perform inspection or sampling of waste storage, clearance, disposal or reuse circumstances and order the provision of relevant information; waste or surplus earth and gravel clearance equipment shall carry in the vehicle verification documents recording the production source and disposal site of the waste or surplus earth and gravel to be provided for inspection.

The competent authority or the commissioned enforcement authority, when performing an administrative inspection pursuant to the foregoing paragraph and there is one of the following circumstances, may detain the clearance equipment or disposal facilities or equipment and may order the owner or user of the clearance

equipment or disposal facilities or equipment at issue to perform clearance or disposal within a limited time period. When necessary, the property or real estate of the owner may be used or have its use restricted or the necessary tap water, electricity or other power source of the place of business may cut off as punishment.

1. There is concern of serious pollution from the waste, surplus earth and gravel, clearance equipment or disposal facilities or equipment of the public or private premises
2. There is concern of serious pollution from the waste or surplus earth and gravel carried by clearance equipment

The central competent authority shall determine relevant regulations for the procedures for the detention of clearance equipment or disposal facilities or equipment in the foregoing paragraph.

Article 10

The clearance equipment or disposal facilities or equipment detained pursuant to Paragraph 2 of the foregoing article shall be returned if there is already no concern of serious pollution from the waste or surplus earth and gravel its has stored, cleared, disposed of or reused, or after the owner or user of the clearance equipment or disposal facilities or equipment at issue properly performs clearance or disposal of the waste or surplus earth and gravel and pays such related fees as fees for the towing and safekeeping of the clearance equipment or disposal facilities or equipment.

The period for the detention of the clearance equipment or disposal facilities or equipment shall be limited to one year. However, under special circumstances, this period may be extended once after receiving higher competent authority approval.

The special municipality, county or city competent authority shall determine fee collection methods and standards for such related fees as fees for the towing and safekeeping of the clearance equipment or disposal facilities or equipment in the first paragraph.

Chapter 2 The Disposal of General Waste

Article 11

With the exception of general waste that shall be cleared pursuant to the following regulations, general waste in designated clearance areas shall be cleared by the enforcement authority.

1. For land or buildings related to public sanitation, the owner, manager or user shall perform clearance.
2. For covered walkways or sidewalks connected to land or buildings, the owner, manager or user of the land or building at issue shall perform clearance.
3. For roadways or public spaces that are used for special purposes, the user shall perform clearance.
4. For general waste abandoned and left on site by the owner after the occurrence of a fire or disaster, the building owner or manager shall perform clearance; for those lacking the capacity to perform clearance, the enforcement authority shall perform clearance.
5. For general waste left after the demolition of a building, the original owner, manager or user shall perform clearance.
6. For the excrement and urine of livestock or poultry on roadways or other public premises, the owner or manager shall perform clearance.
7. For the sludge matter of septic tanks, the owner, manager or user shall perform clearance.
8. For the road surfaces and drainage gutters of public lanes or alleys with widths of four meters or less, the households on opposite sides or adjacent sides shall each perform clearance of half.
9. For roadway traffic islands, greenbelts, parks and other public premises, the management organization shall perform clearance.

Article 12

The transport, sorting, storage, discharge, methods, equipment and reuse of general waste recycling, clearance and disposal shall comply with the regulations of the central competent authority; the central competent authority shall determine regulations for these matters.

The enforcement authority may, based on the special characteristics of designated clearance areas, add general waste sorting, storage and discharge regulations in the foregoing paragraph, and shall report these to the higher competent authority for future reference.

Article 13

Enforcement authorities at all levels shall, based on actual needs, install general waste recycling and storage equipment at appropriate locations and public premises.

Article 14

The enforcement authority shall be responsible for the clearance of general waste and shall perform appropriate sanitary disposal. However, for general waste produced outside of households, the enforcement authority may designate clearance methods and disposal premises.

For the clearance and disposal of general waste in the foregoing paragraph, the enforcement authority may, after receiving higher competent authority approval, commission a public or private waste clearance and disposal organization or perform the clearance and disposal in accordance with methods approved by the central competent authority.

Article 15

For articles and the packaging and containers thereof that, after consumption or use, are sufficient to produce general waste possessing one of the following characteristics and cause concern of serious pollution to the environment, the manufacturer or importer of the articles and the packaging and containers thereof at issue or the manufacturer or importer of the raw materials shall bear responsibility for recycling, clearance and disposal and the vendor shall bear responsibility for recycling, clearance work.

1. Difficult to clear or dispose of
2. Contains a component that does not readily decompose over a long period
3. Contains a component that is a hazardous substance
4. Is valuable for recycling and reuse

The central competent authority shall officially announce the scopes for the articles and the packaging and containers thereof and the enterprises responsible for recycling, clearance and disposal in the foregoing paragraph.

Article 16

The enterprises responsible for recycling, clearance and disposal officially announced pursuant to Paragraph 2 of the foregoing article (herein referred to as the responsible enterprises) shall register with the competent authority; a manufacturer, based on the manufacturing volume for the current quarter, and an importer, based on the import volume reported to customs, shall, within fifteen days after the reporting and payment of business taxes every quarter, pay recycling, clearance and disposal fees in accordance with the fee rates approved by the central competent authority; these fees shall be used for the Resource Recycling Management Fund and a financial institution shall be commissioned for the collection and safekeeping of the fees; the central competent authority shall determine the collection, safekeeping and utilization regulations thereof.

When an importer in the foregoing paragraph reports its import volume to customs, it shall also report container materials and the other specifications of articles and containers designated by the central competent authority.

Those responsible enterprises for which manufactured or imported articles and the packaging and containers thereof are not discarded domestically or do not produce waste after use may submit relevant verification documents for a deduction of manufacturing volumes or import volumes or a refund of fees.

The central competent authority in consultation with the central industry competent authority shall determine management regulations for the registration, reporting, fee payment methods, procedures, deadlines, deductions, refunds and other binding matters for the responsible enterprises in Paragraph 1.

For the fee rates in Paragraph 1, the Resource Recycling Fee Rate Review Committee established by the central competent authority shall perform reviews based on materials, volumes, weights, impacts on the

environment, reuse values, recycling, clearance and disposal costs, recycling, clearance and disposal ratios, auditing and collection costs, fund financial conditions, monetary amounts of recycling incentives, and other relevant factors and submit its review to the central competent authority for approval and official announcement; the central competent authority shall determine establishment regulations for the Resource Recycling Fee Rate Review Committee.

Article 17

The Resource Recycling Management Fund in Paragraph 1 of the foregoing article shall be used for the following purposes.

1. The payment of recycling, clearance and disposal subsidies
2. The provision of subsidies and incentives for recycling systems and reuse
3. The covering of expenses when the enforcement authority performs disposal on behalf of others
4. The covering of auditing and certification expenses of the impartial auditing and certification group selected and commissioned by the central competent authority
5. Other uses related to general waste resource recycling approved by the central competent authority

Article 18

For general waste that is produced after the consumption or use of the articles or the packaging and containers thereof officially announced pursuant to Article 15, Paragraph 2 (herein referred to as "regulated recyclable waste"), recycling, storage, clearance and disposal shall comply with the regulations of the central competent authority; the central competent authority shall determine recycling, storage, clearance and disposal method and facility standards.

An auditing and certification group shall perform the auditing and certification of recycling and disposal volumes for regulated recyclable waste in accordance with auditing and certification regulations; the central competent authority shall determine auditing and certification procedural regulations.

Regulated recyclable waste recycling and disposal enterprises of a certain scale or larger that are designated and officially announced by the central competent authority shall register with the competent authority and report recycling and disposal volumes and related operational circumstances.

The central competent authority shall determine management regulations for the scale, registration, registration of cancellation, reporting and other binding matters for recycling and disposal enterprises in the foregoing paragraph.

Responsible enterprises and recycling and disposal enterprises may apply to the Resource Recycling Management Fund for recycling, clearance and disposal subsidies in Subparagraph 1 of the foregoing article; subsidies shall be granted after Resource Recycling Management Fund approval of compliance with facility standards in Paragraph 1 and procedural regulations in Paragraph 2.

The central competent authority shall determine management regulations for applications and reviews for the recycling, clearance and disposal subsidies in the foregoing paragraph.

Article 19

A responsible enterprise designated and officially announced by the central competent authority shall mark articles or the packaging and containers thereof with relevant recycling labels; the central competent authority shall determine the scope of enterprises, the size of label designs, location and other binding matters for recycling labels.

A vendor of articles or the packaging and containers thereof designated and officially announced by the central competent authority shall, in accordance with the regulations of the central competent authority, install resource recycling facilities and perform recycling work; the central competent authority shall determine the scope of enterprises, the installation of facilities, specifications and other binding matters for resource recycling facilities and the performance of recycling work.

Article 20

The competent authority may dispatch personnel or commissioned professional personnel bearing identification documents to enter the premises of a responsible enterprise or vendor designated and officially

announced pursuant to Article 16, Paragraph 1 or the foregoing article and the recycling, storage, clearance or disposal premises of a recycling or disposal enterprise designated and officially announced pursuant to Article 18, Paragraph 3 to check operating volumes or import volumes, buyers of articles or the packaging and containers thereof, raw material supply sources, recycling related labels, and recycling and disposal volumes for regulated recyclable waste, and to request receiving, production, sales and inventory receipts, account books, and relevant statements, and other production, sales, operating, and export and import information; when necessary, the tax collection competent authority may be requested to assist with checking.

Article 21

For those articles or the packaging and containers thereof for which there is concern of serious pollution to the environment, the central competent authority may officially announce the prohibition of use or the restriction of manufacturing, import, sales and use.

Article 22

The central competent authority may designate and officially announce categories of regulated recyclable waste to be recycled through recycling incentive methods and the monetary amounts of recycling incentives.

A vendor shall pay consumers in accordance with the officially announced monetary amounts of recycling incentives, and may not refuse.

Article 23

Prior to March 28, 1997, surplus fees related to recycling and clearance of a joint recycling, clearance and disposal organization established by responsible enterprises or a fund established in accordance with relevant regulations shall be allocated to the Resource Recycling Management Fund and utilized in accordance with regulations.

Article 24

For the implementation of the clearance and disposal of general waste, a special municipality, county or city competent authority shall, based on clearance and disposal costs, collect fees from households and other non-industrial sources within designated clearance areas.

The central competent authority shall determine collection regulations for the collection methods, calculation methods, payment procedures, payment deadlines and other binding matters for the fees in the foregoing paragraph.

The special municipality, county or city competent authority may, in consideration of actual operational requirements, add fee collection regulations other than those in the foregoing paragraph and fee collection verification labels.

The special municipality, county or city competent authority shall determine and officially announce the amount for fee collection in Paragraph 1.

The addition of fee collection regulations pursuant to Paragraph 3 shall be reported to the central competent authority for future reference.

Article 25

The general waste clearance and disposal costs in Paragraph 1 of the foregoing article include, as relates to general waste clearance and disposal operations, management costs, labor costs, land use costs for disposal sites and plants, compensation expenses, operational and maintenance costs and average annual procurement costs based on usage limits for all clearance and disposal machinery, equipment and facilities, and restoration costs, and shall deduct income from general industrial waste clearance and disposal work performed on behalf of others and other income.

Article 26

Fees for the general waste clearance and disposal costs in the foregoing article shall be collected based on actual costs. However, fees for machinery, equipment, facilities and restoration costs shall be collected annually from 2001.

The special municipality, county or city competent authority shall collect fees annually from 2001 for the

per-kiloton construction costs and restoration costs of privately-owned or operated general waste incinerators.

The special municipality, county or city competent authority shall have a savings account dedicated to deposits for the machinery, equipment, facilities and restoration costs in Paragraph 1 and the construction costs in the foregoing paragraph and shall establish a General Waste Clearance and Disposal Fund by 2002. Funds deposited for clearance and disposal fees as of 2000 shall be transferred to the General Waste Clearance and Disposal Fund after its establishment.

The special municipality, county or city competent authority shall determine regulations for the establishment, utilization and management of the fund in the foregoing paragraph.

The fund established pursuant to Paragraph 3 shall be utilized exclusively for the reinstallation of general waste clearance and disposal machinery, equipment and facilities and the restoration of general waste disposal sites and plants.

Article 27

The following acts are strictly prohibited within designated clearance areas.

1. The spitting of phlegm or betelnut juice or fiber or discarding of waste paper, cigarette butts, chewing gum, fruit or the skin, pit or juice thereof, or other general waste
2. The polluting of the ground, pools of water, drainage gutters, walls, beams or pillars, utility poles, trees, roadways, bridges or other fixed structures
3. The sunning or piling of articles that hinder sanitation and orderliness on roadsides, outside of houses or on roofs
4. The collection from waste clearance, disposal or storage tools, equipment or sites of articles that have been discarded; however, the collection of general waste recycling items designated pursuant to Article 5, Paragraph 6 shall not be subject to this restriction.
5. The discarding of hot ashes or embers, dangerous chemical substances or products, or explosive substances or products within waste storage equipment
6. The discarding of animal corpses in places other than waste storage equipment
7. Urinating or defecating in non-designated locations
8. The discarding of articles in drainage gutters
9. The raising of poultry or livestock that hinders nearby environmental sanitation
10. The posting or painting of advertisements that pollutes fixed structures
11. Other acts that pollute the environment officially announced by the competent authority

Chapter 3 Disposal of Industrial Waste

Article 28

The disposal of industrial waste, with the exception of that subject to reuse methods, shall be performed in accordance with the following methods.

1. Self-clearance and disposal
2. Joint clearance and disposal: enterprises submit an application to the industry competent authority for permission for the establishment of a joint waste clearance and disposal organization to clear and dispose of the category of waste at issue.
3. Commissioned clearance and disposal:
 1. Commission a public and private waste clearance and disposal organization that has received competent authority permission for the clearance and disposal of the category of waste at issue to perform clearance and disposal.
 2. Commission the enforcement authority to perform clearance and disposal after receiving enforcement authority consent.
 3. Commission a clearance and disposal facility installed by the industry competent authority itself or

through its guidance to perform clearance and disposal.

4. Commission a public enterprise-installed clearance and disposal facility that has been designated by the competent authority to perform clearance and disposal.
 5. Commission a clearance and disposal facility that has been installed by a private organization that has signed an investment contract with the sponsoring authority pursuant to the Promotion of Private Participation in Infrastructure Projects Act to perform clearance and disposal.
 6. Commission a disposal facility of an enterprise that has received permission pursuant to management regulations determined pursuant to Article 29, Paragraph 2 to perform disposal.
4. Other methods permitted by the central competent authority

Enterprises designated and officially announced by the central competent authority shall employ professional technical personnel; for enterprises that adopt self-clearance and disposal, the central competent authority in conjunction with the central industry competent authority shall determine management regulations for the conditions, permission, permission deadlines, cancellation and other binding matters for clearance equipment and disposal facilities and equipment.

For joint clearance and disposal enterprises in Paragraph 1, Subparagraph 2, the management regulations for the conditions, classification, permission, permission deadlines, cancellation, hiring of professional technical personnel, operation, operational records and other binding matters shall be determined by the central industry competent authority in conjunction with the central competent authority.

For waste clearance and disposal facilities designated in Paragraph 1, Subparagraph 3, Item 3 that are established through guidance, the management regulations for hiring of professional technical personnel, operation, operational records and other binding matters shall be determined by the central industry competent authority in consultation with relevant agencies.

For waste clearance and disposal facilities established pursuant to Paragraph 1, Subparagraph 3, Items 4 and 5, the management regulations for hiring of professional technical personnel, operation, operational records and other binding matters shall be determined by the central competent authority in consultation with the relevant agencies.

Enforcement authorities commissioned with clearance and disposal of general industrial waste as designated in Paragraph 1, Subparagraph 3, Item 2 shall collect fees in accordance with fee standards for clearance and disposal of industrial waste, which shall be determined by the special municipality, county or city competent authority, and shall coordinate with the enterprise to submit reports pursuant to Article 31, Paragraph 1, Subparagraph 2.

Facilities operated for clearance and disposal of general waste or general industrial waste may not do so together with the clearance and disposal of hazardous industrial waste.

Article 29

When there is surplus disposal capacity in an industrial waste disposal facility, it may be used by other enterprises with the permission of the competent authority with local jurisdiction, and it shall not be subject to the restrictions of Article 31, Paragraph 1, Subparagraph 1 or Article 41.

The management regulations for conditions, permission procedures, permission deadlines and other binding matters for the surplus disposal capacity in the foregoing paragraph shall be determined by the competent authority in consultation with the central industry competent authority.

Article 30

For the clearance and disposal of industrial waste that does not meet the following conditions, the enterprise and the commissioned public or private waste management organization shall be mutually responsible for improvement of the clearance and environment.

1. Commission the public or private waste clearance and disposal organization that is approved by the competent authority for clearance and disposal of the said industrial waste or enforcement authority to perform clearance and disposal; and the commissioned category does not exceed the content permitted by the competent authority.
2. Obtain the proper disposal record documents for the said industrial waste from the trustee.

The record documents designated in Subparagraph 2 of the foregoing paragraph shall clearly record category, quantity, and disposal site of the industrial waste and permission content of the trustee that is approved by the competent authority and other binding matters designated by the central competent authority. Its format shall be determined by the central competent authority.

Article 31

Enterprises of a certain scale that are designated and officially announced by the central competent authority shall complete the following matters within a certain time period of the date of official announcement.

1. Prior to the start of operations, submit the industrial waste clearance plan to the special municipality, county or city competent authority or the review organization commissioned by the central competent authority for approval. In case of changes regarding generation and disposal of industrial waste and relevant items, the same procedure applies.
2. In accordance with format, item, content, frequency designated by the central competent authority, submit reports for conditions of generation, storage, clearance, disposal, reuse, import, export, transit or transshipment of the said waste to the special municipality, county or city competent authority through Internet transformation. However, in case of reports in written form that are additionally designated by the central competent authority, the enterprise shall not be subject to this restriction.
3. The designated industrial waste clearance machinery officially announced by the central competent authority shall be installed with real-time tracking system in accordance with the specifications designated by the central competent authority and maintain normal operation.

Format and content of the industrial waste clearance plan designated in Subparagraph 1 of the foregoing paragraph shall be determined by the competent authority in consultation with the central industry competent authority.

An enterprise in Paragraph 1 that is required to conduct an environmental impact assessment in accordance with regulations may submit an industrial waste clearance plan together with relevant documents of environmental impact assessment to the special municipality, county or city competent authority for review. After passing the environmental impact assessment review, the plan can be directly approved by the special municipality, county or city competent authority.

Clearance and disposal of industrial waste generated by an enterprise designated and officially announced pursuant to Paragraph 1 shall conduct reporting pursuant to Paragraph 1, Subparagraph 2.

Article 32

The industry competent authority, development unit or management unit of a newly-established industrial park or science park shall plan and install industrial waste management facilities within or outside of the park. The industrial park or science park may start operation only after completion of installation of industrial waste management facilities.

The industry competent authority, development unit or management unit of an existing industrial park or science park shall complete installation of industrial waste management facilities within six months of the promulgation of revisions to this Act. With the approval of the central industry competent authority, the installation shall be completed no later than December 31, 2004.

Article 33

When an enterprise is unable to manage self-generated industrial waste and when there is no industrial waste management organization to be commissioned for management, the enterprise shall properly store the self-generated industrial waste. When necessary, the industry competent authority may collect fees from the enterprise and install management facilities or temporarily store the said industrial waste or by assisting one organization.

Article 34

When an enterprise is unable to manage self-generated industrial waste and when there is no industrial waste management organization to be commissioned for management, the industry competent authority may in consultation with the central competent authority officially announce enterprises in designated area shall to send their industrial waste to industrial waste management facilities that are established by or through the guidance of

the industry competent authority.

Article 35

For hazardous industrial waste that requires special treatment technology, the competent authority may in consultation with the central industry competent authority install appropriate facilities, and store, clear or dispose for them and collect essential fee.

Hazardous waste in the foregoing paragraph shall be officially announced by the competent authority in consultation with the central industry competent authority.

Article 36

Methods and facilities for storage, clearance and disposal of industrial waste shall meet regulations designated by the central competent authority.

Standards for methods and facilities for storage, clearance and disposal of industrial waste in the foregoing paragraph shall be determined by the central competent authority.

Article 37

The operation and monitoring for methods and facilities for storage, clearance and disposal of industrial waste shall be recorded in details and kept for at least three years for future reference.

The management regulations for categories, methods, frequency and other binding matters for the testing in the foregoing paragraph shall be determined by the central competent authority.

Article 38

The import, export, transit and transshipment of industrial waste may commence only after receipt of permission granted by the special municipality, county or city competent authority; for hazardous industrial waste, additional approval from the central competent authority is necessary. However, this provision shall not apply to industrial waste used as industrial raw material as officially announced by the central competent authority after consultation with the industry competent authority.

The management regulations for the qualifications of the applicant, documents, review, permission, permission deadlines, cancellation and other binding matters for import, export, transit and transshipment of the industrial waste in the foregoing paragraph shall be determined by the central competent authority.

Industrial waste shall be banned from importation if one of the following circumstances applies; the category shall be determined by the central competent authority after consultation with the central industry competent authority.

1. Evidence exists that the waste will severely endanger human health or the living environment.
2. No appropriate treatment technology and equipment is domestically available for the waste.
3. The waste is to be directly solidified, landfilled, incinerated or disposed of at sea.
4. The waste cannot be properly disposed of domestically.
5. The waste is an obstruction to domestic waste management.

The import, export, transit or transshipment of general waste that is subject to the international conventions, such as the Basel Convention, may be performed pursuant to the foregoing three items.

Article 39

Reuse of industrial waste shall be conducted in accordance with regulations designated by the central industry competent authority, and shall not be restricted by Article 28 or Article 41.

The management regulations for the category, quantity, permission, permission deadlines, cancellation, records, application and other binding matters for the reuse of industrial waste in the foregoing paragraph shall be determined by the central industry competent authority in consultation with the central competent authority and the reuse industry competent authority.

Article 40

When an enterprise endangers human health or agricultural or fishery operations while storing, clearing or

disposing of industrial waste, the competent authority shall promptly order it to make improvements and adopt emergency measures. When necessary, orders may be issued for the suspension of work or suspension of business.

Chapter 4 The Management of Public and Private Waste Clearance and Disposal Organizations and Waste Analysis Laboratories

Article 41

Enterprises that engage in waste clearance or disposal shall submit public or private waste clearance and disposal organization permission applications to the special municipality, county or city competent authority or organization commissioned by the central competent authority, and only after the permission is granted shall the organization be commissioned for the clearance and disposal of waste. However, if one of the following circumstances applies, it shall not be subject to this restriction.

1. The enforcement authority performs recycling, clearance, disposal and reuse of general waste pursuant to Article 5, Paragraphs 2 and 6 and Article 12, Paragraph 1.
2. The emergency disposal of the waste of designated facilities or equipment is performed pursuant to Article 8.
3. Pursuant to Article 14, Paragraph 2, the clearance and disposal of general waste is performed in accordance with methods approved by the central competent authority.
4. The recycling, storage, clearance or disposal of general waste is performed pursuant to Article 18, Paragraph 1.
5. The clearance machinery, disposal facilities or equipment in Article 28, Paragraph 1, Subparagraph 2, Article 28, Paragraph 1, Subparagraph 3, Items 2 through 5, or Article 28, Paragraph 1, Subparagraph 4
6. The disposal facilities are installed by or through the guidance of the industry competent authority pursuant to Article 33 and Article 34.
7. The facilities installed by the competent authority in conjunction with the central industry competent authority pursuant to Article 35, Paragraph 1.

Copies of the granted permission document for the public or private waste clearance and disposal organization in the foregoing paragraph shall be submitted to the central competent authority.

Article 42

The management regulations for conditions, self-owned facilities, classification, hiring of professional technical personnel, permission, permission deadlines, cancellation of permission, suspension of work, suspension of business, termination of business, resumption of business and other binding matters for public or private waste clearance and disposal organizations in Paragraph 1 of the foregoing article shall be determined by the central competent authority.

Article 43

Analysis laboratories may perform testing in this Act only after obtaining permission from the central competent authority.

The management regulations for the conditions, facilities, educational experience of analysis personnel, procedures for permit application, review, issuance and replacement, cancellation, suspension of business, resumption of business, termination of business, checking, evaluation and other binding matters shall be determined by the central competent authority.

Article 44

The management regulations for the qualifications of professional technical personnel, acquisition of qualification certification, training, cancellation and other binding matters in Article 28, Paragraphs 2 through 5 and Article 42 shall be determined by the competent authority in consultation with the central industry competent authority.

Chapter 5 Incentives and Penalties

Article 45

For those that violate Article 12, Article 18, Paragraph 1, Article 28, Paragraphs 1 and 7, Article 36, Paragraph 1, Article 38, Paragraph 1, Article 39, Paragraph 1, or Article 41, Paragraph 1 thereby causing human death, permanent imprisonment or at least seven years imprisonment shall be imposed and may combine a fine of no more than fifteen million New Taiwan Dollars; thereby causing serious human injury, three to ten years imprisonment shall be imposed and may be combined with a fine of no more than nine million New Taiwan Dollars; thereby endangering human health and causing illness, at most five years imprisonment shall be imposed and may be combined with a fine of no more than six million New Taiwan Dollars.

Forging or modification of the fee collection verification labels in Article 24, Paragraph 3 two to seven years imprisonment shall be imposed and may be combined with a fine of no more than ten million New Taiwan Dollars.

Sale of the fee collection verification labels in the foregoing paragraph, one to seven years imprisonment shall be imposed and may be combined with a fine of no more than ten million New Taiwan Dollars.

Article 46

In any of the following circumstances, one to five years imprisonment shall be imposed and may be combined with a fine of no more than three million New Taiwan Dollars.

1. Arbitrary disposal of hazardous waste
2. The responsible person of the enterprise or relevant person fails to store, clear, dispose of or reuse waste pursuant to this Act, thereby causing environmental pollution.
3. Providing land for refill or piling waste without permission from the competent authority
4. Conducting waste storage, clearance, disposal without obtaining waste clearance and disposal permission pursuant to Article 41, Paragraph 1; or storing, clearing and disposing of waste not in accordance with the content designated in the waste clearance and disposal permission.
5. Personnel of the enforcement authority authorize clearance and disposal of general waste to enterprise without valid permission document; or authorize when knowing there is illegal conduct of clearance and disposal.
6. Responsible person or relevant person of a public or private waste management organization, or personnel of the enforcement authority grant a forged certificate for waste that was not disposed of.

Enterprises that operate waste disposal and disposal as normal practice without permission documents shall be imposed three to ten years imprisonment and may be combined with a fine of no more than nine million New Taiwan Dollars.

Article 47

In the case of the responsible person of the juridical person, representative of the juridical person or natural person, employees or other operational personnel who violate the foregoing two articles; the punishment shall be imposed not only on the offender, but the juridical person or natural person shall also be fined pursuant to the said articles.

Article 48

Any person who is required to submit reports pursuant to this Act that knowingly submits a false report based on known untrue facts or makes false entry in documents prepared for business purpose shall be punished with no more than three years imprisonment, detained for service or fine or combined fine of no more than 1.5 million New Taiwan Dollars.

Article 49

In any of the following circumstances, a fine between sixty thousand and three hundred thousand New Taiwan Dollars shall be imposed and clearance machinery, disposal facilities or equipment may be confiscated.

1. The owner or user of the clearance machinery, disposal facilities or equipment fails to clear and dispose of

its waste and remaining soil pursuant to the time period designated by the competent authority pursuant to Article 9, Paragraph 2.

2. The operator clearing and disposing of waste and remaining soils fails to carry certificates listing production source and disposal site of general waste, general industrial waste and remaining soils along with the vehicle.
3. The operator clearing and disposing of hazardous industrial waste fails to carry certificates listing production source and disposal site of hazardous industrial waste along with the vehicle.

Article 50

In any of the following circumstances, a fine between twelve hundred and six thousand New Taiwan Dollars shall be imposed. If the violation continues after the end of the designated time period, then continuous daily fines shall be imposed.

1. Violation of Article 11, Paragraphs 1 to 7 when clearing general waste
2. Violation of Article 12
3. Any acts that are designated in any one paragraph of Article 27

Article 51

For the failure to pay recycling fees levied pursuant Article 16, Paragraph 1 after being notified to pay within a designated time period and failure to pay prior to the expiration date, compulsory enforcement shall be imposed; a noncompliance penalty between one to two times the original amount due shall be imposed. For the submission of false data, not only shall the amount due be paid, but a fine one to two times the amount due shall also be imposed; for failure to make payment prior to the expiration date, compulsory enforcement shall be imposed.

In any of the following circumstances, a fine between sixty thousand and three hundred thousand New Taiwan Dollars shall be imposed, and the violator shall be notified to make improvements within a designated time period, continuous daily fines shall be imposed when failure to make improvement within the designated time period.

1. Violation of regulations determined pursuant to Article 16, Paragraph 4 or Article 18, Paragraph 4
2. Violation of Article 18, Paragraphs 1 to 3 or Articles 19, 22 or 23
3. Without adequate reasons, evading, obstructing or refusing inspection or demanding regarding relevant information designated in Article 20.
4. Violation of regulations determined by the central competent authority pursuant to Article 21

Violations of central competent authority restrictions on sales and use in Article 21 shall be punished with a fine of fine of between one thousand two hundred and six thousand New Taiwan Dollars. If the violation continues after the end of the designated time period, then continuous daily fines shall be imposed.

Serious noncompliance of the foregoing two paragraphs shall result in orders for the suspension of business for a time period between one month and one year, or partial or complete suspend of work. °

Article 52

The violation of Article 28, Paragraph 1, Article 31, Paragraphs 1 and 4, Article 36, Paragraph 1, Article 39, Paragraph 1, or management regulations determined pursuant to Article 29, Paragraph 2 when storing, clearing, disposing of or reusing general industrial waste shall be imposed fines of between six thousand and thirty thousand New Taiwan Dollars, and shall be notified to make improvements within a designated time period. If the violation continues after the end of the designated time period, then continuous daily fines shall be imposed.

Article 53

In any of the following circumstances, a fine of between sixty thousand and three hundred thousands New Taiwan Dollars shall be imposed, and shall be notified to make improvements within a designated time period. If the violation continues after the end of the designated time period, then continuous daily fines shall be imposed. Serious violators may be ordered to suspend work or suspend business.

1. Storage, clearance, disposal or reuse of hazardous industrial waste that is in violation of Article 28, Paragraphs 1 and 7, Article 31, Paragraphs 1 and 4, Article 34, Article 39, Paragraph 1 or the management regulations determined pursuant to Article 29, Paragraph 2.
2. Storage, clearance or disposal of hazardous industrial waste that is in violation of Article 36, Paragraph 1
3. Violations of Article 38, Paragraphs 1 and 3 or Article 38, Paragraph 4 and Article 38, Paragraph 1 or 3 shall also be subject to these regulations.

Article 54

If an enterprise fails to comply with an order to suspend work or suspend business made in accordance with this Act, the local competent authority may make a report to the central competent authority, which shall request the industry competent authority to order the enterprise to terminate business.

Article 55

In any of the following circumstances, a fine between six thousand and thirty hundred New Taiwan Dollars shall be imposed, and shall be notified to make improvements within a designated time period. Failure to make improvements within the designated time period shall be imposed of continuous daily fines.

1. The public or private waste clearance and disposal organization violates Article 12 or management regulations determined pursuant to Article 42
2. An enterprise that performs self-clearance and disposal of industrial waste that violates the management regulations determined pursuant to Article 28, Paragraph 2
3. Joint waste clearance and disposal organizations and clearance and disposal facilities of public or private organizations that violate the management regulations determined pursuant to Article 37, Paragraph 2
4. The operation and testing of the storage, clearance, and disposal of hazardous industrial waste violates the management regulations of Article 37, Paragraph 2
5. Waste analysis laboratories that violate provisions designated in Article 43, Paragraph 1

Article 56

Violation of provisions designated in Paragraph 1 of Article 37, or without adequate reason, evade, impede or refuse to be checked, inspected, sampled or demanded regarding relevant information designated under Paragraph 1 of Article 9, shall be imposed a fine between twelve thousand and sixty thousand New Taiwan Dollars.

Article 57

Enterprises that conduct industrial waste storage, clearance or disposal that violate provisions designated in Paragraph 1 of Article 41, shall be imposed a fine between sixty thousand and three hundred thousand New Taiwan Dollars and be ordered to suspend business.

Article 58

Waste analysis laboratorys and inspection and testing persons, that violate management regulations determined under Paragraph 2 of Article 43, professional technical personnel for waste management who violate management regulations determined under Article 44, shall be imposed a fine between six thousand and thirty thousand New Taiwan Dollars.

Article 59

Without adequate reason, offenders that refuse to show identification upon request by an inspector shall be imposed a fine between six hundred and three thousand New Taiwan Dollars.

Article 60

Under any of the following circumstances, serious noncompliance addressed in Paragraph 3 of Article 51 and Article 53 under this Act applies.

1. Any person who violates the same provision under this Act and receive notice for improvement within a designated time period twice in a year, and continue to violate provisions under this Act.

2. Any person that illegally disposes of hazardous industrial waste.
3. Any person who causes serious environmental pollution when recycling, storing, clearing, disposing and reusing waste.
4. Any person that provides documents listing false information during application and reporting.
5. Other circumstances recognized by the competent authority

Article 61

The central competent authority shall determine the starting date, temporary suspension dates, termination date, improvement completion verification checks and other binding matters for consecutive daily fines referred to in this Act.

Article 62

The time limit given for making improvements or reporting under this Act shall not exceed a period of ninety days. However, under special circumstances, the offender may apply for extension from the special municipality, county or city competent authority.

Article 63

Penalties imposed in accordance with this Act shall be enforced by the enforcement authority; in circumstances of enforcement authority nonfeasance, the higher competent authority may enforce the Act on behalf of the enforcement authority.

Article 64

Penalty and criminal responsibility aspects of a particular case shall be separately addressed.

Article 65

Failure to pay fines imposed in accordance with this Act shall be referred to the courts for compulsory enforcement.

Article 66

Continued failure to pay clearance and disposal fees pursuant to Article 24, after expiration of the time period designated for payment shall be referred to the courts for compulsory enforcement.

Article 67

For acts that violate this Act, the public may address detailed facts or submit proof to inform the local enforcement authority or competent authority.

For the informing action in the foregoing paragraph, if the competent authority or enforcement authority verifies that it is true and impose fines; as the fines reach specific amounts, may allot specific percentage of the actual collected fines as reward for the informants.

The informing action and rewarding regulations in the foregoing paragraph shall be determined by the special municipality, county or city competent authority.

When the competent authority or enforcement authority conducts verification of the foregoing case, identification of the informants shall be kept confidential.

Article 68

Enterprise expense incurred from waste clearance shall be tax deductible.

Enterprises that are in compliance with relevant regulations of this Act and with excellent performance in the area of waste clearance, reduction, recycling and reuse shall be rewarded; reward regulations shall be determined by the competent authority in consultation with the central industry competent authority.

Article 69

Funds gained from selling recycled waste by the enforcement authority from waste recycling work shall be spent in a specific purpose that is relevant to waste recycling and a specific percentage may be allotted as reward

for waste recycling operators.

Allocation percentage and exercising regulations of the fund in the foregoing paragraph gained from selling recycled waste shall be determined by the central competent authority.

For the funds gained from conducting general waste recycling at the government agencies or public schools, a specific account at public financial organization shall be established and managed properly.

Chapter 6 Supplementary Provisions

Article 70

An enforcement authority, public or private waste clearance and disposal organization, joint clearance and disposal organization or enterprises providing management facilities pursuant to Article 29, Paragraph 1 may clear waste outside of its jurisdiction area. The special municipality, county or city competent authority shall not impose restriction.

Article 71

Where waste clearance and disposal conducted in noncompliance with regulations, the special municipality, county or city competent authority or the enforcement authority may order the enterprise, commissioned waste clearance and disposal organization, agent for illegal waste clearance and disposal organization, land owner, manager or user who allows illegal dumping of waste or serious misconduct that leads to illegal dumping of waste on its land to perform the clearance and disposal of the waste in specific time period. The special municipality, county or city competent authority or the enforcement authority may clear and dispose of the waste for them when no clearance or disposal is done within the designated time period and request for compensation for the clearance, improvement and necessary fees sustained from this action. Failure to make payment prior to the expiration date, compulsory enforcement shall be imposed. The special municipality, county or city competent authority or the enforcement authority may apply to the superior administrative court for probational lien or probational attachment without providing collateral.

The special municipality, county or city competent authority or the enforcement authority may clear and dispose of the waste pursuant to the foregoing provisions without the consent from land owner, manager or user, and force entering a public or private site to conduct relevant actions regarding sampling, inspection, clearance or disposal.

The right to seek compensation for necessary expenses in Paragraph 1 shall take precedence over all creditor rights and collateral rights.

The special municipality, county or city competent authority or the enforcement authority may authorize a suitable public or private waste clearance and disposal organization when clearing and disposing of the waste designated in Paragraph 1.

Article 72

When a public and private premises violates this Act or related orders determined pursuant to the authorization of this Act and the competent authority is negligent in enforcement, victims or public interest groups may notify the competent authority in writing of the details of the negligent enforcement. For those competent authorities that have still failed to carry out enforcement in accordance with the law within sixty days after receipt of the written notification, the victims or public interest groups may name the competent authority at issue as a defendant and directly file a lawsuit with a high administrative court based on the negligent behavior of the competent authority in the execution of its duties in order to seek a ruling ordering the competent authority to execute its duties.

When issuing a verdict on the lawsuit in the foregoing paragraph, the high administrative court pursuant to its authority may order the defendant agency to pay the appropriate lawyer fees, monitoring and appraisal fees and other litigation costs to plaintiffs that have made specific contributions to the effective clearance and disposal of waste.

The central competent authority in consultation with the relevant agencies shall determine the format of the written notification in Paragraph 1.

Article 73

Competent authorities at all government levels shall collect permission, certification, review or inspection fees when performing issuance and replacement of permission, certifications, managing application for review or testing pursuant to this Act.

The central competent authority in consultation with the relevant agencies shall determine fee collection standards for the foregoing paragraph.

Article 74

The competent authority and industry competent authority may designate or authorize professional organizations or relevant organizations to conduct research, training and management for waste management.

Article 75

The central competent authority shall determine waste testing methods and quality control items.

Article 76

The central competent authority shall determine the enforcement rules of this Act.

Article 77

This Act shall take effect on the date of promulgation.

Zero Waste Policy for Municipal Solid Waste in Taiwan

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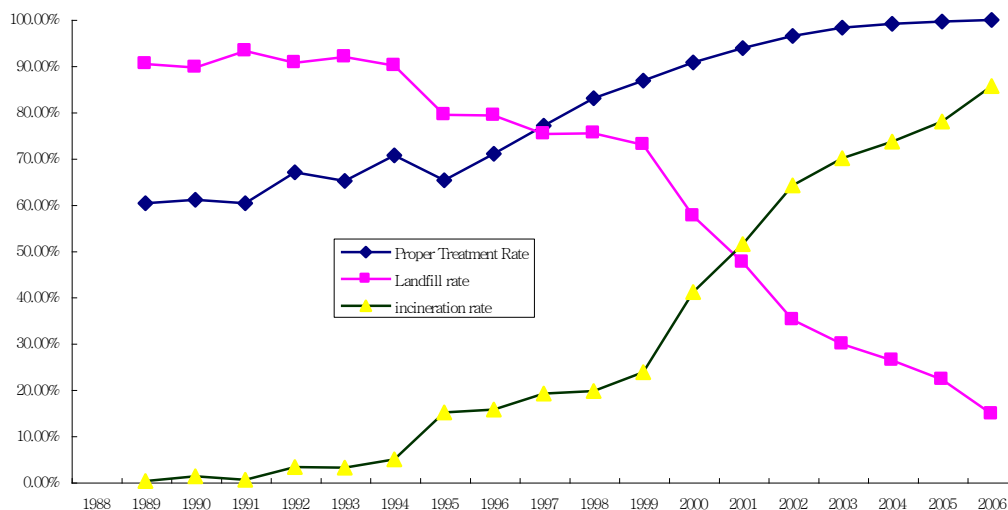
INTRODUCTION

The construction and operation of large Municipal Solid Waste (MSW) incineration plants and sanitary landfills in Taiwan has significantly alleviated the dumping problems of MSW in Taiwan. With rising demands for better environmental quality, acquiring lands for MSW incinerators and landfills has become more difficult for the government. Environmental groups and legislators also expressed great concerns over the impacts of MSW treatment facilities and asked the government to adopt more progressive waste prevention policies. Embracing some developed countries' "zero waste" visions, Taiwan Environmental Protection Administration (TEPA) initiated a "zero waste" policy for MSW in 2003, marking a milestone towards sustainable use of the resources of the society.

REVIEW OF TAIWAN'S MSW MANAGEMENT

There was no proper treatment of MSW before 1984 in Taiwan. Most of the MSW was dumped or disposed of in unqualified facilities, without adequate environmental and sanitary concerns. To solve the problems, Taiwan began the construction of sanitary landfills in 1984 for proper waste treatment, and the construction of incinerators in 1991, with consideration of higher requirements for environmental quality, the difficulty of land acquisition for landfills, and the maturity of MSW incineration technology. As of 2006, there are 22 MSW incinerators in operation, turning garbage into electricity, with a total treatment capacity of 18,000 metric tons per day. Thus the MSW treatment approach has been gradually shifted from landfill to incineration; the weight of MSW incinerated reached 85.2% in 2006 (Fig. 1), and the proper treatment rate promoted to 99.8%, which was incomparable to the 2.4% in 1984.

Figure 1 MSW treatment approach before year 2006



As for MSW recycling, Taiwan started implementing Extended Producer’s Responsibility (EPR) programs for consumer products in 1988 in accordance with the Waste Disposal Act (WDA) Amendments of 1988. In 1997, TEPA initiated the so-called “Four-in-One Resource Recycling Program”, which coordinated the efforts of the public, recycling businesses, municipalities, and the recycling fund for a comprehensive recycling of items listed under the EPR programs. The recycling fund is collected by TEPA from the enterprises obliged by WDA to take back and to recycle their post-consumer products under the EPR programs. Table 1 shows the product items subject to the EPR programs as well as their recycling rates. As a result, the resource recycling rate of MSW has reached 34.97% by end-2006 (Fig. 2), and the waste collected and shipped to incinerators or landfills per capita per day has dropped from the peak 1.14 kg in 1997 to 0.61 kg in 2006 (Fig.3).

Table 1 The Recycling Rates of Products Subject to EPR (Jan. - Oct. 2006)

| Item | Recycling Rate |
|--|-------------------------------|
| General Containers | 78.98% |
| Pesticide and special environmental agents containers | 94.77% |
| Dry batteries | 59.67% |
| Motor vehicles | 41.20% |
| Lead-acid batteries | 78.70% |
| Tires | 63.85% |
| Lubricants | 4.08% |
| TV, refrigerator, washing machine, air conditioner | 48.61% |
| Computers (PC, monitor, notebook, printer) | 45.44% |
| Longitudinal fluorescent light tubes | 61.82% |
| Fans, incandescent light bulbs and other fluorescent light tubes | To be enforced from July 2007 |

Figure 2 Resource recycling amounts and rates of MSW from 2000 to 2006

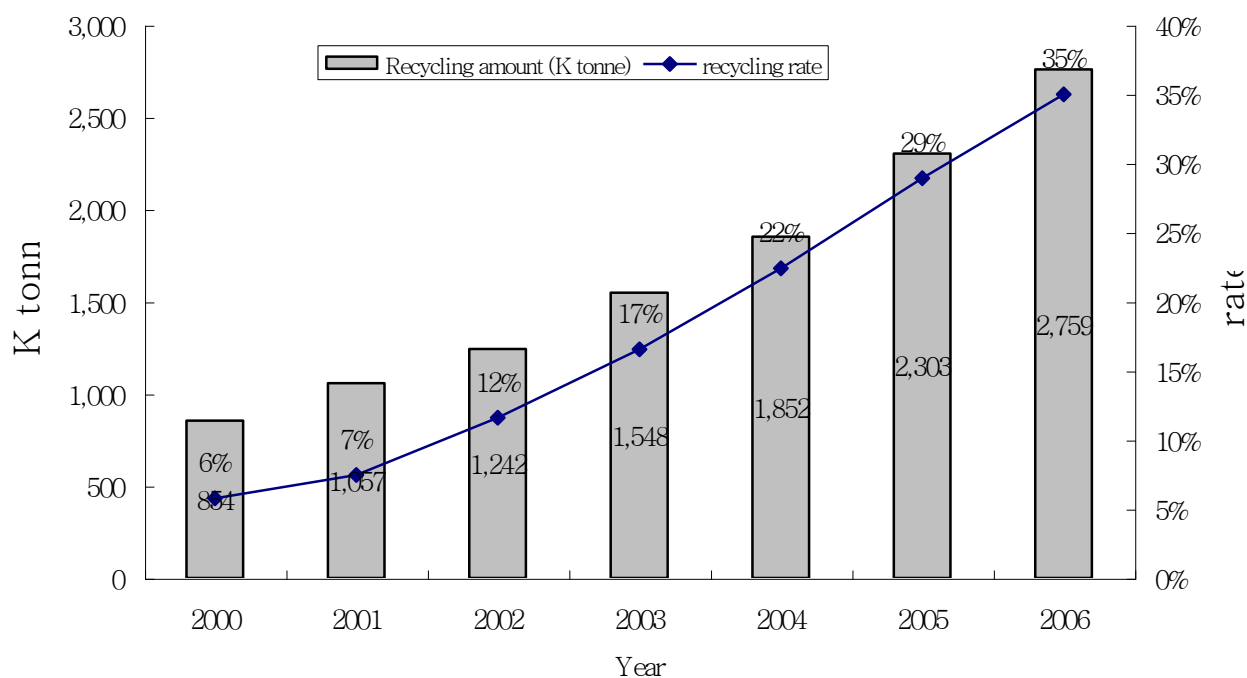
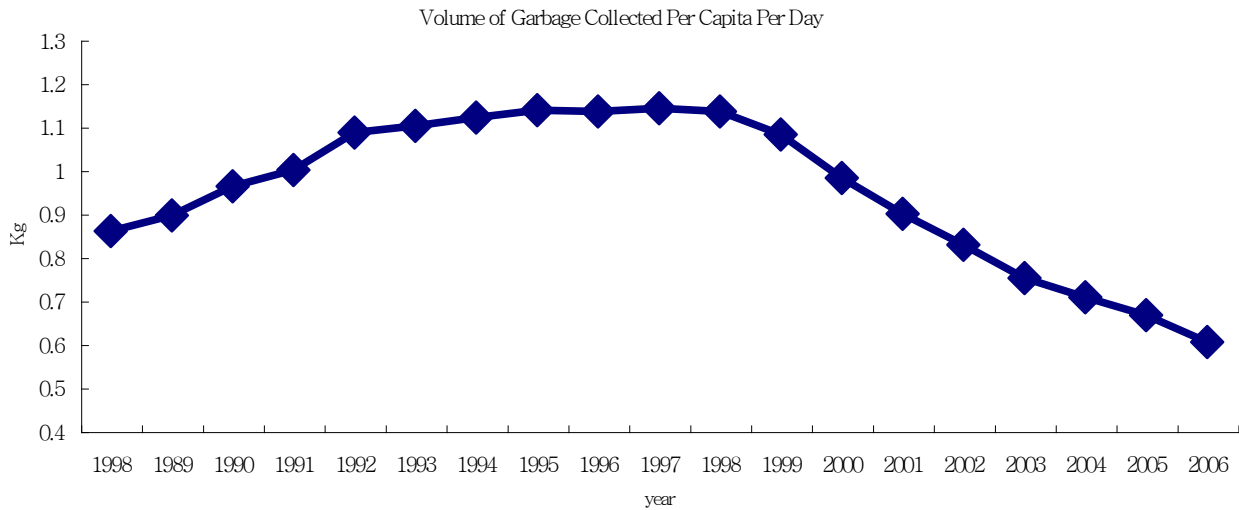


Figure 3 MSW collected per capita per day



ZERO WASTE POLICY

To meet the goals of sustainable society and to respond to growing concerns over the environmental impacts of MSW incinerators and landfills, TEPA initiated a “Zero Waste Policy” for MSW in 2003. The policy reflects the shifting philosophy of waste management from end-of-pipe treatment to source reduction and resource reutilization. The zero waste objectives are based on the volumes of MSW collected in 2001. The goals of volume reduction are set for 25%, 40% and 75% by the end of 2007, 2011 and 2020. Besides, combustible MSW is not allowed to be disposed of in landfills except for remote areas after 2007. The policy lays out four major strategies: source reduction, reuse, recycling and green consumption.

■ Source Reduction

Source reduction aims to minimize the toxicity and generation of wastes. TEPA has enforced two packaging restrictions since 2002. The “Restriction on the Use of Plastic Shopping Bags and Disposable Tableware” rule, implemented in two stages from July 2002, prohibited the regulated stores from providing disposable plastic tableware and plastic shopping bags thinner than 0.06mm. For plastic shopping bags thicker than 0.06mm, the regulated stores are not allowed to offer them for free. From September 2006, all disposable tableware is banned in government agencies and schools. The “Restriction of Excessive Packaging” rule, also implemented in two stages from July 2006, limits the packaging volume and the number of packaging layers of computer program optical disks and gift boxes containing pastries, processed foods, cosmetics, and alcoholic beverages. TEPA estimated that the two packaging restriction rules together can annually reduce the volume of wastes by 14,000 metric tons. More disposable products are targeted in the next phase of waste reduction measures.

In light of the fact that non-rechargeable alkaline manganese batteries and manganese-zinc batteries are used and disposed of in large quantities, TEPA has prohibited the manufacturing, import, and sale of such batteries containing more than 5 ppm of mercury, complementing the existing battery recycling program. TEPA is also considering a rule to restrict the use of mercury-containing thermometers and manometers to cut down mercury in waste streams.

Eco-design of products is an important measure for source reduction. In accordance with article 12 of the Resource Recycling Act (RRA) and European Union’s Directive on End-of-Life Vehicles, 8

domestic vehicle manufacturers, with support from the Ministry of Economic Affairs and the Taiwan Transportation Vehicle Manufacturers Association, signed into an agreement to voluntarily practice greener design of new vehicles in October 2005. The agreement specifies the following requirements for new cars entering the Taiwanese market from 2008:

1. Recyclability and recoverability shall be more than 80% and 85%.
2. Restrict the use of mercury, cadmium, lead and chromium VI.
3. Plastic components over 100g and rubber components over 200g must be labeled in accordance with international standards.
4. Manufacturers shall provide information for car dismantling.

As eco-design has become more popular with industry and the government to reduce the environmental impacts of products, it is expected that more source reduction measures will be initiated and implemented by TEPA and other agencies in the future.

■ Reuse

TEPA started to promote the reuse of retired furniture in 2003. By the end of 2006, 19 furniture recycling plants had been established nationwide to repair, refurbish or dismantle abandoned furniture or bicycles. From 2003 to 2006, 58,000 pieces of renewed furniture and bicycles were sold, creating revenues up to NT\$ 3.4 million (33 NT\$ =1US\$ on March 12, 2007). TEPA will include small appliances in the reuse program, with a goal to renew 18,500 pieces of furniture, bicycles and appliances. In 2020, an estimate of 70,000 metric tons of furniture, bicycles and appliances will be reused or recycled, generating a benefit of NT\$ 250 million.

■ Recycling

Adding to the EPR program that mandates the producers to shoulder the responsibilities of taking back and recycling post-consumer products, two initiatives implemented by Taipei City government and TEPA, respectively, aim to lure or mandate the general public to separate waste for recycling. Since 2000, Taipei City government has initiated the implementation of a “Per-Bag Trash Collection Fee,” based on the principle of “Pay As You Throw.” Citizens must pay for and use special trash bags for trash to be collected by the City government. The current fee rate is NT\$ 0.45 per liter. To encourage recycling, the City picks up sorted recyclables free-of-charge. The “Per-Bag Trash Collection Fee” program has successfully cut down the waste volume by 23% and boosted the recycling volume by 22%.

TEPA has implemented a mandatory garbage separation program nationwide since 2006. The public are required to sort garbage into three categories before pick-up, namely the recyclables, kitchen wastes and trash. Warnings will be issued for the first non-compliance. A penalty of NT\$1,200 will be imposed on the second violation. Kitchen wastes are either sanitized and recycled for livestock feeding or composted. Compared to 2005, volumes of MSW collected in 2006 dropped by 14.2%, and the amounts of recyclables collected increased by 51.4%. Kitchen wastes collected have jumped to 569,862 metric tons, a sharp increase of 90%.

House refurbishing wastes have not been properly sorted and recycled in Taiwan. TEPA has initiated a program to offer individual house owners collection services of such wastes for further sorting and recycling starting 2008.

The MSW incinerators generated 860,000 metric tons of bottom ash and 150,000 metric tons of fly ash in 2005. Only 30% of the bottom ash was recycled in one recycling plant as aggregates. TEPA has provided grants for 10 local governments to implement bottom ash recycling plans. Two new bottom ash recycling plants are under construction.

To encourage the development of environmental and recycling technologies, TEPA has been planning and constructing four Environmental Science and Technology Parks (ESTP) in Taiwan. The ESTP focuses on three major categories of industries: advanced resource recovery technology, advanced environmental technology, and eco-industry. Cooperative partnerships with world-class environmental companies are being sought in this endeavor, with an aim of developing a low-pollution and high value-added eco-business model, while balancing production, living and ecological aspects of the society. Companies qualified to an ESTP will receive special subsidies ranging from real estate leasing or purchase, production and research from TEPA. The ESTP project aims to accelerate the circular and sustainable use of substances to reach the goal of recycling and renewing three million metric tons of wasted material as resources annually.

■ Green consumption

To increase demands for “greener products,” TEPA has implemented the “Government Green Procurement” program since 2002. The program sets a minimum procurement quota for government agencies to buy products certified as “eco-products” by TEPA or the Ministry of Economic Affairs. By end-2006, 3,524 products were certified as “eco-products.” In 2005, Taiwanese governments as a whole bought NT\$6.8 billion worth of “eco-products”. In addition to public procurement, TEPA has been actively promoting private companies to green their purchases of consumer products. The sale of eco-products is expected to rise to NT\$ 7.5 billion in 2007.

SUMMARY

Building on adequate infrastructure for MSW treatment, Taiwan’s MSW management policy has shifted focus from end-of-pipe treatment to waste prevention. TEPA has initiated a “zero waste” plan for MSW, which sets a long-term goal of 75% reduction of MSW by the end of 2020 based on the MSW volume in 2001. Major strategies to achieve the goal include source reduction, reuse, recycling and green consumption. By implementing programs in accordance with the strategies, Taiwan will take a step forward towards a sustainable society.

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From: "James Middleton"
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Date: Friday, April 25, 2014 02:06PM
Subject: Philadelphia Throws the Kitchen Sink at Food Waste Issue - John McDonald's Blog - Lower Providence, PA Patch

For the information of Legco members

Food waste disposers are a viable tool for removal of food waste from daily MSW using in situ sewage systems

<http://lowerprovidence.patch.com/groups/john-mcdonalds-blog/p/bp--philadelphia-throws-the-kitchen-sink-at-food-waste-issue>

Philadelphia Throws the Kitchen Sink at Food Waste Issue

The City of Philadelphia is throwing the kitchen sink at determining the best way to dispose of food waste like spoiled food, cooking scraps, leftovers.

Posted by John McDonald , September 27, 2012 at 06:06 AM



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The City of Philadelphia is throwing everything – including the kitchen sink – at sustainability. Specifically, the City has taken an innovative approach to determining the best way to dispose of food waste like spoiled food, cooking scraps, leftovers. First, the background: Philadelphia sends about 700,000 tons of waste to landfills each year – roughly 10 percent of which is food waste. Each ton costs the City \$68 in tipping fees alone. The numbers are more startling across the country. The Environmental Protection Agency has calculated that the average U.S. family generates 17 pounds of food waste in a given week. The National Resources Defense Council recently found that 40 percent of the food produced in the U.S. is wasted each year – for an annual loss of about \$165 billion.

Most of that waste ends up in a landfill, where it decomposes and releases methane, a greenhouse gas 21 times more potent than carbon dioxide, into the air and soil.

As part of the Greenworks initiative, Mayor Michael Nutter's plan to make Philadelphia the greenest city in the country, the City has committed to diverting as much food waste as possible from landfills.

That effort launched a partnership with InSinkErator, the world's largest manufacturer of food waste disposers (also known as "garbage disposals"). Called the Clean Kitchen/Green Community program, the initiative encourages residents to use disposers as an environmentally friendly and convenient household tool.

Disposers are appliances installed under the kitchen sink to grind up food scraps such as fruits, veggies, pasta and even small bones. The scraps, which actually average 70 percent water, the flow through the sewer system to Philadelphia's wastewater treatment plants. There, the scrap

can be converted into renewable energy, fertilizer pellets and clean water.

In other words, disposers can help residents turn solid waste – trash! – into a renewable resource that benefits the City and saves taxpayer money. The appliances can work in concert with composting and recycling to bring about a significant drop in the amount of waste the City sends to landfills.

“Philadelphia is committed to becoming the greenest city in America, and this partnership with InSinkErator is an example of how the private and public sectors can work together to improve the City’s sustainability efforts and residents’ quality of life,” Mayor Nutter said when the initiative launched. “We hope this pilot program will point us toward saving tax dollars and a better environment.”

As part of the Clean Kitchen, Green Community program, Philadelphia residents are eligible to receive a \$20 Visa prepaid card when they purchase any InSinkErator Evolution Series disposer between June 1, 2012 and September 30, 2012. Plumbers, many local hardware stores and large outlets like Lowe’s or Home Depot all carry disposers.

For more information about food waste disposers and the Clean Kitchen/Green Community program, visit <http://www.philadelphiastreet.com/ckgc-overview.aspx>

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From: Stephan Schwaabe

Date: 04/27/2014 08:17PM

Cc: "info@livingislands.org.hk" <info@livingislands.org.hk>, "cb1@legco.gov.hk" <cb1@legco.gov.hk>

Subject: Very concerned with EPD's approach to Waste Management

Stephan Schwaabe

HKID Number

April 27, 2014

Dear Member of the Public Works Sub Committee

Proposed Incinerator for Hong Kong

I am extremely concerned about the environmental impacts of the proposed Incinerator that the EPD plan to site on reclaimed land adjacent to Shek Kwu Chau.

The original selection process and criteria for the Shek Kwu Chau site were seriously flawed – there was false and misleading information about wind direction and environmental impacts, inadequate attention to the detailed transportation costings, and insufficient consideration given to the need for transporting 1,000 tonnes per day of toxic ash from the remote Island location to existing landfill sites. The best reason the EPD gave for selecting SKC is that it achieves a “balanced spatial distribution” of waste processing sites. This “beggar-my-neighbour approach” is surely not the way Asia’s World City should be conducting its Government?

Why hasn’t the Environment Bureau reconsidered options /alternatives to their only proposal? There are valid and credible alternative proposals for multiple smaller locations around the SAR, that would,

- be closer to sources of waste and existing landfill sites,
- represent a much lower risk of failure,
- be available to be brought on-line sooner,
- be smaller scale and therefore more cost effective,
- provide more integrated facilities for sorting and recycling waste,
- provide more employment opportunities, and
- could represent lower capital costs and lower overall operating costs.

The EPD proposal deserves to be rejected, for the good of Hong Kong. The people of Hong Kong expect you to make the right decisions so that the future of the SAR is not blighted by this infamous and single minded proposal.

Yours sincerely

Stephan Schwaabe

To: wklo@engineer.com, lcc.ntw@dab.org.hk, jkstolegco@gmail.com, klclegco@gmail.com, elau@dphk.org, yctam@dab.org.hk, arazack@netvigator.com, khwong@ftulegco.org.hk, info@cydho.org.hk, garychk@dab.org.hk, leungkl@leungkl.org, jpkh@dab.org.hk, contact@alanleong.net, albert.wychan@yahoo.com.hk, legco@michaeltien.hk, tpc@jamestien.com, frankieyick@liberal.org.hk, chiwaioffice@gmail.com, fankwokwaioffice@gmail.com, fkmaoffice@gmail.com, charlesmok@charlesmok.hk, benchanlegco@gmail.com, info@chankalok.hk, yhchan@ftulegco.org.hk, amlegco@gmail.com, info@cheungchiuhung.org.hk, helenawonghk@gmail.com, eq@eqweb.hk, chianglaiwan@gmail.com, office@chungsk.com, info@tonytsewaichuen.com
From: Yasmin Hingun Subba <[REDACTED]>
Date: 04/27/2014 12:36PM
Cc: info@livingislands.org.hk, cb1@legco.gov.hk
Subject: Concerned with Climate Change and Health of EPD's approach to Waste Management

Dear Member of the Public Works Sub Committee

EPD Proposed Integrated Waste Management Facility

I am writing to you to express my deep concern regarding the proposed Incinerator for which the Environmental Protection Department needs your approval before proceeding.

My main concerns are on the impacts on Climate Change and Human Health.

There are two levels of concern. Firstly, it is estimated that for every one tonne of waste that is incinerated, one tonne of carbon dioxide is released into the atmosphere. This means three thousand tonnes of CO2 will be released every day from the giant incinerator, according to EPD estimates of waste to be incinerated. Whilst not immediately threatening to human health, there is no doubt that this will have a negative effect on climate change. Should Hong Kong be endorsing this kind of approach when there are other less damaging

options available?

My second concern is that the EPD proposal takes insufficient account of the Hong Kong AQO. Are there any statistics to prove scientifically exactly what toxins will be emitted from the Incinerator? Have the EPD compared the forecast emissions with the 2012 AQO's? If so, will they be kind enough to share the figures with us all? It is a fact that moving grate incinerators do emit toxic elements into the atmosphere. It is interesting that the Government Medical Department have not so far expressed any opinion on this matter regarding the impacts of the Incinerator releasing dioxins and particulates into the atmosphere. One wonders how many premature deaths are "acceptable" to Hong Kong as a consequence of large scale moving-grate incineration.

On 16th April 2012, the EPD produced a Discussion Paper for the Panel on Environment Affairs Sub Committee on Improving Air Quality. The purpose of the Paper was to seek "*the views of Members on the proposed new Air Quality Objectives (AQOs) and air quality improvement measures for achieving these new Objectives*". The Paper did not mention Incineration as a contributory cause of deteriorating air quality, but under the heading of Economic Implications, sections 11 and 12 discuss;

*"The delivery of the proposed new AQOs and the air quality improvement measures would help combat air pollution, thereby improving quality of life, reducing medical cost and indirectly raising labour productivity. The consultant estimates that about 4,200 unnecessary hospital admissions and 7,400 statistical life years would be saved each year (or an improved average life expectancy of around one month for the entire population) upon attainment of the proposed new AQOs[2]. Other health benefits, such as less people contracting asthma or other respiratory diseases, would also be expected. In addition, **better air quality and visibility would help attract more tourists and foreign investments, and are conducive to attracting talents to stay and work in Hong Kong.** All these would contribute to reinforcing our position as a world city and leading international business hub. The proposal would also facilitate further collaborative efforts with Guangdong in improving regional air quality and the development of environmental industry in the region.*

*The impacts of individual proposed air quality improvement measures, which have to be assessed on a case-by-case basis, would be felt differently by different sectors of the economy. In particular, the more stringent standards and requirements to comply with the proposed AQOs would incur implementation costs for various businesses and raise their operating costs. Moreover, **the proposed AQOs would raise the standards required for obtaining the EIA approval for infrastructural projects**, which may lead to higher mitigation costs in order to comply with the standards. The consultant nevertheless advises that, for indicative purpose, the annualized cost incurred by the public for implementing the proposed Phase I air quality improvement measures would be about HK\$ 596 million. This is, however, significantly lower than the anticipated benefit of HK\$ 1,228 million per year due to the improvement of public health."*

The EIA Report for Incineration was carried out before the AQO's were revised. Does this mean that emissions from the Incinerator will not have to comply with the revised AQO's?

With the greatest of respect, I would ask that you reject the EPD proposal for incineration and insist that they carry-out proper evaluation of the waste issues and come up with a strategy that does not cause more damage to Hong Kong and her residents.

Yours sincerely

Yasmin Hingun

To: wklo@engineer.com, lcc.ntw@dab.org.hk, jkstolegco@gmail.com, klclegco@gmail.com, elau@dphk.org, yctam@dab.org.hk, arazack@netvigator.com, khwong@ftulegco.org.hk, info@cydho.org.hk, garychk@dab.org.hk, leungkl@leungkl.org, ipkh@dab.org.hk, contact@alanleong.net, albert.wychan@yahoo.com.hk, legco@michaeltien.hk, tpc@jamestien.com, frankieyick@liberal.org.hk, chiwaioffice@gmail.com, fankwokwaioffice@gmail.com, fkmaoffice@gmail.com, charlesmok@charlesmok.hk, benchanlegco@gmail.com, info@chankalok.hk, yhchan@ftulegco.org.hk, amlegco@gmail.com, info@cheungchiuhung.org.hk, helenawonghk@gmail.com, eq@eqweb.hk, chianglaiwan@gmail.com, office@chungsk.com, info@tonytsewaichuen.com
From: Kate Ekegren [REDACTED]
Date: 04/27/2014 07:49AM
Cc: info@livingislands.org.hk, cb1@legco.gov.hk
Subject: Very concerned with EPD's approach to Waste Management

[REDACTED]

Dear Member of the Public Works Sub Committee

EPD Proposed Incinerator for Shek Kwu Chau

I write to express my concern for Hong Kong regarding the lack of effective strategies for managing waste in the SAR. It is indeed sad and disappointing that the Environment Bureau has not come up with a holistic approach to the SAR's waste problems, preferring instead the easy option of "just burn it all – problem solved!"

The Environment Bureau proposal for dealing with Hong Kong's waste problem does **not** represent an integrated process for our waste – despite the IWMF name they have given it. They are taking the easy and most expensive option which will involve minimal waste sorting and mass incineration of unsorted waste.

There will be no incentive to reduce waste or sort waste if it is all going to be dumped in the furnace for disposal, regardless of the damage this does to the environment, air quality and human health.

Other countries, notably Taiwan, Japan and South Korea, have implemented effective processes for waste reduction at source, have applied waste charging where appropriate, encouraged practices for sorting of recyclables, are dealing effectively with recovered recyclables, and only as a last resort do they finally dispose of residual waste by landfill or thermal treatment? Hong Kong is lagging way behind these and other Asian countries in effectively dealing with its recyclable waste – and it appears that years of inactivity by the Environment Bureau are to blame. We are in the situation we are in because of a failure to act responsibly to manage waste. Why is it so difficult for the EPD? Building a huge incinerator will only benefit the construction industry and the operator of the plant. The people of Hong Kong will not benefit from this.

Why is it so difficult to implement effective waste sorting at high-rise housing estates? Are certain departments obstructing waste management solutions because it is “too hard” for them to do anything about it? Waste can be smelly and unpleasant, but dealing with waste at source and applying effective sorting and recovery of recyclables is the right thing to do, and it can be done.

I urge you to reject the EPD proposals for Incineration. Hong Kong deserves better than this.

Yours sincerely

Kate Ekegren

To: <wklo@engineer.com>, <lcc.ntw@dab.org.hk>, <jkstolegco@gmail.com>, <kiclegco@gmail.com>, <elau@dphk.org>, <yctam@dab.org.hk>, <arazack@netvigator.com>, <khwong@ftulegco.org.hk>, <info@cydho.org.hk>, <garychk@dab.org.hk>, <leungkl@leungkl.org>, <ipkh@dab.org.hk>, <contact@alanleong.net>, <albert.wychan@yahoo.com.hk>, <legco@michaeltien.hk>, <tpc@jamestien.com>, <frankieyick@liberal.org.hk>, <chiwaioffice@gmail.com>, <fankwokwaioffice@gmail.com>, <fkmaoffice@gmail.com>, <charlesmok@charlesmok.hk>, <benchanlegco@gmail.com>, <info@chankalok.hk>, <yhchan@ftulegco.org.hk>, <amlegco@gmail.com>, <info@cheungchiuhung.org.hk>, <helenawonghk@gmail.com>, <eq@eqweb.hk>, <chianglaiwan@gmail.com>, <office@chungsk.com>, <info@tonytsewaichuen.com>

From: Julia Brown [REDACTED]

Date: 04/28/2014 11:54AM

Cc: <info@livingislands.org.hk>, <cb1@legco.gov.hk>

Subject: Very opposed to EPD's approach to Waste Management

Dear Panel Member,

[REDACTED]

[REDACTED]

Hong Kong

28 April, 2014

Dear Member of the Public Works Sub Committee

Proposed Incinerator for Hong Kong

I am extremely concerned about the environmental impacts of the proposed Incinerator that the EPD plan to site on reclaimed land adjacent to Shek Kwu Chau.

The original selection process and criteria for the Shek Kwu Chau site were seriously flawed – there was false and misleading information about wind direction and environmental impacts, inadequate attention to the detailed transportation costings, and insufficient consideration given to the need for transporting 1,000 tonnes per day of toxic ash from the remote Island location to existing landfill sites. The sea routes are already crowded and subject to bad weather. The best reason the EPD gave for selecting SKC is that it achieves a “balanced spatial distribution” of waste processing sites. This approach is illogical. Global best practice is to position incinerators close to the waste collection for efficiency, cost-saving and environmental safety. The EPD proposal is surely not the way Asia’s World City should be conducting its Government?

Why hasn’t the Environment Bureau reconsidered options /alternatives to their only proposal? There are valid and credible alternative proposals for multiple smaller locations around the SAR, that would,

be closer to sources of waste and existing landfill sites,

represent a much lower risk of failure,

be available to be brought on-line sooner,

be smaller scale and therefore more cost effective,

provide more integrated facilities for sorting and recycling waste,

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could represent lower capital costs and lower overall operating costs.

The EPD proposal deserves to be rejected, for the good of Hong Kong. The people of Hong Kong expect you to make the right decisions so that the future of the SAR is not blighted by this infamous and single minded proposal.

Yours sincerely,

Julia Brown

HKID # [REDACTED]

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From: Peter Forsythe [REDACTED]
Date: 04/26/2014 10:18AM
Cc: info@livingislands.org.hk, cb1@legco.gov.hk
Subject: Very concerned with EPD's approach to Effective Waste Management

[REDACTED]
ID: [REDACTED]

26th April 2014

Dear Member of the Public Works Sub Committee

EPD Proposed Incinerator for Shek Kwu Chau

I write to express my concern for Hong Kong regarding the lack of effective strategies for managing waste in the SAR. It is indeed sad and disappointing that the Environment Bureau has not come up with a holistic approach to the SAR's waste problems, preferring instead the easy option of "just burn it all – problem solved!"

The Environment Bureau proposal for dealing with Hong Kong's waste problem does **not** represent an integrated process for our waste – despite the IWMMF name they have given it. They are taking the easy and most expensive option which will involve minimal waste sorting and mass incineration of unsorted waste. There will be no incentive to reduce waste or sort waste if it is all going to be dumped in the furnace for disposal, regardless of the damage this does to the environment, air quality and human health.

Other countries, notably Taiwan, Japan and South Korea, have implemented effective processes for waste reduction at source, have applied waste charging where appropriate, encouraged practices for sorting of recyclables, are dealing effectively with recovered recyclables, and only as a last resort do they finally dispose of residual waste by landfill or thermal treatment? Hong Kong is lagging way behind these and other Asian countries in effectively dealing with its recyclable waste – and it appears that years of inactivity by the Environment Bureau are to blame. We are in the situation we are in because of a failure to act responsibly to manage waste. Why is it so difficult for the EPD? Building a huge incinerator will only benefit the construction industry and the operator of the plant. The people of Hong Kong will not benefit from this.

Why is it so difficult to implement effective waste sorting at high-rise housing estates? Are certain departments obstructing waste management solutions because it is “too hard” for them to do anything about it? Waste can be smelly and unpleasant, but dealing with waste at source and applying effective sorting and recovery of recyclables is the right thing to do, and it can be done.

I urge you to reject the EPD proposals for Incineration. Hong Kong deserves better than this.

Yours sincerely

Peter Forsythe

To: wklo@engineer.com, lcc.ntw@dab.org.hk, jkstolegco@gmail.com, klclegco@gmail.com, elau@dphk.org, yctam@dab.org.hk, arazack@netvigator.com, khwong@ftulegco.org.hk, info@cydho.org.hk, garychk@dab.org.hk, leungkl@leungkl.org, ipkh@dab.org.hk, contact@alanleong.net, albert.wychan@yahoo.com.hk, legco@michaeltien.hk, tpc@jamestien.com, frankieyick@liberal.org.hk, chiwaioffice@gmail.com, fankwokwaioffice@gmail.com, fkmaoffice@gmail.com, charlesmok@charlesmok.hk, benchanlegco@gmail.com, info@chankalok.hk, yhchan@ftulegco.org.hk, amlegco@gmail.com, info@cheungchiuhung.org.hk, helenawonghk@gmail.com, eq@eqweb.hk, chianglaiwan@gmail.com, office@chungsk.com, info@tonytsewaichuen.com
From: Leigh Anne Thomas [REDACTED]
Date: 04/26/2014 01:49PM
Cc: info@livingislands.org.hk, cb1@legco.gov.hk
Subject: Very concerned with Environmental Impacts of EPD's approach to Waste Management

Leigh Anne Thomas

HKID: [REDACTED]

Dear Member of the Public Works Sub Committee

Proposed Incinerator for Hong Kong

I am extremely concerned about the environmental impacts of the proposed Incinerator that the EPD plan to site on reclaimed land adjacent to Shek Kwu Chau.

The original selection process and criteria for the Shek Kwu Chau site were seriously flawed – there was false and misleading information about wind direction and environmental impacts, inadequate attention to the detailed transportation costings, and insufficient consideration given to the need for transporting 1,000 tonnes per day of toxic ash from the remote Island location to existing landfill sites. The best reason the EPD gave for selecting SKC is that it achieves a “balanced spatial distribution” of waste processing sites.

This "beggar-my-neighbour approach" is surely not the way Asia's World City should be conducting its Government?

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Yours sincerely

Leigh Thomas

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From: Dee Eadon [REDACTED]

Date: 04/26/2014 08:49PM

Cc: "info@livingislands.org.hk" <info@livingislands.org.hk>, "cb1@legco.gov.hk" <cb1@legco.gov.hk>

Subject: Concerned with Climate Change and Health of EPD's approach to Waste Management

[REDACTED]
[REDACTED]
[REDACTED]

26 April 2014

Dear Member of the Public Works Sub Committee,

EPD Proposed Integrated Waste Management Facility

I am writing to you to express my deep concern regarding the proposed Incinerator for which the Environmental Protection Department needs your approval before proceeding.

My main concerns are on the impacts on Climate Change and Human Health.

There are two levels of concern. Firstly, it is estimated that for every one tonne of waste that is incinerated, one tonne of carbon dioxide is released into the atmosphere. This means three thousand tonnes of CO₂ will be released every day from the giant incinerator, according to EPD estimates of waste to be incinerated. Whilst not immediately threatening to human health, there is no doubt that this will have a negative effect on climate change. Should Hong Kong be endorsing this kind of approach when there are other less damaging options available?

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*"The delivery of the proposed new AQOs and the air quality improvement measures would help combat air pollution, thereby improving quality of life, reducing medical cost and indirectly raising labour productivity. The consultant estimates that about 4,200 unnecessary hospital admissions and 7,400 statistical life years would be saved each year (or an improved average life expectancy of around one month for the entire population) upon attainment of the proposed new AQOs[2]. Other health benefits, such as less people contracting asthma or other respiratory diseases, would also be expected. In addition, **better air quality and visibility would help attract more tourists and foreign investments, and are conducive to attracting talents to stay and work in Hong Kong.** All these would contribute to reinforcing our position as a world city and leading international business hub. The proposal would also facilitate further collaborative efforts with Guangdong in improving regional air quality and the development of environmental industry in the region. The impacts of individual proposed air quality improvement measures, which have to be assessed on a case-by-case basis, would be felt differently by different sectors of the economy. In particular, the more stringent standards and requirements to comply with the proposed AQOs would incur implementation costs for various businesses and raise their operating costs. Moreover, **the proposed AQOs would raise the standards required for obtaining the EIA approval for infrastructural projects**, which may lead to higher mitigation costs in order to comply with the standards. The consultant nevertheless advises that, for indicative purpose, the annualized cost incurred by the public for implementing the proposed Phase I air quality improvement measures would be about HK\$ 596 million. This is, however, significantly lower than the anticipated benefit of HK\$ 1,228 million per year due to the improvement of public health."*

The EIA Report for Incineration was carried out before the AQO's were revised. Does this mean that emissions from the Incinerator will not have to comply with the revised AQO's?

With the greatest of respect, I would ask that you reject the EPD proposal for incineration and insist that they carry-out proper evaluation of the waste issues and come up with a strategy that does not cause more damage to Hong Kong and her residents.

Yours Sincerely,
Danelia Eadon

To: wklo@engineer.com, lcc.ntw@dab.org.hk, jkstolegco@gmail.com, klclegco@gmail.com, elau@dphk.org, yctam@dab.org.hk, arazack@netvigator.com, khwong@ftulegco.org.hk, info@cydho.org.hk, garychk@dab.org.hk, leungkl@leungkl.org, ipkh@dab.org.hk, contact@alanleong.net, albert.wychan@yahoo.com.hk, legco@michaeltien.hk, tpc@jamestien.com, frankieyick@liberal.org.hk, chiwaioffice@gmail.com, fankwokwaioffice@gmail.com, fkmaoffice@gmail.com, charlesmok@charlesmok.hk, benchanlegco@gmail.com, info@chankalok.hk, yhchan@ftulegco.org.hk, amlegco@gmail.com, info@cheungchiuhung.org.hk, helenawonghk@gmail.com, eq@eqweb.hk, chianglaiwan@gmail.com, office@chungsk.com, info@tonytsewaichuen.com
From: Smriti Safaya [REDACTED]
Date: 04/28/2014 01:12PM
Cc: info@livingislands.org.hk, cb1@legco.gov.hk
Subject: Concerned with Climate Change and Health of EPD's approach to Waste Management

[REDACTED]
[REDACTED]
28th April 2014

Dear Member of the Public Works Sub Committee

EPD Proposed Integrated Waste Management Facility

I am writing to you to express my very deep concern regarding the proposed Incinerator for which the Environmental Protection Department needs your approval before proceeding.

Some of my several concerns are on the impacts on Climate Change and Human Health.

There are two levels of concern. Firstly, it is estimated that for every one tonne of waste that is incinerated, one tonne of carbon dioxide is released into the atmosphere. This means three thousand tonnes of CO2 will

be released every day from the giant incinerator, according to EPD estimates of waste to be incinerated. Whilst not immediately threatening to human health, there is no doubt that this will have a negative effect on climate change. Should Hong Kong be endorsing this kind of approach when there are other less damaging options available?

My second concern is that the EPD proposal takes insufficient account of the Hong Kong AQO. Are there any statistics to prove scientifically exactly what toxins will be emitted from the Incinerator? Have the EPD compared the forecast emissions with the 2012 AQO's? If so, will they be kind enough to share the figures with us all? It is a fact that moving grate incinerators do emit toxic elements into the atmosphere. It is interesting that the Government Medical Department have not so far expressed any opinion on this matter regarding the impacts of the Incinerator releasing dioxins and particulates into the atmosphere. One wonders how many premature deaths are "acceptable" to Hong Kong as a consequence of large scale moving-grate incineration.

On 16th April 2012, the EPD produced a Discussion Paper for the Panel on Environment Affairs Sub Committee on Improving Air Quality. The purpose of the Paper was to seek "*the views of Members on the proposed new Air Quality Objectives (AQOs) and air quality improvement measures for achieving these new Objectives*". The Paper did not mention Incineration as a contributory cause of deteriorating air quality, but under the heading of Economic Implications, sections 11 and 12 discuss;

*"The delivery of the proposed new AQOs and the air quality improvement measures would help combat air pollution, thereby improving quality of life, reducing medical cost and indirectly raising labour productivity. The consultant estimates that about 4,200 unnecessary hospital admissions and 7,400 statistical life years would be saved each year (or an improved average life expectancy of around one month for the entire population) upon attainment of the proposed new AQOs[2]. Other health benefits, such as less people contracting asthma or other respiratory diseases, would also be expected. In addition, **better air quality and visibility would help attract more tourists and foreign investments, and are conducive to attracting talents to stay and work in Hong Kong.** All these would contribute to reinforcing our position as a world city and leading international business hub. The proposal would also facilitate further collaborative efforts with Guangdong in improving regional air quality and the development of environmental industry in the region.*

*The impacts of individual proposed air quality improvement measures, which have to be assessed on a case-by-case basis, would be felt differently by different sectors of the economy. In particular, the more stringent standards and requirements to comply with the proposed AQOs would incur implementation costs for various businesses and raise their operating costs. Moreover, **the proposed AQOs would raise the standards required for obtaining the EIA approval for infrastructural projects**, which may lead to higher mitigation costs in order to comply with the standards. The consultant nevertheless advises that, for indicative purpose, the annualized cost incurred by the public for implementing the proposed Phase I air quality improvement measures would be about HK\$ 596 million. This is, however, significantly lower than the anticipated benefit of HK\$ 1,228 million per year due to the improvement of public health."*

The EIA Report for Incineration was carried out before the AQO's were revised. Does this mean that emissions from the Incinerator will not have to comply with the revised AQO's?

With the greatest of respect, I would ask that you reject the EPD proposal for incineration and insist that they carry-out proper evaluation of the waste issues and come up with a strategy that does not cause more damage to Hong Kong and her residents.

Yours sincerely,

Smriti Safaya

To: "wklo@engineer.com" <wklo@engineer.com>, "lcc.ntw@dab.org.hk" <lcc.ntw@dab.org.hk>, "jkstolegco@gmail.com" <jkstolegco@gmail.com>, "klclegco@gmail.com" <klclegco@gmail.com>, "elau@dphk.org" <elau@dphk.org>, "yctam@dab.org.hk" <yctam@dab.org.hk>, "arazack@netvigator.com" <arazack@netvigator.com>, "khwong@ftulegco.org.hk" <khwong@ftulegco.org.hk>, "info@cydho.org.hk" <info@cydho.org.hk>, "garychk@dab.org.hk" <garychk@dab.org.hk>, "leungkl@leungkl.org" <leungkl@leungkl.org>, "ipkh@dab.org.hk" <ipkh@dab.org.hk>, "contact@alanleong.net" <contact@alanleong.net>, "albert.wychan@yahoo.com.hk" <albert.wychan@yahoo.com.hk>, "legco@michaeltien.hk" <legco@michaeltien.hk>, "tpc@jamestien.com" <tpc@jamestien.com>, "frankieyick@liberal.org.hk" <frankieyick@liberal.org.hk>, "chiwaioffice@gmail.com" <chiwaioffice@gmail.com>, "fankwokwaioffice@gmail.com" <fankwokwaioffice@gmail.com>, "fkmaoffice@gmail.com" <fkmaoffice@gmail.com>, "charlesmok@charlesmok.hk" <charlesmok@charlesmok.hk>, "benchanlegco@gmail.com" <benchanlegco@gmail.com>, "info@chankalok.hk" <info@chankalok.hk>, "yhchan@ftulegco.org.hk" <yhchan@ftulegco.org.hk>, "amlegco@gmail.com" <amlegco@gmail.com>, "info@cheungchiuhung.org.hk" <info@cheungchiuhung.org.hk>, "helenawonghk@gmail.com" <helenawonghk@gmail.com>, "eq@eqweb.hk" <eq@eqweb.hk>, "chianglaiwan@gmail.com" <chianglaiwan@gmail.com>, "office@chungsk.com" <office@chungsk.com>, "info@tonytsewaichuen.com" <info@tonytsewaichuen.com>
From: HP Odendaal [REDACTED]
Date: 04/28/2014 01:33PM
Cc: "info@livingislands.org.hk" <info@livingislands.org.hk>, "cb1@legco.gov.hk" <cb1@legco.gov.hk>
Subject: Concerned with Climate Change and Health of EPD's approach to Waste Management

[REDACTED]
[REDACTED]
28 April 2014

Dear Member of the Public Works Sub Committee

EPD Proposed Integrated Waste Management Facility

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My main concerns are on the impacts on Climate Change and Human Health.

There are two levels of concern. Firstly, it is estimated that for every one tonne of waste that is incinerated, one tonne of carbon dioxide is released into the atmosphere. This means three thousand tonnes of CO₂ will be released every day from the giant incinerator, according to EPD estimates of waste to be incinerated. Whilst not immediately threatening to human health, there is no doubt that this will have a negative effect on climate change. Should Hong Kong be endorsing this kind of approach when there are other less damaging options available?

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With the greatest of respect, I would ask that you reject the EPD proposal for incineration and insist that they carry-out proper evaluation of the waste issues and come up with a strategy that does not cause more damage to Hong Kong and her residents.

Yours sincerely

Hendrik P Odendaal

To: wklo@engineer.com, lcc.ntw@dab.org.hk, jkstolegco@gmail.com, klclegco@gmail.com, elau@dphk.org, yctam@dab.org.hk, arazack@netvigator.com, khwong@ftulegco.org.hk, info@cydho.org.hk, garychk@dab.org.hk, leungkl@leungkl.org, ipkh@dab.org.hk, contact@alanleong.net, albert.wychan@yahoo.com.hk, legco@michaeltien.hk, tpc@jamestien.com, frankieyick@liberal.org.hk, chiwaioffice@gmail.com, fankwokwaioffice@gmail.com, fkmaoffice@gmail.com, charlesmok@charlesmok.hk, benchanlegco@gmail.com, info@chankalok.hk, yhchan@ftulegco.org.hk, amlegco@gmail.com, info@cheungchiuhung.org.hk, helenawonghk@gmail.com, eq@eqweb.hk, chianglaiwan@gmail.com, office@chungsk.com, info@tonytsewaichuen.com

From: Smriti Safaya [REDACTED]

Date: 04/28/2014 02:33PM

Cc: info@livingislands.org.hk, cb1@legco.gov.hk

Subject: Concerned with Excessive Cost of EPD Proposed Integrated Waste Management Facility

[REDACTED]
[REDACTED]
28th April 2014

Dear Member of the Legco Finance Committee and Public Works Sub Committee

Excessive Cost of EPD Proposed Integrated Waste Management Facility

I write to ask for your consideration of the grave concerns I have regarding the proposal by the EPD to construct a giant incinerator on reclaimed land off Shek Kwu Chau.

The cost of the EPD proposal is excessive and wasteful – HK\$18 billion for a single incinerator, including huge land reclamation work and the destruction of natural habitats in an area of outstanding natural beauty. Of course, the money is not a problem for Hong Kong with its huge surplus, but should the Environment

Bureau be allowed to be so wasteful of tax-payers money if it is not necessary?

Surely Government can tackle the problem of waste management in ways that are less wasteful of tax-payers money?

The EPD have consistently lied about the total tonnage of waste being recycled in Hong Kong, and they have totally misled us with the cost of building the Organic Waste Treatment plant in North Lantau. The current forecasts of the costs of this Project have risen far out of line with construction inflation. The information in the EPD Blueprint for Waste Management therefore lacks all credibility and should not be believed. The costs will simply escalate out of control and the incinerator operation may never achieve the tonnages forecast by the EPD. At a LegCo public hearing I attended, I heard the secretary for the Environment, KS Wong, explicitly state the life-time of the incinerator as being short - which makes for wasteful use of tax-payer money, given the 'sustainable' approach the EPD should be taking.

My opinion is that tax-payers money will be better spent and will realise greater value for tax-payers by addressing the waste problems at source. Smaller-scale, fully integrated waste management facilities will provide solutions on a district by district basis, will be more effective and more manageable, and will encourage personal responsibility for the amounts of waste that we all produce. The HK people are willing to make the effort if they see that their efforts count - which means that waste disposal facilities that are localized need to support the waste separation activities that can make HK take steps towards becoming a ZERO-waste community.

I hope that you reject the EPD proposals and make the right decision for the future of Hong Kong – Asia's World City.

Yours sincerely

[your name]

To: wklo@engineer.com, lcc.ntw@dab.org.hk, jkstolegco@gmail.com, kiclegco@gmail.com, elau@dphk.org, yctam@dab.org.hk, arazack@netvigator.com, khwong@ftulegco.org.hk, info@cydho.org.hk, garychk@dab.org.hk, leungkl@leungkl.org, ipkh@dab.org.hk, contact@alanleong.net, albert.wychan@yahoo.com.hk, legco@michaeltien.hk, tpc@jamestien.com, frankieyick@liberal.org.hk, chiwaioffice@gmail.com, fankwokwaioffice@gmail.com, fkmaoffice@gmail.com, charlesmok@charlesmok.hk, benchanlegco@gmail.com, info@chankalok.hk, yhchan@ftulegco.org.hk, amlegco@gmail.com, info@cheungchiuhung.org.hk, helenawonghk@gmail.com, eq@eqweb.hk, chianglaiwan@gmail.com, office@chungsk.com, info@tonytsewaichuen.com
From: Linda Fancy [REDACTED]
Date: 04/28/2014 02:34PM
Cc: info@livingislands.org.hk, cb1@legco.gov.hk
Subject: Very concerned with EPD's approach to Waste Management

[REDACTED]
HKID no. [REDACTED]

Dear Member of the Public Works Sub Committee

Proposed Incinerator for Hong Kong

I am extremely concerned about the environmental impacts of the proposed Incinerator that the EPD plan to site on reclaimed land adjacent to Shek Kwu Chau.

The original selection process and criteria for the Shek Kwu Chau site were seriously flawed – there was false and misleading information about wind direction and environmental impacts, inadequate attention to the detailed transportation costings, and insufficient consideration given to the need for transporting 1,000 tonnes per day of toxic ash from the remote Island location to existing landfill sites. The best reason the

EPD gave for selecting SKC is that it achieves a "balanced spatial distribution" of waste processing sites. This "beggar-my-neighbour approach" is surely not the way Asia's World City should be conducting its Government?

Why hasn't the Environment Bureau reconsidered options /alternatives to their only proposal? There are valid and credible alternative proposals for multiple smaller locations around the SAR, that would,

- be closer to sources of waste and existing landfill sites,
- represent a much lower risk of failure,
- be available to be brought on-line sooner,
- be smaller scale and therefore more cost effective,
- provide more integrated facilities for sorting and recycling waste,
- provide more employment opportunities, and
- could represent lower capital costs and lower overall operating costs.

The EPD proposal deserves to be rejected, for the good of Hong Kong. The people of Hong Kong expect you to make the right decisions so that the future of the SAR is not blighted by this infamous and single minded proposal.

Yours sincerely

Linda Fancy

[REDACTED]

[REDACTED]

"One day you will come to see and find peace in confirming that all this is nothing but thoughts believed in. A day not unlike today." Mooji

To: wklo@engineer.com, lcc.ntw@dab.org.hk, jkstolegco@gmail.com, klclegco@gmail.com, elau@dphk.org, yctam@dab.org.hk, arazack@netvigator.com, khwong@ftulegco.org.hk, info@cydho.org.hk, garychk@dab.org.hk, leungkl@leungkl.org, ipkh@dab.org.hk, contact@alanleong.net, albert.wychan@yahoo.com.hk, legco@michaeltien.hk, tpc@jamestien.com, frankieyick@liberal.org.hk, chiwaioffice@gmail.com, fankwokwaioffice@gmail.com, fkmaoffice@gmail.com, charlesmok@charlesmok.hk, benchanlegco@gmail.com, info@chankalok.hk, yhchan@ftulegco.org.hk, amlegco@gmail.com, info@cheungchiuhung.org.hk, helenawonghk@gmail.com, eq@eqweb.hk, chianglaiwan@gmail.com, office@chungsk.com, info@tonytsewaichuen.com
From: Smriti Safaya [REDACTED]
Date: 04/28/2014 02:41PM
Cc: info@livingislands.org.hk, cb1@legco.gov.hk
Subject: Very concerned with EPD's approach to Effective Waste Management

[REDACTED]
[REDACTED]
28th April 2014

Dear Member of the Public Works Sub Committee

EPD Proposed Incinerator for Shek Kwu Chau

I write to express my grave concern for Hong Kong regarding the lack of effective strategies for managing waste in the SAR.

Having attended a LegCo public hearing a month ago, and having followed the progress of the discussions thus far, I am seriously concerned at the lack of foresight that the EPD is showing in their current paper regarding waste management in their integrated waste management system. It is indeed sad and

disappointing that the Environment Bureau has not come up with a holistic approach to the SAR's waste problems, preferring instead the easy option of "just burn it all – problem solved!"

The Environment Bureau proposal for dealing with Hong Kong's waste problem does **not** represent an integrated process for our waste – despite the IWMF name they have given it. They are taking the easy and most expensive option which will involve minimal waste sorting and mass incineration of unsorted waste. There will be no incentive to reduce waste or sort waste if it is all going to be dumped in the furnace for disposal, regardless of the damage this does to the environment, air quality and human health.

If the HK people can see that their efforts to separate at source is supported by the necessary infrastructure, then we will be even more conscientious to follow through with our responsibilities. Why does the EPD insist on 'business as usual' on behalf of the consumptive and wasteful habits of many inhabitants, when we can exercise greater care and concern for our home, if given the opportunity.

The EPD should help us rise to the challenge, not divert the attention in a false sense of action that will only just prolong the challenge, rather than address it honestly and sustainably.

Other countries, notably Taiwan, Japan and South Korea, have implemented effective processes for waste reduction at source, have applied waste charging where appropriate, encouraged practices for sorting of recyclables, are dealing effectively with recovered recyclables, and only as a last resort do they finally dispose of residual waste by landfill or thermal treatment? Hong Kong is lagging way behind these and other Asian countries in effectively dealing with its recyclable waste – and it appears that years of inactivity by the Environment Bureau are to blame. We are in the situation we are in because of a failure to act responsibly to manage waste. Why is it so difficult for the EPD? Building a huge incinerator will only benefit the construction industry and the operator of the plant. The people of Hong Kong will not benefit from this.

Why is it so difficult to implement effective waste sorting at high-rise housing estates? Are certain departments obstructing waste management solutions because it is "too hard" for them to do anything about it? Waste can be smelly and unpleasant, but dealing with waste at source and applying effective sorting and recovery of recyclables is the right thing to do, and it can be done.

I urge you to reject the EPD proposals for Incineration. Hong Kong people and the environment deserve better than this.

Yours sincerely

Smriti Safaya

To: wklo@engineer.com, lcc.ntw@dab.org.hk, jkstolegco@gmail.com, CHAN KAM LAM <klclegco@gmail.com>, elau@dphk.org, yctam@dab.org.hk, arazack@netvigator.com, khwong@ftulegco.org.hk, Cyd HO <info@cydho.org.hk>, garychk@dab.org.hk, leungkl@leungkl.org, ipkh@dab.org.hk, contact@alanleong.net, albert.wychan@yahoo.com.hk, legco@michaeltien.hk, tpc@jamestien.com, frankieyick@liberal.org.hk, Chiwai Wu <chiwaioffice@gmail.com>, 范國威議員辦事處 <fankwokwaioffice@gmail.com>, FK Ma <fkmaoffice@gmail.com>, charlesmok@charlesmok.hk, Ben Chan <benchanlegco@gmail.com>, info@chankalok.hk, yhchan@ftulegco.org.hk, Alice MAK <amlegco@gmail.com>, info@cheungchiuhung.org.hk, Helena Wong <helenawonghk@gmail.com>, eq@eqweb.hk, Lai Wan Chiang <chianglaiwan@gmail.com>, office@chungsk.com, info@tonytsewaichuen.com
From: Smriti Safaya [REDACTED]
Date: 04/28/2014 02:43PM
Cc: info@livingislands.org.hk, cb1@legco.gov.hk
Subject: FIRMLY AGAINST Proposed Incinerator for Hong Kong

[REDACTED]
[REDACTED]
28th April 2014

Dear Member of the Public Works Sub Committee

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I am extremely concerned about the environmental impacts of the proposed Incinerator that the EPD plan to site on reclaimed land adjacent to Shek Kwu Chau.

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Why hasn’t the Environment Bureau reconsidered options /alternatives to their only proposal? There are valid and credible alternative proposals for multiple smaller locations around the SAR, that would,

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