Fee System for waste management in Taiwan

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Outline

01 Introduction

02 Fee System for waste management in Taiwan

03 Conclusion
Introduction

• The Taiwan’s Waste Disposal Act establish a completed waste management framework

- General Waste
  From household: Non-Industrial Waste, excrement, and animal corpses, etc.
  - Recyclable Waste
    Charge for designated waste items to subsidize recycling
  - Industrial Waste
    Waste produced by factories, hospitals, schools, farms, etc.

- Disposal
- Export
- Reuse

Waste 26.4 Mt

11.2% 16.8% 72%
18% <1% 78%
Fee System for waste management in Taiwan

General Waste

Fee System

Trash Collection Fee collected along with tap water fee

Per House Trash Collection Fee System

Per Bag Trash Collection Fee System

Taipei City

New Taipei City

Taichung City - one district

3.7~4.1 NT dollars/ per tons
Per Bag Trash Collection Fee System

- The per-bag fee calculated based on the volume of waste collected.
- Replace the original system which Trash Collection Fee collected along with tap water fee.
- EPB produces and sells the exclusive garbage bags for citizens. The payment includes trash collection fee. EPB cleans garbage packaged by the exclusive garbage bag only.
- EPB collects recyclables and kitchen waste for free.
- The less volume of waste you dispose, the less number of refuse bags you would need and therefore the less you would have to pay for waste disposal.
- Considering the feasibility for human resources, facility, and finance of local governments, EPA assists willing and feasible local governments to enforce the system gradually.
## Per Bag Trash Collection Fee System

<table>
<thead>
<tr>
<th>Type (liter)</th>
<th>Size(cm)</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>30x42</td>
<td>0.95</td>
</tr>
<tr>
<td>5</td>
<td>36x45</td>
<td>1.8</td>
</tr>
<tr>
<td>14</td>
<td>43x41.5</td>
<td>5</td>
</tr>
<tr>
<td>25</td>
<td>55x75</td>
<td>9</td>
</tr>
<tr>
<td>33</td>
<td>63x72</td>
<td>11.8</td>
</tr>
<tr>
<td>76</td>
<td>84x90</td>
<td>30.4</td>
</tr>
<tr>
<td>120</td>
<td>94x110</td>
<td>43.2</td>
</tr>
</tbody>
</table>

**Trash Collection Fee**: NT$0.35/litter
## Cities enforcing Per Bag Trash Collection Fee System

<table>
<thead>
<tr>
<th>Cities</th>
<th>Enforcing area</th>
<th>Enforcing time</th>
<th>Square measure (km²)</th>
<th>Population (million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taipei City</td>
<td>Whole city</td>
<td>2000.7</td>
<td>271.80</td>
<td>261.9</td>
</tr>
<tr>
<td>New Taipei City</td>
<td>Whole city</td>
<td>2010.12</td>
<td>2,052.6</td>
<td>389.7</td>
</tr>
<tr>
<td>Taichung City</td>
<td>Shihkang District</td>
<td>2000.11</td>
<td>18.21</td>
<td>1.6</td>
</tr>
</tbody>
</table>

Source: Department of Census Administration, Ministry of Interior

28.2% of total population (23,162 million)
The achievements of enforcing Per Bag Trash Collection Fee Policy in each city

<table>
<thead>
<tr>
<th>Unit</th>
<th>Unit</th>
<th>Taipei City</th>
<th>New Taipei City</th>
<th>Shihkang Township</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original amount of waste</td>
<td>(tons/day)</td>
<td>2970</td>
<td>2497</td>
<td>11.76</td>
</tr>
<tr>
<td>Amount of waste after the enforcement</td>
<td>(tons/day)</td>
<td>1066</td>
<td>1200</td>
<td>3.26</td>
</tr>
<tr>
<td>Daily reduction of waste</td>
<td>(tons/day)</td>
<td>-1904</td>
<td>-1297</td>
<td>-8.5</td>
</tr>
<tr>
<td>+/- rate</td>
<td></td>
<td>-64.11%</td>
<td>-51.94%</td>
<td>-72.28%</td>
</tr>
<tr>
<td>Original amount of resource recycling</td>
<td>(tons/day)</td>
<td>73</td>
<td>175</td>
<td>0.76</td>
</tr>
<tr>
<td>Amount of resource recycling after the enforcement</td>
<td>(tons/day)</td>
<td>1241</td>
<td>220</td>
<td>2.79</td>
</tr>
<tr>
<td>Daily increase or reduction of resource recycling</td>
<td>(tons/day)</td>
<td>1168</td>
<td>45</td>
<td>2.03</td>
</tr>
<tr>
<td>+/- rate</td>
<td></td>
<td>1600%</td>
<td>25.71%</td>
<td>267.11%</td>
</tr>
<tr>
<td>Original amount of kitchen waste</td>
<td>(tons/day)</td>
<td>13</td>
<td>173</td>
<td>1.73</td>
</tr>
<tr>
<td>Amount of kitchen waste after the enforcement</td>
<td>(tons/day)</td>
<td>230</td>
<td>405</td>
<td>2.19</td>
</tr>
<tr>
<td>Daily increase or reduction of kitchen waste</td>
<td>(tons/day)</td>
<td>217</td>
<td>232</td>
<td>0.46</td>
</tr>
<tr>
<td>+/- rate</td>
<td></td>
<td>1669.23%</td>
<td>134.10%</td>
<td>26.59%</td>
</tr>
</tbody>
</table>

Note: For Taipei City, the amount of waste and resource recycling indicates the comparison between 1999 and 2010; the amount of kitchen waste indicates the comparison between 2003 and 2010. For Xinpei City, the amount of waste indicates the comparison between 2008 (January to December) and December, 2010; the amount of resource recycling and kitchen waste indicates the comparison between January to June, 2008 and December, 2010. For Shihkang Township, the amount of waste and resource recycling indicates the comparison between 1999 (January to November) and 2010 (January to November); the amount of kitchen waste indicates the comparison between 2003 (January to August) and 2010 (January to August).
The enforcement of Per Bag Trash Collection Fee Policy – Taipei City

Exclusive garbage bags for Per Bag Trash Collection Fee Policy
Recyclable resources passed on to the recyclable trucks.
The enforcement of Per Bag Trash Collection Fee Policy – Taipei City

**Kitchen waste collection and clearance**
Kitchen waste collection and clearance

General garbage

Kitchen waste for breeding pigs

Kitchen waste for compost
Fee System for waste management in Taiwan

Industrial Waste

Waste producer

Clearance organization
• Public & private organization

Fee system:
• Base on weight and distance

Disposal/Reuse/export organization
• Public & private organization

Fee system:
• Base on weight
# Fee System for waste management in Taiwan

<table>
<thead>
<tr>
<th>Producer</th>
<th>clearance</th>
<th>disposal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Weighting or not**

**Real Weight**

<table>
<thead>
<tr>
<th>Sequence</th>
<th>Original waste code A</th>
<th>Whether to weigh</th>
<th>Whether to fiscalize</th>
<th>Quantity (ton)</th>
<th>Weight (kg)</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AB-12345678</td>
<td>Yes</td>
<td>Yes</td>
<td>1</td>
<td>10</td>
<td>Red</td>
</tr>
</tbody>
</table>

**Producer Information**

- 麦肯摩连锁速食店 (Restaurant Name)
- 王敏敏 (Manager)
- 阿城 (Owner)
- 林阿城 (Owner)
- 杨黎明 (Owner)
- 张城 (Manager)
Fee System for waste management in Taiwan

- weighbridge
- electronic scales
- hanging pounds

waste scale-weighing equipment
Fee System for waste management in Taiwan

Fee information disclosure

Waste Clearance and Disposal

[Website: http://wcds.epa.gov.tw]
Conclusion

• Promote the “per bag trash collection fee system" to help the public realize the importance of zero waste and reduce the trash amount effectively.

• In Taiwan, the industrial waste fee system is based on weight and different waste types have different price. We will promote the price transparency to maintain the reasonable price.
Thank you for your listening!