

Village and Township Domestic Waste Management



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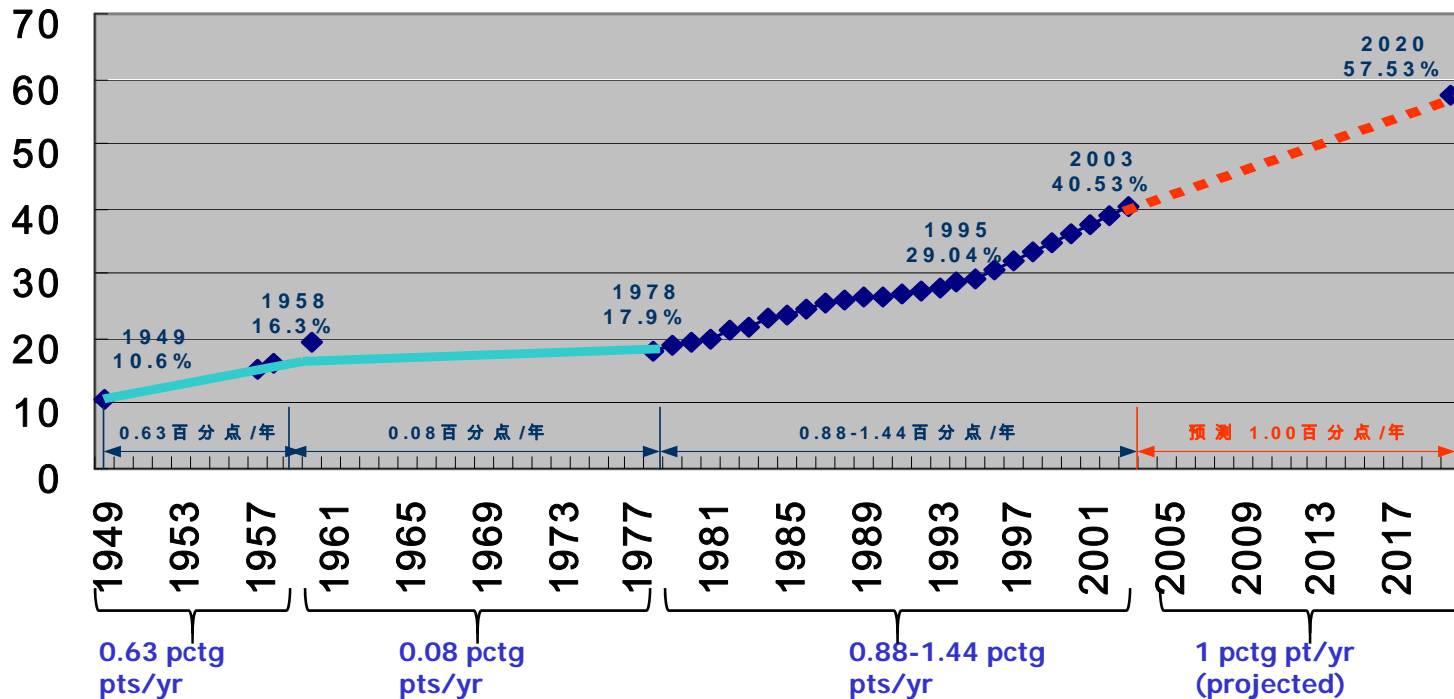


Key Content

- 1. Analysis of current village and township domestic waste processing**
- 2. Large-scale centralized processing and pollution control standards**
- 3. Local utilization and sorted collection**
- 4. Recommendations**

The trajectory of China's urbanization

Urbanization level (%)



According to the *China Urban Development Report (2008)*, in 2008, China had a total urban population of 607 million, which reflects an urbanization level of 45.68%.

Typical features: lack of collection, transport, and processing facilities, and severe pollution

Domestic waste collection points in a certain city



“Garbage pool” collection method has brought serious sanitary issues



Open garbage dumping sites pollute the environment



Open-air incineration emits large quantities of dioxins



Open-air incineration emits large quantities of dioxins





1) Analysis of current village and township domestic waste processing

According to current standards on urban domestic waste processing, relative to urban domestic waste, village and township domestic waste :

- **Is smaller in scale**
- **Presents higher processing costs**
- **Is more lacking in staff management**
- **Still needs collection and transport systems, and costs for such systems are higher**

Example: waste processing facility of Chongqing City
Qingxi Township, a landfill with approximate capacity of
10 tons/day



- Initial investment: RMB 60 (~ USD 9) per ton of waste
- If operating costs are added, and considering that actual waste collected is less than the original design allowed for, these small-scale sanitary landfills have a total cost of over RMB 200 (~ USD 29) per ton, many times higher than ordinary urban domestic waste processing



2) Large-scale collection and processing and pollution control standards

- According to China's current domestic waste processing engineering and construction standards and investment and operating levels, domestic waste collection and processing sites should be at least 50 km apart from one another, but because transport costs are borne by the local city and township government, many localities claim that even transporting waste to a distance of about 20km is too expensive to maintain.
- Furthermore, due to potentially large differences in levels of economic development, there are great obstacles to villages and townships collaborating to build shared domestic waste processing facilities.
- If appropriate waste processing facilities are to be installed in the provinces, and if resources are to be shared, then we must establish the overriding authority of an area-based waste processing planning
- **Centralized processing and centralized pollution problems**
- **Control of transport costs**

Small-scale garbage incineration plants



Zhejiang Province, Zhuji,
incineration plant

Total cost: RMB 80-100/ton
(USD 12-15)



Sichuan Province, Shifang,
incineration plant

Total cost: RMB 80 / ton
(USD 12)



3) Local utilization and sorted collection

- **Central processing of domestic waste requires sorted collection**
- **It is easier to implement sorted collection in villages and townships**
- **Organic waste should be locally utilized; construction waste should be processed locally; key is to collect packaging waste**
- **Conversion of organic waste into fertilizer**
- **Conversion of flammable waste into fuels**



4) Recommendations

- **Limited collection = A need for a new collection and transport system**
 1. **No need for daily collection; 1-2 times per week is sufficient**
 2. **Need to increase transport distances to 30-50km**
 3. **The building of village and township waste collection and transport systems is the building of human organizations**
 4. **Key is to first collect, transport, and process packaging waste centrally, and then gradually establish mechanisms for household waste, hazardous waste and other industrial waste**
 5. **Method lies in establishing a entrepreneurial model similar to the current purchasing system for waste products**



Parting words

- 谢谢大家!
- THANK YOU VERY MUCH

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