

Waste FL management in Thailand

Patarapol Tularak
Pollution Control Department

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Background

- In 2005, Pollution Control Department (PCD), with cooperation of the Japanese government and JETRO, established a study project on FL recycling. At that time Thailand did not have any specific laws and authorities that control management of municipal hazardous waste.
- It was estimated that in 2004 amount of waste FL in Thailand was about 41 million lamps, of which 70% is tubular type and the others are circular and compact lamps. In the studied areas, covering Bangkok Metropolitan Administration (BMA) and vicinities, it was found that about 14 millions of waste FL were tubes or about 50% of waste tube of the whole country.

F/L Waste Management Scheme

Buildings



Do not dispose of with general waste



Store properly



Safely transport



Recycle



New tubes



New fluorescent lamps



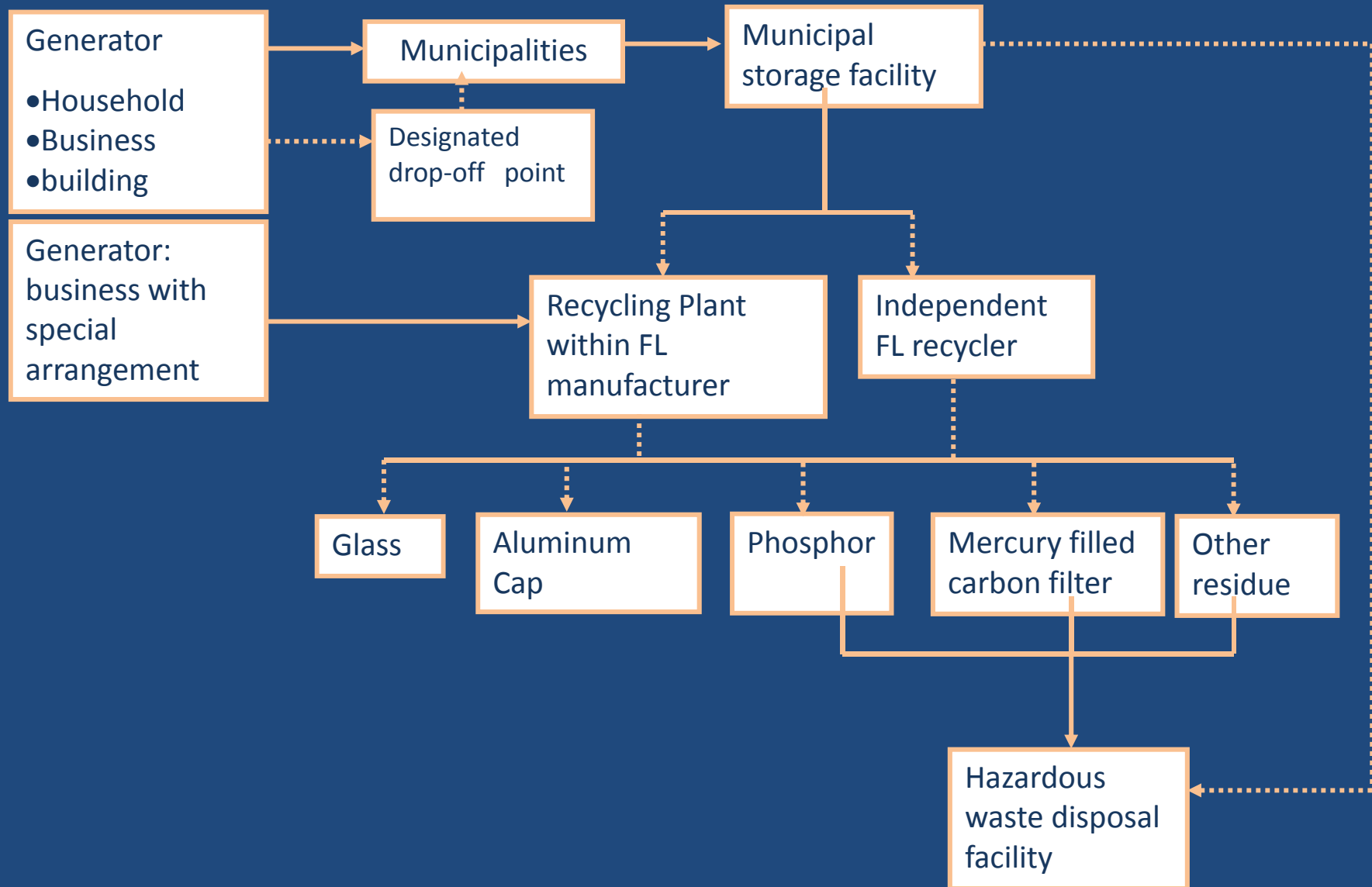
Background (continued)

- PCD then initiated the partnership program with Toshiba and Phillips who have their own recycling facilities to collect and recycle waste FL from about 100 project partners including government offices, academic institutions, business offices, retailers, etc in Bangkok and vicinity area. The MOU of the partnership project lasted for about 16 months from September 2006 to December 2007.
- In the program, PCD asked for cooperation with BMA and municipalities around Bangkok to collect waste FL from program partners, and negotiated with lamp manufacturers to expand their recycling services to cover lamps generated from households.

Background (continued)

- In 2007, the Public Health Act was amended. The Act authorizes local governments to collect and manage household hazardous waste such as fluorescent lamps, dry-cell batteries, etc.
- At the same time, PCD developed a new household hazardous waste management scheme and disseminate the concept as well as support financially and technically large-sized municipalities.
- In this scheme, the municipalities collect waste FL from households or from the designated points and transfer to the storage facility. The municipalities negotiated with FL recyclers or contract out waste processors.

Current scheme of FL management



Household HW (including FL) management scheme



Household HW management scheme

Campaign Poster



Handbook/pamphlet



HHW Mascot "Mr. Toxic"



1. Awareness

Raising



People learn "What is HHW?" from playing games in Municipal Event



A Famous Singer assist PCD to promote HHW management in the Community

Incentives



Household HW management scheme

2. Separation

Methods

- ▶ Door to Door
- ▶ Drop Off
- ▶ Special Day

Drop off designated point



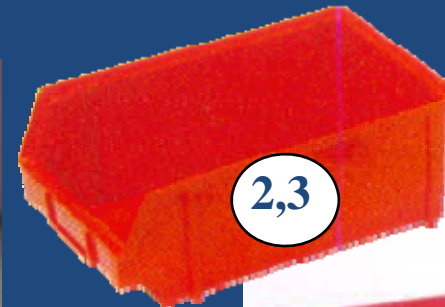
Door to door collection



Special collection day

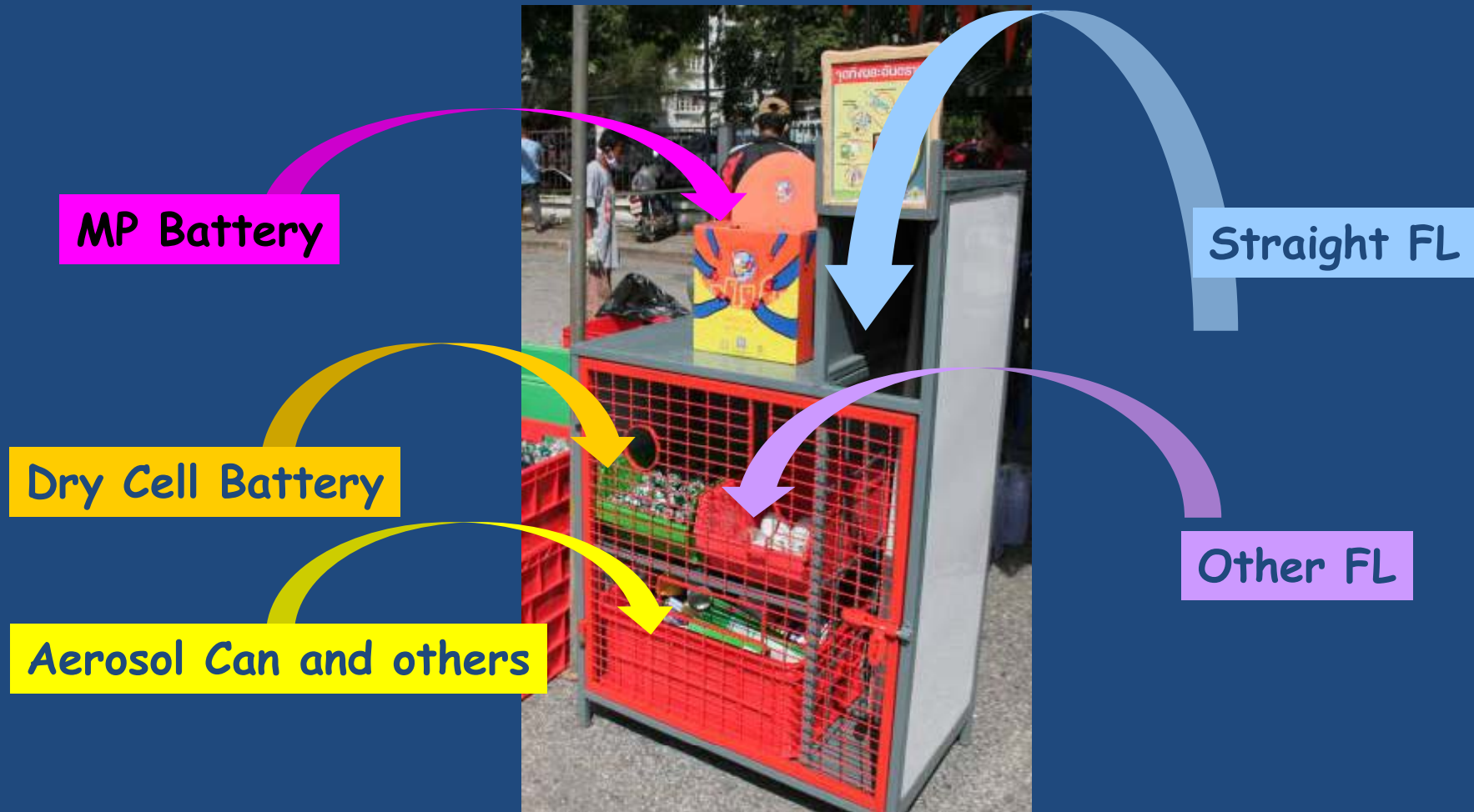
Household HW management scheme

Drop Off Container: 1st generation



Household HW management scheme

Separated HHW by Drop Off



Household HW management scheme

Drop Off designated locations

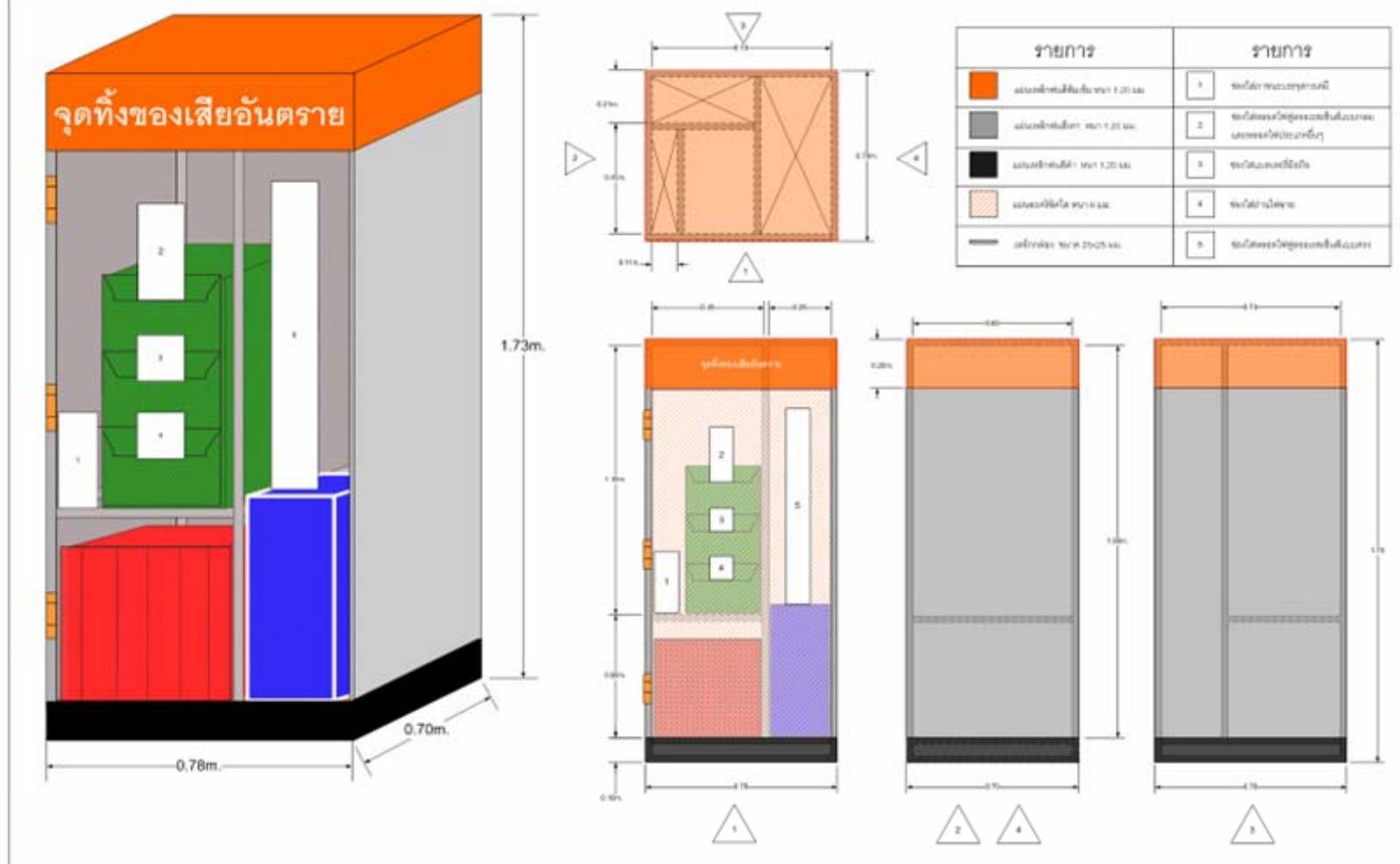


Community center



Household HW management scheme

Drop Off Container: 2nd generation



Drop-off container: 2nd generation



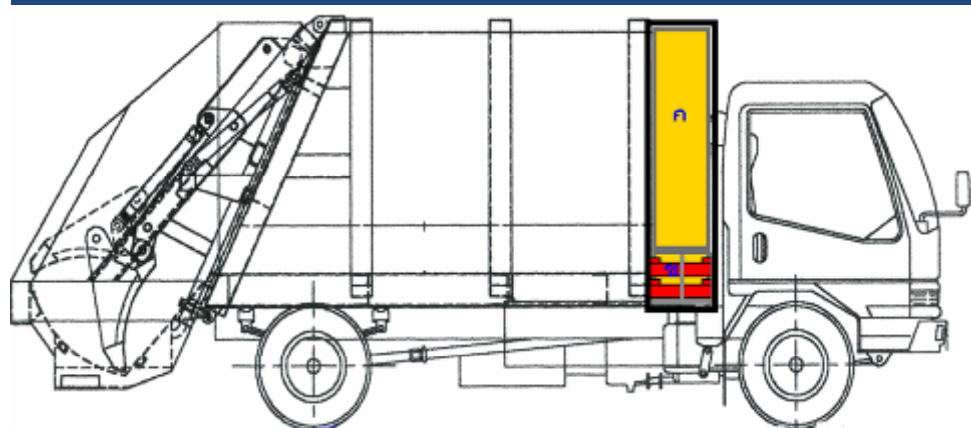
Household HW management scheme

3. Collection



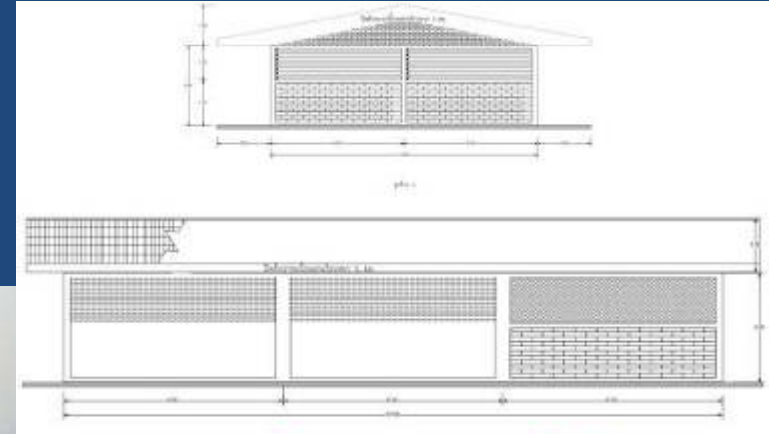
Household HW management scheme

Vehicles



Household HW management scheme

4. Temporary Storage





Household HW management scheme

5. Transportation to Recycling or Disposal Facilities



▶ Only by permitted transporters

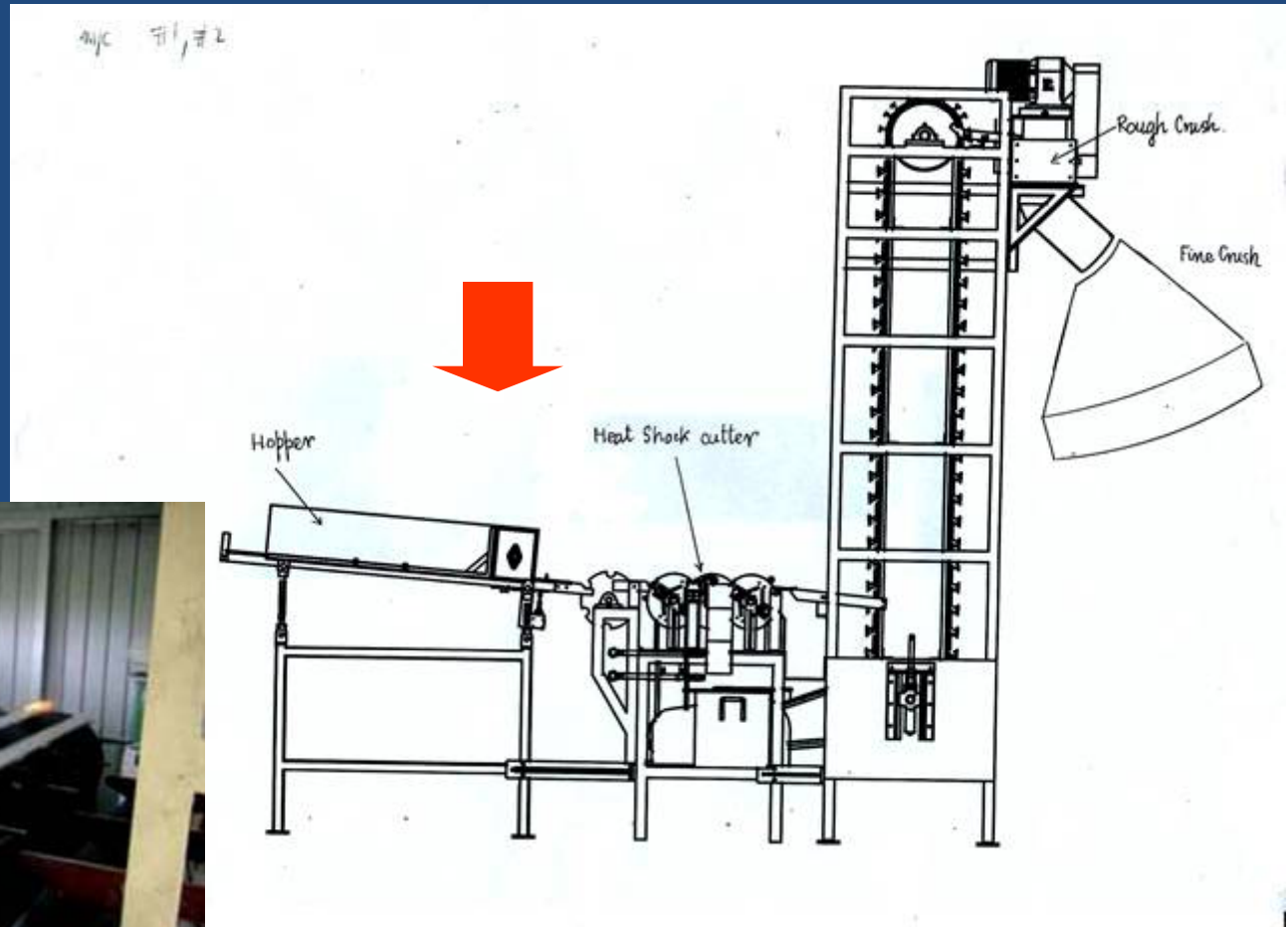
Household HW management scheme

6. Recycling

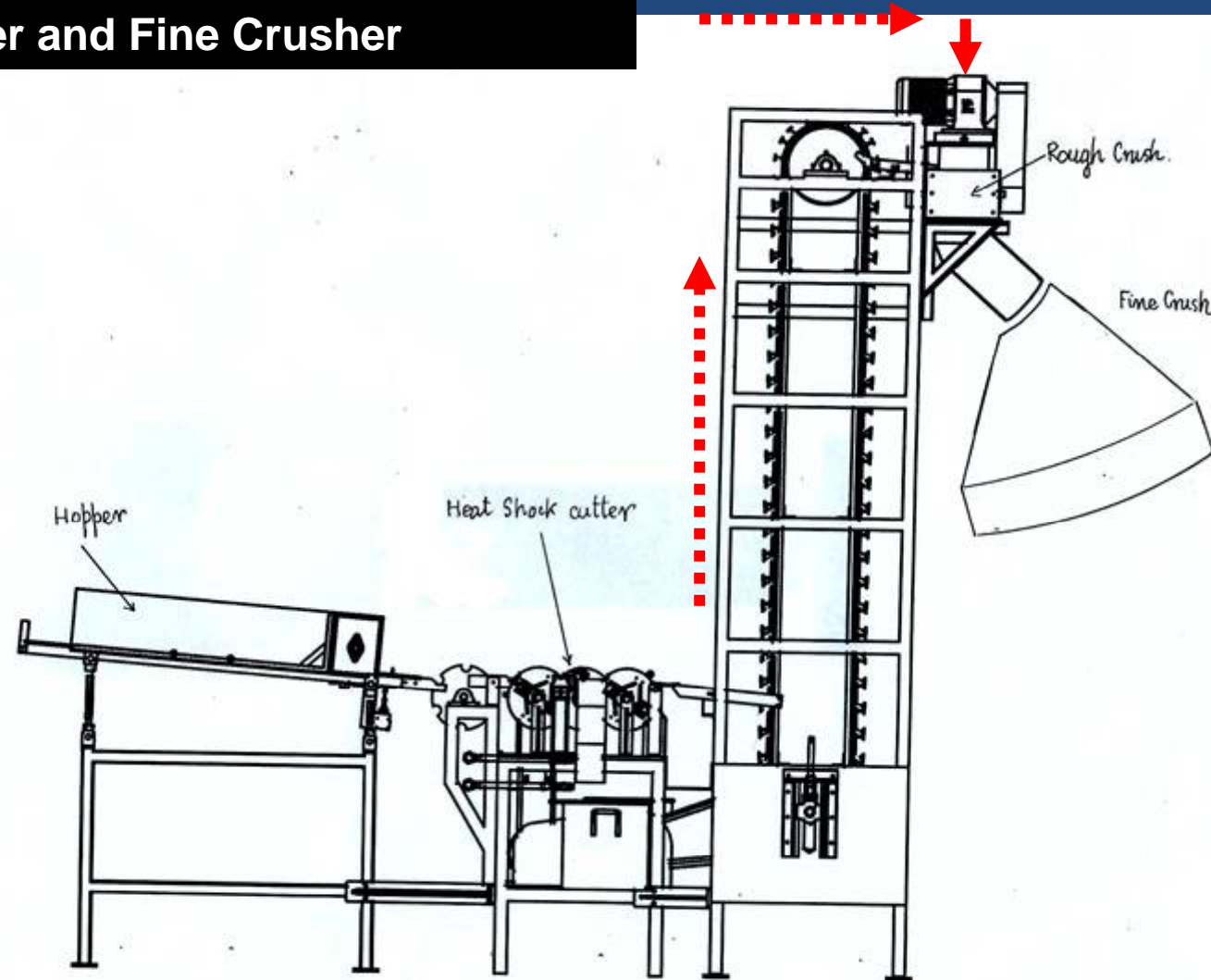


▶ Only by permitted recycling facilities

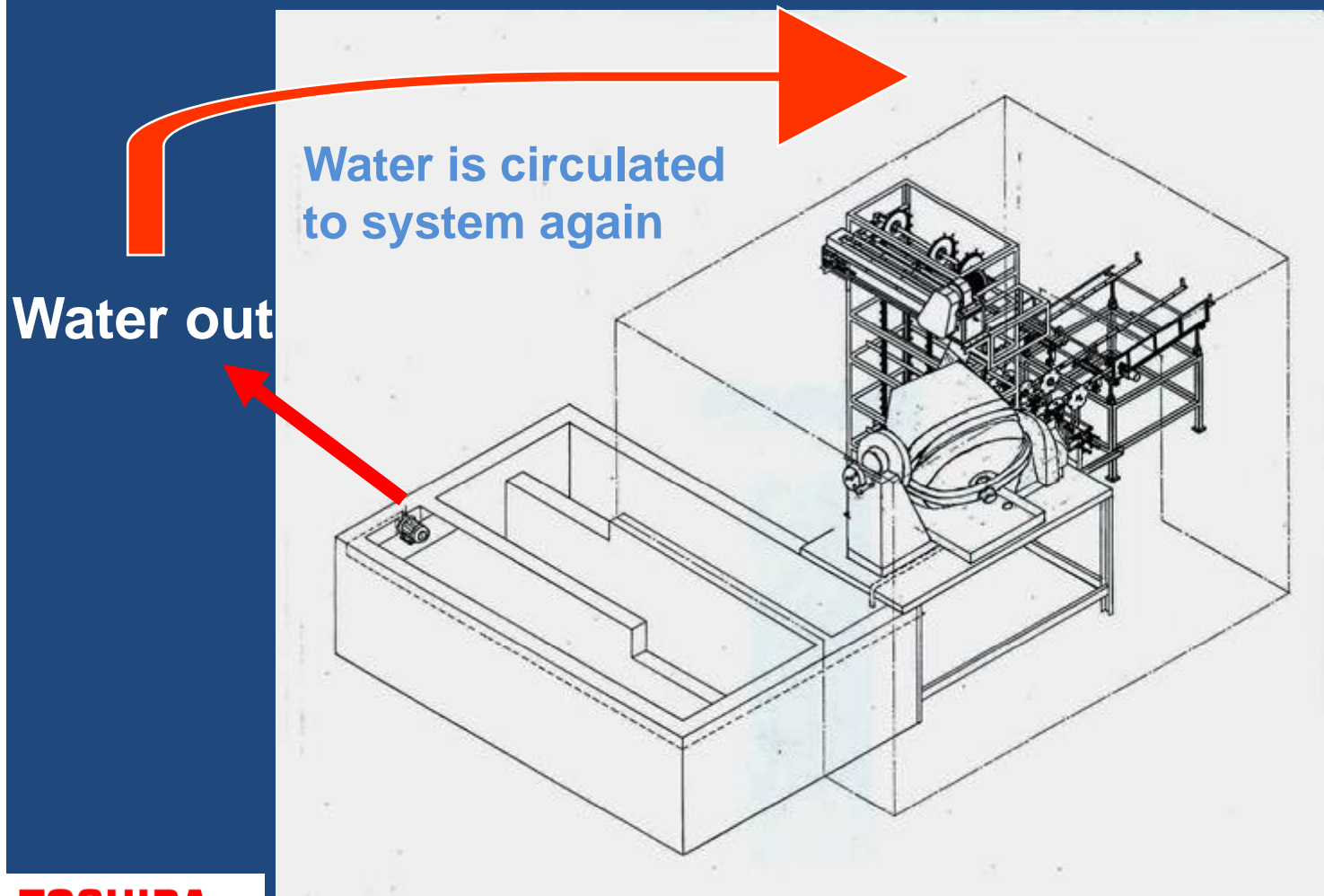
1. Put used FL in Hopper and cut both end of lamp



2. After end cutting, Tubes are conveyed to Rough Crusher and Fine Crusher



3. During Fine Crusher, Phosphor and Mercury will be washed out by “closed loop water” for 20 minutes.



4. The rinsed water is drained to the sedimentation tank ,
all solid substances precipitate in sedimentation tank.
The water is circulated to Fine Crusher.

Crushing and
cleaning mc



Sedimentation tank



Glass cullet,
that use in
Furnace

Glass Sludge
dispose as
hazardous waste



Tube FL recycling machine by Wongpanit Group



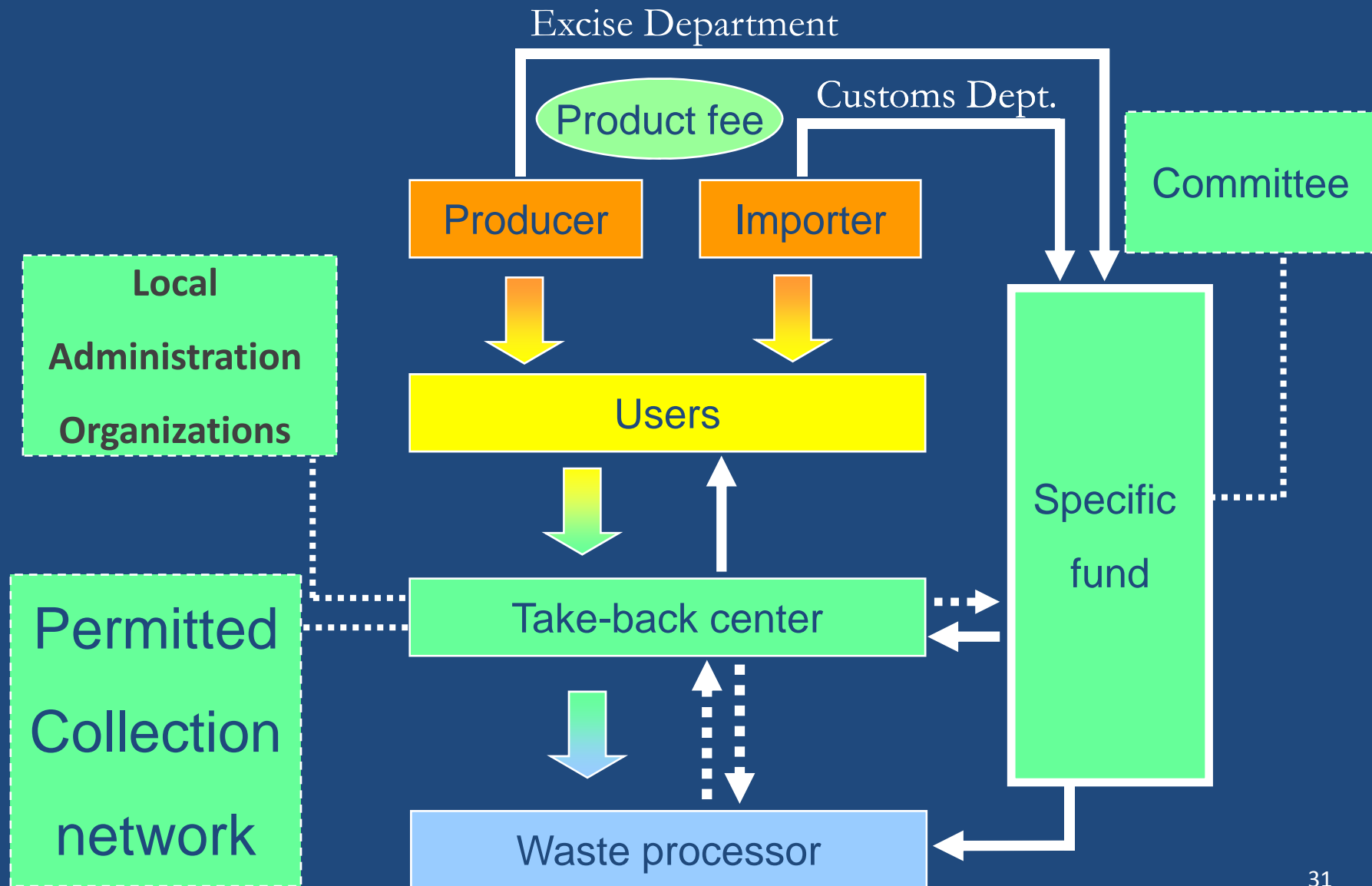
Manually place FL in the machine



Recyclable materials



Proposed new law on WEEE and household hazardous waste Management





Thank you