Promoting 3R strategy: e-wastes management in China

State Environmental Protection Administration of China

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Current Status of e-wastes in China
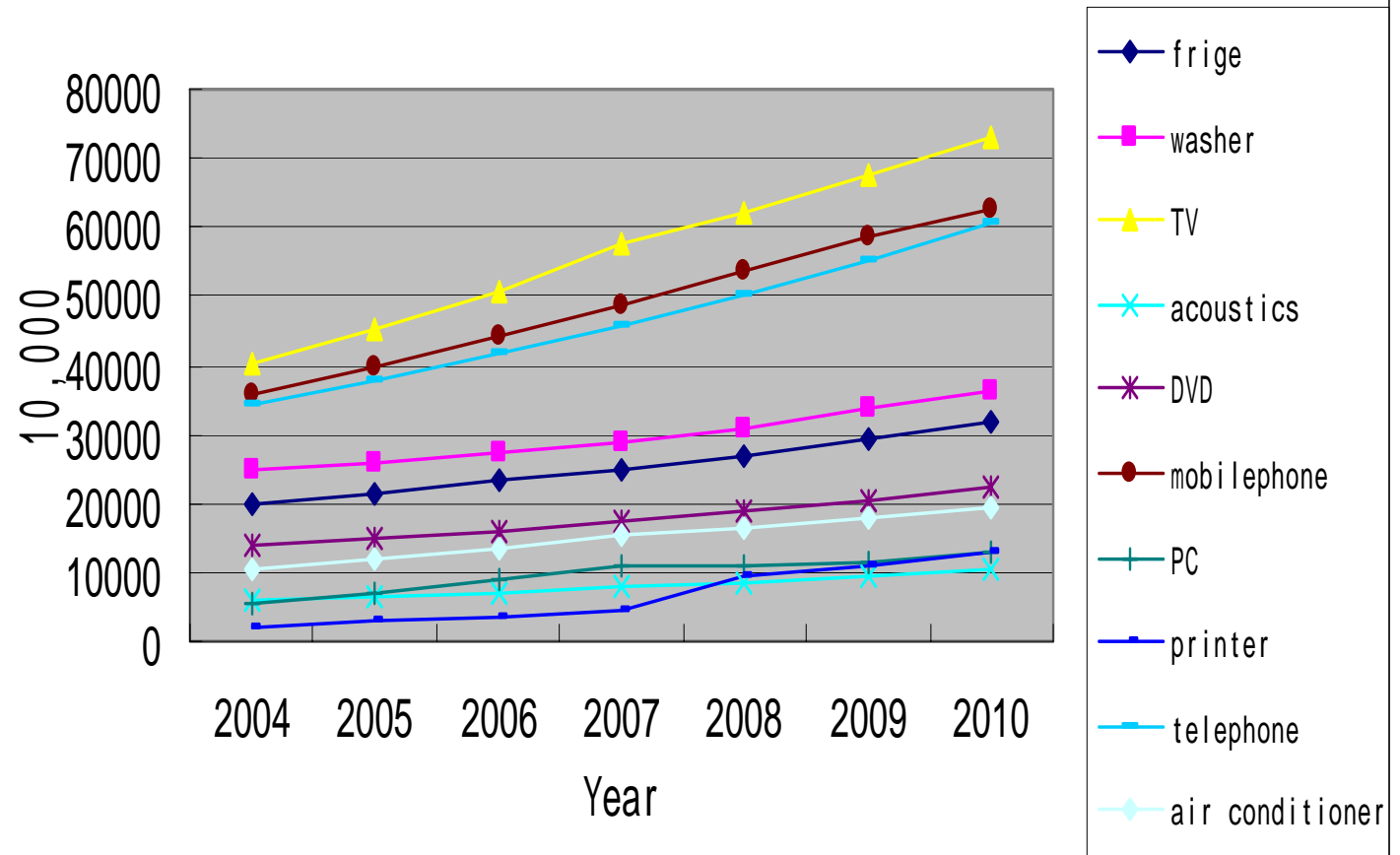
Main sources of e-wastes:

- Waste electronic products from households
- Waste electronic products from governments, institutions and enterprises
- Defective electronic products from manufacturer
- Imported electronic waste

The amount of electronic products in use and amount of e-wastes in China
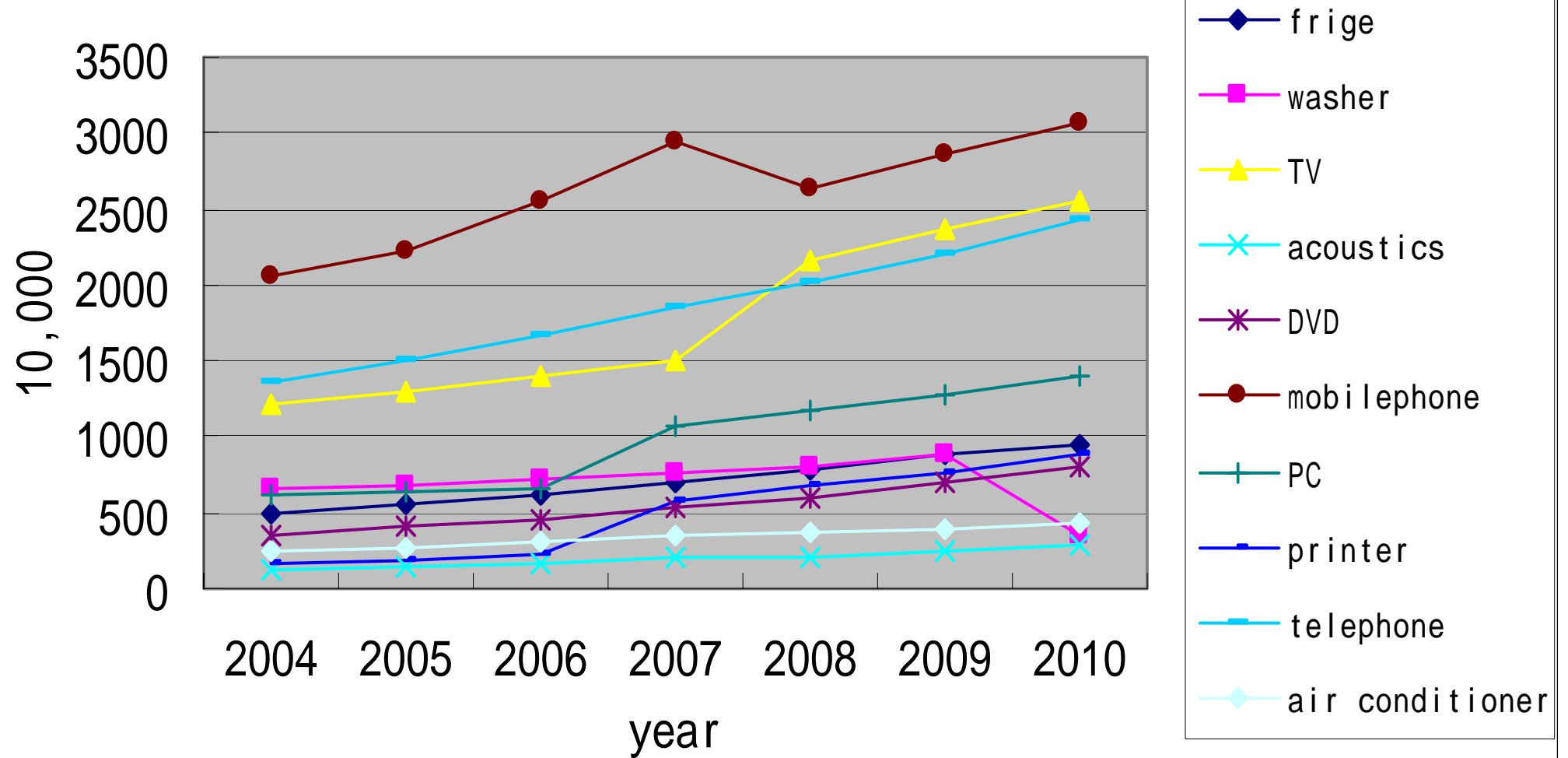
10 Major electronic products of 2005

• The amounts of electronic products in use: 2.1 billion sets

• The life year for e-products is about 10-15 years in China

• E-Waste amount generated: 79.23 million sets; about 2 million tons per year

amount of major electronic product in use in China

10,000

80000
70000
60000
50000
40000
30000
20000
10000
0

2004 2005 2006 2007 2008 2009 2010

Year

- frige
- washer
- TV
- acoustics
- DVD
- mobilephone
- PC
- printer
- telephone
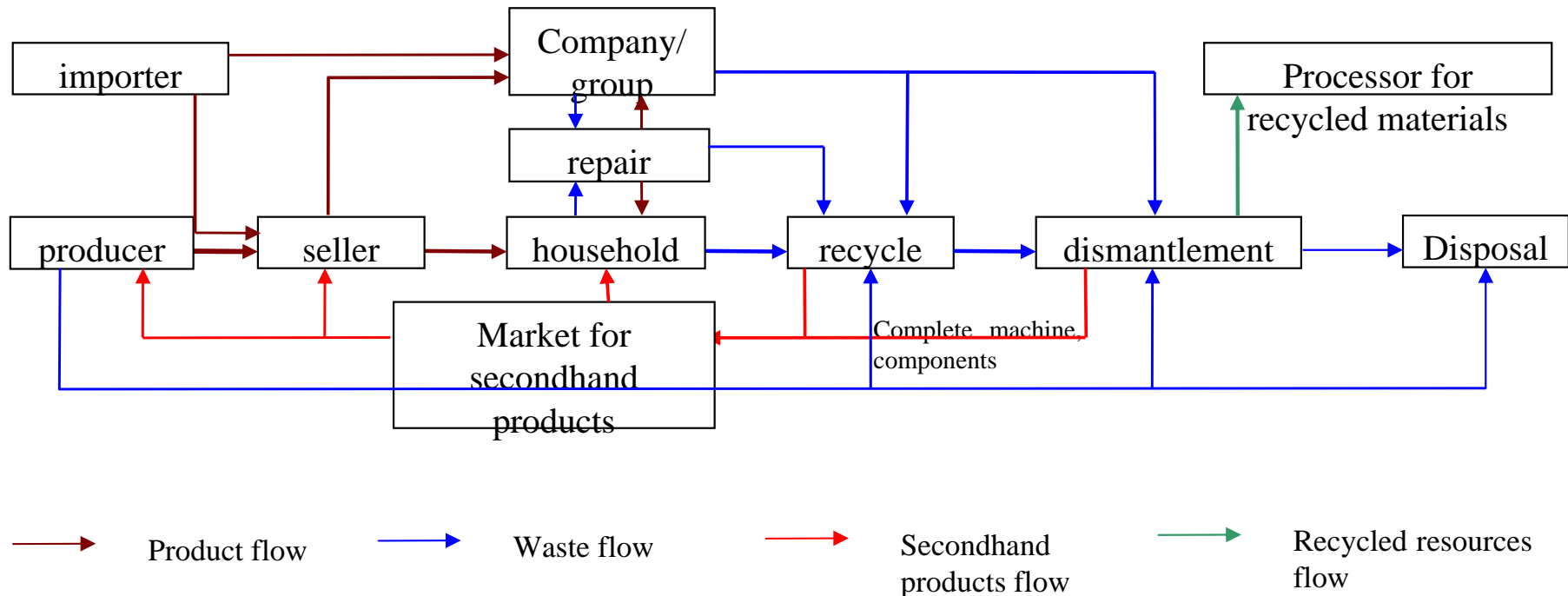- air conditioner

E-wastes generated in China

waste amount of major electronic product

Flows of e-wastes recycle and disposal

- **e-wastes are sold by producers to small peddlers (informal sectors)**

- **Secondhand products resold to the market for reusing**

- **Recovery of valuable items and metals, such as steel and iron, waste plastics, waste metal.**

Current Status of Electronic Wastes Treatment in China

- Classification and dismantlement by hand

- Treatment on circuit board

- Treatment on electrical wires and cables

- Treatment on CRT

- Treatment on printing ink

Serious adverse impacts to environment and damage to the public health by inappropriate way for recycles and disposals of e-wastes in China

Why the problems are serious

- **Direct reasons:**
  - Labour intensive sectors, operated mainly by small business and informal sectors, with weak capacity to handle the e-wastes disposal
  - Driven by economic benefits and the environmental cost is externalized
  - Application of very backward technology, recovery only valuable metals, and disposal of the heavy metals and toxic pollutants
  - Low awareness of damage caused to the health and environment
  - Electronic wastes flowed to the regions with low labor cost and poor supervision and management on environment protection, causing great environmental risk

In-depth reasons: lack of regulations and weak enforcement in China

- **Problems existed in "The Law on Prevention and Control of Solid Wastes"**
  - E-wastes are difficult to be categorized to current three classifications of solid wastes: industrial, municipal and hazardous wastes;
  - Hard to define polluters causing e-wastes pollution: producer, consumer, recycle and disposal firms or individuals
  - Hard to ensure treatment and disposal fund
  - EPR has been proposed in the law as a principle but no operational system

Existing polices for e-wastes

- **Polices formulated by several ministries**
  - "Management regulation on pollution control of electronic information products" issued by 7 ministries including Ministry of Information Industry, NDRC, SEPA, etc.
  - "Provisions for management on recycle and treatment of waste household appliances and electronic products" is being drafted by the National Development and Reform Committee since 2003
  - "Technical policy for pollution prevention and control of waste household appliances and electric products" is being formulated by SEPA

Policies, regulations and problems

Collection of e-wastes:

- Coordination of responsibility of different stakeholders
  - Not very much clear responsibility of stakeholders for e-waste management in China, SEPA, NDRC, Ministry of IT products, Ministry of Commerce, Ministry of construction, etc.

- Formal wastes recycle companies decrease rapidly
  - Collected mainly by informal sectors
  - Insufficient sources of e-wastes for formal sectors
  - State tax preferential policy for wastes recycle industry and distortion of implementation in practices

Chinese government strengthen e-wastes management

- Management regulation on pollution control of production of electronic sectors and IT, by 7 ministries will be effective on March, 2007, national directories will be set up.

- The national regulations on e-wastes management in China (draft) has been submitted to the State Council for approval and expected the end of 2006.

- The pollution control for e-wastes will be strengthened in the process of dismantling, shredding, treatment, recycle and final disposals, regulations are drafted by SEPA.

Key policy tools for e-wastes management

- EPR and national directories of product for EPR;

- Encouraging the formal collection system of e-wastes;

- Funding support for e-wastes sectors with good environmental performances and other economic instrument;

- Research on some key advanced technology of recycling of e-wastes;

- National demonstrations for eco-town construction in Qingdao, Shenzhen city, etc.

Imported e-wastes management

- Forbidden lists of the e-wastes imported in 2000;

- Joint efforts by SEPA and Customers on illegal movement of hazardous e-wastes;

- Strengthen the environmental enforcement for e-wastes recycle and disposal firms

- Training and education, raising awareness of the publics

Stakeholder Analysis and Challenges

- For government and related sectors
  - Environmental pollution
  - Absence of management regulations fit for China and no formal collection system
  - How to regulate waste electronic products
- For manufacturers, importers and sellers
  - Worries on increase of production costs by adding recycle and disposal fee
  - Difficulties in collection, storage, transportation and treatment process
  - Unfair competition caused by weak implementation of laws and regulations due to regional disparity

Stakeholder analysis and Challenges

- **For firms in charge of recycle and final treatment**
  - Worries about shortage of wastes resulting in inadequate treatment amount for treatment plant
  - No idea on how to select treatment facilities and pollutants discharge standards
  - Hard to identify proper treatment technologies
  - Poor management and control on recycle process and causing secondary pollution
- **For public**
  - Residential environment deteriorates
  - Collection system of wastes
  - Compensation mechanism

Suggestion 1

- **Learn Good practices of international experience on recycle and reuse of electronic products**
  - Turning from emphasis on end of pipe treatment to priority given to pollution prevention and control in the whole process of production and consumption
  - System should be formulated and implemented beforehand
  - Policies and measures should be comprehensive and diversified, and give emphasis on economic incentive means and market instrument
  - Promoting public participation and setting up partnerships among government, enterprises and the public

Suggestion 2

- **Improvement of the legal system for recycle and reuse of electronic products in China**
  - Relative balance of social subjects embodied in the life cycle of products under the rules of responsibilities, obligations and interests
  - Recycle and reuse of electronic wastes should accord with 3R principle
  - System planning and design must follow life attributes of products in different phases of life cycle
  - National law, regulations, and standards, technical guidelines need to established targeting e-wastes management and coordination of regulations are needed.

Suggestion 3

- **Setting up legal system for recycle and reuse of electronic products in China**
  - Definition and scope of electronic products
  - Responsibilities of governments and stakeholders (including manufacturer, importer, seller, consumer, persons in charge of reuse and final disposal of wastes) during life cycle of products
  - Policies and measures to promote recycle and reuse of wastes
  - Supervision, management, legal liability and etc.

Suggestion 4: Promotion 3R strategy and international cooperation

- Preventing illegal movement, joint efforts by export and import countries are needed;

- Border control and cargo inspection;

- Monitoring and keep track of recyclables movement

- Capacity building for e-wastes recycle and disposal in a proper ways in developing countries in terms of monitoring, enforcement, technology and policy-making;

- Education and public participation, the role of NGOs

In summary: key system for e-wastes

- **Improving products responsibility system**

- **Implementing EPR (Extended Producer Responsibility) system**

- **Charging system for electronic wastes recycle and treatment**

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