

Repair, Refurbishment and Testing by Japanese Manufacturers achieving Product Quality/Safety Assurance and Environmental Conservation

The Japanese Four Electrical and Electronic Industry Associations

Workshop 2014 of the Asian Network, Okayama, Japan

27 November 2014



Outline

0. About us

1. Our Mission and Current Operations for Used Products

2. Cases

3. Survey Results

4. Conclusions



About Us

- **Basel Task Force** established in Dec 2012 under the Japanese Four Electrical and Electronic Industry Associations

- The Japan Electrical Manufacturers' Association (JEMA) / **275** companies
- Japan Electronics and Information Technology Industries Association (JEITA) / **397** companies
- Communications and Information network Association of Japan (CIAJ) / **227** companies
- Japan Business Machine and Information System Industries Association (JBMIA) / **53** companies



- **Member companies**

- Fuji Xerox (chair)
- Canon (co vice-chair)
- Sony (co vice-chair)
- Fujitsu
- Mitsubishi Electric
- NEC
- Panasonic
- Ricoh
- IBM Japan (observer)
- HP Japan (observer)



Our Mission

- To enrich people's lives through providing **safe and high-quality products with due consideration to the environment**
- To provide promptly appropriate **product guarantees and maintenance services** in case of occurrence of defective products or product failures
- To give consideration to **attain both environmental conservation and economic efficiency** on a global basis in accordance with the **“Mottainai Spirit (a Japanese traditional value to avoid waste)”** throughout the whole life cycle of electrical and electronic equipment

Current Operations for Used Products

● Repair/Refurbishment

- Defective/used products are shipped (export/import) to the repair/refurbishment center with specialized techniques/technologies
- Repaired/refurbished products are back to customers and used continuously
- Contributes to **reduction of waste and effective utilization of resources** by extending the useful life of valuable products as well as by limiting demand for new natural resources

● Testing (e.g. failure analysis, field test)

- Defective products are shipped (export/import) to the development center or the quality assurance center of the manufacturer
- Results of testing are reflected on the product development on a timely manner
- Contributes to **development and supply of future products to be used safely for a long time** by preventing product failure and improving product quality

Effective, efficient and uniform services are made possible by **regionally centralized facilities covering several countries**

Cases

- 1. Refurbishment in Thailand - Ricoh & Fuji Xerox**
- 2. Testing in Thailand - Mitsubishi Electric**
- 3. Repair in Malaysia**



Refurbishment in Thailand



- Approx. 50 workers, 1,200 m²
- 400 - 500 units/month
- Multi Functional Printers (MFP), Printers

1. Receive

2. Storage

3. Removal of covers

4. Interior cleaning



5. Exterior cleaning

6. Parts exchange

7. Assurance

8. Packaging

9. Shipping

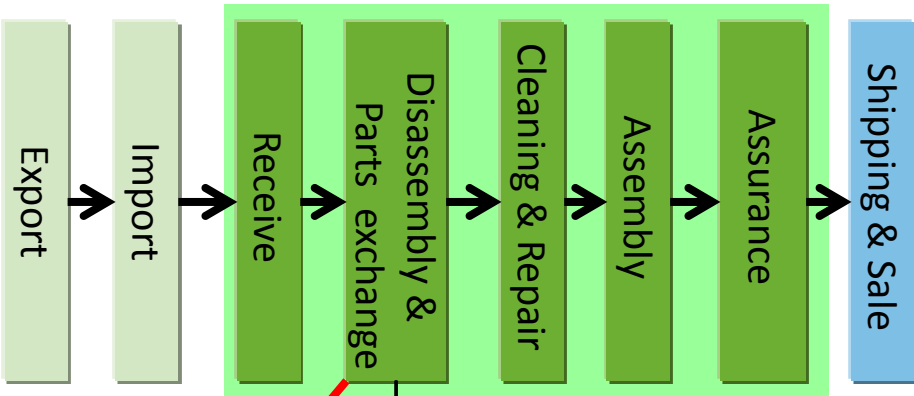


Refurbishment in Thailand



Processes established with strong support by the government of Thailand

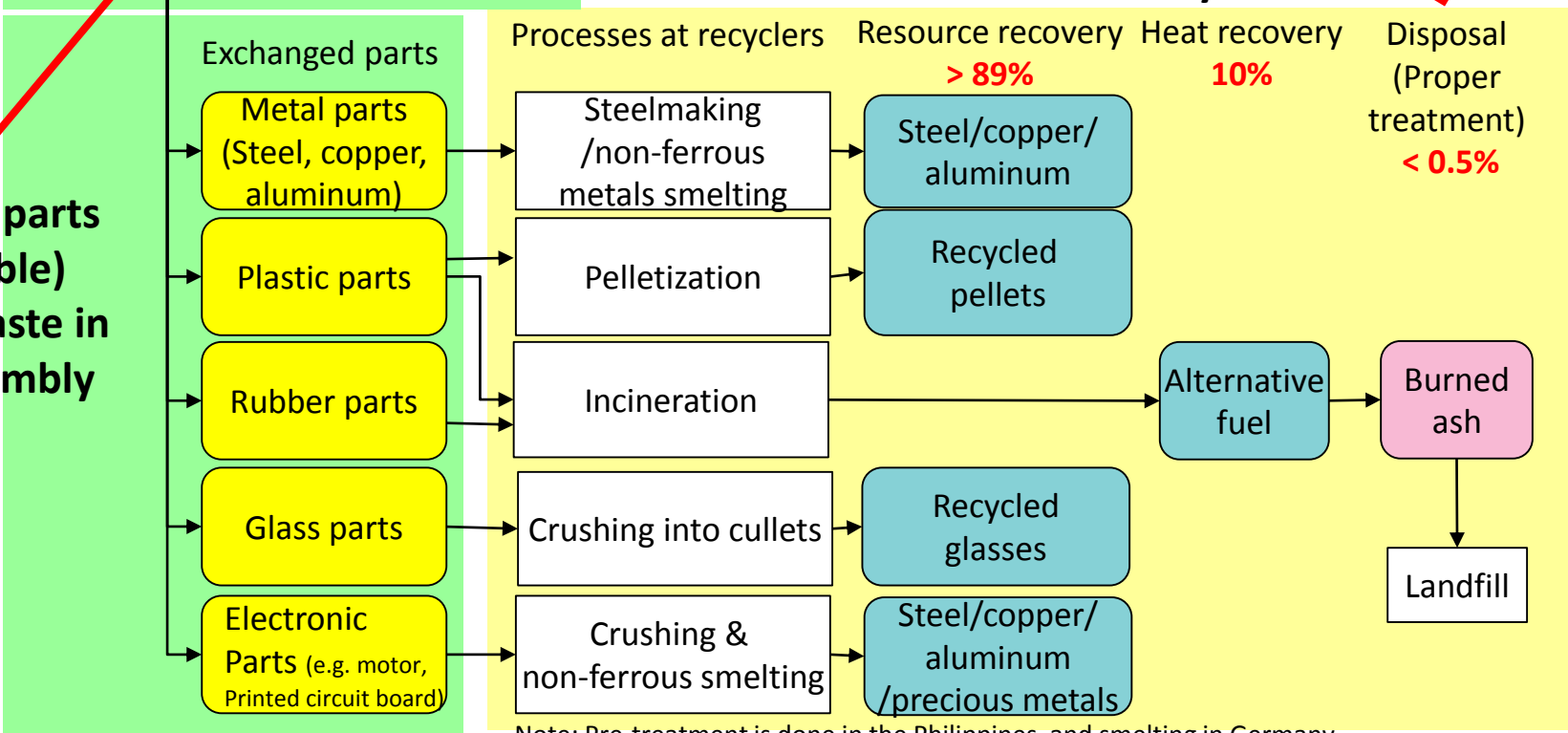
Processes at site



Little hazardous waste is generated from equipment compliant with applicable chemical regulations worldwide

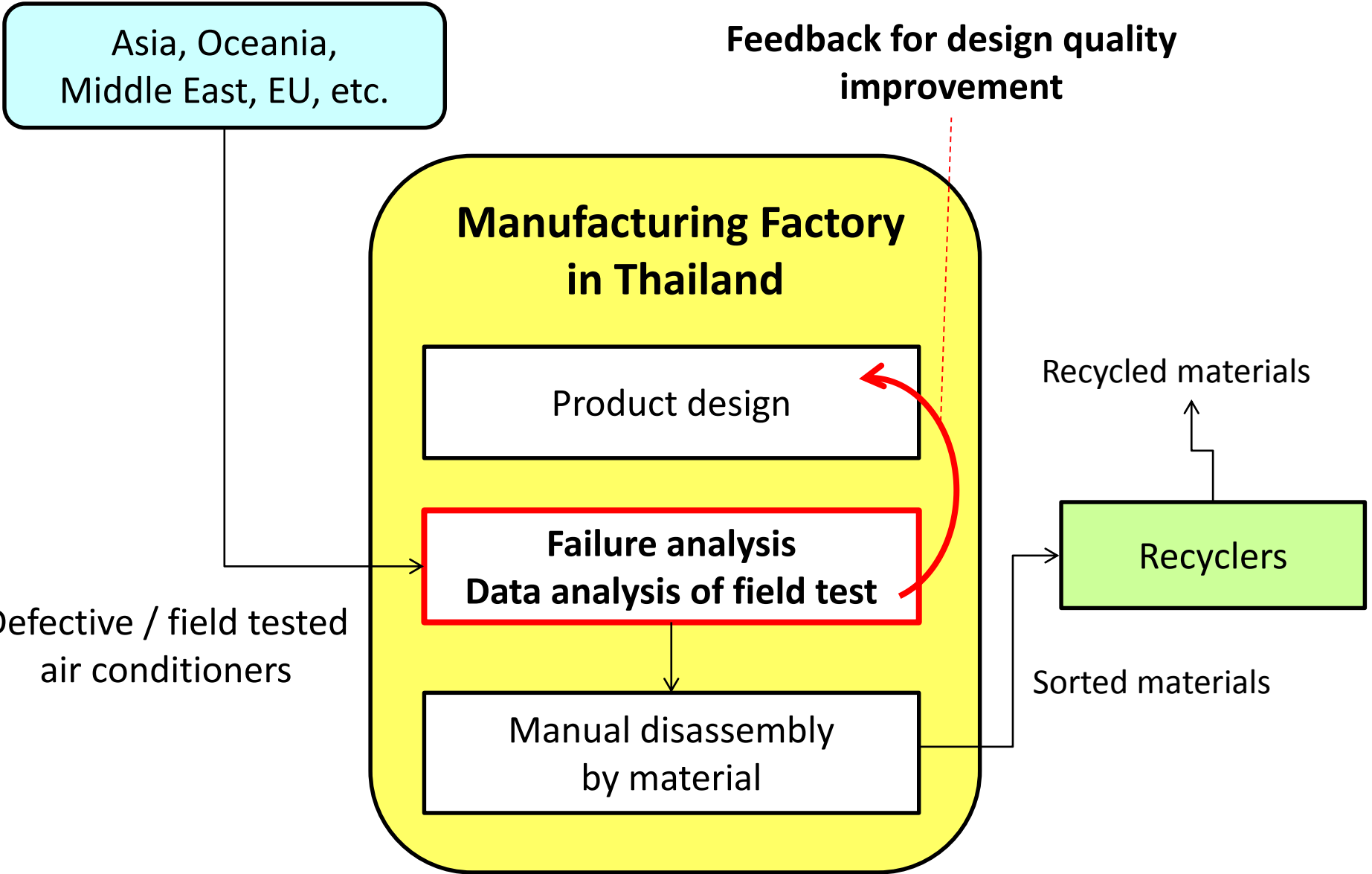
Authorized Recyclers

Exchanged parts (non reusable) become waste in the disassembly process



Note: Pre-treatment is done in the Philippines, and smelting in Germany.

Testing in Thailand



Asia, Oceania,
Middle East, EU, etc.

Feedback for design quality
improvement

**Manufacturing Factory
in Thailand**

Product design

**Failure analysis
Data analysis of field test**

Manual disassembly
by material

Recycled materials

Recyclers

Sorted materials

Defective / field tested
air conditioners

Testing in Thailand



Failure analysis

Defective air conditioners
(countries of sale)

Identify defective part

Export
defective
products

Urgent

Product quality management
(Importing country)

Verification
of defective
part

Investiga-
tion of
failure
cause

Counter-
measure

Data analysis of field test

Field test to collect data under
different conditions
(in some countries)

Climate

Residential
structure

Life style

Export
Field tested units

Product development
(Importing country)

Data analysis
on parts and
performance

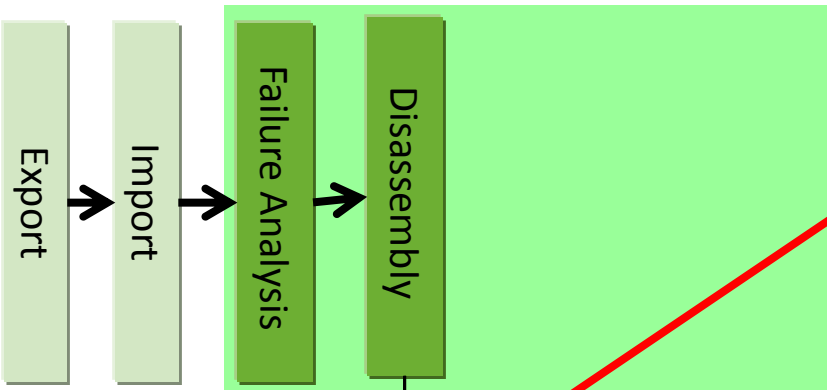
Product
design

Improvement
of product
performance

Testing in Thailand

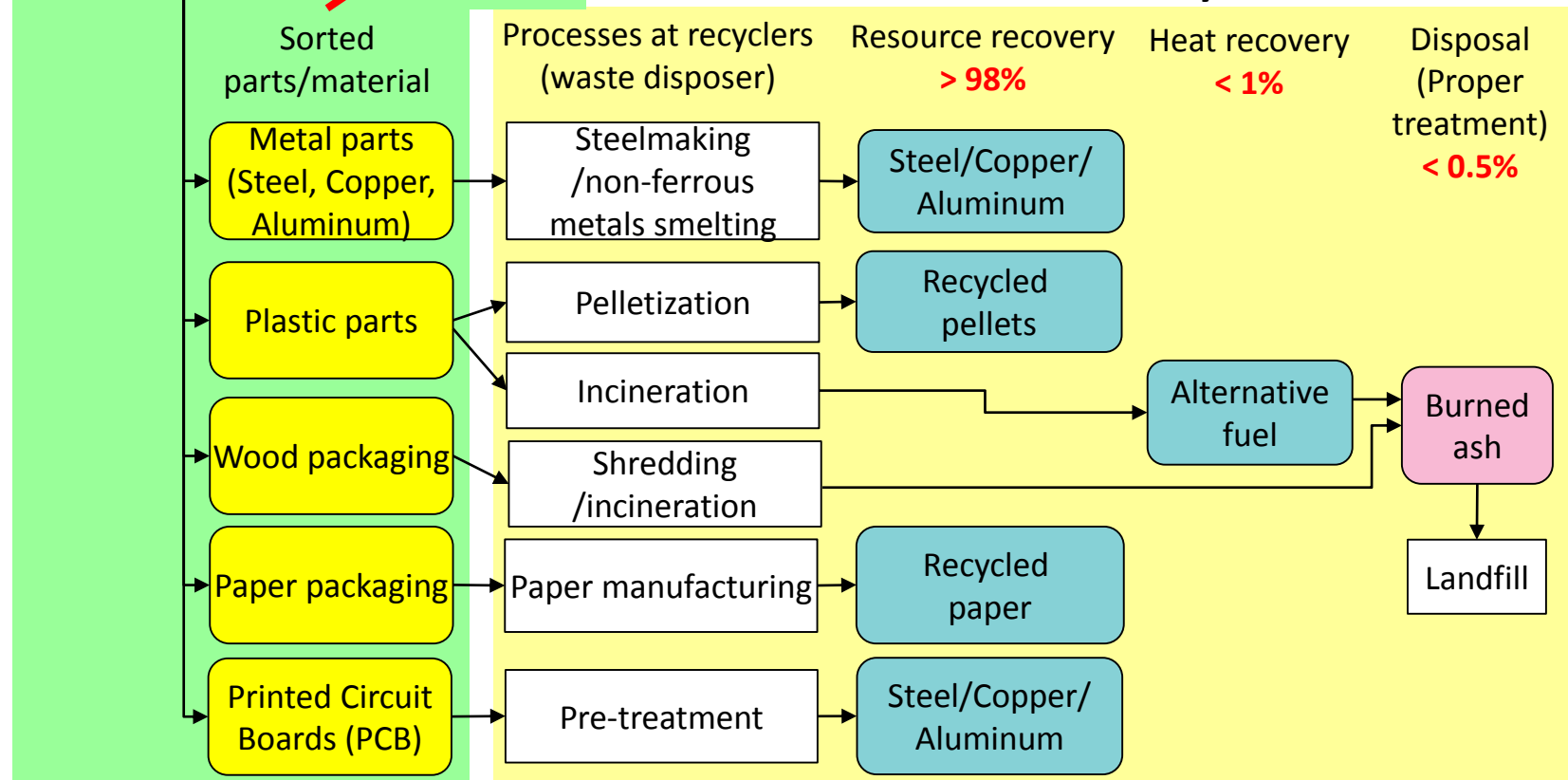


Processes at site



Products after failure analysis are transported to waste management center and sorted to each materials for recycling.

Authorized Recyclers



Note: Smelting is done outside of Thailand.

Repair in Malaysia

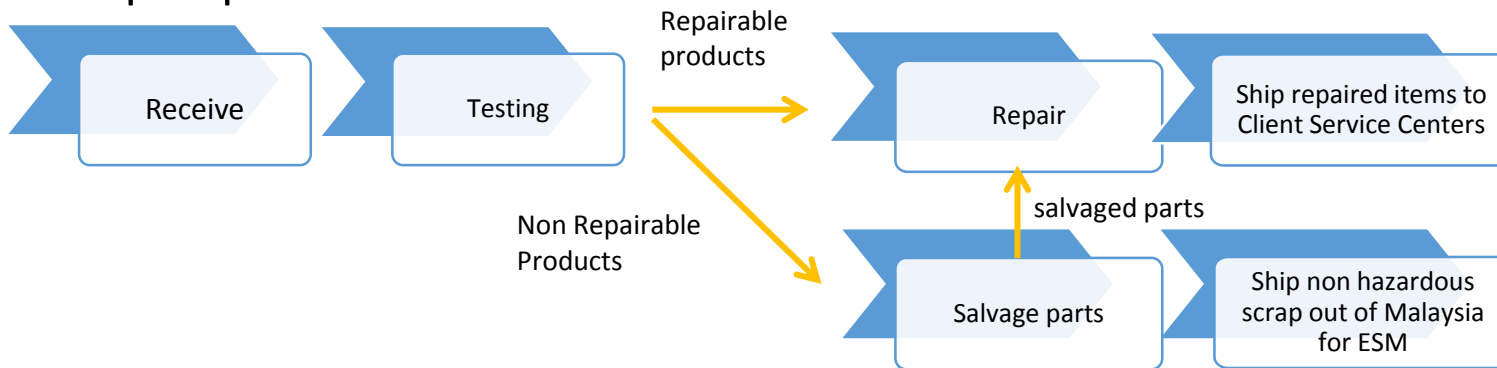
- Malaysian Government allows repair operations for many companies on the basis that:-
 - Product shipped in for repair, if non repairable must be shipped out for ESM – usually in Singapore

Product for repair is received from 14 Countries

Repaired product shipped out to 5 Countries

- Scheduled Waste (hazardous waste) generated locally from repair operations stays within Malaysia for treatment by a DOE approved facility:-

Repair process includes:



Scheduled Waste

Repairing IT Products and Parts

Volumes – 1 facility
= 13,000+ pcs per month

600+
Employees

Manufacturing factory operating refurbishment



Receiving of Used Products



- Palletised
- Properly packaged
- Labelled

Packaging

- Individual/collective packaging
- Cushioned



Storage



Interior View



- Parts exchange
- Assurance



Ready for shipping



Waste management center (in manufacturing factory)



Stored parts

(heat-exchanger before disassembling)



Disassembled materials

Steel



Aluminum fin



Copper pipe



Printed circuit board



Survey Results

Estimated Yearly Amount of Transboundary Movement of Used Products

tons/year

Type of used products	Purpose	Estimated yearly amounts imported /exported
Product body	Repair, Refurbishment, and Testing	17,500
Spare parts	Repair, Refurbishment, and Testing	1,100
Total		18,600

*1 The figures above represent not only imports and exports from/to Japan, but also those between overseas offices of Japanese manufacturers.

*2 The figures come from part of the Japanese manufacturers.

Survey Results

Trade Patterns of Transboundary Movement of Used Products

tons/year

FROM	TO	Quantities per year
OECD countries	→ OECD countries	17,100
OECD countries	→ Non-OECD countries	750
Non-OECD countries	→ OECD countries	300
Non-OECD countries	→ Non-OECD countries	450

* The figures come from part of the Japanese manufacturers.

Survey Results

Trade Patterns of Transboundary Movement of Used Products

tons/year

TO → FROM ↓	Japan	North America	Europe	Asia/ Oceania	Africa/Mid dle East	Central/ South America	Total
Japan	0	0	0	400	0	0	400
North America	1	38	0	0	0	17,151	17,190
Europe	1	0	45	54	240	0	340
Asia/ Oceania	0	0	87	402	0	0	489
Africa/Middl e East	0	0	141	0	0	0	141
Central/ South America	0	36	0	0	0	4	40
Total	2	74	273	856	240	17,155	18,600

* The figures come from part of the Japanese manufacturers.

Survey Results

Estimated Yearly Amount of Waste

tons/year

	Waste	Hazardous waste out of the total waste
OECD countries	1,175	196
Non-OECD countries	177	26
Total	1,352	222

*1 The figures above are for the total transboundary movement of **18,600 tons/year**

*2 Hazardous waste is those listed in Basel Convention Annex VIII Table A
(e.g. printed circuit boards, CRT, fluorescent tube)

Survey Results

Waste Management (some specific cases in Thailand and Malaysia)

Type of sorted material/component	Treatment	Traceability	Authorized services	Check of treatment process
Iron/non-ferrous metal	Material recovery (smelting)	Yes	Yes	Yes
Plastic	Material recovery, Partially heat recovery and landfill	Yes	Yes	Yes
Glass	Material recovery, Partially landfill	Yes	Yes	Yes
Composite parts	Material recovery	Yes	Yes	Yes
Hazardous component	Material recovery (smelting)	Yes	Yes	Yes

Conclusions

- Our transboundary movement of used products for repair/refurbishment/testing are **distinct from improper export/import conducted by some traders**
- Repair/Refurbishment of used products allows **realizing reduction of waste and effective utilization of resources**
- Testing contributes to **development of future products with enhanced safety and longer life**
- All processes of current operations are **well controlled**
- We are **managing waste including those hazardous** generated from repair/refurbishment/testing **in an appropriate manner**

Regarding the E-waste Guidelines

We need your support to continue our legitimate repair/refurbishment/testing currently being operated globally.

Conditions need to be:

Feasible; and

Acceptable for all stakeholders

Thank you very much!

FUJI XEROX 

Canon

SONY

FUJITSU



NEC

Panasonic

RICOH

IBM



JEITA

