

Asian Network Workshop 2014

- Updates on national regulations and border control activities

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Scope

Control Framework for Transboundary Movement of Hazardous Wastes

- Overview of Singapore's national regulations
- Policy for distinguishing UEEE from E-wastes
- Hazardous Waste Import and Export Statistics 2010-2012

Control and Management of E-waste in Singapore

- Collection and Recycling of E-waste
- E-waste collection
- New Standards on management of end-of-life ICT equipment

1

Overview of Singapore's national regulations

Hazardous Waste (Control of Export, Import and Transit) Act

- 16 Mar 98 - Enacted the Hazardous Waste (Control of Export, Import and Transit) Act and its Regulation
- Issuance of Basel permits for export, import and transit of hazardous waste
- Enforcement powers and penalties covered under the Act

Definition of 'Hazardous Waste'

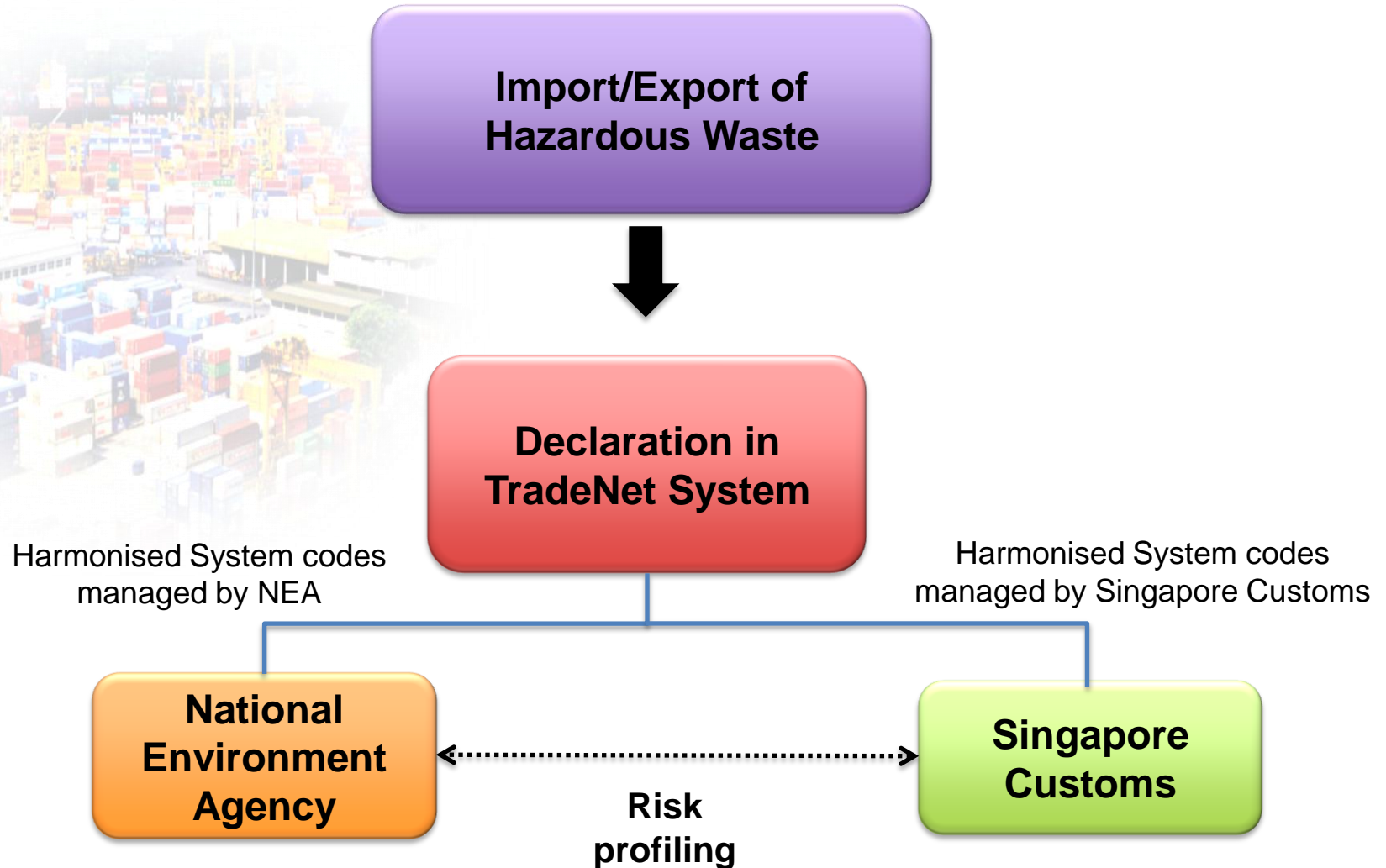
- Waste having any of the characteristics mentioned in Annex III to the Basel Convention; or
- Waste that belongs to any category contained in Annex I to the Basel Convention, unless it does not possess any of the characteristics contained in Annex III to that Convention; or
- Waste deemed as hazardous by Parties through the Basel Secretariat
- Include household wastes and residues from incineration of household wastes, but exclude radioactive and ship-borne wastes

Penalties under the Act

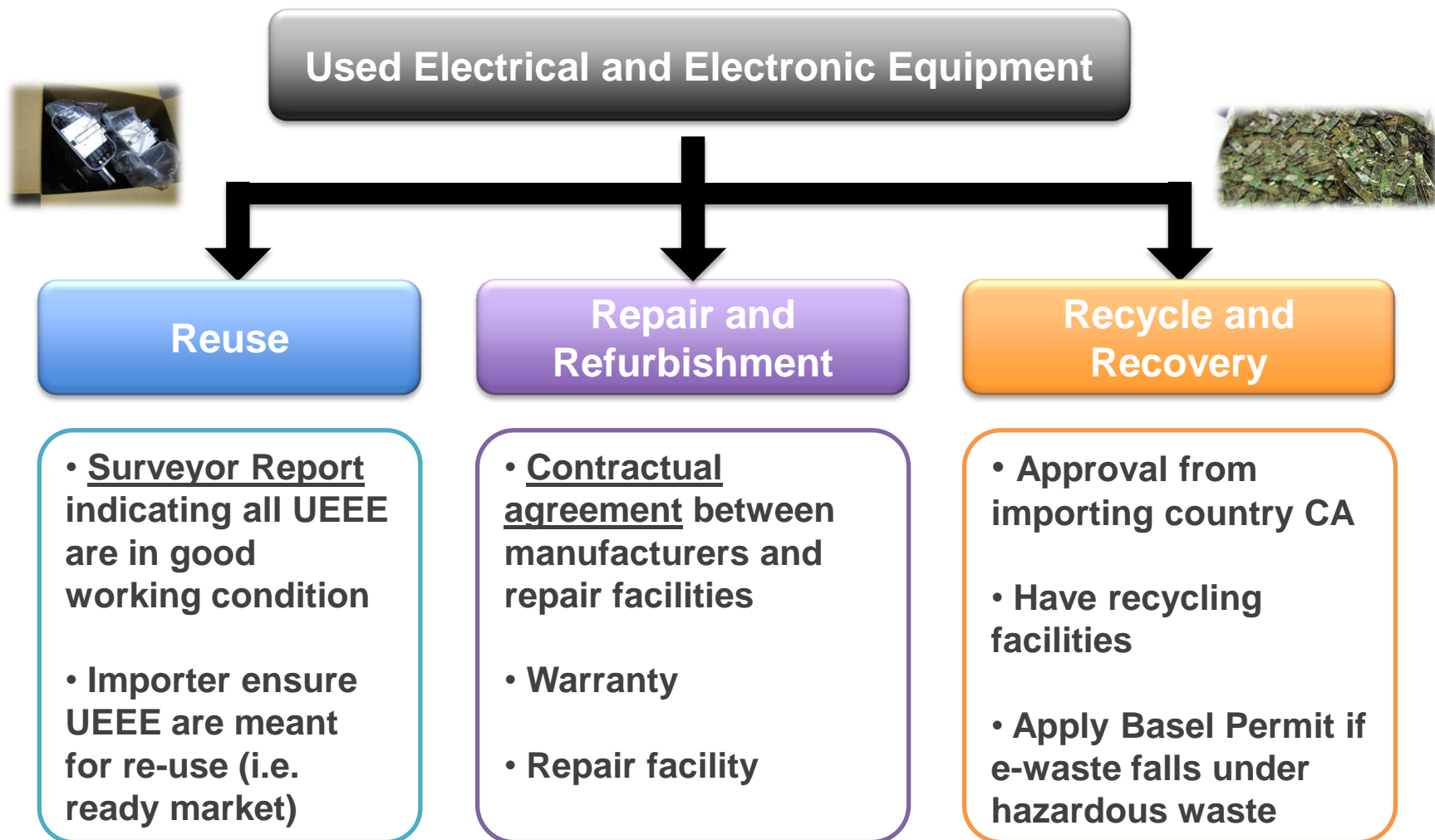
- S\$300,000 for Body Corporate
- S\$100,000 or 2 years imprisonment or both for individual

1

Overview of Singapore's national regulations



2 Overview of guidelines for distinguishing UEEE from E-wastes



3

Policy on import/export of e-waste

No import of e-wastes for the purpose of re-export.

No import/export of e-wastes for final disposal.

Import of e-waste for recycling on case-by-case basis

- Percentage of recovery/recycling
- Availability of appropriate recycling facilities

Allow export only with Prior Informed Consent from importing countries

3

Policy on imports of UEEE

Faulty equipment for repair under RMA warranty (eg. Hard disks)

Faulty equipment for repair under contractual agreement with manufacturers

Faulty or off-spec equipment for repair followed by re-branding and subsequently sold as brand new product with warranty

Faulty equipment for asset recovery or (i.e. reuse, repair or recycle) by approved recycling facilities only

4 Hazardous Waste Import Statistics (2010)

S/No	Waste Streams/ wastes having as constituents	Amount imported (metric tons)	Country/countries of transit	Country of origin
1	Solder (Dross, Bar, Ingot and Paste)	15.021	NIL	THAILAND
2	Printed Circuit Board Laminate Scrap With Solder	119.32	NIL	THAILAND
3	Electrical and Electronic Parts and Accessories eg. Computer and Mobile Phones	8.8762	NIL	NEW ZEALAND
4	Electrical and Electronic Equipments, Parts and Accessories (ie. Computers, Mobile Phones and Lithium-ion Batteries)	22.5639	NIL	PHILIPPINES
5	Electrical and Electronic Equipments and Parts & Accessories (Computers, Mobile Phones and Lithium-Ion Batteries)	62.684	NIL	SOUTH AFRICA
6	Lithium Ion (Rechargeable) Batteries	0.661	NIL	MALAYSIA
7	Electrical and Electronic Equipment and Assemblies eg. Computers and Mobile Phones	944.7798	NIL	AUSTRALIA
8	Electrical and Electronic Equipments, Parts & Accessories (eg. Computer and Mobile Phones) Li-Ion Batteries	0.7364	NIL	VIETNAM
9	Waste Circuit Boards And Spare Parts, General E-Wastes (Including Electronic Spare Parts And Electronic and Electrical Equipment) & Lithium-Ion Batteries	226.3385	NIL	CHINA
10	Electrical and Electronic Parts and Accessories (ie. Computers & Mobile Phones & Lithium-Ion Batteries)	523.3732	NIL	INDIA
11	Lithium-Ion (Rechargeable) Batteries	0.30682	NIL	HONG KONG
12	Electrical & Electronic Equipment, Parts and Assemblies (eg. Computer and mobile phones) and Li-ion Batteries	496.6248	NIL	THAILAND
13	Scrap Of Mobile Phones, Parts, PCB, Accessories, Lithium-Ion Batteries And Charger	146.6591	NIL	KOREA
14	Electrical and Electronic Equipments & Accessories	385.2328	NIL	JAPAN

4 Hazardous Waste Export Statistics (2010)

S/No	Waste Streams/ wastes having as constituents	Amount exported (metric tons)	Country/countries of transit	Country of destination
1	Waste Containing Silver Copper Scrap	76.497	NIL	Japan
2	Calcium Hydroxide Sludge	5449.71	NIL	Malaysia
3	Copper Base Ash	116.39512	NIL	Japan
4	Drained Battery Scrap 'Rains' / Lead Acid Battery Scrap	115.109	NIL	Korea
5	Drained Battery Scrap 'Rains' / Lead Acid Battery Scrap	13340.481	NIL	Philippines
6	Waste Lead Acid Batteries (Lead Sulphide, Polypropylene)	3428.6	NIL	Korea
7	Copper Scrap from Solid Electronic Waste	642.62	NIL	Japan
8	Flue Gas Desulphurization (FGD) Gypsum - Calcium Sulphate	97055	NIL	Malaysia
9	Galvanic Sludges, Plasma Coating Residues and Spent Copper Catalyst	215.69	Cairo, UK	Germany
10	Copper Slag	20	NIL	Malaysia
11	Diluted Sulphuric Acid	2053.60	NIL	Malaysia
12	Used Xerox Office Equipments	271.696	NIL	Thailand
13	Used Xerox Supplies Containing Residual Toner	2763.641	NIL	Thailand
14	Used Nickel Cadmium Batteries	3.5	NIL	Sweden
15	Spent Nickel Catalyst	141.731	NIL	Germany
16	Ion Exchange Resin, Filter Cartridge, Carbon Cartridge, Wiper Waste and Carbon Powder	0.075	NIL	Japan
17	Copper Scrap With Precious Metals	11.045	NIL	Japan
18	Waste Lithium Batteries	1.928	NIL	Canada

4 Hazardous Waste Import Statistics (2011)

S/No	Waste Streams/ wastes having as constituents	Amount imported (metric tons)	Country/countries of transit	Country of origin
1	Solder (Dross, Bar, Ingot and Paste)	13.012	NIL	THAILAND
2	Printed Circuit Board Laminate Scrap With Solder	151.484	NIL	THAILAND
3	Electrical and Electronic Parts and Accessories eg. Computer and Mobile Phones	4.822	NIL	NEW ZEALAND
4	Electrical and Electronic Equipments, Parts and Accessories (ie. Computers, Mobile Phones and Lithium-ion Batteries)	22.5639	NIL	PHILIPPINES
5	Lithium Ion (Rechargeable) Batteries	7.899	NIL	MALAYSIA
6	Electrical and Electronic Equipment and Assemblies eg. Computers and Mobile Phones	565.465	NIL	AUSTRALIA
7	Waste Circuit Boards And Spare Parts, General E-Wastes (Including Electronic Spare Parts And Electronic and Electrical Equipment) & Lithium-Ion Batteries	391.705	NIL	CHINA
8	Electrical and Electronic Parts and Accessories (ie. Computers & Mobile Phones & Lithium-Ion Batteries)	612.332	NIL	INDIA
9	Lithium-Ion (Rechargeable) Batteries	588.631	NIL	HONG KONG
10	Electrical & Electronic Equipment, Parts and Assemblies (eg. Computer and mobile phones) and Li-ion Batteries	197.783	NIL	THAILAND
11	Electrical and Electronic Equipments & Accessories	624.645	NIL	JAPAN
12	Stripper (2-Amino Ethanol, Glycol Ether and Water)	146.75	NIL	JAPAN

4 Hazardous Waste Export Statistics (2011)

S/No	Waste Streams/ wastes having as constituents	Amount exported (metric tons)	Country/countries of transit	Country of destination
1	Waste Containing Silver Copper Scrap	22128.07	NIL	Japan
2	Calcium Hydroxide Sludge	1175.53	NIL	Malaysia
3	Copper Base Ash	262.44455	NIL	Japan
4	Drained Battery Scrap 'Rains' / Lead Acid Battery Scrap	3150.282	NIL	Korea
5	Drained Battery Scrap 'Rains' / Lead Acid Battery Scrap	14091.898	NIL	Philippines
6	Waste Lead Acid Batteries (Lead Sulphide, Polypropylene)	4214.679	NIL	Korea
7	Copper Scrap from Solid Electronic Waste	756.2965	NIL	Japan
8	Flue Gas Desulphurization (FGD) Gypsum - Calcium Sulphate	53112.4	NIL	Malaysia
9	Galvanic Sludges, Plasma Coating Residues and Spent Copper Catalyst	262.991	Cairo, UK	Germany
10	Copper Slag	16000	NIL	Malaysia
11	Diluted Sulphuric Acid	7.20	NIL	Malaysia
12	Used Xerox Office Equipments	434.986	NIL	Thailand
13	Used Xerox Supplies Containing Residual Toner	123.292	NIL	Thailand
14	Spent Nickel Catalyst	91.425	NIL	Germany

4 Hazardous Waste Import Statistics (2012)

S/No	Waste Streams/ wastes having as constituents	Amount imported (metric tons)	Country/countries of transit	Country of origin
1	Solder (Dross, Bar, Ingot and Paste)	3.6702	NIL	THAILAND
2	Printed Circuit Board Laminate Scrap With Solder	150.493	NIL	THAILAND
3	Electrical and Electronic Parts and Accessories eg. Computer and Mobile Phones	93.8347	NIL	NEW ZEALAND
4	Electrical and Electronic Equipments, Parts and Accessories (ie. Computers, Mobile Phones and Lithium-ion Batteries)	622.25351	NIL	PHILIPPINES
5	Electrical and Electronic Equipment and Assemblies eg. Computers and Mobile Phones	926.84539	NIL	AUSTRALIA
6	Waste Circuit Boards And Spare Parts, General E-Wastes (Including Electronic Spare Parts And Electronic and Electrical Equipment) & Lithium-Ion Batteries	31.53492	NIL	CHINA
7	Electrical and Electronic Parts and Accessories (ie. Computers & Mobile Phones & Lithium-Ion Batteries)	400.05826	NIL	INDIA
8	Lithium-Ion (Rechargeable) Batteries	671.0076	NIL	HONG KONG
9	Electrical & Electronic Equipment, Parts and Assemblies (eg. Computer and mobile phones) and Li-ion Batteries	365.46287	NIL	THAILAND
10	Scrap Of Mobile Phones, Parts, PCB, Accessories, Lithium-Ion Batteries And Charger	37.983	NIL	KOREA
11	Computer Central Processing Units, Notebooks/Laptops, Mobile Phones Units, Chargers and Accessories, Networking Equipments and Servers (Batteries Removed)	532.83941	NIL	INDONESIA
12	Electrical and Electronic Equipments, Parts & Accessories (eg. Computer & Mobile Phones) and Lithium Batteries	2.3855	NIL	SRI LANKA
13	Electrical and Electronic Equipments & Accessories	463.7402	NIL	JAPAN
14	General E-Waste	252.079	NIL	NEW ZEALAND
15	Stripper (2-Amino Ethanol, Glycol Ethar and Water)	110.37	NIL	CHINA
16	Electronic Components	93.1066	NIL	THAILAND
17	Solder Plated Metal Materials	0.92781	NIL	THAILAND
18	Silver Paste Include All Silver Paste	0.2689	NIL	THAILAND
19	Mix Electronic Scrap	767.621	NIL	BRAZIL
20	Scrap Computers	31.351	BRAZIL, HONGKONG	TRINIDAD & TOBAGO

4 Hazardous Waste Export Statistics (2012)

S/No	Waste Streams/ wastes having as constituents	Amount exported (metric tons)	Country/countries of transit	Country of destination
1	Calcium Hydroxide Sludge	10292.22	NIL	Malaysia
2	Copper Base Ash	238.65447	NIL	Japan
3	Drained Battery Scrap 'Rains' / Lead Acid Battery Scrap	2967.668	NIL	Korea
4	Drained Battery Scrap 'Rains' / Lead Acid Battery Scrap	9169.134	NIL	Philippines
5	Waste Lead Acid Batteries (Lead Sulphide, Polypropylene)	4219.697	NIL	Korea
6	Copper Scrap from Solid Electronic Scraps	1337.956	NIL	Japan
7	Flue Gas Desulphurization (FGD) Gypsum - Calcium Sulphate	46005	NIL	Malaysia
8	Galvanic Sludges, Plasma Coating Residues and Spent Copper Catalyst	276.33	Cairo, UK	Germany
9	Copper Slag	46790.2	NIL	Malaysia
10	Used Xerox Office Equipments	984.701	NIL	Thailand
11	Used Xerox Supplies Containing Residual Toner	271.339	NIL	Thailand
12	Spent IPA Catalyst	90	Germany	Czech Republic
13	Precious Metal Bearing E-Wastes (Printed Circuit Boards, IC Chip and Components, Used Mobile Handsets and Components)	30.8188	Hong Kong	Japan

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- Control and Management of E-waste in Singapore

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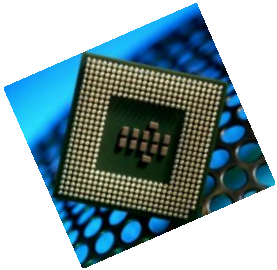
Collection and Recycling of E-waste

Industrial e-waste

- Produced by electronics industries
- QC rejects
- Residual waste from manufacturing processes and recycling operations

Consumer e-waste (UEEE)

- Discarded electronic goods (personal computers, mobile phones)
- Take-back/trade-in schemes
- Other recycling channels

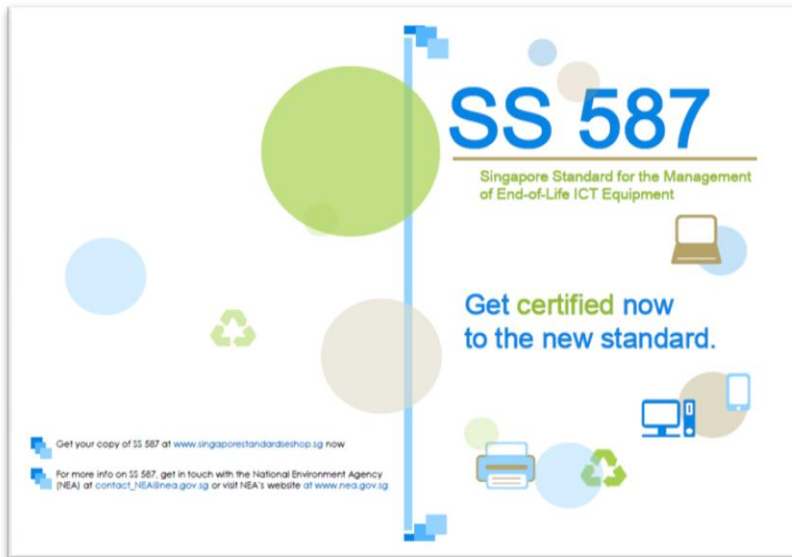


2 E-waste Collection



- **Electronic manufacturing companies**
- **E-waste recyclers**
 - Contractual agreements with manufacturers
- **Second-hand traders**
 - Refurbishment and remarketing
- **Take-back schemes**

3 New Standards on management of end-of-life ICT equipment



- Voluntary Singapore Standards for the management of end-of-life (EOL) infocomm technology (ICT) equipment
- Provides companies with guidelines to manage EOL ICT equipment in environmentally responsible ways (e.g. reuse, repair, material recovery, responsible disposal)
- Promote the adoption of best practices in managing UEEE and E-wastes

Our Environment

Safeguard • Nurture • Cherish