# Opportunities for investment in Appliances scrapping

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# Introduction

With increasing consumer demands, technology is growing rapidly, making electronic devices obsolete quickly. This has led to the reduced life span of electrical and electronic products over the last two decades.

After its use, EEE is disposed of, generating a waste stream that contains hazardous and valuable materials.

This waste stream is referred to as e-waste, or Waste Electrical and Electronic Equipment (WEEE).

# Definition and Classification

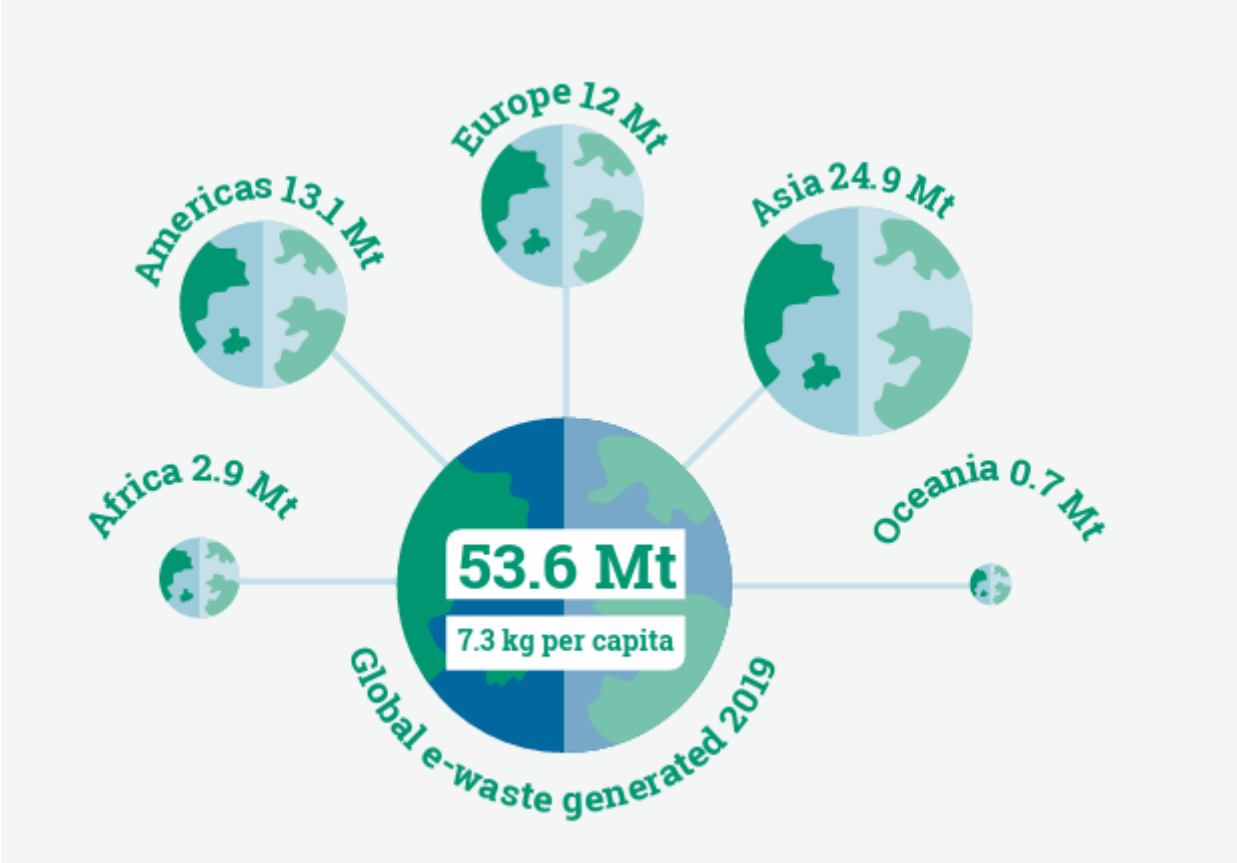
**Waste Electrical and Electronic Equipment (WEEE)** is defined as any item of EEE and its parts that have been discarded after the end of its useful life by the owner as waste.

**The United States Environmental Protection Agency (EPA), and Directive 2012/19/EU** classifies waste into ten categories:

1. Large household appliances, including cooling and freezing appliances
2. Small household appliances
3. IT equipment, including monitors
4. Consumer electronics, including televisions
5. Lamps and luminaires
6. Toys
7. Tools
8. Medical devices
9. Monitoring and control instruments and
10. Automatic dispensers

# WEEE generation and quantities

In 2019, the world generated a striking **53.6** Mt of e-waste. The global generation of e-waste grew by **9.2** Mt since 2014 and is projected to grow to **74.7** Mt by 2030 – almost doubling in only 16 years.



# WEEE generation per capita

**Globally:** 7.3 kg per capita

**Europe:** ranked first worldwide in terms of e-waste generation per capita, with 16.2 kg per capita.

**Oceania:** 16.1 kg per capita

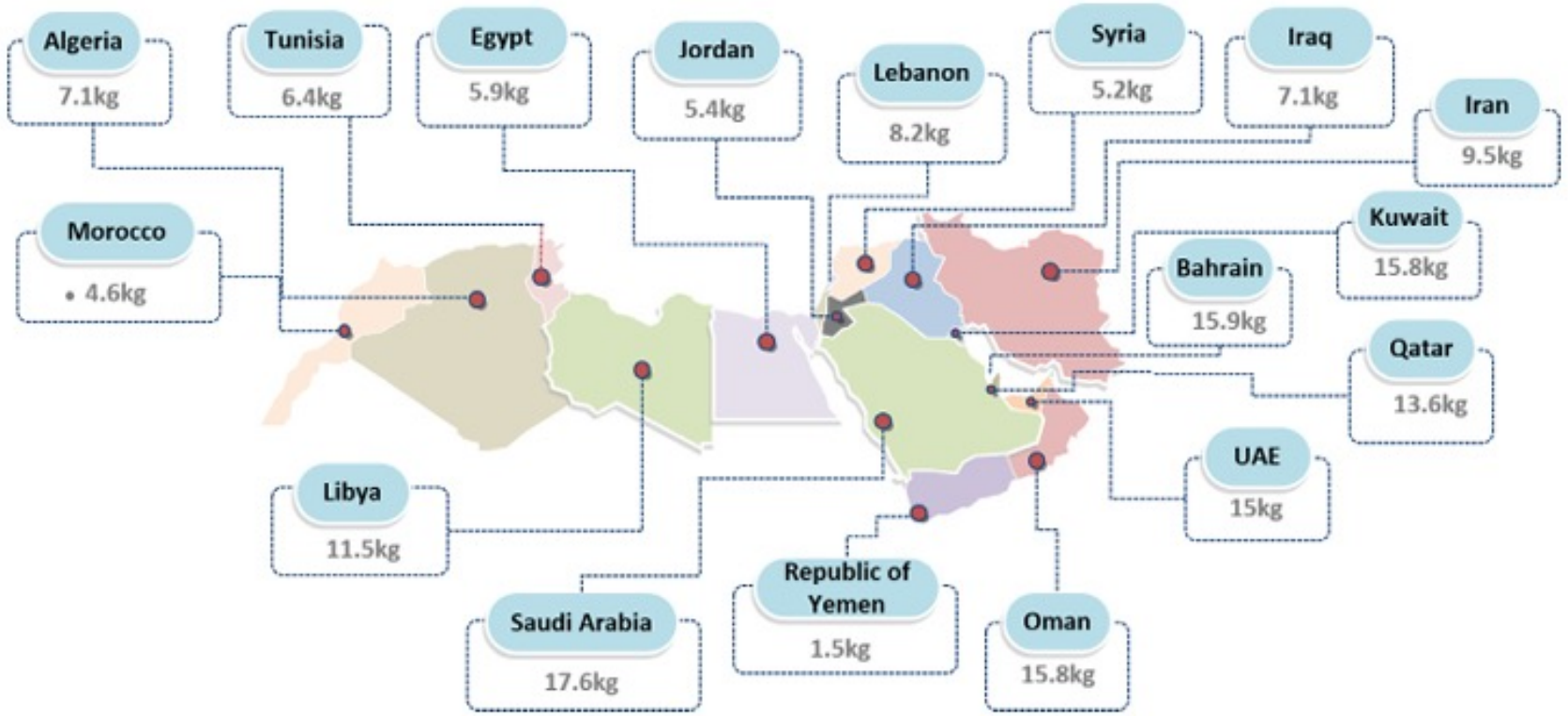
**Americas:** 13.3 kg per capita

**Asia:** 5.6 kg per capita

**Africa:** 2.5 kg per capita

*Ref. The Global E-waste Monitor 2020*

# WEEE generation in MENA countries




*Electronic waste considerations in the Middle East and North African (MENA) region*

# WEEE collected and recycled globally

In 2019, the formal documented collection and recycling was 9.3 Mt, thus 17.4% compared to e-waste generated. It grew with 1.8 Mt since 2014, an annual growth of almost 0.4 Mt. However, the total e-waste generation increased by 9.2 Mt, with an annual growth of almost 2 Mt. Thus the recycling activities are not keeping pace with the global growth of e-waste. The statistics show that in 2019, the continent with the highest collection and recycling rate was Europe with 42.5%, Asia ranked second at 11.7%, the Americas and Oceania were similar at 9.4% and 8.8%, respectively, and Africa had the lowest rate at 0.9%.

# WEEE collected and recycled globally

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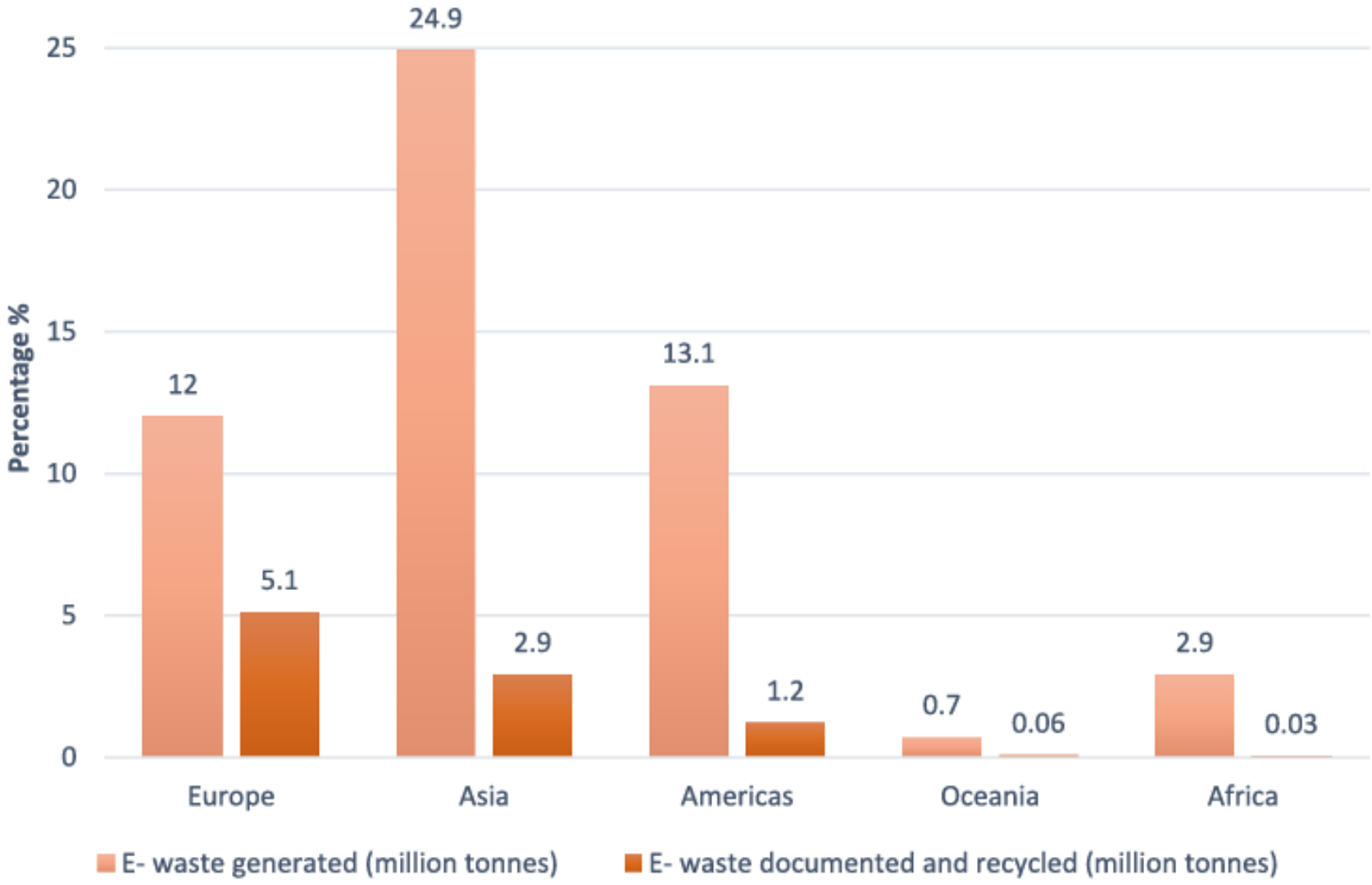


# Afric Countries

## Countries with the highest e-waste generation per sub-region

### Eastern Africa

0.3 Mt | 0.8 kg per capita | 1.3% | 0.004 Mt | 383

| | |
|---|---|
| Ethiopia | 55.2 kt |
| Kenya | 51.3 kt |
| Tanzania | 50.2 kt |

### Middle Africa

0.2 Mt | 2.5 kg per capita | 0.03% | 0.0001 Mt | 80

| | |
|---|---|
| Angola | 125.1 kt |
| Cameroon | 26.4 kt |
| Congo | 18.3 kt |

### Northern Africa

1.3 Mt | 5.4 kg per capita | 0% | 0 Mt | 240

| | |
|---|---|
| Egypt | 585.8 kt |
| Algeria | 308.6 kt |
| Morocco | 164.5 kt |

### Southern Africa

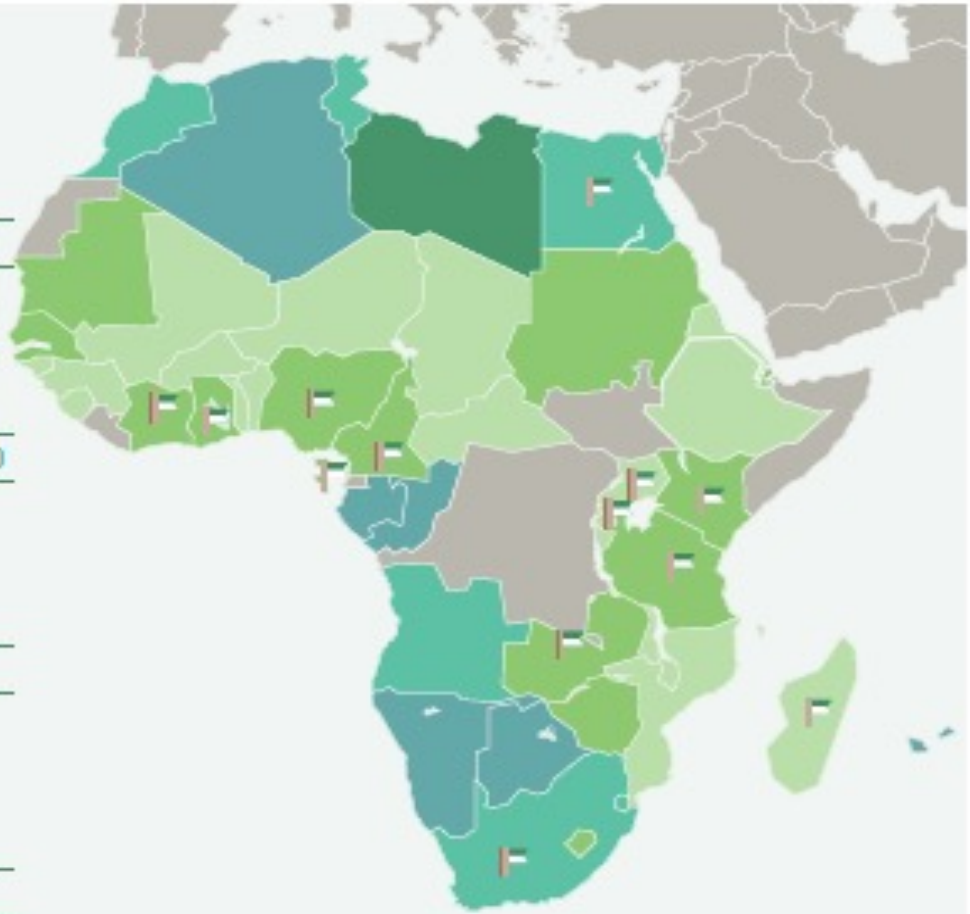
0.5 Mt | 6.9 kg per capita | 4% | 0.02 Mt | 67

| | |
|---|---|
| South Africa | 415.5 kt |
| Botswana | 18.8 kt |
| Namibia | 15.7 kt |

### Western Africa

0.6 Mt | 1.7 kg per capita | 0.4% | 0.002 Mt | 382

| | |
|---|---|
| Nigeria | 461.3 kt |
| Ghana | 52.9 kt |
| Côte d'Ivoire | 30.0 kt |



# Asia Countries


## Countries with the highest e-waste generation per sub-region

### Western Asia

2.6 Mt | 9.6 kg per capita | 6% | 0.2 Mt | 272

| | |
|---|---|
| Turkey | 847 kt |
| Saudi Arabia | 595 kt |
| Iraq | 278 kt |

### Central Asia

0.2 Mt | 7.1 kg per capita | 5% | 0.01 Mt | 31

| | |
|---|---|
| Kazakhstan | 172 kt |
| Turkmenistan | 39 kt |
| Kyrgyzstan | 10 kt |

### South-Eastern Asia

3.5 Mt | 5.4 kg per capita | 0% | 0 Mt | 656

| | |
|---|---|
| Indonesia | 1.618 kt |
| Thailand | 621 kt |
| Philippines | 425 kt |

### Eastern Asia

13.7 Mt | 8.6 kg per capita | 20% | 2.7 Mt | 1590

| | |
|---|---|
| China | 10 129 kt |
| Japan | 2 569 kt |
| Republic of Korea | 818 kt |

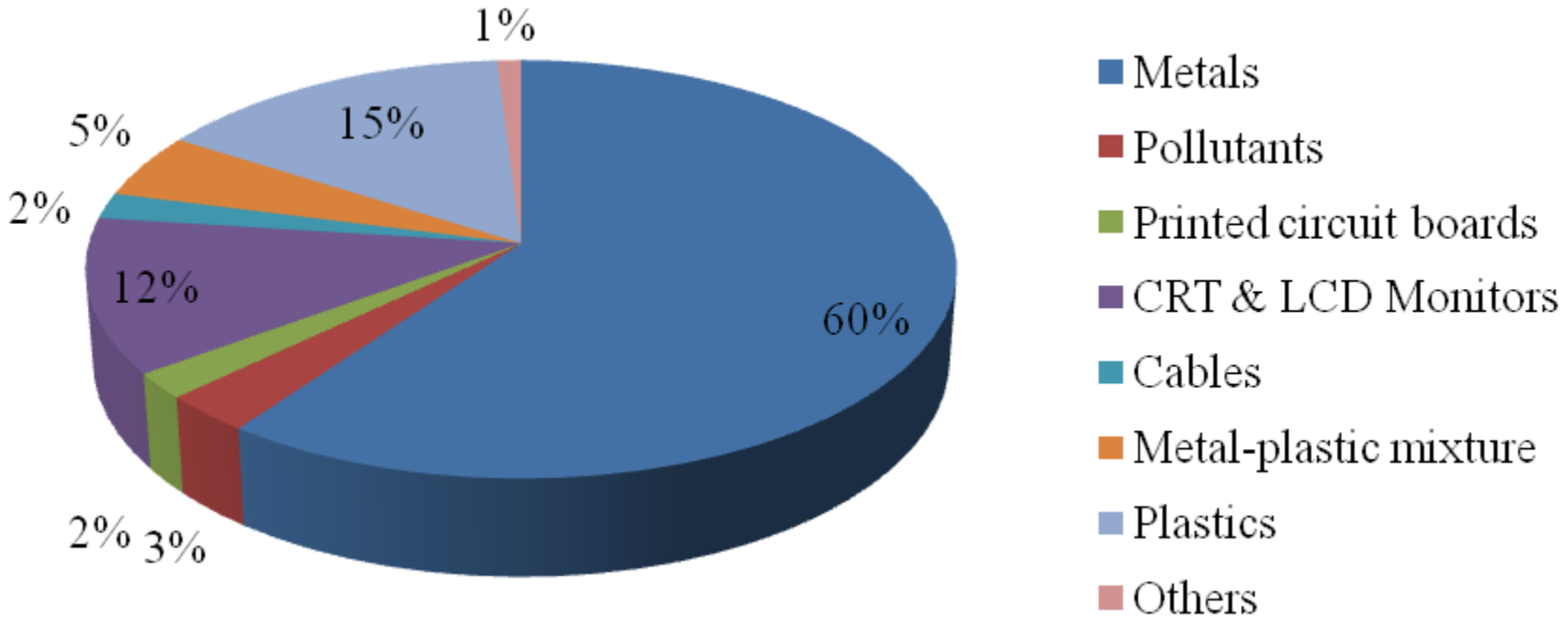
### Southern Asia

4.8 Mt | 2.6 kg per capita | 0.9% | 0.04 Mt | 1896

| | |
|---|---|
| India | 3 230 kt |
| Iran (Isl. Rep.) | 790 kt |
| Pakistan | 433 kt |

# Composition of E-Waste

E-waste normally contains valuable, as well as potentially toxic materials. The composition of e-waste depends strongly on factors such as the type of electronic device, the model, manufacturer, date of manufacture, and the age of the scrap.



# Policy and Legislation

Since 2014, the number of countries that have adopted a national e-waste policy, legislation, or regulation has increased from 61 to 78. However, regulatory advances in some regions are slow,

# Main Problems

- lacks a specific regulatory and policy framework for industrial waste management, (even though some legislative provisions are in place),
- Enforcement is weak, causing industrial waste to end up in open dumpsites mixed with municipal solid waste,
- Absence of companies or entities dedicated to collecting processing,
- More treatment and disposal operations are dependent on the informal sector,
- Failure to properly dispose in designated locations.

# Environmental & occupational safety problems

**Ramifications:**

- Toxic emissions from burning
- Soil & water contamination from chemical disposal
- Inefficient recovery of precious metals

# Stakeholder

## Informal Sector

**Consumer**
Householders/Public Entities and private Enterprises

Sareha/Robabekia (Street collector)

Merchant

Drop off points/shops

**Refurbisher and Dismantlers**

**E-waste Recyclers**

# Stakeholder

## Informal Sector

# Stakeholder

## Formal Sector – ITG, ERC, Spear ink



ITG


Spear ink

ERC

# E-waste Propoer Managemen Benefits

- Increase Job opportunites
- Extracting precious materials
- Refurbishment: Reduce energy consumption for producing new products – thus assist in the Climate change issue

# Contact us!

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