



Regional Center for Renewable Energy and Energy Efficiency  
المركز الإقليمي للطاقة المتجددة وكفاءة الطاقة

## WP4: Promote Efficient Appliances & Develop the Market

EERC share to  
Save Earth from Hazards of  
E waste

February 2023



Funded by the  
European Union

# Our Vision

Since 2016, EERC located at 6 October industrial zone to:

- Maximize the benefit and value form E-waste through Test it first to be used Device to reduce the environment impact from wrong practice .
- To Continue develop and use Clean & Safe Technology for the Recycling of Electronic Waste.
- To Efficiently Treat & Regenerate Resources from Electronic Waste .
- To Aggressively Publicize the High Recycling Value & Social benefit of Cyclic Economy.
- Fully Integrated waste management to get “Zero” Emission and “Zero” waste
- To Provide E-Waste Treatment Traceability and Accountability Reports for Corporations to Enable their Green Commitment as part of their Social and Corporate Responsibility for E-Waste Disposal.
- To Demonstrate a possible Totally Clean “Zero Emission & Zero Discharge” E-Waste Recycle Standard.

# Wide range of services:

- Data Eraser for Security Information
- Certified data Eraser, packing old appliances and equipment
- E –waste Recycling in clean & Safe way
- Environmental secure disposal
- Detailed report for every unit showing serial numbers, time, economics, process ,etc
- Issue Certificate of Disposal

# ISO 9001-14001-45001

## Certificate of Registration

This is to Certify that  
Quality Management System of

EGYPTIAN ELECTRONICS RECYCLING  
CO. (EERC)

PLOT NO. 787, 6TH INDUSTRIAL ZONE, 6 OF OCTOBER, GIZA, EGYPT.

has been assessed and found to conform to the requirements of

### ISO 9001:2015

for the following scope :

ELECTRONIC WASTE RECYCLING AND E- WASTE MANAGEMENT

Certificate No	: 21IQHB78M	Issuance Date	: 09/09/2021
Initial Registration Date	: 09/09/2021	Date of Expiry	: 08/09/2024
1st Surve. Due	: 09/08/2022	2nd Surve. Due	: 09/08/2023



Director



AQC MIDDLE EAST LLC

Head Office: Office No. 02, Ground Floor, Sharjah Media City, Sharjah, UAE. e-mail: [info@aqcworld.com](mailto:info@aqcworld.com)

\*Validity of the Certificate is subject to successful completion of surveillance audits on or before of due date. (In case surveillance audits is not allowed to be conducted, this certificate shall be suspended/withdrawn).

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## Certificate of Registration

This is to Certify that  
Environmental Management System of

EGYPTIAN ELECTRONICS RECYCLING CO.  
(EERC)

PLOT NO. 787, 6TH INDUSTRIAL ZONE, 6 OF OCTOBER, GIZA, EGYPT.

has been assessed and found to conform to the requirements of

### ISO 14001:2015

for the following scope :

ELECTRONIC WASTE RECYCLING AND E- WASTE MANAGEMENT

Certificate No	: 21IEHH68M	Issuance Date	: 10/09/2021
Initial Registration Date	: 10/09/2021	Date of Expiry	: 09/09/2024
1st Surve. Due	: 10/08/2022	2nd Surve. Due	: 10/08/2023



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## Certificate of Registration

This is to Certify that  
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PLOT NO. 787, 6TH INDUSTRIAL ZONE, 6 OF OCTOBER, GIZA, EGYPT.

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### ISO 45001:2018

for the following scope :

ELECTRONIC WASTE RECYCLING AND E- WASTE MANAGEMENT

Certificate No	: 21IOHY71M	Issuance Date	: 13/09/2021
Initial Registration Date	: 13/09/2021	Date of Expiry	: 12/09/2024
1st Surve. Due	: 13/08/2022	2nd Surve. Due	: 13/08/2023



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# What is WEEE?

## Waste Electrical & Electronics Equipment





# The Main Resources for E-waste in Egypt

- 1-Government Auctions
- 2-Private Sector
- 3-Household



# The Main Obstacles for E-waste Recyclers in Egypt

- 1-insufficient Amount of raw material (valuable appliances and electronics)
- 2-informal Sector (Access to raw material and illegal exportation)
- 3-No Hi Tech Technology for large Volume industry



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# challenges

## Volumes

- Increasing sales of WEEE, decreasing lifetimes
- 49 Million Tons e-waste generated worldwide

## Material Content

- Valuable base metals and precious metals
- Toxic materials



# Environmental and safety challenges

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



# Environmental and safety challenges

Beryllium	copper-beryllium alloys, springs, relays and connections;	<ul style="list-style-type: none"> <li>beryllium sensitization/chronic beryllium disease</li> <li><b>human carcinogens</b></li> <li>released as beryllium oxide dust or fume during high temperature metal processing</li> </ul>
Cadmium	Connectors, switches, nickel-cadmium (Ni-Cd) batteries, printer inks and toners	<ul style="list-style-type: none"> <li>persistent and mobile in aquatic environments (ATSDR 2000)</li> <li><b>damage to the kidneys and bone toxicity</b>, released if plastic is burned or during high temperature metal processing</li> </ul>
Lead	Circuit boards/ cathode ray tubes CTR (2-3 kg per CRT);	<ul style="list-style-type: none"> <li>Risk for small children and fetuses</li> <li><b>Damage to the nervous system, red blood cells, kidneys and potential increases in high blood pressure;</b></li> <li>Incineration can result in release to the air</li> </ul>
Mercury	Lighting devices that illuminate flat screen displays, switches and relays	<ul style="list-style-type: none"> <li><b>Impacts the central nervous system</b></li> <li>Land filling and incineration of flat panel displays results in the release to the environment</li> </ul>
PCBs (polychlorinated biphenyls)	Insulating fluids for transformers and capacitors, flame-retardant plasticizers	<ul style="list-style-type: none"> <li><b>Suppression of the immune system, liver damage, cancer promotion, damage to the nervous system</b></li> <li>Damage to reproductive systems</li> </ul>



We can go on this way





Or We can go on this way





# The Process of e waste Recycling





# Collection





# Collection







# Dismantle





**Collection-** The company has employed a team which is responsible for E waste Pick Up all the obsolete ( EoL) electronic item from various sources.

**Dismantle-** the dismantling process comes after segregation items and the expert utilizes safe techniques for this process.

**Recycling-** This is the last process which involves the e waste recycling after the whole above procedure. The recycled elements are separated to Metal & Non Metal whole waste is dumped in an environment friendly way.

**Final Output - Metal & Non Metal.**



## All in one Recycling Machine





## E-waste Recycling

Refrigerants  
Washing machines  
Computer  
Mobile Phone  
Motherboards  
Laptops  
Monitors  
Servers  
Cables  
Electronic parts



**Base Metals:**  
Copper, Nickel,  
Aluminum, Zinc, Tin,

**Precious Metals:**  
Gold, Silver,  
Palladium , Platinum

**Non Metals:**  
Glass , Plastic



## Semi Final Output



**Metal**



**Non Metal**



# Final Output



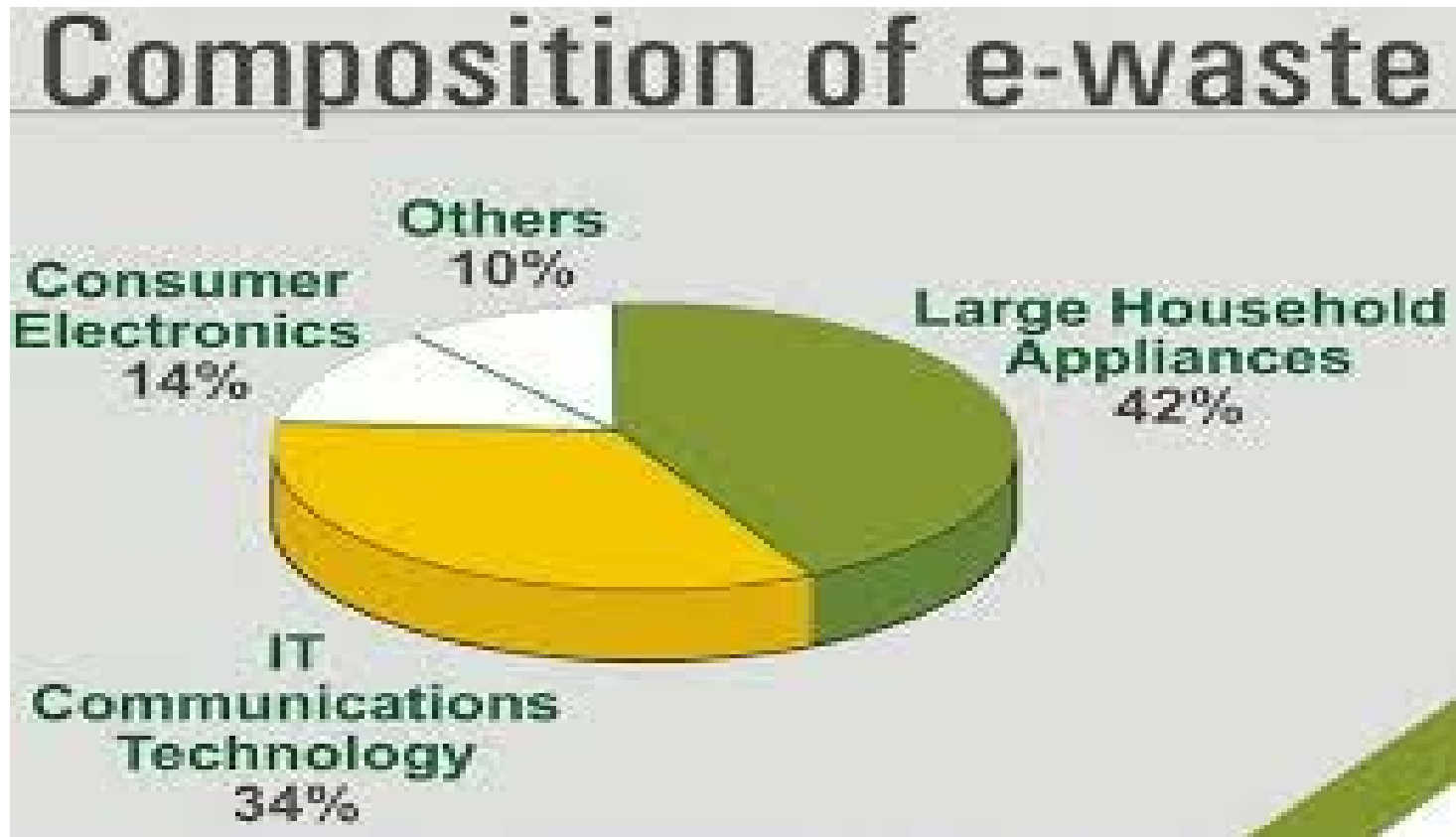
**Gold**



**Gold**

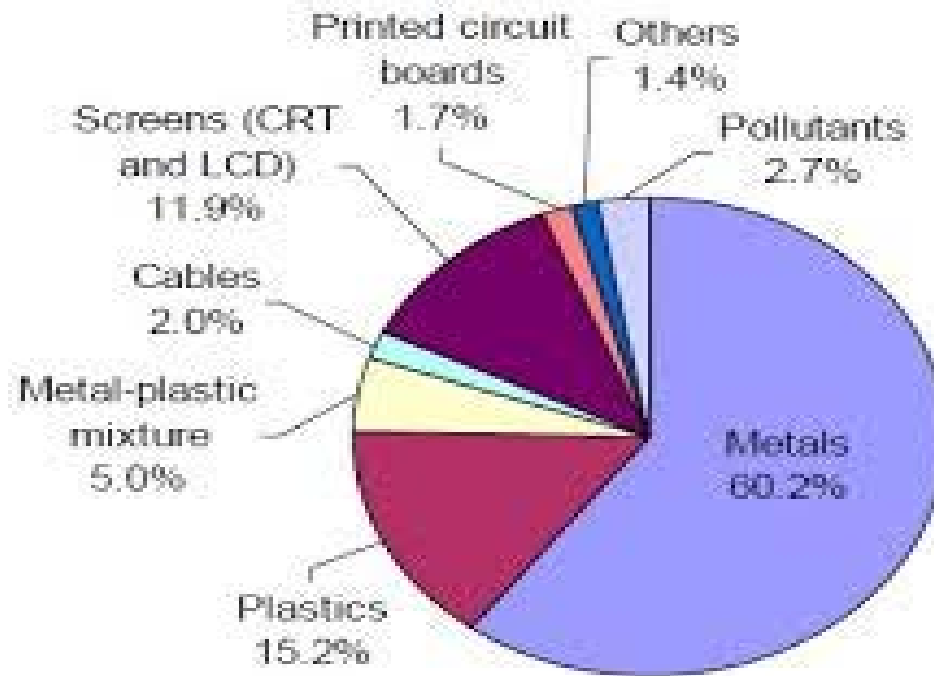


# Worldwide Percentage for WEEE





# Composition of materials in e-waste



Composition of materials in E-waste



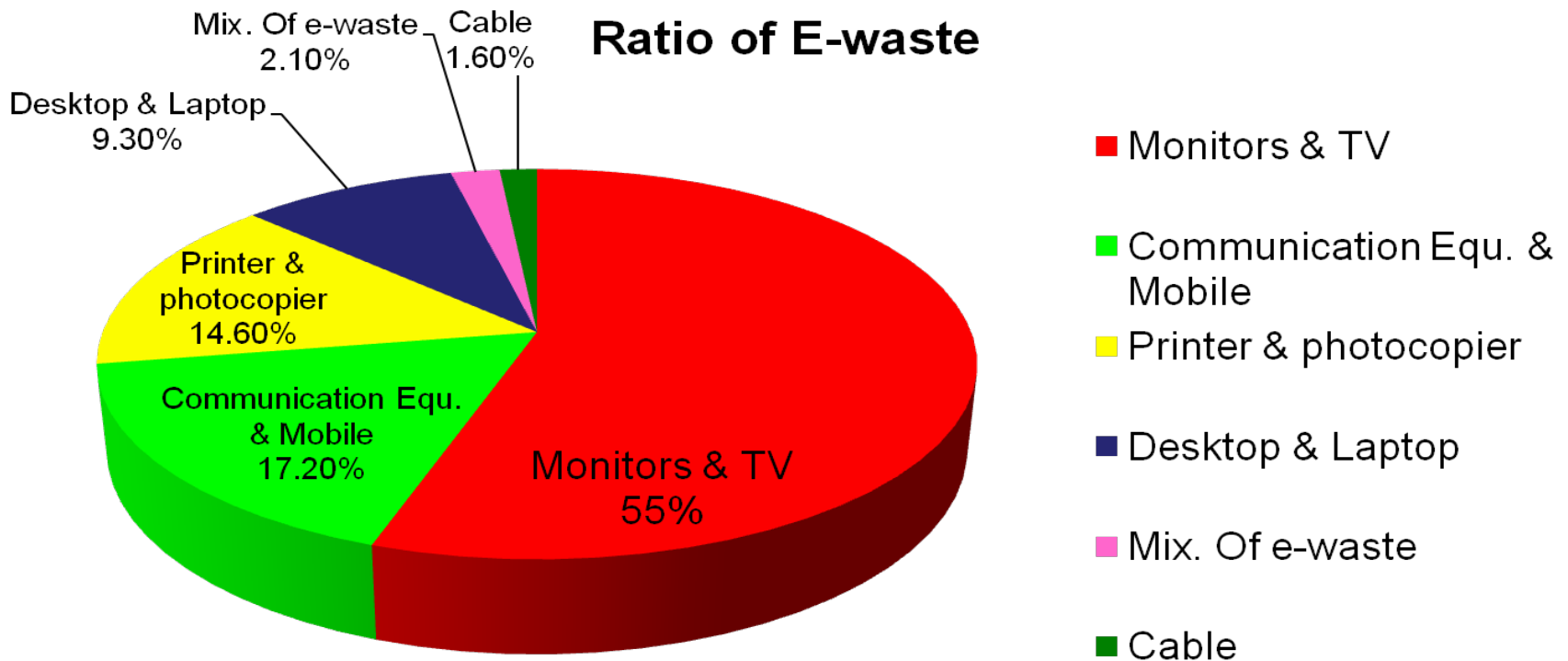


## E-waste in Egypt ( in Tons)

Description	Monthly Capacity	Yearly Capacity	Ratio
CRT & TV	2083	24996	55.2%
Communication Equ. & Mobile	650	7800	17.2%
Printer, Photocopier , Fax	550	6600	14.6%
Desktops & Laptops	350	7200	9.3%
Mix. Of e-waste	80	960	2.1%
Cables	60	720	1.6%
<b>Gross</b>	<b>3773</b>	<b>45276</b>	



## E-waste in Egypt ( in Tons)





*Ahmed Salem  
General Manager*

**THANK YOU**

**Egyptian Electronics Recycling Co.**

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# Contact us!



Mitigation Enabling Energy Transition in the MEDiterranean region  
**Together We Switch to Clean Energy - Phase II**

For any inquires or comments,  
please don't hesitate to contact  
us

 [www.meetmed.org](http://www.meetmed.org)

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Funded by the  
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