

# Electronic Waste (E-Waste) AFRICA Initiative 2013-17



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## Overview

Africa has rapidly growing volumes of E-waste, but currently lacks effective E-waste recycling industry. [learn more](#)

[E-waste working group](#), founded in 2010 by Chamber of Eco Commerce (CEC), solves E-waste problems and improves the quality of life around the planet, while boosting economic growth.

The E-waste Africa working group, was founded in 2013, to help create new [E-waste recycling industry](#) in Africa. The group provides access to funding and business intelligence, builds E-waste recycling plants, and delivers business support services and workforce training to individuals and organizations.

E-waste plants crush obsolete and broken electronic devices, sort and refine waste into valuable raw materials including copper, silver, gold and palladium.

Enterprises and organizations, including government agencies and NGOs, seek to solve E-waste problems and secure a dominant position in fast growing E-waste market.

[CEC working group](#) has over two decades experience of operating E-waste recycling plants in Europe, and a long term relationship working with private and public sector partners across Africa.

We are seeking to raise US \$6mm to fund construction of the [first E-waste Recycling plant in Africa](#). Financial projections indicate that plants are highly cash generative, with a potential investor return of approximately 10x.

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## Problem

E-waste contains hazardous materials including arsenic, barium, beryllium, lead, mercury and PCBs. Small scale 'informal' operations exist to collect plastics, ferrous metals, aluminum and copper. Cables and other components are burned in open fires to recover copper, releasing toxic smoke which is a serious health and environmental hazard.

## Solution

Our E-waste recycling process is [ISO:14001](#) certified, safe for employees and environment. Hazardous materials and components will be collected for processing in E-waste recycling plants in Africa.

## Composition of E-Waste

E-waste contains valuable metals that can be extracted profitably. One ton of mobile phones contains approximately 340g of gold (worth ~ US \$15,000). Copper, gold, silver and palladium can be recovered, and steel, aluminum and plastics can be sold to local companies in Africa or elsewhere.

	PCs	Printers	Small ICT Devices	Monitors	Audio	VCR/DVDs	TVs
Copper	18%	14%	10%	18%	16%	16%	12%
Gold	0.023%	0.005%	0.130%	0.001%	0.01%	0.01%	0.011%
Silver	0.100%	0.035%	0.570%	0.015%	0.07%	0.07%	0.16%
Palladium	0.009%	0.001%	0.047%	0.000%	0.002%	0.002%	0.004%
Steel	13%	39%	8%	10%	5%	5%	1%
Aluminium	4%	4%	2%	5%	6%	6%	6%
Plastics	25%	23%	53%	39%	37%	37%	27%
Glass, Ceramic, Epoxy	19%	7%	10%	10%	6%	6%	49%
Others	21%	13%	16%	19%	29%	29%	4%
Total	100%	100%	100%	100%	100%	100%	100%

Source: 2008 Review for the EU on Waste Electrical and Electronic Equipment

## Large Market

Rapid technological development and urbanization has created a large e-waste resource in Africa, geographically focused around areas of high population density. As an example, it is estimated that approximately 25,000 tons of e-waste will be produced in African countries, growing to almost 100,000 tons per annum by 2015 (excluding any imports of waste). There is currently no E-waste recycling industry, including efficient plants processing e-waste in Africa. We plan to source waste directly from companies and government agencies and also from traders collecting e-waste from companies, houses and dump sites, to mitigate and manage fast growing E-waste risk, and capitalize on E-waste recycling opportunity.

## Public Private Partnership (PPP)

We collaborate with organizations and individuals, government agencies, NGOs and other authorities, enterprises, foundations and non-profits, academia and research institutions, and finance companies.

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## E-Waste Recycling Plant

E-waste recycling plant(s) will be built on three acre site, next to the main transportation hubs, offering good transport links for waste coming into the plant and recycled material going out. The site is within an approved industrial zone, with access to electricity - plant requires 1MW to operate. The plant will have capacity to recycle 3,600 tons of E-waste per annum and will employ 35 staff including 2 managers. We will provide business management and workforce training to the plants.



## Technology

We will use proven BAT (Best Available Technology) and the plant is designed by our team of experts. The technology that we use has been in successful operation since 2001, with 5 reference plants in Europe. The plant will be containerized for simple shipping & transportation.

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## E-Waste Trading, Business Management and Workforce Training Platform

**Challenge:** When an asset is purchased or sold, numerous third parties are involved in each transaction. When an asset is purchased, many independent companies complete many independent tasks that require many categories of documents per sale. Many transactions with no visibility means tracking and managing many facilitators, tasks and archiving hundreds or thousands of documents per sales cycle.

**Solution:** We have solved this challenge in E-waste recycling industry! We provide ICT business solution for E-waste asset management issues. Individuals and organizations can join our web-based E-waste recycling hub, to effectively manage both internal operations and 3rd party facilitators making E-waste recycling, trading, business management and workforce training efficient, transparent, scalable, paperless, and accessible 24/7.

### Finance

We seek USD \$6million to fund the following:

- To build the first E-Waste recycling plant and trading and business management platform in Africa.
- Land acquisition and building construction of the recycling plant - fully installed.
- Equipment, overhead during construction, working and workforce training capital.

	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue	0.4	11.0	22.1	38.2	39.1
EBITDA	-1.1	7.2	16.0	29.2	29.9

We seek additional funding to accelerate development of E-waste recycling industry in Africa. Potential investor return of approximately 10x assuming a trade sale after 4 years with 3 operating plants - approximately 5x with a single plant.

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