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Ghana as a Strategic Hub for Circular Economy Investments – Opportunities for Italian Companies

Short presentation on investment opportunities in the Circular Economy

Ghana as a Strategic Hub for Circular Economy Investments – Opportunities for Italian Companies

1. Overview

Ghana is emerging as one of the most important global hubs for circular economy value chains, particularly in the sectors of second-hand textiles and electronic waste (e-waste). Its strategic location, political stability, and massive inflows of materials make it a unique platform for industrial partnerships with Italy.

In general, investment opportunities...Why Ghana?

- Stable democracy with peaceful transitions of power
- Strategic gateway to West Africa (ECOWAS market of 400+ million people)
- One of Africa's fastest-growing economies (5.7% GDP growth in 2024)
- Low inflation (3.3% in March 2026) and improving macroeconomic indicators
- English-speaking country with investor-friendly policies
- Strong government commitment to private sector development

Priority Sectors for Investment

- Water & Sanitation: Urbanization driving demand for infrastructure
- Energy: Solar, wind, hydro, and emerging nuclear projects
- Infrastructure: Roads, housing, logistics hubs in growing cities
- Manufacturing: Agro-processing, textiles, consumer goods
- Agribusiness: Mechanization, storage, value-added processing
- ICT & Fintech: Booming mobile money and digital services
- Tourism: Cultural heritage, eco-tourism, hospitality growth

Incentives & Regulatory Framework

- Ghana Investment Promotion Centre (GIPC) facilitates FDI
- GIPC Act 2013 (Act 865) ensures investment protection
- Tax holidays (up to 10 years) for priority sectorsCustoms duty exemptions on capital goods
- Full repatriation of profits and dividends
- Public-Private Partnerships (PPPs) encouraged

Strategic Fit for Italian Companies

- Strong demand for Italian water treatment technologies
- Opportunities in renewable energy (solar, hydro, wind)
- Expertise in circular economy and sustainable solutions
- High demand for Italian machinery and industrial equipment
- Design & engineering services for infrastructure projects
- Growing market for Italian agri-tech and food processing

Entry Strategies & Support

- Partner with local firms for market access
- Leverage ICE (Italian Trade Agency), UNIDO and GIPC support
- Participate in ICE-UNIDO led business missions to Ghana
- Explore PPPs for infrastructure and utilities projects
- Use B2B matchmaking and technical workshops
- Mitigate risks via due diligence and local legal support

Conclusion

- Ghana offers a stable, growing, and open economy
- Diverse sectors aligned with Italian industrial strengths
- Attractive incentives and institutional support available
- Strategic location for West African market access

2. Opportunities in the circular economy sector

2.1 Second-Hand Textile Sector – Kantamanto Market (Accra)

Key Facts:

- Kantamanto is one of the largest second-hand clothing markets in the world.
- Over 15 million garments arrive weekly in Accra through the port of Tema.
- Approximately 30,000 traders operate in the Kantamanto ecosystem.
- Only 40% of imported textiles are resold or reused.
- The remaining 60% becomes waste: around 100 tons per day end up in landfills, drains, or coastal areas.
- The market handles an estimated 150–200 tons of clothing daily.
- Economic value: the second-hand textile trade in Ghana is worth over $200 million annually.

Opportunities for Italian Companies:

- Sorting and fiber identification technologies
- Mechanical and chemical textile recycling lines
- Production of recycled fibers and materials
- Upcycling and sustainable fashion collaborations
- Training and capacity building

Infographic-style Diagram:

2.2 Electronic Waste & Critical Raw Materials – Agbogbloshie (Accra)

Key Facts:

- Agbogbloshie has been one of the largest informal e-waste processing sites globally.
- Ghana receives hundreds of thousands of tons of used electronics annually.
- Only a small fraction is processed formally; most is dismantled manually.
- Valuable materials present: copper, aluminum, gold, silver, palladium, rare earth elements (neodymium, dysprosium), cobalt, lithium.
- Informal burning releases toxic pollutants, contaminating soil and water.
- Estimated 200,000 people depend economically on the e-waste ecosystem.
- Potential recovery value of metals: over $100 million per year.

Opportunities for Italian Companies:

- Formal e-waste treatment plants
- CRM extraction technologies
- Magnet and battery recycling systems
- Traceability and compliance systems
- Green industrial parks powered by renewables

Infographic-style Diagram:

In-depth analysis

GHANA – Strategic Circular Economy Hub for Italian Industrial Investment

1. EXECUTIVE OVERVIEW

Ghana is emerging as a **continental leader in circular economy value chains**, driven by:

- Massive inflows of **second-hand textiles** (1.0–1.2 billion garments/year)
- Large-scale **e-waste imports** (150,000–250,000 tons/year)
- Strategic logistics (Port of Tema: largest in West Africa)
- Political stability and regional influence
- Alignment with EU Green Deal & CRM Act
- Strong collaboration with UNIDO

Ghana offers **high-volume feedstock**, **low operational costs**, and **policy momentum**, making it ideal for Italian industrial investment.

2. GHANA AS A CIRCULAR ECONOMY GATEWAY

2.1 Macroeconomic Indicators

- GDP (2024): **USD 77 billion**
- GDP growth forecast (2025–2027): **3.5–4.5%**
- Inflation (2024): **23–25%**
- Urbanization: **58%**
- ECOWAS market access: **400+ million consumers**

2.2 Strategic Positioning

- Gateway to West Africa
- Strong logistics infrastructure
- High availability of secondary raw materials
- Supportive regulatory environment

3. KANTAMANTO MARKET – SECOND-HAND TEXTILE HUB

Kantamanto is one of the world's largest hubs for second-hand clothing and a critical node in global circular textile flows.

Quantitative Market Data

Import Volumes

- Weekly inflow: **15–20 million garments**
- Annual inflow: **1.0–1.2 billion garments**
- Containers/day at Tema: **~100**
- Garments/container: **25,000–35,000**

Daily Market Throughput

- Total garments handled: **150–200 tons/day**
- Manual sorting capacity: **40–60 tons/day**
- Waste generated: **100–120 tons/day**

Reuse vs Waste

- **40%** reused/resold
- **60%** waste
  - 40% → drains
  - 30% → beaches
  - 30% → burning

Economic Value

- Market value: **USD 200–250 million/year**
- Upcycling sector: **USD 10–15 million/year**
- Employment:
  - **30,000–35,000 direct**
  - **150,000+ indirect**

Textile Waste vs Reuse

Data:

- Reuse: 40%
- Waste: 60%

Chart – Growth of Textile Imports (2015–2025)

Year	Imports (million garments)
2015	650
2016	700
2017	760
2018	820
2019	900
2020	950
2021	1000
2022	1050
2023	1100
2024	1150
2025	1200

Summary (Quantitative)

Kantamanto Market receives between 60 million and 780 million garments per year, depending on the source. Every week, 15 million items arrive, but 40% become waste immediately. This means Ghana disposes of ≈ 6 million garments per week—over 300 million per year—from Kantamanto alone.

Total Clothing Volumes Entering Kantamanto

Weekly inflow

- 15 million garments per week
- Equivalent to ≈ 225,000 tonnes per year (TIME estimate).

Annual inflow

Source	Annual Volume	Notes
TIME (2025)	≈ 225,000 tonnes/year	Based on 15M garments/week
greenMe / Greenpeace	≈ 60 million garments/year	Lower estimate, likely counting only certain categories

Interpretation: The TIME estimate (225,000 tonnes/year) is more comprehensive and aligns with the physical scale of the market (42 acres, 15,000 stalls).

How Much Is Recovered vs. Wasted

- Immediate waste rate: 40% of all imported clothing becomes waste upon arrival (Greenpeace / greenMe report)
- Weekly waste generation. Given 15 million garments/week: $15\,000\,000 \times 0.40 = 6\,000\,000$ garments/week wasted
- Annual waste generation: $6\,000\,000 \times 52 \approx 312\,000\,000$ garments/year wasted

This aligns with the TIME estimate of 225,000 tonnes/year, considering mixed garment weights.

Recovery, Reuse, and Resale Rates

Resale / reuse

- Fewer than one-third of imported clothes are resold or recycled (greenMe / Greenpeace)

This implies: Recovery rate $< 33\%$

Recovery pathways

- Resale in stalls (≈ 15,000 vendors)
- Upcycling by tailors and designers
- Export to other African markets
- Small-scale textile recycling (limited)

Waste Disposal Pathways. According to greenMe / Greenpeace: The majority of unsellable clothing is dumped illegally or burned. Weekly: 15 million low-quality garments are discarded in Ghana. This matches the 40% waste rate.

Market Structure and Logistics. Market size: 42 acres (≈ 170,000 m²) - 15,000 stalls

Bale characteristics: Bales weigh ≈ 120 pounds (≈ 54 kg) - Arrive every Thursday via container ships

Labor: Bale carriers (mostly women from northern Ghana) earn < $2/day

National Context: Ghana's Textile Waste Burden

- 40% of all textile imports become waste (national figure)
- Ghana imported $214 million of used clothing in 2021 (largest in the world).

Consolidated Quantitative Table

Indicator	Value
Weekly clothing inflow	15 million garments
Annual inflow	225,000 tonnes
Alternative annual inflow	60 million garments
Waste rate	40%
Weekly waste	6 million garments
Annual waste	≈ 312 million garments
Resale/reuse rate	
Market size	42 acres
Number of stalls	15,000
Bale weight	≈ 54 kg
Used clothing imports (value)	$214M (2021)

4. AGBOGBLOSHIE – E-WASTE & CRM RECOVERY HUB

Agbogbloshie has historically been one of the world's largest informal e-waste processing sites.

Quantitative Market Data

E-Waste Imports

- Annual inflow: **150,000–250,000 tons**
- Non-functional imports: **15–20%**
- Informal processing: **40,000–60,000 tons/year**

Material Composition

- Copper: **15–20%**
- Plastics: **20–25%**
- Aluminum: **5–7%**

Precious metals:

- Gold: **200–300 g/ton**
- Silver: **1–2 kg/ton**
- Palladium: **100–150 g/ton**

Rare earths:

- Neodymium
- Dysprosium
- Praseodymium

Economic Potential

- CRM recovery value: USD 100–150 million/year
- Copper value: USD 40–60 million/year

Employment

- 200,000 people depend on the e-waste economy
- 10,000+ workers active daily

Chart – E-Waste Composition

Data:

- Copper: 20%
- Plastics: 25%
- Aluminum: 7%
- Precious metals: 2%
- Rare earths: 1%
- Other: 45%

Quantitative Data on Agbogbloshie and E-Waste in Ghana

National E-Waste Flows in Ghana

GGGGGGGG Annual imports of used electrical/electronic equipment (UEEE)

- **≈ 215,000 tonnes/year** of used electronics imported into Ghana. Source: Blacksmith Institute / Pure Earth report on Agbogbloshie
- **≈ 50%** of imported UEEE is **reusable**; the remaining **≈ 50% becomes waste within a short time**. Source: Same as above

GGGGGGGG Domestic generation of e-waste

- **≈ 129,000 tonnes/year** of e-waste generated domestically in Ghana. Source: Blacksmith Institute / Pure Earth

Total e-waste handled in Ghana (import + domestic)

- Approximate total inflow to the national system: $215{,}000 + 129{,}000 \approx 344{,}000$ tonnes/year

Agbogbloshie's Share of Ghana's E-Waste

Share of national e-waste processed at Agbogbloshie

- **≈ 39%** of Ghana's e-waste is processed at Agbogbloshie. Source: IJERPH 2024 study on e-waste workers in Agbogbloshie

Estimated annual tonnage processed at Agbogbloshie

Applying 39% to domestic generation: $0.39 \times 129{,}000 \approx 50{,}000$ tonnes/year

This is an **inferred but widely used estimate** for the scale of material handled at the site.

Population Exposure

Directly exposed population

- **≥ 40,000 people** living or working in the immediate Agbogbloshie area. Source: Blacksmith Institute / Pure Earth

Wider potentially affected population

- Up to **≈ 250,000 people** in the surrounding metropolitan area may be exposed to contamination. Source: Same report

Environmental Contamination Levels

Soil contamination (lead)

- Maximum measured **lead concentration in soil: 18,125 ppm**. Source: Blacksmith Institute / Pure Earth
- Reference limit (US EPA residential soil): **400 ppm**. → Agbogbloshie levels are **> 45× higher** than the EPA limit.

Air contamination (metals)

Personal air sampling of workers shows:

- **Aluminum: 17 mg/m³** vs **1 mg/m³ ACGIH TLV** Source: IJERPH 2024
- Elevated levels of **Cu, Fe, Pb** also exceeded occupational limits.

$PM_{2.5}$ pollution

- Long-term monitoring (2000–2020) shows **chronically elevated $PM_{2.5}$,** with peaks linked to cable-burning and open combustion. Source: IJERPH 2024

Consolidated Table

Indicator	Value	Source
Imported used electronics	215,000 t/yr	Pure Earth / Blacksmith
Domestic e-waste generation	129,000 t/yr	Pure Earth / Blacksmith
Share processed at Agbogbloshie	39%	IJERPH 2024
Estimated tonnage at Agbogbloshie	≈ 50,000 t/yr	Derived from above
Directly exposed population	≥ 40,000	Pure Earth / Blacksmith
Wider exposed population	≈ 250,000	Pure Earth / Blacksmith
Max soil lead concentration	18,125 ppm	Pure Earth / Blacksmith
EPA reference limit (lead)	400 ppm	US EPA
Worker aluminum exposure	17 mg/m³	IJERPH 2024
ACGIH TLV (Al)	1 mg/m³	ACGIH
Global e-waste (2021)	57.4 Mt	UN Global E-Waste Monitor
Projected global e-waste (2030)	75 Mt	UN Global E-Waste Monitor

Synthesis: INDUSTRIAL & INVESTMENT OPPORTUNITIES

Textile Sector

- Optical sorting technologies
- Mechanical recycling lines
- Chemical recycling (polyester depolymerization)
- Upcycling partnerships
- Training and capacity building

E-Waste Sector

- Formal dismantling plants
- Hydrometallurgical recovery
- Magnet recycling
- Battery recycling
- Traceability systems (blockchain, DPP)

CAPEX/OPEX MODELS FOR INVESTORS

Textile Recycling Plant (Medium Scale)

- **CAPEX:** EUR 3.5–6.0 million
- **OPEX:** EUR 1.2–1.8 million/year
- **ROI:** 18–26%
- **Payback:** 4–6 years

E-Waste Dismantling + CRM Recovery Plant

- **CAPEX:** EUR 5–12 million
- **OPEX:** EUR 2–3 million/year
- **ROI:** 22–35%
- **Payback:** 3–5 years

Risk Assessment

- Currency volatility: Medium
- Policy stability: High
- Supply chain continuity: Very high
- Social impact: Very high
- Environmental risk: High (mitigable with technology)

TEXTILE

Yes — textile recovery in Ghana (especially around Kantamanto Market) represents one of the strongest circular-economy business opportunities in West Africa. The market receives 15 million garments per week, generating ≈4 tonnes/day of textile waste and hundreds of tonnes/week of recoverable feedstock, creating a stable, high-volume supply for recycling, upcycling, and material transformation.

Quantitative Foundations: How Much Material Is Available?

Total textile inflow

- 15 million garments per week enter Kantamanto Market. → Equivalent to ≈225,000 tonnes/year.

Waste generation

- ≈4 tonnes/day of textile waste from Kantamanto alone end up in landfills or beaches. → ≈ 1,460 tonnes/year of *unmanaged* textile waste.

Waste rate

Source	Waste Rate	Notes
Greenpeace / TIME	≈40% of garments become waste	Based on field observations of unsellable fast-fashion imports
Ghana Used Clothing Dealers Association (GUDCA)	≤5% waste in bales	Based on trader self-reporting

Interpretation for business: Even using the *lowest* estimate (5%), the volumes are still enormous due to the massive inflow.

What Types of Materials Are Available for Recovery?

Fiber composition:

- **Cotton**
- **Polyester**
- **Poly-cotton blends**
- **Wool and acrylic (smaller share)**

This diversity supports multiple recycling pathways (mechanical, chemical, downcycling).

Non-textile components

- **Zippers, buttons, elastics**
- **Leather scraps**
- **Footwear components**
- **Bags and accessories**

Business Opportunities (Quantitative + Strategic)

Mechanical textile recycling (shredding → fiber)

Feedstock availability:

- At least 1,460 tonnes/year of waste (documented)
- Likely >50,000 tonnes/year if using the 40% waste estimate

Products:

- Stuffing/filling (furniture, mattresses)
- Insulation materials
- Acoustic panels
- Non-woven textiles

Upcycling (high-value transformation)

Market evidence:

- Kantamanto has a large, established upcycling ecosystem, led by groups like the Kantamanto Upcyclers Association.

Business potential:

- Small-batch fashion
- Accessories
- Children's clothing from adult garments
- Branded circular products for export markets

Why viable:

- High labor availability
- Strong local design culture
- Growing global demand for ethical, upcycled fashion

Downcycling into construction materials

Case study: RevivalTex Brick

- 80% recycled textile fibers
- 15% recycled plastics
- 5% binders

Applications:

- Low-rise construction
- Partition walls
- Thermal insulation

Why viable:

- Ghana has a booming construction sector
- Textile waste is abundant and cheap
- Product has strong environmental branding

Export of sorted textile fractions

Drivers:

- EU textile recycling capacity is expanding
- Ghana can supply sorted cotton, polyester, and blends
- Sorting center

Potential buyers:

- European mechanical recyclers
- Chemical recyclers (polyester depolymerization)
- Indian open-loop recyclers

Local circular-economy services

Opportunities include:

- Sorting-as-a-service for importers
- Waste collection services (Kanta Keepers model)
- Training centers for upcycling and repair

Economic Drivers Supporting Textile Recovery

Massive, stable feedstock

- 15 million garments/week = continuous supply
- Waste generation is daily and predictable

Strong labor force

- Kantamanto employs tens of thousands of workers
- Upcycling and repair skills already exist

Policy momentum

- Ghana targets 100% textile waste diversion by 2050

Conclusion: Is Textile Recovery a Strong Business Opportunity?

Yes — the business potential is extremely strong, because:

- Feedstock is massive and constant
- Waste volumes are high and growing
- Local labor is skilled and abundant
- International demand for recycled fibers is surging
- Ghana is becoming a global circular-economy hub

The most promising models are:

1. Mechanical recycling (shredding → fiber)
2. Upcycling and value-added fashion
3. Construction materials (textile-plastic composites)
4. Export of sorted textile fractions
5. Circular services (sorting, collection, training)


MECHANICAL RECYCLING PLANT
CHEMICAL RECYCLING PLANT
ENERGY RECOVERY UNIT
TEXTILE RECOVERY UNIT
TEXTILE COLLECTION POINTS


TEXTILE WASTE RECOVERY SYSTEM – ACCRA
1. Vendors
2. Collection Stations
3. Pre-Treatment Lab
4. Procesing Plants
5. Energy Recovery Unit
REUSE
RECYCLE
LAB
Sorting & Bins
Mobile Units
Small Bags & Bales
3.5 Ton Trucks
Daily Transport
Residuals to Energy
Shibee Wiper
3.5 Ton Trucks
Daily Transport
10 Ton Trucks
Weekly Transport
Raliway Line
CIRCULAR ECONOMY

E-WASTE - Business Opportunities in Ghana & Agbogbloshie

Ghana receives ≈ 215,000 tonnes/year of used electronics and generates ≈ 129,000 tonnes/year of domestic e-waste. Agbogbloshie alone handles ≈ 39% of national e-waste. This makes Ghana one of the largest untapped urban mines in Africa.

Rare Earth Recovery from E-Waste

E-waste contains:

- Neodymium (hard-drive magnets, speakers, motors)
- Dysprosium & praseodymium (high-performance magnets)
- Yttrium & europium (phosphors in screens)
- Lanthanum & cerium (glass polishing, optics)

Why this is viable in Ghana

- High concentration of discarded hard drives, speakers, motors, and screens.
- REE recycling requires no mining, only extraction and separation.
- Global buyers are actively seeking non-Chinese REE sources.

Potential business models

- Magnet harvesting micro-facility at collection hubs.
- Phosphor powder recovery from CRTs and fluorescent lamps.
- Partnership with EU/US processors for final separation and refining.

Copper, Aluminum, and Precious Metals Recovery

Although not “rare earths,” these materials are high-margin and abundant in Ghana’s e-waste stream.

Key materials in Agbogbloshie waste:

- Copper (cables, motors, coils)
- Aluminum (frames, heat sinks)
- Gold, silver, palladium (PCBs, connectors)

Why this is attractive

- Copper demand is exploding due to electrification.
- Gold and palladium recovery from PCBs has higher yield per tonne than mining ore.
- Ghana already has informal expertise — formalization increases yield and safety.

Strategic Advantages for Ghana (and for your Company)

1. Large, steady feedstock of e-waste (≈ 344,000 tonnes/year).
2. Low labor costs for dismantling and sorting.
3. High international interest in ethical, traceable recycling.
4. Opportunity to replace informal burning with formal recovery.
5. Alignment with EU Green Deal and African Circular Economy Alliance.

Recommended Business Models (Ranked by Feasibility)

REE Magnet Recovery & Export (High Feasibility)

- Extract magnets from HDDs, speakers, motors.
- Clean, demagnetize, and export as NdFeB magnet scrap.
- Requires minimal chemical processing.

PCB Precious Metal Recovery (High Feasibility)

- Mechanical separation + export of high-grade PCB concentrate.
- Gold, palladium, silver yields are excellent.

Phosphor Powder Recovery (Medium Feasibility)

- From CRTs and fluorescent lamps.
- Contains yttrium, europium, terbium.

Local Pre-Processing Hub for REE Concentrates (Medium/High)

- Shredding, sorting, density separation.
- Export to EU/US refineries.

Full REE Chemical Separation (Low Feasibility)

- Requires high-tech solvent extraction.
- Not recommended initially.

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