

Towards Achieving Net Zero in the ICT Sector: Africa's Priorities for Environmentally Sound Management of E-waste

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ITUWebinars

**Sustainable
digital
transformation
in Africa**

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In partnership with:



NET ZERO:

Having no net climate change impact through greenhouse emissions in a company's value chain.

Achieved by

- reducing greenhouse gas emissions in the value chain,
- and removing the remaining emissions through additional carbon removals.

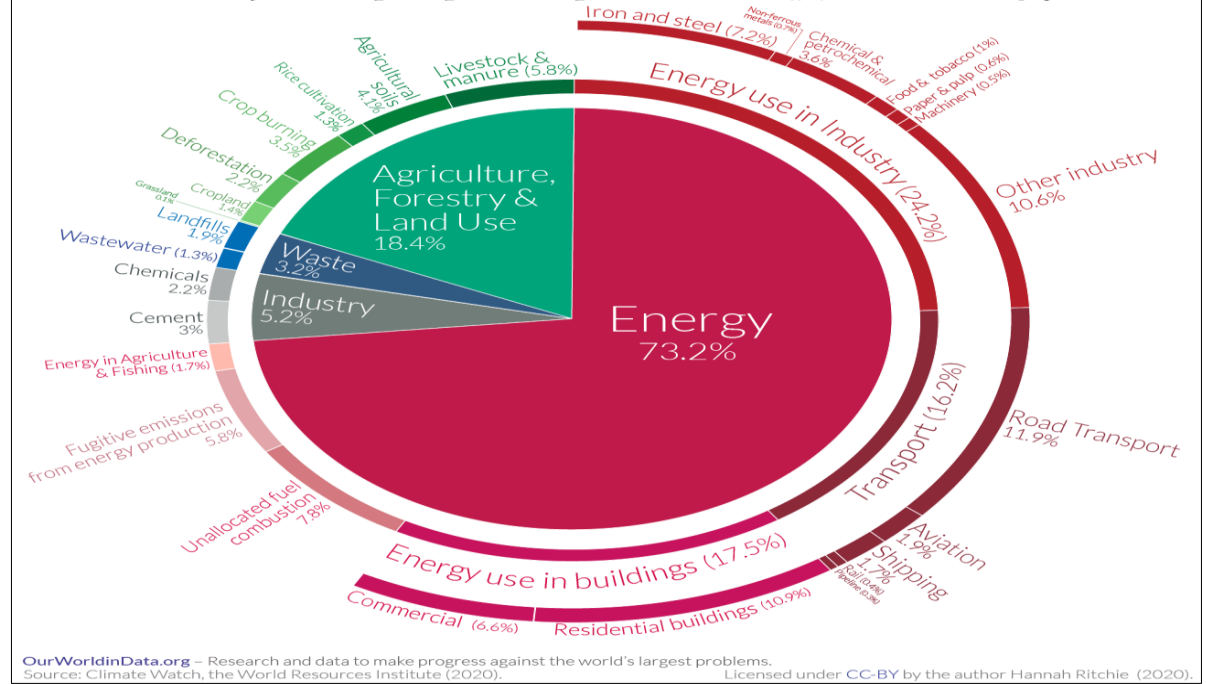
Race To Zero: (from UNFCCC)

- global campaign
- to rally leadership and support from businesses, cities, regions, investors
- for a healthy, resilient, zero carbon recovery
- that prevents future threats,
- creates decent jobs,
- unlocks inclusive, sustainable growth.

Global greenhouse gas emissions by sector

Our World in Data

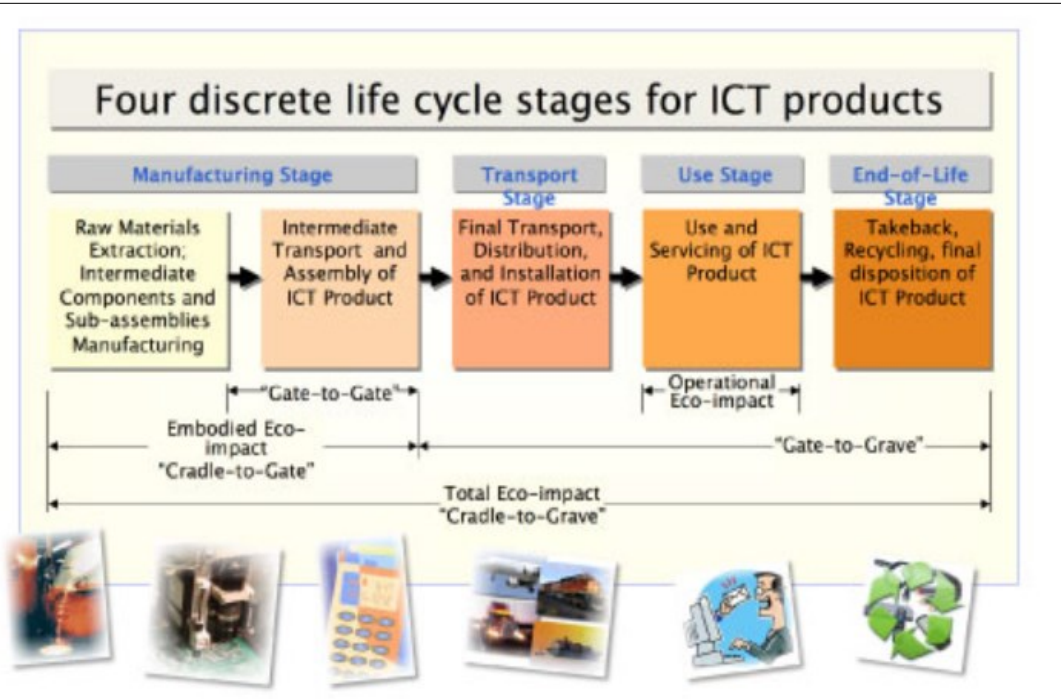
This is shown for the year 2016 – global greenhouse gas emissions were 49.4 billion tonnes CO₂eq.



OurWorldinData.org – Research and data to make progress against the world's largest problems. Source: Climate Watch, the World Resources Institute (2020). Licensed under CC-BY by the author Hannah Ritchie (2020).

ICT's current share of global greenhouse gas emissions is estimated at about 2 to 4% (source: www.researchgate.net/publication/349044966)

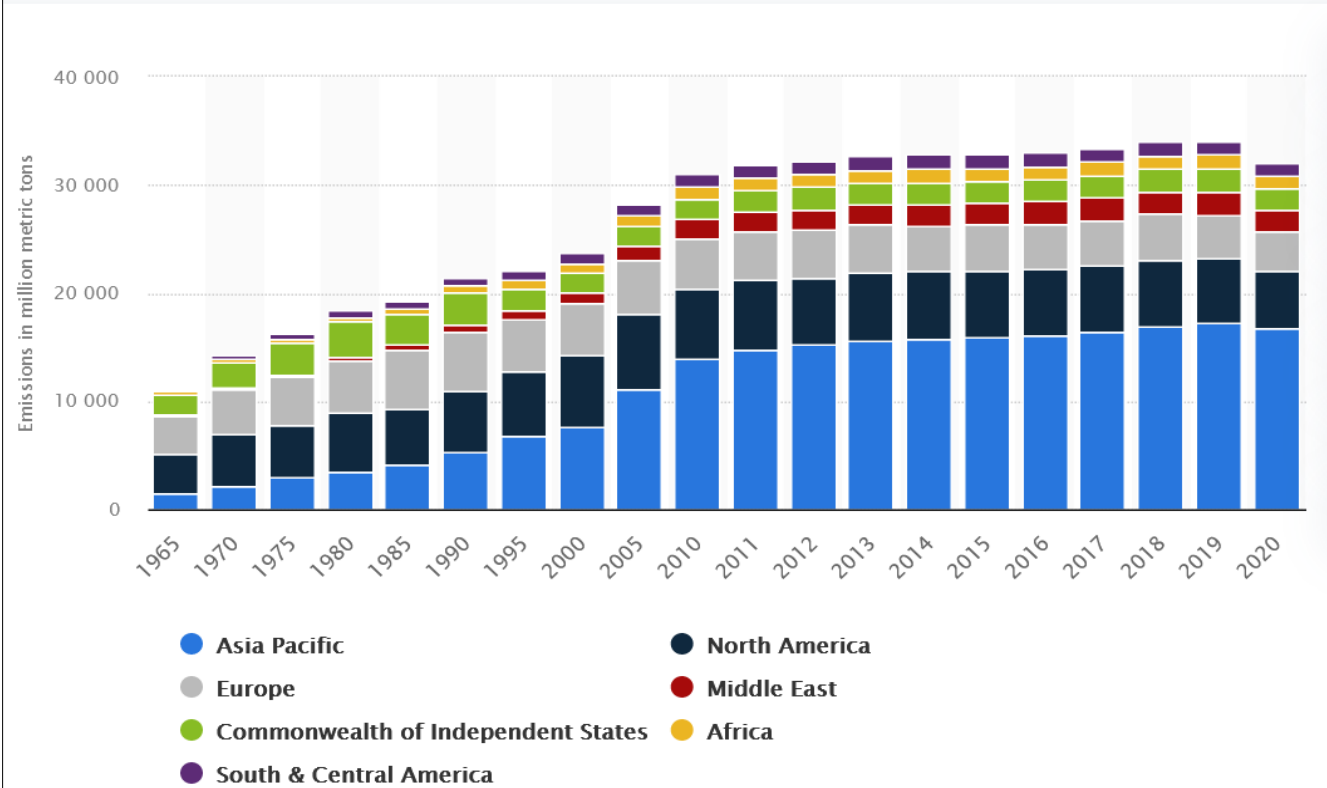
Recognizing the need to contribute to the global action, the ICT industry in January 2020 adopted and released the first-ever science-based pathway to reduce Greenhouse Gas (GHG) emissions across the telecoms sector and Net Zero carbon emissions by 2050



Africa's contribution to emissions within the life cycle is felt more in:

- Raw materials extraction by mining of minerals used in manufacture of ICT products
- Servicing/Repair of ICT equipment
- Management of waste ICT equipment

million metric tons of carbon dioxide)



Africa accounts for only 2–3 per cent of the world's carbon dioxide emissions from energy and industrial sources.

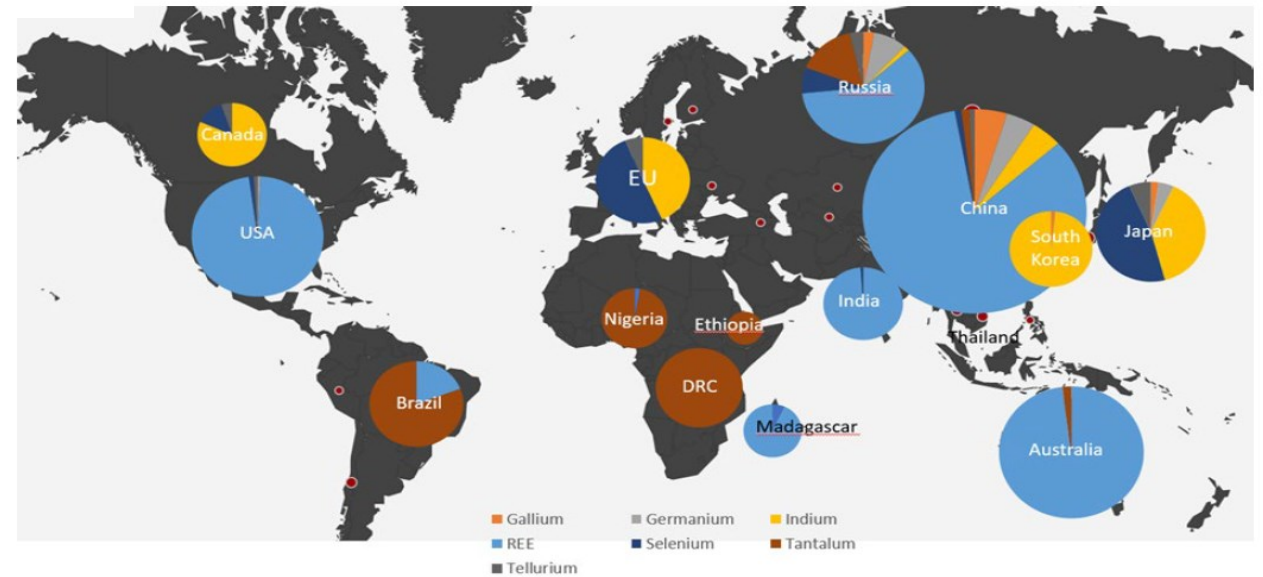
Africa's per capita emission of carbon dioxide in the year 2000 were 0.8 metric tons per person, compared with a global figure of 3.9 tons per person.

Most Important Mined Elements Used for ICT

Products Manufacturing:

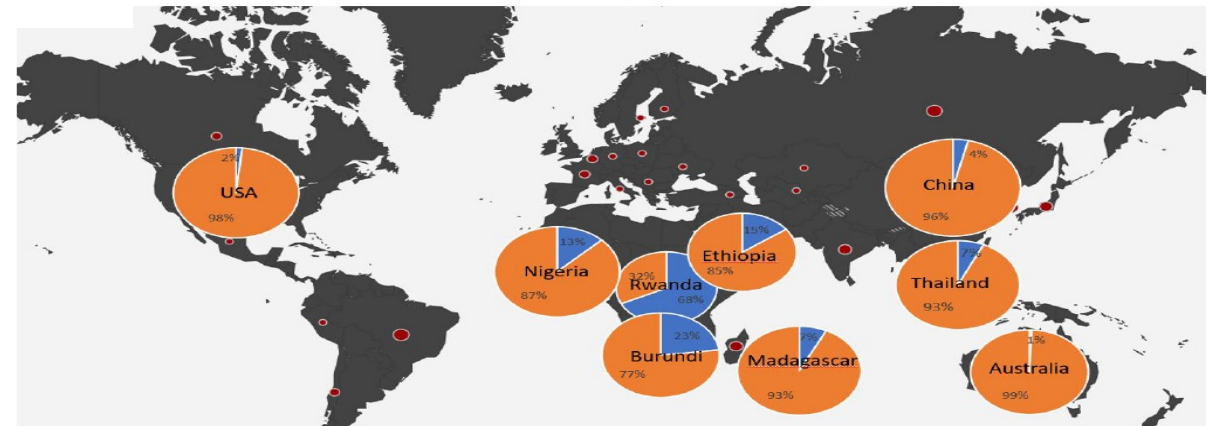
Antimony, Beryllium, Boron, Bromine, Cesium, Chromium, Cobalt, Copper, **Gallium**, **Germanium**, Gold, Graphite, Helium, **Indium**, Lead Lithium, Magnesium, Manganese, Nickel, Niobium, Platinum Group Metals (Pd, Pt, Rh, Ru, Os, Ir Alloys), **Rare Earth Elements** (e.g. praseodymium, neodymium, dysprosium, etc.), **Selenium**, Silicon, Silver, **Tantalum**, **Tellurium**, Tin, Tungsten, Vanadium

Production (all stages) of seven ICT elements 2018 by value (MUSD)



Sources: WMC, USGS, BGS, RMG Consulting.

Relative importance at the mine stage of seven ICT elements 2018 by value (MUSD)



Sources: WMC, USGS, BGS, RMG Consulting.

Note: The full circles represent total value of mine production in each country, blue is the share of the seven elements under study.

Among the 15 most important producing countries, 5 are in Africa

Africa needs support for lower carbon emissions technologies for its mining industry

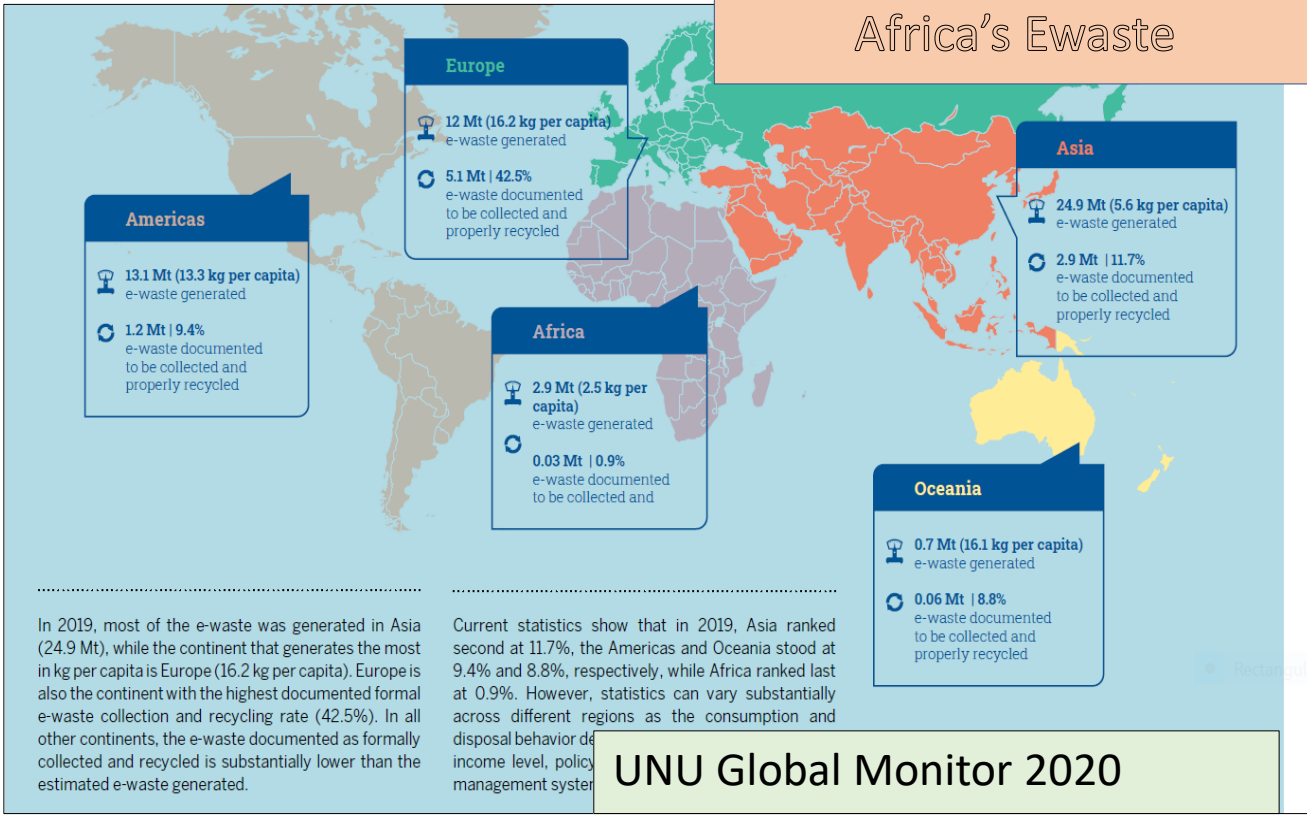
Artisanal Repairs/Service of ICT Equipment in Africa



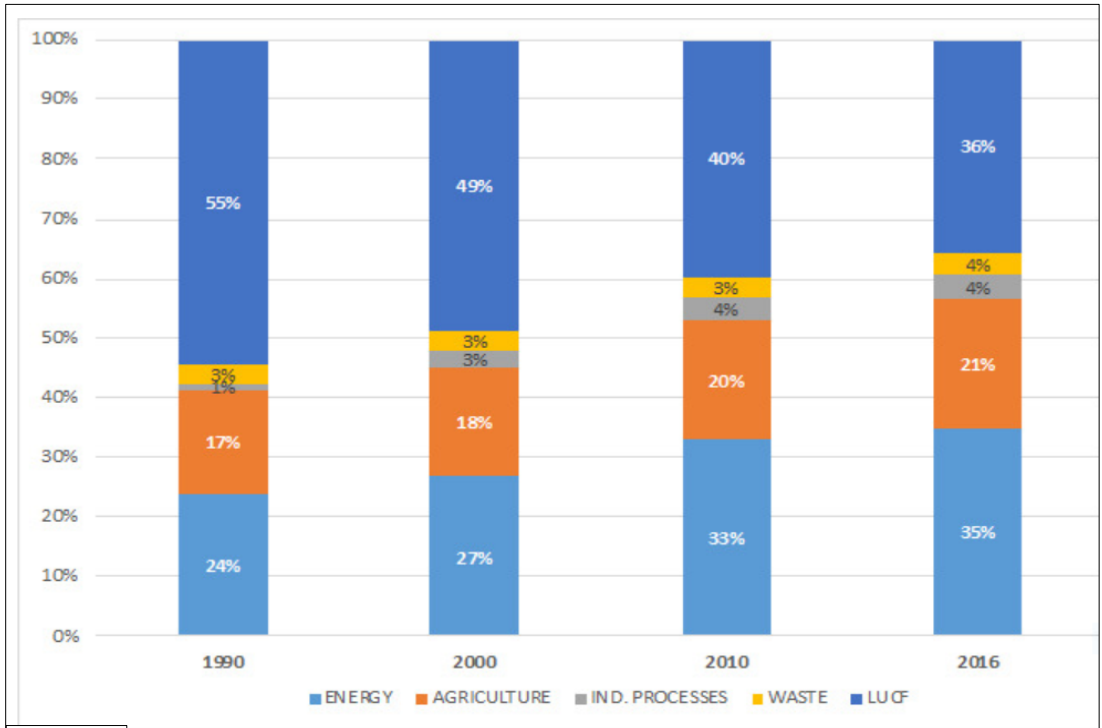
African artisans are very adept at repairing and servicing many ICT equipment; thereby:

- Contributing to extension of lifespan of ICT products
- Contributing to a circular global economy
- Contributing to reduced carbon footprint of ICT products

Africa's Ewaste



UNU Global Monitor 2020



Evolution of Africa's GHG emissions by sector 1990 - 2016 (%)



Africa ewaste management characterized by:

- Dumping of ewaste on land and water course
- Open, uncontrolled incineration of ewaste for extraction of base metals
- Emission of GHGs

Africa's E-wast Management Priorities

Raising Awareness:

- Massive lack of awareness among the public on hazards of unsound management
- Awareness will improve collection
- Will improve political will for action
- To encourage responsible consumption

Creating / Improving Legal and Regulatory Frameworks:

- Policies on e-waste
- Regulations
- Guidelines
- Standards
- Registration and networking of Stakeholders

Conducting Inventory of E-waste:

- Only few countries have conducted inventories
- Very conflicting data available
- Inventory required for planning sound management

Establishing Effective Institutional Frameworks:

- Capacity building for regulatory and enforcement officials
- Equipping with BAT for control
- Alligning institutions

Curbing Illegal Transboundary Movement:

- Illegal TBM of ewaste to Africa still a serious problem
- Regular training of customs, Environmental agencies necessary
- Need for regional and global 'dump watch' frameworks

Developing Effective Economic Frameworks (e.g. EPR Schemes):

- EPR schemes very critical for sound e-waste management
- Only few countries have established EPR schemes
- Schemes not working too well in Africa

Formalization of the Informal Sector:

- Collection and recycling currently dominated by artisanal informal sector
- Need to be formalized into cooperatives and trained on ESM methods
- Provide economic incentives for ESM

Establishing Regional Recycling Hubs:

- To cater for small low income countries
- Remove obstacles to intra-African movement of wastes destined for recycling

Operating Effective Collection Centres:

- Effective collection centres will promote recycling
- Will reduce dumping and incineration

Partaking in the Work of Regional and Global Partnerships for Ewaste Management:

- E.g. Follow-Up to PACE of the Basel Convention
- SteP
- Global Ewaste Statistics Partnership
- International E-waste Management Network
- WEEE forum
- UN Ewaste Coalition

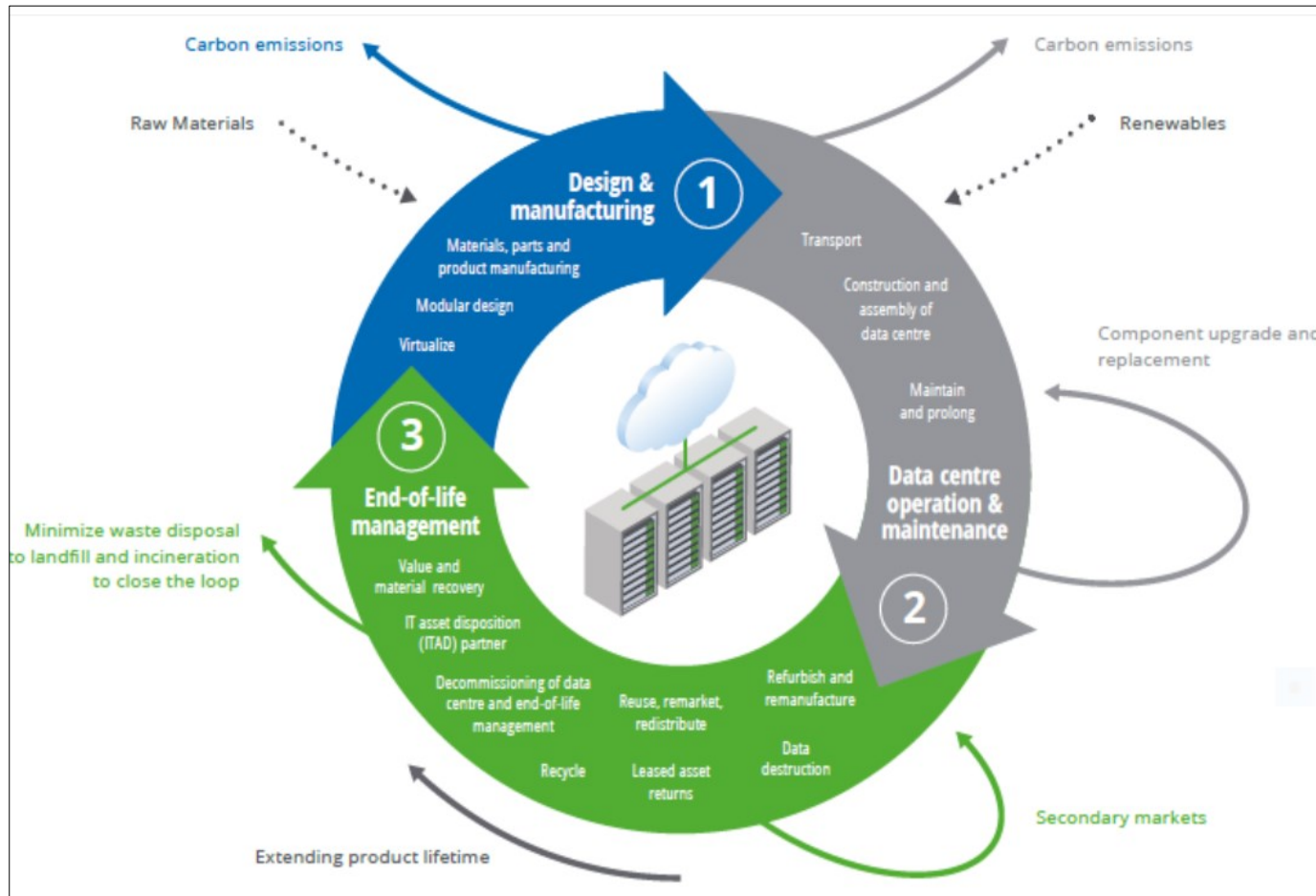
Efficient Recycling and Increased Capacity to Recycle:

- Business model for recyclers not currently attractive
- Standards for Recycling needed, and should be enforced (e.g ITU Standards, E-Stewards, R2)
- More local recycling facilities needed

Developing, Accessing and Effectively Utilizing International and Local trust Funds for Managing E-waste:

E.g.:
GEF
Donor funds

In effect, Africa can make ICT Equipment Management Circular, and Not Linear!!!



Source: ITU



**THANKS
FOR
LISTENING**