Five Big Bets for Africa’s path to circularity

We are supporting five industries that offer immediate opportunities for increased circularity in sectors that will improve the economy, jobs, and the environment on the continent in the long term.

- **Food waste conversion industry**
  Converting food waste to organic fertilizer to increase circularity in food systems.

- **Plastic waste recycling**
  Recycling plastic packaging to increase circularity within the packaging industry.

- **E-waste recycling industry**
  Promoting circularity in the large and growing electronics sector through substantial recycling and collection facilities.

- **Recycled garments industry**
  Converting fashion and textiles waste into garments for commercial export markets.

- **Mass timber industry**
  Redesigning how we build by using mass timber as a more sustainable input resource for expanding the built environment.
COVID-19 is putting African agriculture at a critical crossroad. Circular solutions are key to improve food security, health, environmental outcomes, growth and employment on the continent.

- Africa’s food systems will be valued at trillions of dollars by 2030
- Agriculture employs 60% of the Sub-Saharan workforce
- Agriculture makes up 23% of the continent’s GDP

10 million
African farmers’ livelihoods could be affected due to COVID-19

$1 - $5 billion
in export value is at risk for 2020 due to supply disruptions

How to make Africa’s food systems more circular?

**Production**
Training farmers in post-harvest handling and recovering wastewater for irrigation will help shift production to more climate-smart models.

**Processing & Distribution**
Converting distribution-related waste into compost/soil enhancer and into energy can improve competitiveness and green manufacturing.

**Consumption**
Improving cuisines by minimizing waste and resource intensity will slow flows in consumption and create new loops for food diversion programs.

**Post-Consumption**
Converting waste into compost/soil enhancer and into energy will create additional and new loops for increased productivity and soil health.

The immediate opportunity
Convert food waste into organic fertilizer to increase circularity in food systems

Enablers & impact
The transition from synthetic fertilizer to carbon-negative compost fertilizer (biochar) requires policies, financing and awareness-building. The impact is new green jobs due to the labor-intensive nature of roles in handling and waste collection, resilience to global supply shocks for fertilizer, reduced emissions and improved soil renewal.

- Supportive policies to build consumer trust
- Drive funding for capital investments
- Advocate to change consumer behavior

A small plant for waste collection can employ +200 people & supply +4,000 farmers.
Packaging & the circular economy in Africa

Demand for plastic packaging in Africa is growing, driven by low costs and several application areas. Recycling has emerged as a solution to mitigate the environmental effects but must be scaled to have significant impact.

- In 50 years, global plastic production has surged from 15 to +350 Mn tonnes
- In 2015, global plastic packaging volumes increased from 17% to 25%
- 13% of municipal solid waste in Africa is plastic, and is dumped instead of recycled

90% of waste in African countries is disposed of in uncontrolled dumpsites and landfills

$80 – $120 bn is the annual loss to the global economy of reduced plastic value after initial use

How to make the packaging industry in Africa more circular?

**PRODUCTION**
- Explore the production of bioplastics using plant-based material as an alternative, rather than petroleum used in conventional plastics.

**PROCESSING & DISTRIBUTION**
- Develop global, industry-wide standards for plastic product design such as the use of mono-material or production of clear (non-colored) plastics.

**CONSUMPTION**
- Utilize reusable business-to-business (B2B) packaging that can be used in pooled systems across companies and industries.

**POST-CONSUMPTION**
- Increase recycling through innovative bottle deposit systems and incentivize investments in recycling facilities through legislation and tax incentives.

The immediate opportunity
Recycle plastic packaging to increase circularity within the industry

**Enablers & impact**
PET plastics offer unlimited recyclability. The transition requires policies allowing recycled plastic use in other forms of packaging and regional trade standards. Financial incentives, such as tax breaks, can help to reduce energy consumption in manufacturing and drive new green job creation.

- Harmonize policies for recycled plastic standards
- Tax incentives for improved recycling infrastructure

Improved recycling infrastructure leads to less energy consumption and job creation: 75% less energy consumed in manufacturing and +2,300 jobs created in Ghana’s new plastics recycling plant.
E-waste management has become a major challenge facing many African countries because of lack of awareness, environmental legislation and limited financial resources. Attracting more investment for recycling e-waste will support green job creation and increased value capture. The value of raw materials in Africa’s e-waste is approximately USD 3.2 Bn.

Only one-fourth of the countries in Africa have a national e-waste legislation or policy in place. Nigerians work in the country’s informal e-waste sector – but activities are dominated by male workers.

How to make Africa’s electronics sector more circular?

**Production**
- Incentivize manufacturers to reduce the use of toxic substances such as lead and Cadmium in the design of products.

**Processing & Distribution**
- Incentivize processors to improve the manufacture of products to ensure longer life cycles and smarter upgrade process.

**Consumption**
- Achieve a high product utilization rate by ensuring that product lifetime is maximized through repair and refurbishment.

**Post-Consumption**
- Create and enforce legislation to limit foreign e-waste imports and build recycling and collection facilities for domestic e-waste.

**The immediate opportunity**
Develop the e-waste recycling industry and substantial collection facilities.

**Enablers & impact**

The development of e-waste recycling and collection facilities requires policy and financial incentives to build proper recycling infrastructure. The impact is the creation of more green jobs with reduced health risks and increased value capture of precious commodities like gold retrieved from effective recycling and collection.
Fashion, textile & the circular economy in Africa

The current system for producing, distributing, and using clothing operates on a predominantly take-make-dispose model. A new textiles economy – based on circular economy principles – would lead to better outcomes.

- The global fashion industry is accountable for 20% of global wastewater.
- 73% of material going into the clothing system is lost after final garment use.
- Local communities suffer from the industry’s poor environmental practices.

< 1%

of material used to produce clothing is recycled – a loss of +$100 bn annually

342 million

barrels of oil are used every year to produce plastic-based fibers for textiles

How to make the fashion industry in Africa more circular?

**Production**
Use regenerative and restorative agricultural practices that utilize organic inputs for retaining and restoring nutrients in the soil when growing cotton.

**Processing & Distribution**
Establish green textiles industries that use resources efficiently and renewable energy as well as use recycled waste materials to minimize the use of virgin resources.

**Consumption**
Shift from fast fashion to timeless fashion through campaigns and consumer incentives. If the number of times a garment is worn doubled, emissions would be cut in half.

**Post-Consumption**
Develop commercial recycling industries that recycle clothes back into yarns or upcycle secondhand clothing to added value fabrics and other products.

**The immediate opportunity**
Convert fashion and textiles waste into garments for commercial export markets

Enablers & impact
Commercializing the recycling and upcycling of secondhand clothing helps to ensure circularity in the industry while reducing resource intensity from the use of virgin raw materials. This opportunity taps into a growing market for sustainable fashion and green job creation.

- Policies allowing secondhand clothing for upcycling
- Business support for sustainable brands with global market access
- Financial incentives for incentivizing investors interested in green industries
- Technology development for recycling clothes into fibers to weave new garments
- Infrastructure development for improving recycling industries

Increased market access for recycled fashion & textiles can create thousands of jobs, particularly for women.
Built Environment & the circular economy in Africa

As African cities grow, so do emissions. Greenhouse gas emissions in Africa are projected to increase by over 2.5 times to 10% of global emissions by 2050, driven by large transformations in urbanization, industrialization and electrification. Abating these emissions is possible through the promotion of low-carbon infrastructure.

African cities are growing at an average annual rate of 4% - twice the global average. Manufacturing is growing rapidly, with some countries’ output growing >10% per year. 1.6 TW of power generation is needed by 2030, with ~600 m people needing electricity.

59% of the region’s population will live in urban areas by 2050. 2.5 billion people will live in Africa in 2050, up from 1.2 Bn in 2018.

How to make the African built environment more circular?

**DESIGN**
Designing circular buildings must speak to the importance of ecological custodianship and evolve toward a “planet-centric design” for sustainability.

**BUILDING MATERIALS**
Use alternative building materials such as mass timber for construction. Other materials include fly ash, recycled aggregate concrete and other more sustainable alternatives.

**FITTING & FIXTURES**
Scale secondhand markets for materials and build circular models for fixtures and fittings – such as a product-as-a-service, leakage monitoring, and clean energy technologies.

**WASTE MANAGEMENT**
Use waste materials to create affordable building materials, e.g. plastic for bricks and tiles for floors, and use regenerative approaches to manage garbage and wastewater.

The immediate opportunity
Use mass timber as a more sustainable input/resource in built environments.

**Enablers & impact**
Using mass timber for construction is a promising solution for increased circularity in the built environment. Forestry conservation will create millions of jobs for youth and will reduce CO₂ emissions significantly compared to conventional construction materials.

**POLICIES**
Encourage use of mass timber and sustainable forestry conservation.

**BUSINESS SUPPORT**
Explore partnerships with frontier countries in mass timber construction.

**FINANCIAL INCENTIVES**
Support investors interested in the construction of green industries.

**TECHNOLOGY**
Scale technology and skills for high-tech mass timber processing.

Globally, forest conservation could create 16 million jobs from planting, cutting, and maintaining the forest resources.