***Global waste management market***

By 2050, [global waste](https://sustainabledevelopment.un.org/sdg11) is expected to reach 4 billion tons, doubling what it was in 2020. The rapid upsurge ties back to growing urban populations and a rise in consumer culture over the past few decades, neither of which is slowing down any time soon. To reduce the strain this is putting on the environment and waste collection services, communities around the globe are turning to smart waste management technologies and solutions.

***How much waste does Africa produce each year***?

Population of Africa is estimated as 1,2 bln people in 2020. According to a World Bank Urban Development Series report, Africa currently produces just about 90 million tons of waste every year.
With its growth of population (average population growth rate is 3% a year), rapid urbanization and growing economies, waste production in Africa will exceed 160 million tons by the year 2025.

***Why is waste management in Africa a problem?***

With its rapid urbanization and growing economies, waste production in Africa will exceed 160 million tons by the year.Waste is a problem because it causes pollution, disease, and environmental crisis when it’s not properly managed.

***Can Africa’s waste be turned into money-making products?***

The volume of waste generated on our continent is expected to double in the coming years as Africa’s economy becomes more prosperous and the size and population of its cities explode. A few smart entrepreneurs are turning the huge waste we produce every day into money-making products.- But that is a small drop in the total waste to wealth potential in Africa, recycling only5% of total waste generated.

***Africa Waste Management Market | Growth, Trends, and Forecast (2020 - 2025)***

***The Africa Waste management market is growing significantly with a cagr of % and is expected to continue to grow further in the forecast period with an average waste collection rate of only 55%. Most of the Municipal Solid Waste collection services in many African countries are inadequate.***

*With an average of 57% of MSW in Africa being biodegradable organic waste, the bulk of the waste is dumped. About 90% of the waste generated in Africa is disposed of to land, typically to uncontrolled and controlled dumpsites. Only about 4% of the waste generated in Africa is recycled, often by informal actors (as with reuse). Africa has lately become a dumping site for waste, particularly hazardous waste, often from developed countries. More than 130 people have died in the landfill collapses in Africa in the past one year, 2/3 of whom were women. To address these concerns, many social and technological innovations have emerged in the waste sector in Africa.****Key Market Trends*** *Growing need for effective waste collection services in Africa.

As just a little over 50% of the waste generated in Africa are collected, the collection services in Africa remain inadequate. The changing consumption patterns and weaker collection systems results in the leakage of waste into the environment. Indiscriminate dumping into urban areas create risks of disease, flooding and environmental pollution. Due to the insufficiency in the collection of generated waste, the current waste management practices are causing significant technological, social and environmental impacts.

The African Union, an organization representing all the sovereign states on the continent – has the vision that African countries will be recycling at least 50 percent of the urban waste they generate by 2023 and grow urban waste recycling industries. Recycling only four percent of the waste it generates, Africa has become a dumping ground for waste, particularly hazardous waste, often from developed countries. To address the growing challenge regarding waste management, there are policies and strategies for Africa. The African Union had published the “Agenda 2063: The Africa We Want” in 2013 and a popular version in 2015. It is a strategic socio-economic transformation framework for the continent and emphasizes sustainable development. “The Agenda 2063 Implementation Plan (2014–2023) outlines specific goals to be achieved during the first ten years, including reference to the expected transformation of waste management,” the authors of the “Africa Waste Management Outlook” inform. One target is a recycling rate of 50 percent regarding urban waste by 2023.****Competitive Landscape*** *Africa needs effective waste management providers that meet the regulatory requirements and address the waste issues in an effective manner.*

***THE PROBLEM with garbage disposal in Africa today***

1. Garbage volume grows dramatically, much faster then with population growth

2. Existing landfills are overflowing, urban growth does not allow for the expansion of landfills, new landfills have to be moved far away, which requires more money for removal

3 there are environmental risks for the population and the environment

4. the population is not ready to pay high rates for garbage collection

5 states and municipalities do not have technologies and investments for recycling

***What solutions are required?***

Africa growing waste volumes require innovative solutions which will allow to provide large scale projects for waste collection and processing in urban centers in Africa, meeting the following requirements:

Solutions shall be cost effective and economically viable, providing competitive attractive returns to private investors

Solutions shall be fully environmentally friendly at all stages from waste collection to waste processing (zero waste and zero emissions solutions).

**OUR TECHNICAL SOLUTIONS**

We have identified, developed, integrated and applied innovative technologies for waste collection and waste processing, which are completely environmentally friendly, have zero waste and zero emissions, also fully restore and purify and reuse recycled water used in the processing.

Spectrum of products we produce covers variety of energy and food security needs of Africa sustainable development. We use a combination of several technologies, including production of synthetic gas by pyrolysis and high-temperature plasma, CC technology to

***What type of waste we process?***

We can process any waste of organic compounds municipal waste, sewage sludge, oil refining waste, poultry lignite, all types of agricultural waste, animal husbandry, poultry farming without emissions and burials

***What technologies we apply?***
A complex of the following technological processes will be used to ensure the conversion of waste without emissions and burials:

* reactors based on the pyrolysis process technology at a temperature of 400-980°C for rapid gasification of medical and industrial waste, transformer oils, hazardous waste of 1-3 hazard classes; for poultry, livestock, MSW waste, superheated steam is used for coal gasification;
* gasification reactors with microwave emitters at temperatures of 1000 - 1300 °C for highly hazardous waste;
* plasma-chemical technologies;
* technology of oxidation in the supercritical state of water for the complete neutralization of water (99.9999%) after purification of synthesis gas and its return to the technological process;
* mineralization technology for the neutralization of ash residues and salts of heavy metals;
* technology of vitrification of mineral waste;
* technologies for the synthesis of methanol and ammonia;

**OUR INVESTMENT SOLUTIONS**

We have our team of experts and regional business development managers, who identify and develop waste management projects in cities of Africa, conduct initial waste resource assessment, model waste collection and waste management processes for particular cities and towns, conduct market study and comparative analysis of producing different outputs from waste and selecting particular solution for each particular city, which can guaranteed long term sustainable demand for the produced output of waste conversion and provide best returns to investments. For example for waste processing in Ghana we are going to produce eco-diesel, for-Mozambique-combination of electrical power and meprin and for South Africa combination of liquified synthetic gas and electrical power. All projects have long term off-take agreements for all volumes to be produced.

In order to ensure fast growth and geographic diversity of our Waste-to-Wealth project portfolio, we also cooperate with local project developers and local governments (mainly municipalities). As the **Private-Public partnership**, we implement and finance joint projects, where local partners and local administrations contribute rights to waste collection (mainly on a concession basis for the period not less than 30 years), required land, supporting infrastructure, all required permits and licenses, and the role of ADG as the WWAIF management company is to bring technology, integrated project management and investments.

We are open for partnership with all local waste management project developers and created a platform for application for **INITIAL PROJECT APPRISAL AND FINANCING APPLICATION**

***Current projects portfolio***
We develop and implement Waste-to-Wealth projects in 9 countries of Africa.
Scale of our projects differ from 50 000 tons per year (180 tons per day) up to 1250 000 tons per year (4500 tons per day)

We use

**Waste to Wealth Africa Investment Fund (WWAIF)**

The Waste to Wealth Africa Investment Fund is an innovative public-private partnership dedicated to improve dramatic situation with Waste Management in Africa for the benefit of the population, national economies and the environment. The Fund aims at improving waste collection and processing in-Africa, utilizing zero emission technologies and smart waste collection solutions, providing additional employment and producing diversified products, improving energy and food security in Africa.

Mission of WW AIF is to identify and finance waste management projects in Africa, bringing smart collection and scientific processing of waste to the forefront to build a zero landfill and zero waste nations and reduce energy and food insecurity in Africa by coverting solid municipal, industrial and agriculture waste into synthetic gas, electrical power, eco-fuel (eco-diesel and methanol) and meprin (high protein component of animal feed).