



Viffa Consult

# PLASTIC RECYCLING IN KENYA

SME Market Opportunity Outlook

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# Acronyms

<b>CAGR</b>	- <i>Compound Annual Growth Rate</i>
<b>PET</b>	- <i>Polyethylene Terephthalate</i>
<b>HDPE</b>	- <i>High-Density Polyethylene</i>
<b>LDPE</b>	- <i>Low-Density Polyethylene</i>
<b>PP</b>	- <i>Polypropylene</i>
<b>NEMA</b>	- <i>National Environmental Management Authority</i>
<b>KAM</b>	- <i>Kenya Association of Manufacturers</i>

# Introduction

The going concern of SMEs in Kenya is at a risk majorly attributed to the negative effects of Covid-19 which has accelerated their mortality rate from 75 percent within 3 years of inception to theoretically over 90 percent within one year in 2020.

We hypothesize that the high mortality rate of SMEs especially during the covid-19 pandemic may be due to ; SME sector distribution that is skewed towards wholesale-retail, motor vehicle-cycle repair, food and accommodation (KNBS 2016), a situation in which supply chain disruption caused havoc for businesses, weak business models with little to no value addition in most value chains for example leather where less than 2 percent is processed to finished goods and Africa accounting for less than 4 percent of global leather products despite Africa owning a fifth of global livestock (Ministry of Industrialization Trade and enterprise development).

With the economic growth estimated to grow at less than 3 percent; efforts must be made to catalyze and support traditional as well as non-traditional economic sectors that contribute highly to economic development. Traditional sectors include; tourism, manufacturing, horticulture among others while non-traditional sectors include startups and agritech among others.

The study focuses on plastic recycling under manufacturing sector as an economic development opportunity worthy of support as well as a business opportunity for SMEs to explore.

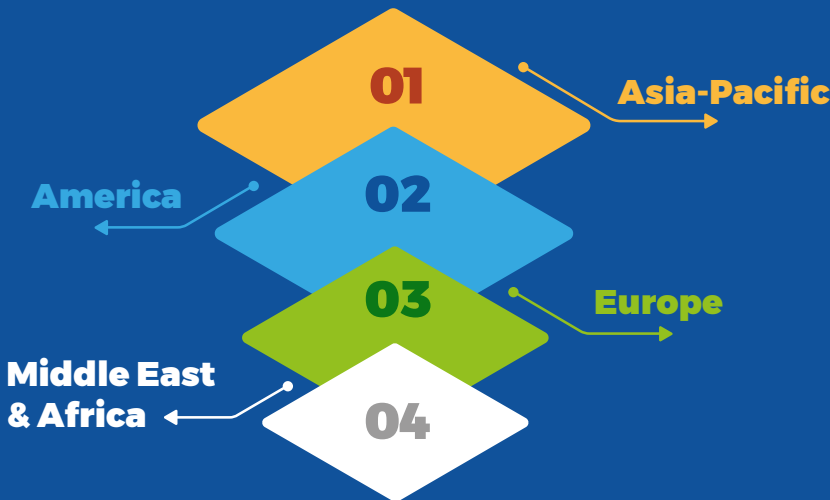
# Global Plastic Recycling Overview

Recycling is a process of recovering scrap and reprocessing the materials into useful products (Grand view research).

Rising global environmental concern, utilization of recycled plastics in packaging industry, government support for recycling plastic, rapid advancement in recycling technology continues to provide demand thrust for expansion of the plastic recycling market with an estimated value of 41.73 Bn USD growing at a CAGR of 6.6 percent between periods 2019-2027 (Research and Markets 2020)

Asia-pacific has the biggest plastic recycling market (Illustration 1) owing to a rapidly growing population, rapid economic development, environment and waste management legislation among other factors with China leading the world in importing waste plastic accounting for 56 percent.

*Illustration 1: Top Global Plastic Recycling Markets*

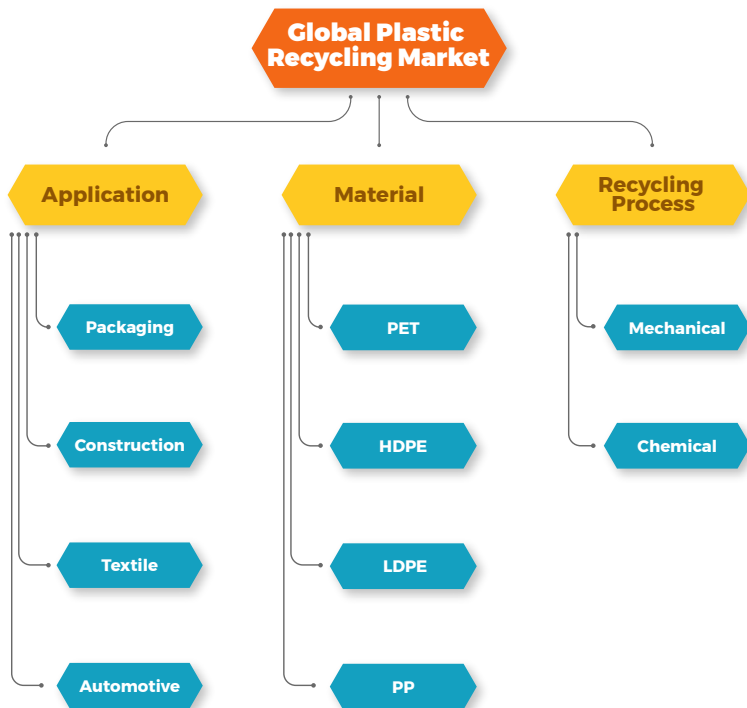


Source: MRFR | Analysis: Viffa Consult

## Global Market Topography

Global plastic recycling market is segmented into three areas; application, material and recycling process. Further breakdown of the market is illustrated below.

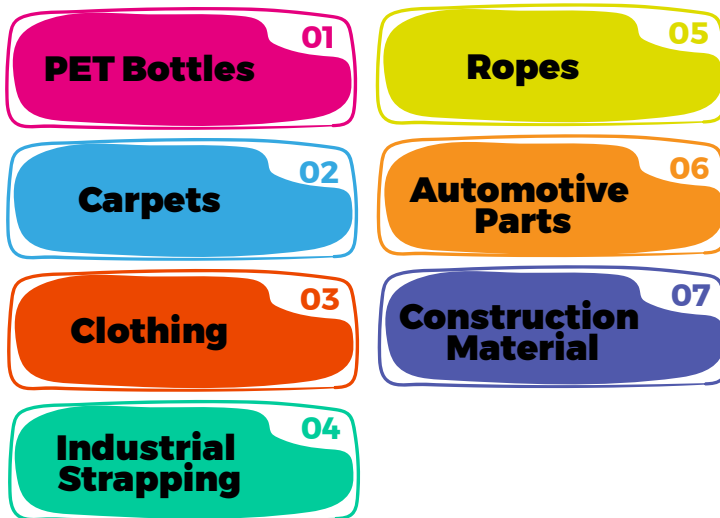
*Illustration 2: Global Plastic recycling market segment*



*Source: MRFR | Analysis: Viffa Consult*

The polyethylene terephthalate (PET) segment is dominant in the market, due to its broad applications (Illustration 3) and ease of commercial recycle thorough washing and re-melting, or by chemically breakdown to its component materials to make new PET resin (PET Resin Association).

*Illustration 3: PET Products*



*Source: PET Resin Association | Analysis: Viffa Consult*

The global PET recycling market stood at USD 7 billion in 2018 growing at a cagr of 7.4 percent to 2025 translating to USD 11 billion driven by increasing consumer concern on environmental sustainability. Demand for recycled PET is created by several industries such as the textiles industry, consumer goods, automobiles and food and beverage packaging (Grand View Research, 2019b).

# Africa

Africa's daily plastic consumption ranges between 0-0.2 kg per person except south Africa (Kenya plastic action plan 2019)

Consumer brands Unilever, Nestle and Coca cola are global leaders in production of plastic trash (Greenspace 2018) with the ripple effect felt in Africa one of their key markets.

With increased production of plastic waste; Coca-Cola, Unilever, Nestle and Diageo formed a plastic recycling alliance in 2019 focusing in Africa in order to initiate national recycling initiatives. Initial adopter of the initiative includes Nigeria, Ghana and South Africa.

Through the alliance, the member companies will facilitate and support their local subsidiaries to engage in market-level public-private partnerships (PPPs) and industry collaborations. The Alliance will promote innovation and collaborate on technical solutions and local pilot initiatives to improve plastics collection and recycling, which in turn is expected to create jobs and commercial activity. Companies will also engage with the investment community and policymakers to accelerate the development and financing of waste management infrastructure and systems.

South Africa leads Africa in recycling with many other countries struggling with the optimal business model due to challenges of efficient and cost-effective collection of PET waste at scale.



# Kenya

Kenya generates 20,000 mt of waste daily and 7 million mt annually (World Bank 2018) with estimated plastic waste proportion being 11.8 per cent translating to 820,000 mt annually (UN Habitat 2019).

Kenya Vision 2030 recognizes the need for efficient and sustainable waste management systems to be established as the country develops into a newly industrialized state by 2030. The Vision 2030 identified Solid waste management for five cities and towns namely; Mombasa, Kisumu, Eldoret, Nakuru and Thika as one of the flagship projects.

The National Environment Management Authority is expected to deliver this flagship project which falls within its mandate having developed a waste management strategic plan in 2014 that envisions an integrated waste management approach although it faces a great deal of challenges (Illustration 4).

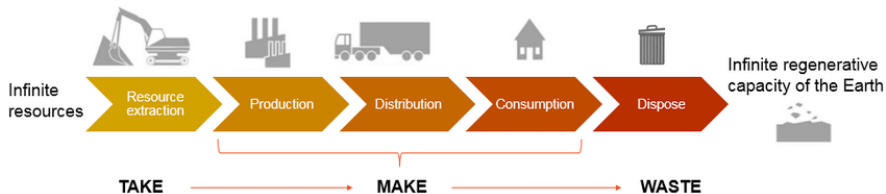
**Illustration 4: Kenya waste management challenges**



Source: NEMA | Analysis: Viffa Consult

Kenya desires to adopt a circular economy as opposed to a linear economy (Illustration 5) with the former posing benefits such as; reducing environmental pressure, improving security of supply of raw material, increasing competitiveness, stimulating innovation, economic growth and job creation (European parliament 2018). The circular economy is an economic model within which resources like plastics are used in a more efficient manner through the three guiding principles of reduce, reuse and recycle to close the loop (Ghisellini et al., 2015; Wilts, 2016)

**Illustration 5: Comparison between Circular and Linear economy models**



**Source: Green Dot Bioplastic & Research Gate**

Kenya like most African countries doesn't have a formal or official recycling infrastructure with private recycling companies collecting unsorted plastics from various dumpsite for processing (NEMA).

Although Kenya lacks legal regulation compelling plastic producer to establish a recycling framework, in 2020 through the budget policy statement the government proposed to exempt from VAT all services offered to plastics recycling plants and supply of machinery and equipment used in the construction of recycling plants and the proposal to lower corporation tax for the first five years to 15% for any investors operating as plastic recycling plant.

Even with the lack of legal thrust to recycle PET, there is a voluntary initiative by PETCO Kenya covering 60 percent of the market, the first Extended Producer Responsibility (EPR) Scheme which operates on the principle that companies who put products on the market are obliged to collect, sort and recycle their product once it has reached the end-of-life stage.

# Kenyan Case Studies & Business Opportunity

Organization	Description	Products
Gjenge ( <a href="https://gjenge.co.ke/our-products/">https://gjenge.co.ke/our-products/</a> )	GJenge offers an array of elegant, state of the art paving bricks. Made from recycled plastic, they offer durability, strength and aesthetic range.	<ul style="list-style-type: none"> <li>• Paving bricks</li> </ul>
Continental Renewable Energy Co. Ltd. ( <a href="http://www.corec.co.ke/know-more-about-corec">http://www.corec.co.ke/know-more-about-corec</a> )	Continental Renewable Energy Co. Ltd. recycles waste plastic into building material and sell the hardware to developers whose problem is high material cost by providing affordable and durable construction products	<ul style="list-style-type: none"> <li>• Roofing Tiles</li> <li>• Fencing post</li> <li>• Plastic Lumber</li> <li>• Road Pavement blocks</li> <li>• Walkway Slabs</li> </ul>
Eco Post ( <a href="http://www.ecopost.co.ke/index.php?page=about_us">http://www.ecopost.co.ke/index.php?page=about_us</a> )	Ecopost is a social enterprise that addresses the challenges of urban waste management (plastic pollution), chronic youth unemployment, deforestation and climate change. Environmental challenges.	<ul style="list-style-type: none"> <li>• Fencing application</li> <li>• Road Signage</li> <li>• Garden planter box</li> <li>• Outdoor Lights</li> <li>• Outdoor furniture</li> <li>• Plastic Lumber</li> <li>• Pergola</li> <li>• Gate Board</li> </ul>
Mr.Green Africa ( <a href="https://www.mrgreenafrica.com/buy-from-us">https://www.mrgreenafrica.com/buy-from-us</a> )	Trading recyclable material while achieving tangible social and environmental impact	<ul style="list-style-type: none"> <li>• rHDPE pellets white</li> <li>• Rpp pellets white</li> </ul>

Despite the industry facing a great deal of challenges, it still presents a great investment opportunity in manufacturing for the construction sector with the competitive advantage of price.

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## **European Parliament**

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Viffa Consult

For Further Inquiries contact;  
Victor Otieno  
Managing Director

Viffa Consult Ltd  
Mayfair Suites  
Off Parklands Road

P.O.Box 35320 -00200 Nairobi  
Tel: 254 723 98 25 28  
victor@viffaconsult.co.ke

**[WWW.VIFFACONSULT.CO.KE](http://WWW.VIFFACONSULT.CO.KE)**