



PROGREEN



PROGREEN INNOVATIONS

"FUEL ENERGY FROM WASTE"

COMPANY PROFILE



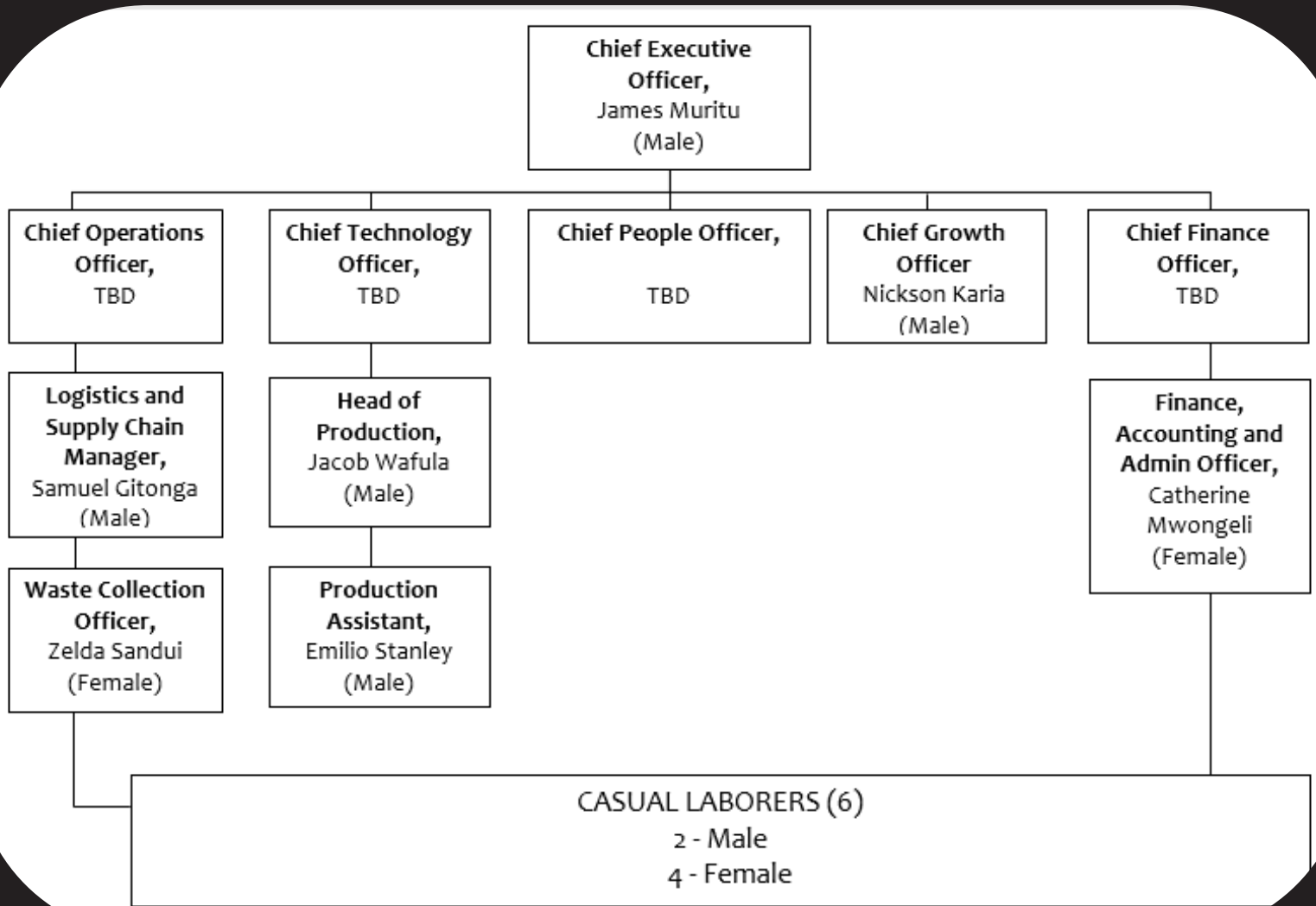
EXECUTIVE SUMMARY



WHO WE ARE

We are a waste-to-energy manufacturer based at Kenol Town, Murang'a County that converts waste materials (plastic, organic waste and biomass) into clean, certified, alternative fuel solutions for homes, business and industry. Our circular economy model addresses waste pollution, energy poverty and unemployment turning environmental challenges into sustainable opportunities in Kenya. We specialize in transforming mixed waste streams (plastics and organic materials) into practical alternatives to fossil fuels, while pioneering new ways to extract value from what others discard.

ORGANIZATIONAL CHART





PROBLEM

Plastic and organic waste are two of the biggest environmental challenges facing the world today. Every year, millions of tons of plastic waste end up in landfills and oceans, where it can take hundreds of years to decompose. Organic waste, such as food scraps and yard waste, also produces methane, a greenhouse gas that is 25 times more potent than carbon dioxide.



SOLUTION

Progreen Innovations offers a variety of waste-to-energy solutions that help to reduce the environmental impact of waste and provide access to affordable energy.

Using a patented thermochemical decomposition process, we convert waste plastics and biomass into alternative diesel and petrol fuels ideal for midsize petrol engines and heavy diesel engines and machinery. We use organic waste such as agricultural waste and food scraps combined with the carbon black residue from the plastic incineration to make environmentally-friendly heating blocks ideal for homes and industrial furnaces.





OUR PRODUCTS



Alternative Diesel and Petrol



Industrial and household heating briquettes



MARKET OPPORTUNITY

The global market for waste-to-energy technologies is expected to grow from \$30 billion in 2023 to \$60 billion by 2030. This growth is being driven by a number of factors, including:

- Increasing awareness of the environmental impact of waste
- Growing demand for renewable energy
- Government regulations that promote waste reduction and recycling such as EPR regulations

Progreen Innovations is well-positioned to capitalize on the growth of the waste-to-energy market, due to our access to a large supply of plastic and organic waste, our proprietary process for converting waste into sustainable fuel and energy sources and a team of experienced and knowledgeable experts.



IMPACT

Over 150 tons of waste plastic and 100 tons of biomass and organic waste intercepted since May 2023 converting them to fuel, briquettes and Bio-HFO. Approximately 450 tons of CO₂ prevented from release into the atmosphere with this intervention



A retailer selling our petrol fuel blend. Over 100 jobs created in sourcing, processing, distribution and retail.



Over 40000 litres of eco-diesel and petrol produced and sold since May 2023

Below delivery of the weekly batch of 1000 litres of eco-diesel to HACO Industries



PICTURE GALLERY





PICTURE GALLERY





CLIENTS, PARTNERS & SUPPORTERS

HACO INDUSTRIES - ECO-DIESEL CUSTOMER



RETAIL CUSTOMERS



Boda-boda riders using our petrol blend at Kenol Stage





CLIENTS, PARTNERS & SUPPORTERS

ACADEMIA



Field tours by students of Kianderi Girls and Murang'a University



MEDIA COVERAGE

15

CHEMICALS, WASTE AND AIR POLLUTION
UNEP, ROA

Turning Plastic Waste into Fuel

The ProGreen Innovations Story



Kenya
EAST AFRICA
Reporting by Gertraud P. &
Thomas Ogile



For more information

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In Kenya's Murang'a County, a start-up company is taking significant strides towards solutions to plastic waste. James Mutitu, the CEO and founder of ProGreen Innovations Ltd, has embarked on a journey to tackle a pressing issue: the local economy of plastic waste and the urgent need for cleaner, more sustainable fuel solutions.

Nearly 2 years ago, James conceived the idea of recycling plastic into a viable energy source. His motivation was to find a way to address the pervasive plastic pollution problem while simultaneously advancing the development of sustainable energy alternatives.

"My research was around how best we can get rid of plastic," James recalls. "I looked at various technologies, various processes, and I came up with a concept of seeing if we can get oil from plastic. I began with a very simple experiment using a very rudimentary machine with normal plastic. After that experiment, I was able to get some heavy fuel, which was flammable."

This initial success ignited a spark of innovation within James, prompting him to delve deeper into the possibilities. He sought guidance from peers, conducted extensive research, and embarked on multiple experiments to refine the process. The result was the development of a commercially viable Kenyan-made machine capable of transforming plastics into usable fuel, including heavy fuel, diesel, and even petrol.

ProGreen Innovations Ltd chose to focus on producing petrol, a more complex and challenging endeavor, due to the higher it provided. While this petrol is not currently intended for motor vehicles, it finds utility in low-combustion engines, such as lawnmowers and generators with engines below 500 CC.

The overarching goal of ProGreen Innovations Ltd is to contribute significantly to the 2050 target of achieving zero carbon emissions. They address not only the environmental challenges associated with fossil fuels but also the issue of plastic waste, which currently follows a linear economy model despite the potential for further utilization.

AFRICA | ENVIRONMENTAL HIGHLIGHTS

Daily Nation Kenya

"Progreen Innovations is pioneering solutions for the green transition."

UNEP-Nairobi

"The overarching goal of Progreen Innovations is to contribute significantly to the 2050 target of achieving zero carbon emissions."

DAILY NATION TUESDAY, MARCH 12, 2024

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From plastic waste management to pioneering alternative fuel solutions

The Progreen founder decided to take personal action to address the plastic menace, and now he is smiling all the way to the bank

BY MARGARET MANIA

Plastic pollution is a serious global threat to both business and the environment, and if business is not contained, plastic producers are expected to double over the next 20 years due to the current rate of population growth. This makes plastic pollution one of the most pressing environmental issues of our time.

With this understanding in hand, James Mutitu's inventive spirit drove him to delve into the chemistry of diesel production. Using his expertise, he produces diesel and petrol by recycling discarded plastic. Mutitu is the creative force behind Progreen Innovations, a waste-to-fuel company that specializes in converting waste plastics and waste plastic into petroleum.

CONTINUED ON PG 2



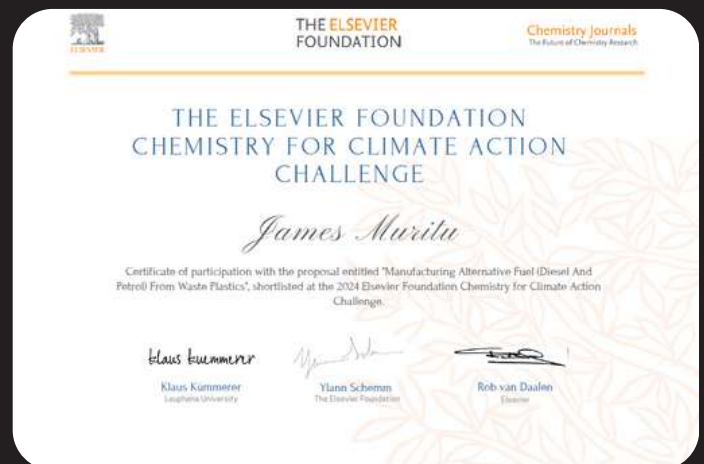


CLIENTS, PARTNERS & SUPPORTERS

AFFILIATIONS & MEMBERSHIPS



AWARDS & CERTIFICATIONS





PROGREEN

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