

# **Conversion of Agricultural, Industrial and domestic Wastes and Elephant Grass into Charcoal Briquette**

**Name: ALHASAN ISLAM TARAWALLY**

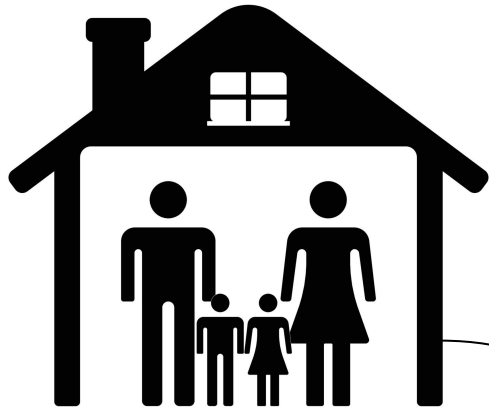
**Business Name: GREEN ENERGY CHARCOAL BRIQUETTE ENTERPRISE  
(GECBE)**

# WHY

According to the World Health Organization, household air pollution from cooking with charcoal kills over 4 million people every year and millions more are left sick. The vast majority of the victims are women and children. It also affects wildlife living. For developing countries, this is not only a health burden. Economic growth is negatively impacted; deforestation increases and a bigger issue is that the progress of women is halted.

# Problem

## Kenema



Households  
153,993

2.5 bags (50kg) of  
charcoal used per  
household per month

For the  
year, equivalent to  
18,479 tons of  
woods cut down



Charcoal uses per;  
Month- 384,982  
Year- 4,619,790  
bags



Base on our research 80-105  
tons of wood is equal 1 acre  
of forest.

In other research, an  
average tree that produces 6  
bags of charcoal, is  
equivalent to 769,965 trees  
are cut down per year for  
households.

## Cont.Problem



- Smoke effect to the environment.
- Health hazard to charcoal producers and consumers.



# Our Solution

We use **Agricultural waste**( Cassava peel, Coconut shells, Palm Kenneh shell, Coco and coffee peel, Rice Husk), Elephant grass, and add our own binding ingredients to produce cooking/ domestic briquettes that are durable as an alternative to charcoal.





# How it works

## Input materials

Source for carbonized material and raw material in addition to ours.



Manually crush the carbonized waste



## Process

Mix with binding ingredients and water



Drying



Extruder Machine- we use it to comprise

# Business Model

Total addressable Market: 153,993 households in Kenema

Serviceable obtainable market: 138,593 households

Target Market: 50% of SOM i.e 69,296 households

Current market: 1,026 households

Cost per carton = Nle 42.966

Selling: Nle60

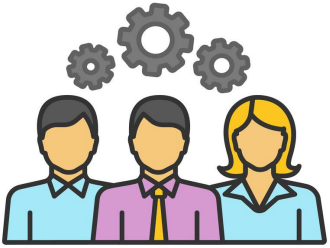
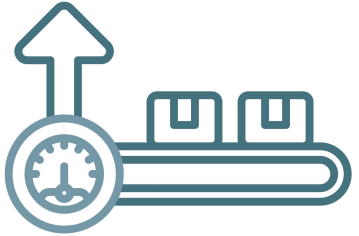


In Comparison, one bag of charcoal cost Nle 120 while 25% of each bag, has charcoal dust.



# Growth Journey -Non Financial

2022



- Produce 1000 Cubes per Month
- Produce manually/ less machine
- 5 Employees
- No partnership
- Less than 20 customers
- Open work space

2024/ Present

- Produce 240,000 Cubes per Month
- Use Machine-Briquette Extruder and solar installation to support production.
- 15 employees
- Partnerships; SHADE, 5 Input suppliers, City Council, District council.
- Tested by partners in Spain
- Production room
- Products has reached 1000 customers.



# Growth Journey- Financial Traction

Total addressable Market: 153,993 households in Kenema

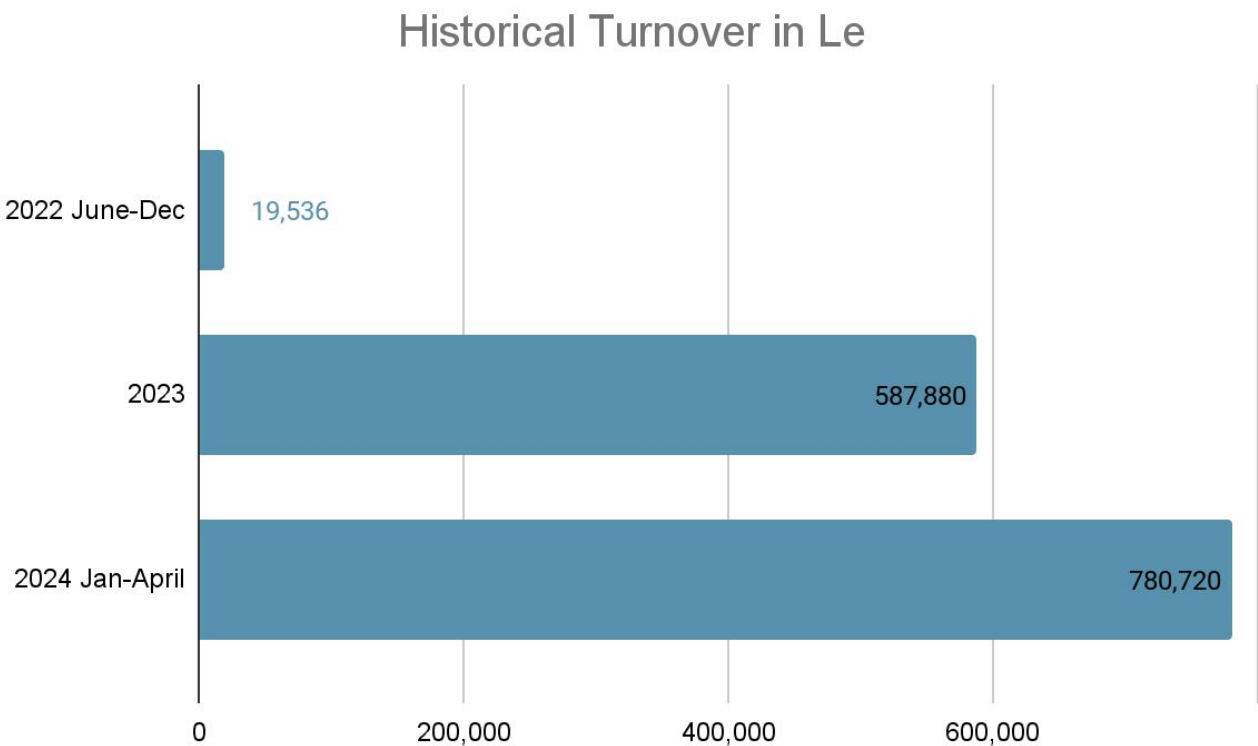
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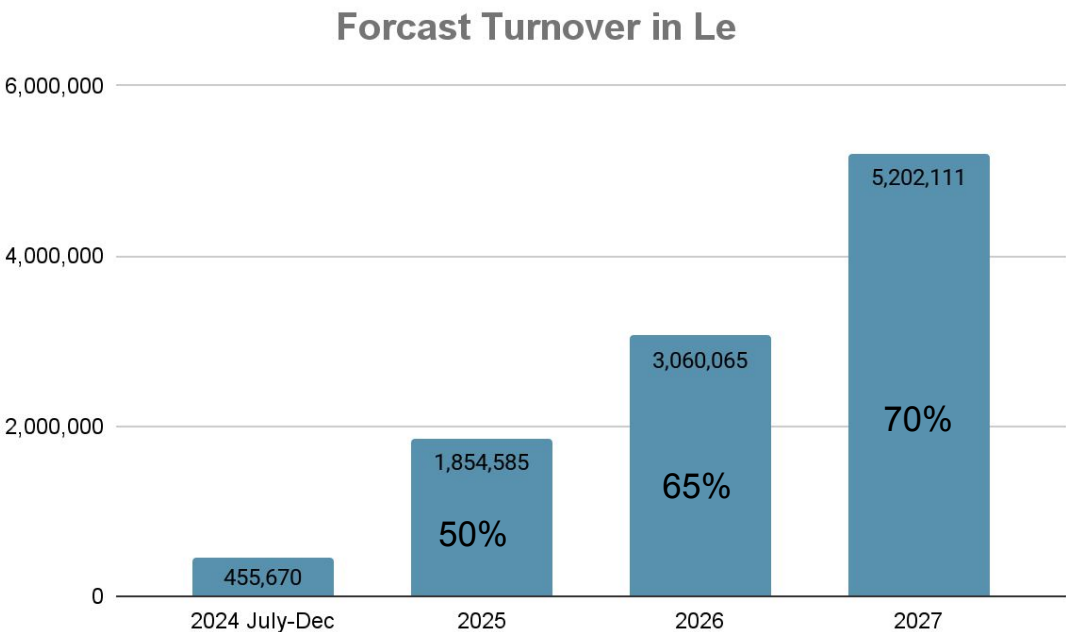
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# Growth Opportunity

- Expand to Bo,Kailahun and Pujehun and partner with the councils.
- Partner with youth organizations for training as input suppliers.
- Establish a bigger factory.



# Support to the Business- GECBE

## Founder Contribution

- Current workspace and construction of local carbonizer.
- Solar installation \$7500
- In-kind contribution; provided input supplier with training as input suppliers.

## External Contribution

- ILO provided Technical and financial support of \$11,000. We bought 1 extruder machine, hired 10 staff.

# Challenges as a Green Entrepreneur

- Mitigating the switching cost from charcoal to briquette coal for consumers.
- Support, promotion from government against non green competitor; through tax reduction etc.
- Facing a largely consumer group that are not environmentally conscious

# The ask-What GECBE need to expand

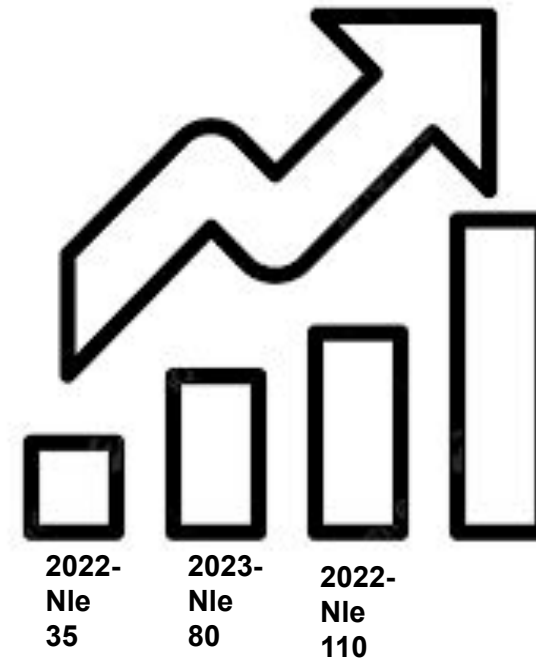
GECBE needs \$1,078,000 to meet it expansion plan. The money will be used as follows;

Items	Qty	Cost per unit \$	Total
Mixer	1	40,000	40,000
Industrial Carbonizer	1	70,000	70,000
Crusher	2	40,000	80,000
Extruder/Presser	5	20,000	100,000
Dryer	5	20,000	100,000
Installation & training of workers on new machinery			15,000
Storage/ packhouse production factory		350,000	350,000
Delivery Trucks	2	150,000	300,000
Tricycles	5	3,500	17,500
Motorbike	5	1,100	5,500



# Impact of our product to the community

- Reduced Deforestation
- Improve health
- Reduction in the inhalation of black soot due to charcoal burning
- Employment opportunity due to larger supply chain & Value chain.
- Added advantage;  
Continuous increase in price of charcoal gives a good market entry point for new product with competitive price.



# Thank you! Any Question?

email: [greenenergycharcolbricket@gmail.com](mailto:greenenergycharcolbricket@gmail.com)

+232 (0) 76755115 / 232(0)31035391