

# Fueling Rwanda's Clean Cooking Future

Spotlighting Three Success Stories  
from Rwanda's Clean Cooking  
Sector



## About ReCIC and this publication

**Reducing the Climate Impact of Cooking through Improved Cooking Energy Systems in Rwanda (ReCIC)** is an EnDev initiative, co-financed by the European Union, that accelerates the shift toward cleaner, more sustainable cooking in Rwanda. With a strong focus on climate mitigation, ReCIC supports the development and scale-up of stoves and fuels that reduce greenhouse gas emissions from traditional cooking practices. By partnering with the local private sector, the project promotes innovation, affordability, and access to clean cooking technologies—ensuring climate action also improves livelihoods.

ReCIC's impact is visible in the rise of dynamic clean cooking enterprises that reduce emissions while creating jobs and supporting economic growth. Through targeted support and technical assistance, ReCIC has helped unlock the potential of local companies to scale sustainably. Three standout businesses, supported by ReCIC's Cooking Energy Business Growth Fund (CEBGF), illustrate this success and showcase climate-smart entrepreneurship in action:

- **BioMassters Ltd** – *From Sawdust to Success*  
Producing sustainable biomass pellets to replace traditional charcoal use.
- **Eco Green Solutions Ltd** – *Women-led Cookstove Company Striving for Excellence*  
Producing and distributing energy-efficient cookstoves and biomass pellets.
- **Green Hanga Ltd** – *From Clay Stoves to Cooking Champion*  
Empowering youth and local communities through the assembly and promotion of improved cookstoves.

# From Sawdust to Success



# How One Company Is Revolutionising Clean Cooking With Wood Pellets

In the scenic hills of Rubavu District, western Rwanda, inside a modest factory, what was once considered waste—sawdust and wood chips—is being transformed into clean-burning fuel pellets that are changing how Rwandan families cook their meals.

This is the story of BioMassters Ltd, a company that turned forest waste into a game-changing solution for clean cooking.

When six ambitious entrepreneurs co-founded BioMassters at the end of 2020, they had the technical expertise, a committed team, and supportive government incentives in the form of tax exemptions for renewable energy imports. What they didn't have was sustainably sourced biomass. “We had the knowledge and the team to succeed,” recalls Innocent Nsekeyukunze, Chief Production Officer and co-founder. “But we were stuck with a major bottleneck that was literally risking our business.”

The sawdust they used to make pellets came contaminated with nails and metallic debris. When these materials hit their production machinery, the result was always damaged equipment, costly repairs, and frustrating downtime.

Meanwhile, all around Rwanda's forests, perfectly good raw materials—leftover wood from harvested trees—were going to waste. The company knew this clean, sustainable resource could increase their efficiency and reduce the risks of equipment damage, contamination, and production delays. But they did not have access to the tools to process it. Four years ago, when the Reducing Climate Impact of Cooking (ReCIC) project issued a call for applications to support environmentally conscious clean cooking businesses, BioMassters saw an opportunity. Their application was straightforward: they needed a woodchipper that could convert post-harvest forest waste into clean, high-quality input for pellet production.

## BioMassters' Journey to Cleaner, Smarter Energy

Upon selection for the ReCIC project's Cooking Energy Business Growth Fund (CEBGF), they received the grant support they needed and purchased the woodchipper that would transform their business.

“The journey with the ReCIC project was a very productive and much-needed one. It moved us from one point to a much more significant one,” Innocent reflects.

The woodchipper did not just solve their raw material problem, it revolutionised their entire operation:

- **Cleaner Production:** The chipped wood was far cleaner than sawdust, dramatically reducing machine damage and the need for costly repairs.
- **Streamlined Operations:** With fewer breakdowns, production became smoother and more predictable.
- **Enhanced Visibility:** ReCIC also supported their marketing efforts through promotional activities, connecting them with new customers who continue to contact the company even today.

- **Job Creation:** The company hired additional staff to operate the new equipment, including chipper operators, as well as pellet sellers, and distributors as customers had increased as a result of the marketing efforts.
- **Increased Capacity:** The chipper can process 3.5 tons of wood chips per hour, enabling potential 24-hour operation and massive scaling of production.



# BioMassters' Journey to Cleaner, Smarter Energy

The business has even begun claiming carbon credits, recognising the broader climate benefits of their operations. BioMassters' products offer considerable environmental impact:

- **1kg of charcoal requires 9kg of firewood to produce**
- **1kg of pellets only needs 1.3kg of sawdust or wood chips**
- **Their pellet stoves emit no smoke, protecting family health**

The impact extends beyond environmental benefits. These pellets are competitively priced compared to charcoal, providing households with a strong economic incentive to make the switch. In rural Rwanda, where children often spend hours collecting firewood, this shift also frees up time for education and personal development. By promoting pellet use, the company is helping to reduce this burden and enabling children to focus on their studies and wellbeing. They are demonstrating that targeted support and local innovation can create sustainable solutions that benefit businesses, uplift communities, and protect the local environment and global climate.



# A Cleaner Flame, A Bigger Future: Biomasters' Customer-Centered Approach

Since 2024, the results have been remarkable. Production is now smoother, safer, and more consistent. Client feedback has been overwhelmingly positive, with satisfied customers directly referring new clients to the company. The company now plans to open a second factory in Rwamagana, closer to the capital Kigali, a major market for them.

Biomasters also distributes imported clean-burning stoves specifically designed for their pellet fuel. This combination of a gasifier stove with electric fan induced air supply plus quality biomass pellets provides a rare example of high quality solid biomass clean cooking solution.

These high-efficiency stoves, while initially expensive to many low-income households, offer remarkable performance benefits. They produce no smoke, eliminating the respiratory health risks associated with traditional cooking methods that are particularly hazardous for children and expectant mothers.

The company also offers flexible payment systems to make these stoves more accessible to customers, understanding that the upfront cost can be a barrier despite the long-term savings.



Women-Led Cookstove  
Company Striving for  
Excellence





## The Eco Green Story

In the rolling hills of Rwanda, a young entrepreneur's vision is transforming how families cook their meals, one higher-tier stove at a time. Anitha Umutoniwase's journey from a struggling startup to a thriving clean energy company is a testament to what determination, the right support, and innovative thinking can achieve.

“The journey with the ReCIC project was a dream come true. We were able to produce standardised higher-tier cookstoves, create strong community impact, and take meaningful climate action,” reflects Anitha Umutoniwase, the founder and CEO of Eco Green Solutions Ltd.

What started as a business concept in 2018 has grown into one of Rwanda's key players in the clean cooking revolution.

Officially registered with the Rwanda Development Board (RDB) in 2020, Eco Green Solutions specialises in distributing seven types of improved and higher-tier cookstoves—ranging from Tier 3 to Tier 4 in efficiency—that run on wood and pellets. But the company does not stop there; they also manufacture and supply two types of fuel pellets, making them a complete solution provider in the clean cooking value chain.

For Anitha, a young and ambitious woman entering the clean cooking sector, the path was not always smooth. Before joining the Reducing Climate Impact of Cooking (ReCIC) project in 2023, her company faced significant hurdles that would have deterred many entrepreneurs.

“We were operating under severe limitations,” Anitha recalls. The company rented both factory space and equipment to manufacture Tier 2 cookstoves and struggled with limited staff capacity.

Recognising that they needed more than just determination to succeed, Anitha and her team sought financial support, capacity building, and technical guidance. Their application to the ReCIC Project's Cooking Energy Business Growth Fund (CEBGF) was driven by the desire to scale up operations and improve product quality—a decision that would prove transformational.

Under the ReCIC project, Eco Green Solutions received dedicated production machines, giving them the operational independence they set out to achieve.

## The Path to Cleaner Cooking and Inclusive Growth

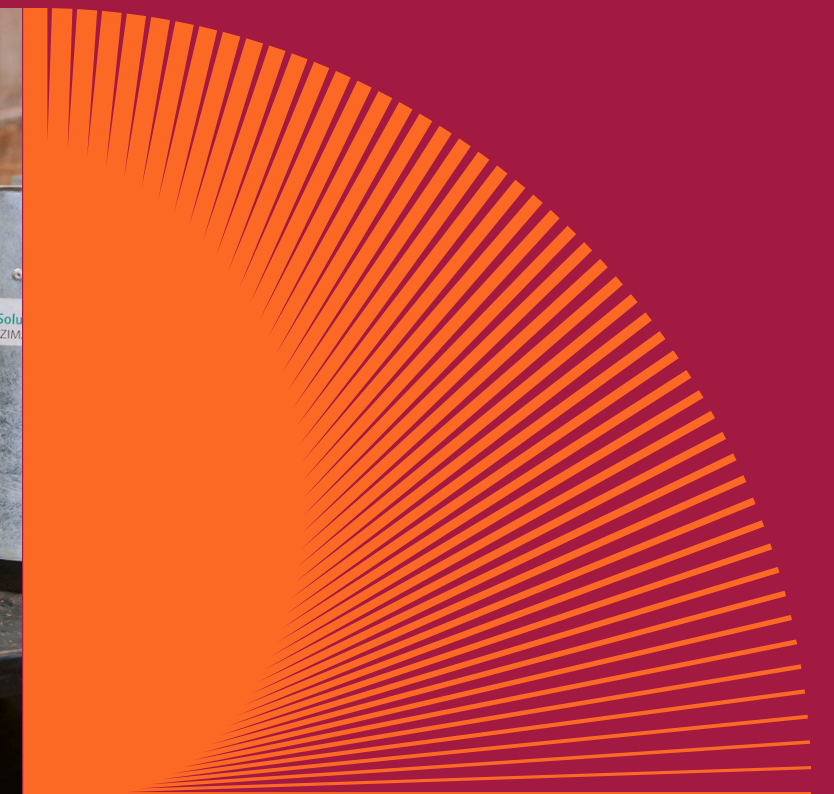
The support went far beyond equipment. The team received comprehensive capacity strengthening services, particularly focused on business plan development and product design.

Looking ahead, Eco Green plans to open 15 new sales outlets across Rwanda by the end of 2025, significantly extending their reach and impact. Despite their remarkable success, Anitha and her team remain realistic about the challenges ahead. The high cost of raw materials continues to put pressure on production costs, requiring creativity with their sourcing and pricing strategies.

Perhaps more challenging is changing mindsets. “Shifting customer attitudes away from traditional cooking practices toward clean alternatives remains our biggest ongoing challenge,” Anitha explains. However, the company has learned to navigate these issues more effectively, securing funding from banks and financial institutions while prioritising customer education, as a core part of their marketing strategy.

**The impact of these higher-tier cookstoves extends far beyond individual kitchens. Each Tier 3 and Tier 4 cookstove is estimated to reduce 3-4 metric tons of carbon dioxide emissions per year.**

These energy-efficient stoves save up to 71% of fuel consumption compared to a traditional ,three-stone fire, making a substantial difference in both household economics and environmental sustainability while delivering additional benefits in terms of improved health and gender empowerment.





The company's commitment to inclusivity is evident in its hiring practices: 60% of its workforce are women, with the remainder being men and youth. This approach showcases Eco Green's role in empowering underrepresented groups through job creation in the green energy sector.

Eco Green exemplifies how innovative leadership, and the right support can transform a vision into a scalable, impactful, and sustainable business. With stronger systems, diversified products, and growing outreach, the company is now well-positioned to continue delivering cleaner cooking solutions across Rwanda. With the right partnerships and continued support, the company can reach more households, empower more women and youth, and accelerate Rwanda's transition to universal access to cleaner cooking technologies.

## Beyond Targets: Eco Green's Transformation in Product and Practice

The results speak for themselves. Initially with a personal goal to produce 5,000 improved cookstoves, the company did not just meet this goal—they exceeded it by more than a thousand units, delivering over 18,000 units throughout the project period.

The transformation did not stop at numbers. Eco Green shifted away from producing Tier 2 stoves and successfully transitioned to manufacturing the more efficient Tier 3 and Tier 4 models, expanding their product line to seven different types of stoves. This upgrade meant their customers could now access cleaner, more efficient cooking solutions.

The company's growth created a ripple effect in employment. Their workforce doubled from 30 to 60 employees, driven by increased production demand and enhanced in-house capabilities.

One of the most impressive aspects of Eco Green's approach is how they listen to their customers. Technical guidance helped them incorporate user feedback into their design process. When customers were not quite satisfied by their cookstoves' burning chamber, the company responded by increasing their combustion chamber capacity from 300g to 900g of pellets per fill—a change that made their stoves more practical for family cooking needs.



# From Clay Stoves to Cooking Champion



## The Green Hanga Story

In a small workshop in Rwanda's Gasabo District, Jean Bosco had a simple but powerful vision: to help families cook cleaner, save money, and breathe easier. What started as a one-man operation crafting clay stoves has grown into Green Hanga Ltd, one of Rwanda's leading improved cooking enterprises. Today, thousands of households across Rwanda cook their meals using Green Hanga's improved or higher-tier biomass cookstoves.

When Jean Bosco officially registered Green Hanga Ltd with the Rwanda Development Board (RDB) in February 2014, he faced the classic challenges of any small manufacturer: limited machinery, lack of technical expertise, and difficulty reaching customers. His handmade clay stoves showed promise, but scaling up seemed impossible without help.

“We had the passion and the vision,” recalls Jean Bosco, Green Hanga's Managing Director, “but we lacked the marketing knowledge to compete for government tenders. Without certified products, we could not even bid on the opportunities that could have transformed our business.”

The help they needed came through the Reducing Climate Impact of Cooking (ReCIC) project. After a competitive selection process, Green Hanga was chosen for comprehensive support that would change everything.

The support package was exactly what the growing company needed:

- Skills training in business planning and marketing
- Production equipment and raw materials to scale up manufacturing
- A three-wheeler vehicle for distributing their stoves

With project support, Green Hanga was able to develop and certify their flagship Vuba 02 stove as a Tier 3 product by the Rwanda Standards Board (RSB)—a mark of high efficiency and low emissions that opened doors to new markets.

Improved cashflow from increased revenue through new markets unlocked, helped Green Hanga to become independent and capable on their own, they began importing raw materials, boosting their production capacity.

## Green Hanga's Impact in Rwandan Homes and Journey to Scale

The real measure of success is not in the workshop—it is in Rwanda's kitchens. Green Hanga's stoves reduce firewood consumption by up to two-thirds, translating to real savings for families, who previously spent significant portions of their income on fuel. The health benefits are equally compelling.

The smoke-free stoves reduce indoor air pollution compared to the traditional three-stone fire, particularly benefiting women, who do most of the cooking in Rwandan households.

Josiane, a Gasabo District resident who cooks with the Vuba 02 stove, experiences these benefits firsthand. **“I use much less firewood now, and my food cooks so much faster,”** she explains. **“What I love most is that the smoke has reduced. My kitchen is not filled with smoke anymore.”**



Today, Green Hanga operates with confidence. The company has access to credit from local banks, a trained workforce, and the machinery needed to meet growing demand. The business skills learned through ReCIC trainings, such as business planning and partnership management, have equipped them to navigate challenges independently.

“We sincerely thank the ReCIC Project for their continuous support,” says Jean Bosco. “To other development partners—you are welcome to join us. And to our customers—our stoves will save your fuel and your time.”

Green Hanga’s journey from an informal clay stove maker to a certified higher-tier biomass cookstoves manufacturer demonstrates how targeted and integrated support can unlock local entrepreneurship.

The company’s dedication to delivering higher-tier biomass cookstoves across Rwanda continues to grow, helping thousands more households transition to efficient, low-emission cooking technologies—one stove at a time.

Green Hanga has distributed over 16,000 units of their certified Vuba 02 stove across Gasabo, Nyagatare, and Nyabihu districts since joining the ReCIC project. Their popular Cana Rumwe stove (a tier 2 stove) has reached even more families, with over 30,000 units sold to households, institutions, and NGOs involved in rural development and improved cooking initiatives, in areas including Karongi and Ngororero. The company has tripled its permanent workforce from 2 to 6 employees and mobilised around 500 temporary workers between 2022 and 2025 for manufacturing, marketing, and distribution.





## Co-financed by:



Funded by  
the European Union



## Implemented by:



The multi-donor partnership “Energising Development” (EnDev) is supported by the Federal Ministry for Economic Cooperation and Development (BMZ), the Dutch Ministry of Foreign Affairs (DGIS), the Norwegian Ministry of Foreign Affairs and the Norwegian Agency for Development Cooperation (NORAD), as well as the Swiss Agency for Development and Cooperation (SDC).

The private sector support through the Cooking Energy Business Growth Fund (CEBGF) is part of the project “Reducing the Climate Impact of Cooking in Rwanda through Improved Cooking Energy Systems (ReCIC),” which is co-financed by the European Union under the “Global Climate Change Alliance Plus (GCCA+)” initiative.

# Imprint

## Published by

Deutsche Gesellschaft fuer Internationale  
Zusammenarbeit (GIZ) GmbH  
Registered offices Bonn and Eschborn, Germany  
Dag-Hammarskjold-Weg 1-5  
65760 Eschborn  
Germany

T +49 61 96 79-0

E [info@giz.de](mailto:info@giz.de)

I [www.giz.de](http://www.giz.de)

## Contact

Energising Development

E [endeve@giz.de](mailto:endeve@giz.de)

I [www.endeve.info](http://www.endeve.info)

**Photo:** Energy Private Developers

**Author:** Energy Private Developer



June 2025