2022

PowerStove Offgrid Electricity Limited

PowerStove powerstove.africa

The Care Economy Knowledge Hub

the-care-economy-knowledge-hub.org

Profiling Businesses in the Care Economy

The care economy consists of paid and unpaid labor and services that support caregiving in all its forms. In Africa, Asia and Latin America, women spend between three to five times as many hours on unpaid care and domestic work as men. This represents 80 percent of a household's total hours devoted to unpaid care work.

Care economy businesses can help recognize, redistribute, reduce and reward - also known as the 4 Rs - unpaid and paid care and domestic work in the following ways:

Recognize: Initiatives that increase visibility and recognition of paid and unpaid care and domestic activity as "productive" work that creates real value and contributes to economies and societies.

Redistribute: Services and initiatives that redistribute care work from individuals to public and private sector entities, and redistribute care and domestic work within the household.

Reduce: Products and initiatives that reduce the time spent on and burden of unpaid care and domestic work.

Reward: Products, services and initiatives that ensure that care and domestic workers are paid fairly and have professional growth potential. This provides them with financial reward and security.

The Care Economy Knowledge Hub aims to address the knowledge gap around care businesses by showcasing various business models and creating a resource base for relevant stakeholders. It also aims to raise awareness and increase knowledge of the state of impact-driven care economy business models and attract a broad range of funders to invest in care economy solutions by showcasing opportunities. These business profiles are intended to showcase said potential investment opportunities. They have been created from information and data provided by the business itself.

This project is supported by Canada's International Development Research Center, in partnership with the Soros Economic Development Fund at the Open Society Foundations. Building on their track record and commitment to transforming the care economy and mobilizing finance for gender equality, they have jointly launched this action research program to help transform the care economy through impact business and investment.

Executive Summary

Reduce

Powerstove Offgrid Electricity Limited (Powerstove) is a for-profit company based in Nigeria. Powerstove designs, manufactures and distributes clean energy products, including cookstoves, solar lights, and bio-pellets made from agricultural waste. The cookstoves designed by Powerstove are unique, as they are able to generate up to 50 watts of electricity. which is enough to power phones and solar home lighting systems. Powerstove products are used by low-income communities in urban and semi-urban regions of Nigeria. Powerstove has integrated mobile, Internet of Things (IoT), and blockchain technology to track, trace, and sell carbon credits. A share of the revenue from carbon credits is remitted to cookstove users. Since its inception in 2018, Powerstove has sold 71,011 stoves. In 2021, Powerstove's revenue was US$ 884,404. The enterprise has 43 full-time employees.

Enterprise Stage:
Early-stage

Year Established:
2018

Enterprise Type:
For-profit enterprise

Women Owned/Led:*
- Founded by at least 1 woman
- At least 30% women in senior leadership (executive level/ c-suite positions)

Enterprise Contact
hello@powerstove.com.ng
Founder's Contact
Okey Esse LinkedIn Profile

*According to 2X "women entrepreneurship" and "women leadership" criteria; 2X Challenge Criteria

1. About The Enterprise

1.1 Problem

Energy poverty is significant in both rural and urban regions of Nigeria. Only 22% of Nigeria's low-income population has access to the country's electricity supply network.[1] In 2020, the percentage of the population with access to electricity was 24.6% in rural areas and 83.9% in urban areas.[2] Roughly 111 million people, more than half of Nigeria's population, live in urban areas.[3] In these urban centers, lower-income households most often rely on charcoal, kerosene, cell phone charging stations, and battery-powered torches to fulfill their energy needs.[4] Many Nigerians, particularly in rural areas, are exposed to significant health risks due to their reliance on dangerous and polluting lighting sources such as candles and kerosene lanterns. Lack of access to energy sources is closely tied to financial difficulty, food shortages, health issues, and the continuation of the cycle of poverty.[5] In 2020, only 4.2% of the roughly 99 million persons in rural populations in Nigeria had access to clean cooking fuels and cooking technology.[6] According to estimates, 7 out of 10 households in Nigerian villages continue to heat their homes and prepare their meals by burning wood, dung, coal, and other biomass on open flames (or simple/traditional cooking stoves).[7]

The costs of traditional cooking methods are high, as they use 90% more wood than is necessary to generate heat.[8] While most people still use charcoal, there has been an increased usage of cooking gas, with the country recording a 60.5% increase in gas consumption between 2018 and 2019.[9]

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[1] GSMA. (n.d.). Mobile for Development. Powerstove. Retrieved from https://www.gsma.com/mobilefordevelopment/digital-grantees-portfolio/powerstove/

[2] Chun, Y. (2022, August 10). Energy Poverty in Nigeria. Retrieved from https://borgenproject.org/energy-poverty-in-nigeria-2/#:~:text=Energy%20Disparities%20in%20Rural%20Population,population%20in%20Nigeria%20was%2083.9%25.

[3] World Bank. (2021). Open Data Source. https://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS?locations=NG

[4] GSMA. (n.d.). Mobile for Development. Powerstove. Retrieved from https://www.gsma.com/mobilefordevelopment/digital-grantees-portfolio/powerstove/

[5] Chun. Y. (August 2022). Energy Poverty in Nigeria. https://borgenproject.org/energy-poverty-in-nigeria-2/

[6] Sasu, D.D. (2022, May 10). Clean Cooking Fuels and Technology Access Rate in Rural Nigeria 2000-2020. Retrieved from https://www.statista.com/statistics/1307410/clean-cooking-rural-access-rate-in-nigeria/

[7] Onyekwelu, S. (2022, January 14). Nigeria's Cooking Gas Market yet to Capture Over 80 million Rural Dwellers. Retrieved from https://businessday.ng/energy/article/nigerias-cooking-gas-market-yet-to-capture-over-80m-rural-dwellers/#:~:text=seven%20in%20ten%20women%20living%20in%20Nigerian%20villages%20still%2C%20cook%20with%20firewood&text=It%20is%20estimated%20that%20seven,homes%20and%20cook%20their%20food.

[8] Azeezat, A. (2019, December 18). Despite Health Risks, Firewood Use Still Thrives in Nigerian Communities. Retrieved from https://reportwomen.org/despite-health-risks-firewood-use-still-thrives-in-nigerian-communities/#:~:text=One%20of%20such%20is%20Magaret,it%20was%20the%20firewood%20smoke%E2%80%9D.&text=According%20to%20her%2C%20most%20of,pain%2C%20headache%20and%20back%20pain.

[9] Premium Times. (2021, January 19). Nigeria's LPG Consumption Hits 1m Metric Tons. https://www.premiumtimesng.com/business/business-news/437398-nigerias-lpg-consumption-hits-1m-metric-tonnes-pppra.html

However, cooking gas prices are increasing. In 2021, the price of a 12.5kg cylinder of cooking gas rose from US$ 6.4 to about US$ 12 within 6 months.[10] Across Nigeria, there are over 4 million cooking gas cylinders and as per recent estimates, 1.8 million of these cylinders have exceeded their lifespan. However, they are still being used, increasing the risk of explosions and loss of life and property.[11]

Traditional methods of cooking lead to respiratory issues, particularly among women. Smoke from open fires is the third highest cause of death in Nigeria, resulting in over 95,000 deaths annually.[12] Conjunctivitis, cataracts, lower-back pain from excessive bending, chronic obstructive pulmonary disease (COPD), asthma flare-ups, lung cancer, and acute bronchiolitis in children have all been linked to the use of firewood and charcoal.[13]

Furthermore, gathering firewood is time-consuming. In Nigeria, on average, rural women and girls walk more than 3 hours daily to retrieve firewood to cook. Urban households often rely on firewood merchants.[14] Women sometimes carry heavy loads to reduce the number of trips required to provide fuel wood for their households.[15] Thus, they may headload up to 35kg or more (over a distance of up to 10km) in often difficult terrain. Carrying such heavy loads increases the risk of spinal and leg injuries among young women.[16] There are also reports of violence against women and girls while walking to collect fuelwood. The regularity of water and fuel collection habits allows attackers to easily stalk their targets.[17]

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[9] Premium Times. (2021, January 19). Nigeria's LPG Consumption Hits 1m Metric Tons. https://www.premiumtimesng.com/business/business-news/437398-nigerias-lpg-consumption-hits-1m-metric-tonnes-pppra.html

[10] GSMA. (n.d.). Mobile for Development. Powerstove. https://www.gsma.com/mobilefordevelopment/digital-grantees-portfolio/powerstove/

[11] Anyaogu, I. (2021, August 11). *How your cooking gas cylinder can become a ticking bomb.* BusinessDay. https://businessday.ng/energy/article/how-your-cooking-gas-cylinder-can-become-a-ticking-time-bomb/#:~:text=There%20are%20over%204%20million,loss%20of%20life%20and%20property

[12] Ministry of Petroleum Resources. (2017). *Nigeria National Gas Policy*. Retrieved from http://www.petroleumindustrybill.com/wp-content/uploads/2017/06/National-Gas-Policy-Approved-By-FEC-in-June-2017.pdf

[13] Ihejirika, P.I. (2022). *World Environmental Day: Harmful Smoke from Firewood Remains Risk to Nigerian Women.* Leadership. https://leadership.ng/world-environment-day-harmful-smoke-from-firewood-remains-risk-to-nigerian-women/#:~:text=%E2%80%9CThere%20are%20also%20cases%20of,Association%20(NOA)%2C%20Dr

[14] Azeezat, A. (2019, December 18). *Despite Health Risks, Firewood Use Still Thrives in Nigerian Communities.* Report Women. https://reportwomen.org/despite-health-risks-firewood-use-still-thrives-in-nigerian-communities/#:~:text=One%20of%20such%20is%20Magaret,it%20was%20the%20firewood%20smoke%E2%80%9D.&text=According%20to%20her%2C%20most%20of,pain%2C%20headache%20and%20back%20pain

[15] Dennis, K.S. Kadafa, A.A.Medan, J.D & Medagu, N.I. (2017). The Health Impact of Fuel Wood Utilization on Users in Yelwa Village, Nasarawa State, Nigeria. *International Journal of Sciences: Basic and Applied Research (IJSBAR). Volume 24* (No 6), pp 174-191. https://www.gssrr.org/index.php/JournalOfBasicAndApplied/article/download/6885/3379/

[16] Nyambane, A & Njega, M. (2014, May). Sustainable Firewood Access and Utilization. Achieving cross-sectoral integration in Kenya. *World Agroforestry Centre.* Retrieved from https://www.researchgate.net/figure/Children-and-women-carrying-firewood-on-their-heads-and-backs-Photos-by-Daisy-Ouya-and_fig1_263280749

[17] Sani, Y., & Scholz, M. (2022). Gender and Other Vulnerabilities to Water–Energy Accessibility in Rural Households of Katsina State, Northern Nigeria. *Sustainability*, *14*(12), 7499

Lack of access to clean cooking technologies also impacts other aspects of women's empowerment. A regional analysis has found a positive correlation between the introduction of efficient cooking stoves and female workforce participation. While there is a low short-term impact on workforce participation, long-term analyses show that enhanced time efficiency leads to greater possibilities of women participating in the workforce.[18]

1.2 Solution

Powerstove has designed and patented cookstoves that are more efficient than traditional cookstoves. The solutions involve the following:

- **Research designs and manufacturing**: Powerstove has designed and manufactured a 100% smokeless, biomass cookstove that cooks food 5 times faster than traditional stoves used locally. At the time of cooking, the cookstove generates up to 50 watts of electricity. Users can plug a charging device into the cookstove to charge their phones and solar lights. Surplus power (stored in an attached lithium-ion battery) can also be used to charge devices at a later time when not actively burning fuel. Customers are able to purchase a solar lighting device together with their clean cookstove from Powerstove rather than buying them separately.

  Powerstove provides doorstep delivery and after-sales services, including repair, warranty, and replacement services. The cooking stoves are embedded with an Internet of Things (IoT) and Global System for Mobile (GSM) technology. The data gathered from IoT and GSM are transferred to a blockchain, which generates transparent and traceable carbon emissions data. The Powerstove project is currently registered under Verra's voluntary carbon market program.[19] The data verified through blockchain is then used to sell carbon credit.

  Powerstove also manufactures biomass-based pellets. A bulk of Powerstove cookstoves operate using these pellets and they constitute the primary source of recurring revenue. Pellets are made from non-recyclable paper, wood, and agricultural by-products. The pellets are the cheapest cooking fuel in Nigeria, 80% cheaper than charcoal, firewood, and kerosene. The usage of pellets has helped users to save 70% on household energy costs, resulting in annual savings of US$ 300 on average.
- **Consumer financing and distribution**: Powerstove sells its products online and also partners with distributors and community-based organizations for retail sales. It has 27 key distributors in Nigeria. Key distributors are businesses that buy cookstoves in bulk and resell them through their sub-dealers and reseller channels. Resellers are largely women

[18] Uchenna, E., & Oluwabunmi, A. O. (2020). *Cooking technology and female labor market outcomes in sub-Saharan Africa. African Development Review.* doi:10.1111/1467-8268.12468

[19] Verra is a leading non-profit that manages the Verified Carbon Standard Program which is one of the most widely used greenhouse gas crediting programs. https://verra.org/programs/verified-carbon-standard/#how-it-works

who have their own shops and are trusted in their communities. Powerstove selects and trains village-level entrepreneurs as last-mile distributors. Powerstove supports them through marketing and training to help them expand their businesses.

Powerstove also provides financing mechanisms to make its products affordable. End-users can pay in installments, using schemes such as pay-as-you-cook, rent-to-own, and savings-to-own. In the pay-as-you-cook model, the consumer makes an upfront deposit of 40% of the cookstove cost and the balance is paid over a 3-month period (while using the stove). In the savings-to-own model, users make weekly deposits to the company. Once 60% of the cost of the cookstove is paid, they receive the product and may begin to use it. The remaining balance of 40% is then paid over 4 months. In the rent-to-own model, cookstoves are "rented" to commercial businesses at no cost. However, customers must purchase a minimum quantity of pellets every month for 2 years. Upon completing the 2-year period, they receive ownership of the cookstoves. All installments are paid either through cash, mobile money, or bank transfers.

Powerstove has created a mechanism through which end-users receive an estimated 2.5% of carbon credit revenue remitted into their mobile money account every quarter. Payment is based on the number of cooking hours Powerstove can track remotely. By offering a percentage of carbon credits directly to end-users, Powerstove intends to incentivize cookstove usage, so that it may generate revenue from the sale of pellets and carbon credit.

1.3 Customer Segment

Customer Segment	Product / Service Provided	Paid / Unpaid
Urban and semi-urban Households (B2C)	**Cookstoves, biomass pellets** (branded Goodlife), **and home light systems**: Customers can choose from a range of cookstoves depending on the size, number of burn chambers, and energy outputs needed. Most of the cookstoves use pellets as fuel.	**Paid** Households pay the full cost of the cookstoves and Solar Home Light Systems (SHLS). The price of a cookstove is in the range of US$ 24-US$ 140. The price of SHLS is in the range of US$ 34- US$ 250. Households can use financing schemes: pay-as-you-cook, savings-to-own, and rent-to-own, in order to procure the cookstove. Households pay about US$ 2 - 5 per kilo for pellets.

Customer Segment	Product / Service Provided	Paid / Unpaid
Commercial businesses (B2C)	**Cookstoves and biomass pellets** (branded Goodlife): Commercial businesses (such as restaurants and cafes) can procure a specially designed model, known as Gimbiya Double Burner, that supports large-size pots and continuous feeding of pellets.	**Paid** Commercial businesses pay the cost of a cook stove, around US$ 80-US$ 100. Commercial businesses can use the rent-to-own financing scheme. The financing scheme does not cover the pellets. Pellets must be bought every 2 months from Powerstove.
Distributors (B2B)	**Cookstoves, biomass pellets** (branded Goodlife), **and home light systems**: The distributors order a minimum quantity of cookstoves and pellets from Powerstove directly.	**Paid** The Key distributors pay a minimum of a 70% deposit when placing bulk orders to Powerstove, and the balance is paid after delivery. The distributors pay a wholesale rate to Powerstove. The sub-dealers buy from key distributors and pay the full price, plus a markup, to the key distributor.
NGOs, faith-based, and community organizations (B2B2C)	**Cookstoves and pellets:** Powerstove builds partnerships with local organizations, such as NGOs and church groups, which buy products from Powerstove and supply them to end-users.	**Paid** These organizations pay the retail cost to Powerstove and most often buy in bulk.

1.4 Team And Governance Structure

Powerstove has 43 full-time employees and 32 part-time employees in Nigeria. About 65% of the full-time employees are women, working in the Sales and Marketing, Operations Management, Quality Assurance, and Research and Development teams. The part-time employees, of which 50% are women, work in the factory and manufacture the cookstoves. Powerstove has 5 board members, 3 of whom are women.

1.5 Enterprise Policies

Policy	Yes / No
Overall HR Policy	Yes
Equal pay for equivalent work policy	Yes
Non-discrimination / Equal employment opportunity / Diversity and inclusion policy (gender, LGBTQ, PWD, etc.)	Yes
Anti bullying and sexual harassment policy / Respectful workplaces	Yes
Whistleblower policy / Employee grievance mechanism	Yes
Maternity / Paternity leave policy	Yes
Safeguarding policies for vulnerable groups (children, elderly, PWDs)	Yes
Safeguarding policies for the environment or to reduce detrimental impact on the environment (covers reducing carbon footprint, reduced water consumption etc.)	Yes

2. Impact

2.1 Mission Statement

Powerstove's mission is to develop affordable, sustainable, renewable, energy solutions to meet the energy demand of every community and household in developing countries.

2.2 Intended Impact

Powerstove's impact is aligned to one of the four R's:

- Cookstove, pellets, and solar home light systems **reduce** the burden of unpaid care work on women and girls who, by using Powerstove products, are able to spend less time on fuel collection and cooking. Powerstove cookstoves have replaced the traditional cookstove and made the cooking process more energy efficient, time-saving, and less cumbersome.

2.3 Monitoring And Measurement

Powerstove collects the following indicators:

- Number of products sold: on a monthly basis
- Number of each product type sold: on a monthly basis
- Quantity of pellets sold: on a monthly basis
- Number of customer complaints: on a weekly and monthly basis
- Number of end customers tracked: on a weekly and monthly basis

All the Powerstove cookstoves are IoT, or mobile application enabled. This technology allows Powerstove to collect insights on the following:

- Number of cooking hours spent on each cookstove: on a monthly basis
- Frequency of product use: on a monthly basis
- Cost savings per household: on a monthly basis
- Total electricity/energy generated: on a monthly basis

This information is vetted through blockchain-enabled systems. Powerstove uses the information to trade carbon credits.

Each year, Powerstove also generates impact-level findings based on IoT data, coupled with certain assumptions. The assumptions are derived from a KPT (Kitchen Performance Test), which allows Powerstove to compare the rate of daily fuel consumption over time, and a WBT (Water Boiling Test), which measures how efficiently a stove uses fuel to heat water in a cooking pot/ measures the quantity of harmful emissions produced while cooking. The specific impact data points tracked are the following:

- Total Greenhouse Gas (GHG) emissions mitigated
- Total trees saved
- Increase in household savings due to cookstove and pellet use
- Time saved due to reduction in fuel collection and cooking
- Livelihoods impacted: this is calculated based on the assumption that Powerstove's products improve socio-economic development outcomes. It allows small businesses to function, reduces health risks, promotes investment, and enables household-level productive activities, such as studying.

2.4 Results To Date

- Number of cookstoves sold: 71,011
- Quantity of pellets sold (in kgs): 379,901
- Number of household livelihoods improved: 360,079
- Number of trees saved: 400,000
- Carbon emissions prevented: 585,000 tons (CO2 emissions)
- Number of jobs created (businesses, households, resellers): 250
- Amount saved by consumers: US$ 30 million
- Number of beneficiaries: 1.2 million, 80% of them women
- Working weeks saved to enable paid work: 101,200

Power Stove's work is aligned with the following Sustainable Development Goals (SDGs):

3. Financials

3.1 Financial Status

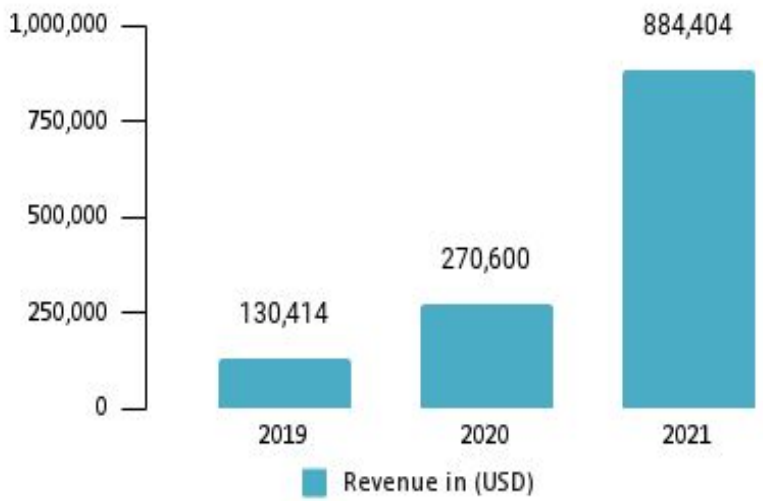
Powerstove is currently profitable.

(Amounts in US$)	FY2019	FY2020	FY2021
Total Revenue	130,414	270,600	884,404
Total Expenses	106,657	245,851	546,638
EBITDA OR Profit/Loss	23,757	24,749	337,766
EBITDA Margin	18%	9%	38%

Note: All the above revenue figures are from sales of products. Grants are not counted as revenue, as grant funds are not used to cover expenses counted above.

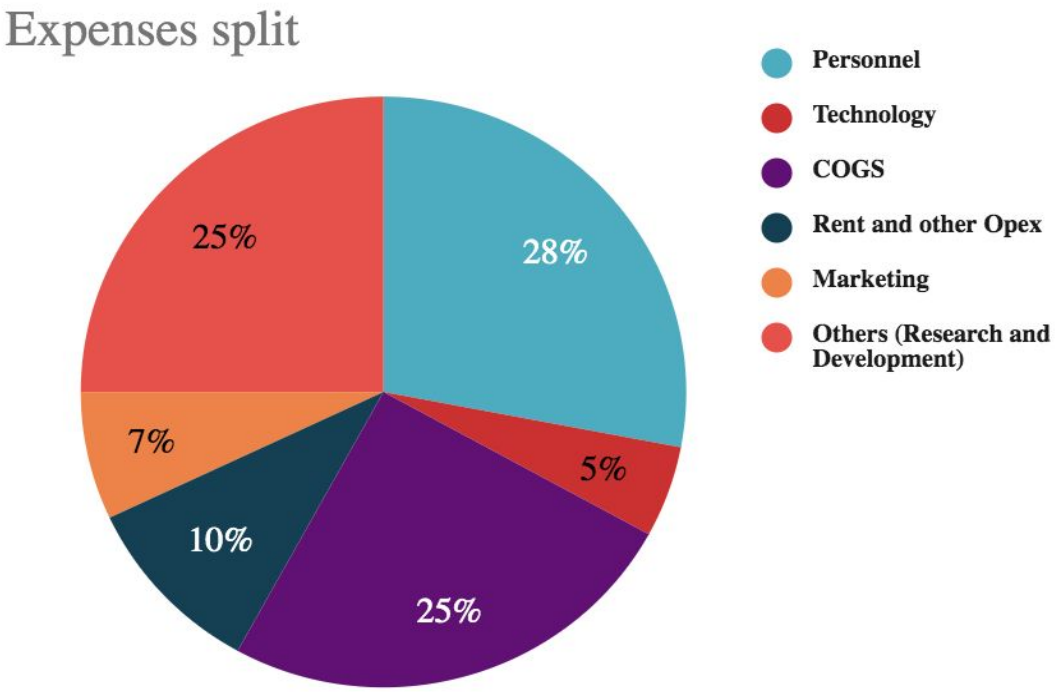
3.1.1 Revenue Streams

Powerstove's revenue sources are from its product sales. This includes 50% from pellets, 45% from cookstoves, and 5% from carbon credits.



3.1.2 Expenses

The following chart displays the expenditure estimates of Powerstove in 2021:



3.2 External Funding Sources (Past and Current)

Powerstove has received more than US$ 1 million in investment through grants, equity, and debt.

- The enterprise has raised US$ 450,000 in multiple equity rounds. The equity funding enabled Powerstove to build its first factory and test the product-market fit.
- The enterprise received US$ 50,000 in grants from awards and challenges from DEMO Africa, Startup of the Year Africa 2018, GIST, CISCO, The Tony Elumelu Foundation, UN Solution Summit 2018, Startup Battlefield Africa, Africa Energy Indaba, SOCAP 18, TechPoint Africa, Global Innovation Exchange, and Change Now.
- Powerstove has received debt funding of US$ 400,000 for business development and research.

3.3 Challenges Faced In Accessing Capital

- **Availability of capital:** Powerstove has faced challenges in raising funds in Nigeria; all of its investors are foreign-based. The Entrepreneur reports that in Nigeria, the cookstove industry is not seen as attractive, as it is difficult to measure its impact and to confirm whether a user is actually utilizing the cookstove. Powerstove is therefore trying to make its usage data more transparent through blockchain. Certain investors with a focus on technology are also more inclined toward sectors like Fintech.
- **Accessibility of capital:** Powerstove lacked collateral to raise debt within the country. Traditional lenders (such as banks and investment institutions) have a limited understanding of the technology, distribution, and carbon trading models Powerstove employs and therefore hesitate to lend to Powerstove.

4. Path To Scalability

4.1 Potential Avenues For Growth

Powerstove has the following avenues for growth:

- **A tenfold increase in carbon credit revenue**: In 4 years, Powerstove's core plan is to accelerate the carbon credit revenue by producing and distributing 500,000 cookstoves. Powerstove has USA and Japan-based buyers lined up, as well as pricing agreements on carbon credit, to be generated within these 4 years.
- Powerstove intends to increase its revenue through the following:
  - **Expand production capacity**: From 2023 onwards, Powerstove intends to increase its production capacity to produce 500,000 cookstoves in 4 years. In 2023, Powerstove plans to manufacture 150,000 cookstoves, slowly increasing the capacity each year thereafter. It also intends to increase its capacity to produce 2,500kg of pellets/hour, from the current 250kg/hour.
  - **Build distribution mechanism:** Powerstove has created plans for international and domestic expansion through partnerships with distributors and increased marketing. Powerstove has signed sales, marketing, and distribution partnership agreements with third-party companies in Nigeria. Powerstove also intends to scale its operations in Zambia and Kenya from 2024 onwards.

- **Launch of a carbon credit marketplace**: Powerstove intends to set up a carbon credit marketplace through which companies can sell carbon credits to buyers via a voluntary carbon market mechanism. Powerstove has demand from carbon credit buyers but does not have enough carbon credits to supply yet. Through this platform, Powerstove aims to aggregate carbon credit from suppliers. Companies will be able to register their project within this marketplace and verify carbon credit through Powerstove's blockchain mechanism. Powerstove will verify the authenticity of carbon credits by removing any double counting and certifying companies' carbon offsets. Powerstove has piloted this model and issued a certificate to 1 company so far. It intends to scale up this model, partner with additional companies, aggregate more carbon credits, sell them in the carbon market, and therefore earn commissions.

4.2 Risks And Challenges

- **Operational (production):** Irregular electricity supply affects production that is dependent on machinery. Powerstove has to use diesel generators to operate its machines. During the past few months, diesel costs have been increasing in Nigeria. Therefore, Powerstove has been spending around US$ 1,000 more (daily) on diesel, which was an unplanned cost. Powerstove had to shut one factory in 2021 in order to cut costs on production.
- **Financial:** Powerstove imports production material from abroad and faces challenges in accessing foreign currency.
- **Operational (customers):** There is a lack of awareness about cookstoves among users. Therefore, Powerstove creates marketing materials in the local dialect to create more awareness.

4.3 COVID-19 Impact On The Enterprise

Powerstove faced hurdles during COVID-19 due to restrictions on factory operations and goods transportation, namely in the timely procurement of imported raw materials. As a result, the factory had to be closed for a few months.

4.4 Support Received To Date

- Powerstove has participated in 4 accelerator programs for mentorship and capacity strengthening. The founder attended the Westerwelle Foundation Programme 2019, Forbes Nigeria Accelerator 2020 Programme, the Urbunx Basecamp Accelerator 2020 Programme, and the Land Accelerator 2021.
- Powerstove has received more than 40 awards and recognitions, including Engie Energy Africa Startup (2018), Public Choice Award TEF-UBA Founder's Den Pitch competition (2019), and France-Africa 1000 Challenge Nigeria (2020).

4.5 Inputs Required For Growth

Financial

- Powerstove intends to raise US$ 10 million in debt and equity. It has already made progress and is in talks with investors on deal finalization. The funding will be used for the following:
  - 70% of the fund will be used for working capital, to manufacture 500,000 cookstoves
  - 11% for digital infrastructure
  - 7% for capital expenditure
  - 5% for human resources
  - 7% for marketing

Non-financial

- For international expansion, Powerstove is seeking partners who can assist the company with understanding the market, potential new business models, tax systems, and registration processes.