



CIRCULAR ECONOMY HACKATHON REPORT

(Feb 5th , 2021 – Feb 22nd , 2021)

The Netherlands and Nigeria: co-creating circular solutions for a better future.

Executive Summary

The Circular Economy Hackathon (CEH) is an initiative of The Kingdom of Netherlands, powered by the Dutch Consulate, resident in Lagos, in partnership with the Nigeria Climate Innovation Center to co-create a circular Hackathon by inclusively and carefully selecting the best circular entrepreneurs across Nigeria for a virtual two -week Hackathon tailored towards providing viable and sustainable solutions for the challenges presented by selected Dutch Companies in Nigeria, who participated in the Hackathon as Participating Companies.

Circularity has taken a new curve in Nigeria and this has birthed an entirely new ecosystem of innovators and entrepreneurs who consistently and tirelessly work on a daily basis to develop and deploy their solutions to mitigate circularity challenges in their immediate environments.

The Hackathon also stressed the collaborative intent of the Dutch Government through its consulate in Lagos to work with Nigeria in providing sustainable solutions for Nigeria's circularity challenges , especially in the areas of managing waste which has plagued Nigeria as the highest waste generation country in Sub-Saharan Africa. The Hackathon was designed to showcase the level and quality of solutions created by circular entrepreneurs in Nigeria and how these innovations can be applied in real life situations to curb circular challenges faced by organizations from their daily operations.

Program Design

- The program is designed to select 20 entrepreneurs from a call for entry exercise conducted and coordinated by Nigeria Climate Innovation Center (NCIC).
- The 20entrepreneurs will be divided into 4 teams of 5 entrepreneurs each.
- Each team is required to pro+

Program Planning/Execution

The CEH was carefully and strategically planned to meet the required goals and objectives of the program from inception to execution. Planning of the program took about 3 months (90 days), from November of 2020 to January 2021, while the program was launched in February 2021. A summary of the program planning is highlighted below.

MONTHS	PLANNING ACTIVITIES
November (2020)	• Meeting with prospective participating companies. • Provision of the circularity challenges by the participating companies (at least 1 per company), to be communicated to selected entrepreneurs before the hackathon. • Criteria for selection ○ Entrepreneurs must have registered companies in existence for at least 1 year.

	○ Lead Entrepreneurs registered in the program must be backed by a team for solving the challenges. ○ Entrepreneurs must be sustainability (SDGs) oriented. ● Design on campaign content, logos, call for entry content, program circularity challenges as provided by participating companies are shared with Abel before distribution.
December (2020)	● Active program campaign on all channels begins alongside call for entry.
January (2021)	● Selection of 20 entrepreneurs from the call for entry exercise ● Selected entrepreneurs are broken into 4 teams (representing each participating company) with 5 persons each per team.
February (2021)	● Webinar Launch and formal communication of circularity challenges to the entrepreneurs by each participating company to their respective teams. ● Boot camp and training/ mentoring ● Mini webinar for 1st pitch and elimination round to bring the initial number of 20 entrepreneurs to the final 4 by selecting the best ideas from the each of the four teams of the program. ● Boot camp and training/ mentoring for the final 4 ideas aligned with the presented challenges will run for 4 days. ● Grand Finale Webinar for final pitch session to select the best circular idea.

Program Implementation Team

Bankole Oloruntoba: Bankole Oloruntoba is a social and business tactics engagement specialist with a deep background in corporate communication, entrepreneurship development, business and idea development, innovation management and investment. He has a first degree (BSc. Economics) from ABU Zaria, a certificate on building brands from Lagos Business School (LBS) and an MBA from Business School Netherlands (BSN).

Adamu Garba: Adamu is currently the Head of Business Development and Innovation at the Nigeria Climate Innovation Center with over 10 years Banking experience cutting across the retail and commercial space. Adamu will be bringing to the table, his experience of managing the effective and efficient utilization of project funds to align with the project goals and objectives as well as advisory services on both project management and overall actualization.

Tosin Ajide: Oluwatosin Ajide works as Community engagement and Programs Lead at the Centre. He led various national and international projects and programs both at NCIC and he also double as the Nigeria national lead for the Climate Launchpad (CLP), the biggest climate competition in the world. He organizes and coordinate the competition in Nigeria, he is involved in application process, selection process, judge selections and implementing the planned work plan. CLP is being funded by the Climate-KIC.

Daniel Oladoja: Daniel Oladoja is a highly skilled Communication Manager with over three years' experience on the frontline of public relations, digital marketing, journalism, and knowledge management. He is an alumnus of YALI RLC West Africa, Accra where he studied Leadership, Ethics, and Business. He holds a Bachelor of Technology in Agricultural Sciences and a Master of Science Degree in Crop Protection. He is a certified Life Coach and Neuro-Linguistics Programming Practitioner.

Participating companies and circular challenges

The CEH was made possible through collaborating with 4 Dutch Companies in Nigeria namely:

- Heineken
- Farmforte
- NGN
- Skretting

The primary role of the participating companies was to provide at least one circular challenge to be solved by the selected entrepreneurs in the course of the program. The circular challenges presented are follows:

PARTICIPATING COMPANY	CHALLENGE(S)
Heineken	<u>Sustainable Packaging - PET Plastic</u> In Nigeria, the demand for Food & Beverage products in PET packaging has increased, (PET waste was 5 billion bottles in 2018, and projected to double by 2022), as it is a packaging option with high durability and provides hygienic packaging applications. Unfortunately, as with any high-use material, the rate of recycling does not meet the rate of disposal (Less than 30% of the PET waste in Nigeria is collected, and less than 10% is recycled). The PET plastic then ends up being discarded in illegal dumpsites, landfills, and waterways. What steps can be taken from now to move towards a circular PET economy in country? Consider collection, treatment, and recycling options. <u>Sustainable Biomass Sources</u> As businesses and global economies are moving away from their reliance on fossil fuels, biomass has emerged as a viable renewable source capable of competing with conventional energy options. What sustainable biomass sources are available in country that will satisfy the thermal energy requirements of a manufacturing plant such as Nigerian Breweries (about 140,000GJ/annum), with no reliance on the existing national electrical grid.

	Consider the risk of supply sources in country, pre-treatment required, and the sustainability of the biomass source(s) chosen.
Farmforte	1. Leftover scraps of meat 2. Expired Fruits/Vegetables 3. Spoilage of fresh produce in transit 4. Cartons and Boxes from good sold. 5. Waste generated from leftovers either on plates or from unused ingredients. 6. Shells of the cashew nuts 7. Nuts not fit for final products. 8. Skins of the cashew nuts 9. Dust from cracking the nuts
NGN	1. How can the collection and aggregation of organic waste in Ibadan be coordinated as a sustainable business model to be used as an input for Black Soldier Fly rearing? 2. Logistical challenges faced in collecting organic waste to use as a substrate for insect rearing. This organic waste might come from markets, local food processors or crop processors and NGN requests a logistical framework that can turn this waste collection/coordination into a sustainable business model in the Ibadan area.
Skretting	1. With, the recent increase in electricity tariff by the Nigerian government, the cost to power the factory is huge. Likewise, powering the generator with diesel is also as expensive; leaving us with no choice but to spend a huge amount on electricity annually. Skretting would appreciate if there were a reliable and sustainable approach to providing electricity to the factory, without necessarily spending as much as we do currently, in the long run.

Selected Entrepreneurs

A total of 304 applications were received across Nigeria for the CEH and 20 entrepreneurs were selected to participate in the program. The selected 20 are listed below:

SN	ENTREPRENEUR	COMPANY	EMAIL	AREA OF EXPERTISE
1	Mmerichukwu Anih-Emmanuel	Trens-Cycler Clean Energy	mmerichukwuprecious27@gmail.com	Alternative energy
2	Samson Adeoye	Fembabs International Agency	samsonadeoye.official@gmail.com	Solar solutions
3	Obi Nnanna	KALTANI	obi.nnanna@kaltani.com	Recycling solutions
4	Adejoke Lasisi	Planer3R	planet3r@gmail.com	Upcycling solutions
5	Adejumoke Olowookere	African Creative Hub	africancreativehub@gmail.com	Upcycling solutions
6	Adanna Kalejaye	Alluvia Unique Concepts Limited	danna.kaleyae@alluviauc.com	Waste Management
7	Daniel Olagunju	WasteCoin	todak2000@gmail.com	Waste Management
8	Tony Akeju	WasteCycle	tony.akeju@gmail.com	Waste Solutions
9	Oluwayomi Alder	Pliris Waste management Ventures	ypalder@yahoo.com	Waste Recycling
10	Obinnah Saviour	OkwuEco	obis.nkem@gmail.com	Waste Cloud Solution
11	Chiudo Ehirim	Rumines Limited	chiudoehirim@yahoo.com	Logistics Solutions
12	Folashade Adeboyejo	PolyBriq Technologies	fmadeboyejo@gmail.com	Smart Agric Solutions
13	Blessing Meme	Vetsark Limited	bleasing@vetsark.com	Insect rearing solutions
14	Rita Idehai	Realri Intergrated Dev Ltd	r.idehai@ecobarter.com.ng	Circular Business Model
15	Babtunde Ogunseye	AgriMax	ogunseyeb@yahoo.com	Organic Waste Recycling
16	Chima Muoneke	SchismaticBlue	muonekechima@gmail.com	Energy Efficiency
17	Yetunde Fadeyi	Vectar Energy	deborahfadeyi77@gmail.com	Smart Energy
18	Anthony Boun Osibajo	Osquareteck Ltd	osquareteckltd@gmail.com	Off Grid Solutions
19	Nkenna Amadi	EcoBlvd	namadi@eco-blvd.com	Waste to Energy
20	Zang Luka	Zang Technologies Limited	zanglukabot@gmail.com	Electronic Waste

Top 4 Finalists and solutions

SN	ENTREPRENEUR	COMPANY	TEAM	SOLUTIONS
1	Obi Charles Nnanna	Kaltani KALTANI is a technology backed, sustainability-focused plastic recycling & waste management company committed to tackling the global plastic epidemic by utilizing systematic, scalable steps to REDUCE PET, PE, & PP Plastic pollution. KALTANI's technology utilizes data analytics, data visualization, predictive analytics and geo-location analytics offering near real time and historical data about our processes. This offers both transparency and traceability throughout our value chain.	Heineken	<u>Sustainable packaging problem.</u> Kaltani has built a hot wash PET recycling plant for recycling of PET plastic waste into food grade PET flakes. We are able to forward integrate into Food grade PET pellets or fiber grade yarn for hard to recycle PET. <u>Biomass Problem</u> Our solution is simple for hard to recycle colorful and print on PE and PP plastic. Kaltani has developed a Pyrolysis solution to convert PE/PP plastic into synthetic crude oil to fuel engines, turbines & generators for power generation.
2	Oluwayomi Alder	Pliris Pliris is an organic waste management solutions company operating across South-West Nigeria. The company champions Composting As A Service (CAAS) and advocates food waste diversion from landfills through effective waste segregation at the point of generation.	Farmforte	Pliris Waste Management Ventures has developed a solution that diverts food waste from dump sites and ploughs it back into the soil to grow more food, which consequently mitigate the effect of climate change and promote sustainable food production. Our solution is the Bokashi Composting, an onsite process of fermenting food waste into high value products in the absence of air. The outputs are nutrient-rich compost and tea which reduces the cost of food production. This low cost, odor and pest-free solution can be employed in residential areas, restaurants, and farms.
3	Chiudo Ehirim	Rumines We are an environmental consulting and project management company. One	NGN	Our solution is an online software-as-a-service matchmaking and industrial symbiosis platform that connects and facilitates trading of food waste across the post-harvest, processing, and retail stages of the food value chain. It groups

		area where we aim to take the lead is in providing affordable, customized software application that improves recycling and promotes circular economy at industry and household levels in Nigeria and other developing countries.		verified users into business-to-customer (for the public) and business-to-business (for enterprises) partitions, enables price negotiations by means of a bidding system, and coordinates order pickup and delivery. The platform generates a passport for each material, assigns quality ratings, identifies items using unique classification, and enables chain-of-custody tracking/tracing. Users have access to waste maps, cluster insights, and sustainability reports.
4	Nkenna Amadi	EcoBlvd At EcoBlvd we are pioneering a way to solve the waste and power sector problems hand in hand. We are able to do this through the deployment of our waste to energy solutions. The electricity generated would provide 24/7 stable electricity for the unserved and underserved in Nigeria as well as commercial and industrial customers via our off-grid solution.	Skretting	Our solution is a modular containerized system that converts post-consumer plastic waste that cannot be directly recycled into a high-quality energy source that provides clean, efficient and 24/7 stable power supply. It is characterized by a modular, decentralized, and scalable design that converts waste into energy. Power is provided to Commercial & Industrial users through a Power-as-a-Service (PaaS) business model for a fixed monthly fee, with guaranteed power services and scheduled maintenance with no upfront costs to the user.

Note: The winning solution for the Hackathon came from PLIRIS WASTE MANAGEMENT LTD

Post Hackathon Possibilities

The Hackathon is designed to primarily explore the circular ecosystem in Nigeria through a selection exercise of entrepreneurs playing in the sustainability space to seek disruptive and innovative circular solutions for the purpose of developing and deploying sustainable interventions to mitigate circular challenges faced by selected Dutch companies in Nigeria.

In addition, the program also seeks the possibility of a non-mandatory contractual agreement between the participating companies and the finalists of the hackathon in working together by helping these startup companies scale their ideas into sustainably solving the circularity challenges of the participating Dutch companies. In addition, Circular Economy Innovation Partnership (CEIP) has been approached to further facilitate capacity building workshops and incubation programs for the entrepreneurs which is tailored towards sharpening their skill set as a venture development tool to scale their respective enterprises. This will go a long way in creating access to markets, finance, and opportunities to these entrepreneurs. The Dutch Consulate has positioned itself to continually explore innovative ways in engaging the circular community in Nigeria by building viable circular businesses through leveraging strategic partnerships and collaborations.