

# USING DATA TO DRIVE STRATEGY:

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## A FRAMEWORK FOR CLEAN TECHNOLOGY HUB

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energy innovation centre





# 01

## Introduction



Clean Tech Hub  
is focused on  
addressing  
Africa's energy  
poverty

Clean Technology Hub is a pioneering hybrid hub for the research, development, demonstration and incubation of clean energy technologies in Africa, and their validation for commercial stage development.

It is an early start-up incubator for inventions and innovations in clean energy, a consultancy for sustainability and energy efficiency solutions for organizations, and a driver of clean energy investment into Africa.

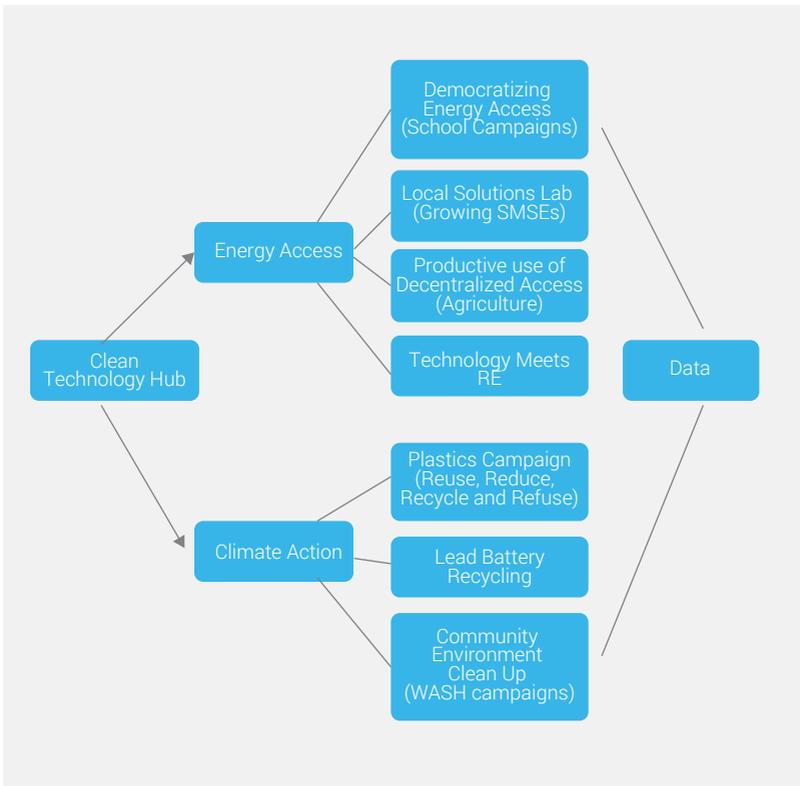
Clean Tech Hub is focused on addressing Africa's energy poverty, increasing energy access through clean, renewable energy and sustainability.





## What we do

The schematic diagram below shows the range of work through which we use data to influence decision making in the clean energy and climate change space.





# 02



Our work at Clean Technology Hub rests on



We believe that data to play an increasing role in energy access in Nigeria through improved policy-making around clean energy, increased community engagement, and better design and deployment of clean energy projects. In making CTH a more data-driven organization, it is important to define what problems we are trying to solve or questions we are trying to answer, what data we need, where the data will come from and how we are going to use it.

Our work at Clean Technology Hub rests on two pillars – **Promoting Energy Access** and **advancing Climate Action**. The chart below shows a summary of our work and the projects we have been involved in, all of which are driven by data.



# 03

## Promoting Energy Access

Our Energy Access projects are aimed at getting clean renewable electricity into homes and communities and using this electricity to drive economic growth and solve social problems. At the core of what we do is changing communities to become vibrant, inclusive and sustainable communities. These are four projects in our energy access portfolio.



over

# 170

universities

offers

courses

relevant to

renewable

energy



**Democratizing Energy Access:** There are about 170 universities and 169 polytechnics cutting across publicly –owned (federal and state governments) and privately-owned ones, which offer technical and non-technical courses that are relevant to the renewable energy sector.

However, despite this, there remains critical gaps with developing human capital for the renewable energy sector to take advantage of the least 4.5 million jobs that would be created by the renewable energy sector by 2030.

Through the Democratizing Energy Access (School Campaign), Clean Tech Hub aims to work with tertiary academic institutions to build their capacity for developing the human capital needed for the fast-growing renewable energy industry in Nigeria.



**Productive Use for Agriculture:** Approximately 70 percent of Nigerians engage in agricultural activities mostly at the subsistence level. In 2017, the



## 03



Agricultural sector contributed over

**25%**

of the overall GDP of the economy

agricultural sector contributed over 25% of the overall GDP of the economy. However, the agricultural sector in Nigeria has remained largely un-developed despite new interventions to resuscitate the sector.

It still needs a lot of sustainable efforts especially in energy use across the value chain of the agricultural process. With the recent boom and deployment of mini-grids for rural electrification especially given the Rural Electrification Agency target of deploying 10,000 mini grids by 2020, especially in farming communities which are more viable due to productive use of electricity, there is a need to ensure the optimization of mini-grids through agriculture while also improving the agricultural process in these communities.



**37m**

There are over 37m micro, small and medium scale enterprises

**Local Solutions Lab:** There are over 37 million micro, small and medium-scale enterprises, MSMEs in Nigeria, accounting for more than 84 percent of the jobs in the country, 48.5 percent of the gross domestic product (GDP) of Nigeria and 7.27 percent of goods and services exported out of the country.

However, MSMEs face a myriad of challenges, from a lack of basic infrastructure to lack of solutions that address socio-economic challenges. Clean Tech Hub through the Local Solutions Lab aims to empower community MSMEs in proactively innovating and developing sustainable solutions in addressing their local challenges.



# 03



**Technology Meets Renewable Energy:** The Federal Government of Nigeria has put in place numerous policies, plans and targets to expand access to electricity through renewable energy.



**\$4.4bn**

National Spending to be eliminated by 2030.

The government has set in place a target to generate 9,000MW from renewable energy by 2030, thereby, potentially eliminating national spending of \$4.4 billion annually from household energy costs through the use of solar home systems.

The increase in spending on renewable energy solutions for communities, households, and businesses will also necessitate the need for clean technology solutions that will improve service delivery, energy management and energy efficiency for electricity consumers. Clean Technology through the “Technology Meets Renewable Project” aims to engage with technology solution providers and creators to explore how to use technology for renewable energy applications, and to enable them explore the business potentials in technology applications for the renewable energy sector.



# 04

## Advancing Environment and Climate Action

Through our Environment and Climate Action programs, we intend to Improve awareness and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning and to also push for the integration of climate change measures into national policies. At the core of this arm of our work is getting communities to become more conscious of the changing world around them, by taking actions to make their environment habitable such as properly disposing of waste, reducing the use of plastics and recycling acid lead batteries.

a



Nigeria  
imports  
thousands  
of lead acid  
batteries  
daily

### Used Lead Acid Battery (ULAB) Recycling:

Lead Acid batteries form a key component for energy storage in renewable energy solutions. Thousands of lead acid batteries are imported daily into the country (most below the required standards with low quality and short life spans) by over 100 formal and informal renewable energy companies each deploying an average of 100-5,000 batteries monthly, with the potential to increase significantly as the sector grows.

The proper management and recycling of used lead acid batteries (ULAB) which is fast forming a huge hazardous waste-stream is therefore very critical to prevent reputation damage to the renewable energy sector.

b

**Plastics Campaign (Reuse, Reduce, Recycle and Refuse);** The usage of plastics have grown



# 04

Every year  
the world



uses

## 500



billion plastic  
bags

tremendously over the years from the time it came into usage. This is due to its numerous advantages such as durability, low cost, water resistance, and lightness

However plastics usage is having a negative impact on our oceans, the environment and wildlife health as a result of the pollution hazards associated with improper disposal, threat to ocean life and environmental health.

Every year, the world uses 500 billion plastic bags. the equivalent of a full garbage truck every minute. And plastic makes up 10 per cent of all of the waste we generate. In line with the World Environment Day celebration, Clean Technology Hub will be carrying out within Abuja, a wide-reaching awareness campaign on the reduction of the use of plastics and the proper disposal cum recycling of same, in collaboration with the Hungarian Ambassador and the Ministry of Education/Education boards.



Nigeria  
generates  
more than

## 32m

tons of solid  
waste  
annually



**Community Environment Clean Up (including WASH campaigns);** Nigeria generates more than 32 million tons of solid waste annually. Reckless disposal of this waste mostly generated by households and local industries, have led to blockage of sewers and drainage networks, and choking of water bodies and has also affected the health of citizens negatively. in collaboration with the Hungarian Embassy we are implementing neighbourhood clean up project in Asokoro whose focus is on improving the sanitation and environmental practices in the area and also sensitizing inhabitants on the need to keep the environment clean.



## How we do this

Data is said to be the new oil and is integral in driving Nigeria's socio-economic future. and data provides huge potential for energy revolution across governance and business.

More importantly data is a predictor towards influencing and driving new ideas and innovations especially with regards Energy Access and Climate Change. This is why our work on data is critical to achieving the goals and objectives of electrifying communities through Clean, Renewable Energies and promoting actions that can lead to environmentally friendly and sustainable communities across Nigeria. As part of our mission to promote and also establish a data-driven organization and advance evidence based research; at Clean Technology Hub – we use data in the following ways:

- a We produce high quality based research and country data to address issues on Energy Access and Climate and Environmental Change.
- b We use this evidenced based data and research to inform policies and programs that will end energy poverty and advance Climate Action:
  - i Using data to inform thought leadership, awareness raising and opinion shaping aimed at behavioral change towards energy access and climate governance
- c We partner with similar minded organizations to pilot and deploy solutions towards better outcomes across our strategic areas.
  - i Using the data for project development,



# 05

implementation and evaluation directly and indirectly.

ii

Collaborate with other partner organizations to feed our data into their research or for better data collection across cross-cutting areas and across geographical locations in Nigeria and beyond.

d

We use our data and research to increase citizen awareness on energy access programs and climate change issues – including tracking public finance for related projects that impact livelihoods

i

We use the data for storytelling – infographics, audio and visual contents and for social media messaging

e

We employ our evidence based research to advance clean technologies towards addressing the Sustainable Development Goals specifically: **Goal 1.** No Poverty; **Goal 3.** Good Health and Well-Being; **Goal 5.** Gender Equality; **Goal 7.** Affordable and Clean Energy; **Goal 8.** Decent work and economic Growth; Sustainable Cities and Communities (**Goal 11**) and Climate Action **Goal 13.**

Data is also a critical factor in addressing a lot of developmental issues from Poverty, Health, Education, Peace and Security and other socio-economic issues such as financial inclusion, Housing, SMSEs,





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## Conclusion

While the main aim of our data projects are aimed at driving impact, we also intend to derive value from the data by converting them to assets to aid decision making, investments and operational value towards exploring increased and accelerated energy access, and well thought out climate mitigation and adaptation strategies. In implementing these projects, there is a need to adopt a collaborative approach. It is for this reason that Clean Tech Hub is partnering with independent data organization to drive the “Data for Community Action on Driving Clean Energy and Climate Action” projects.

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<https://cleantechnologyhub.com>