Catalyzing Clean Energy Transitions: Advancing SDG7

John Agbo Ogbodo

Founder, STEi Foundation

Sustainable TransEnvironment International Foundation

- ja.ogbodo@unizik.edu.ng

Plateau State SDGs Webinar
27th September, 2023



Like our Facebook page: https://web.facebook.com/steifoundation

Background

- The Sustainable Development Goal, number 7, aims at ensuring access to clean and affordable energy, which is key to the development of agriculture, business, communications, education, healthcare and transportation.

- Therefore, Energy is central to the achievement of both the 2030 Agenda for Sustainable Development and the Paris Agreement on climate change.

- Our desire for advancing SDG 7 would mean proactive actions that can catalyze the achievements of meeting the Paris Agreement on climate change and reach the other SDGs including poverty eradication, gender equality, mitigation of and adaptation to climate change, food security, health, education, sustainable cities and communities, clean water and sanitation, jobs, innovation, and transport.

- Energy transition refers to the global energy sector's shift from fossil-based systems of energy production and consumption — including oil, natural gas and coal — to renewable energy sources like wind and solar, as well as lithium-ion batteries.

Source: https://www.spglobal.com/esg/podcasts/unpacking-the-landscape-for-women-in-leadership-including-1-bright-spot

The relevance of Youth in SDG 7 advancement?

- Innovators: In addition to bringing fresh perspectives, young people often have direct knowledge of and insights into issues that are not accessible to adults. Youth best understand the problems they face and can offer new ideas and alternative solutions.

Four Priority Actions – United Nations High-level Political Forum (HLPF) on Sustainable Development

1. Advancing SDG 7 implementation
2. Strengthening interlinkages between SDG 7 and other SDGs
3. Addressing regional priorities
4. Accelerating transformation towards a sustainable, inclusive and equitable energy future

Source: https://sustainabledevelopment.un.org/content/documents/18041SDG7_Policy_Brief.pdf

Priority Action 1: Advancing SDG 7 implementation

- Make clean-cooking solutions a top political priority: and put in place specific policies, cross-sectoral plans and public investments, supported by renewed game-changing multi-stakeholder partnerships.
- Close the electricity access gap: by establishing detailed plans of action nationally, regionally and globally to “leave no one behind”, backed by determined leadership, targeted policies and regulations, multi-stakeholder partnerships, bottom-up actions and increased investment in both on- and off-grid solutions.
- Accelerate the pace of transition towards renewable energy: especially in end-use sectors such as transport, buildings and industry, to combat climate change and realize substantial economic, health and environmental benefits.

Priority Action 1: Advancing SDG 7 implementation

- Harness the potential of decentralized renewable energy solutions: which are key to universal energy access and empowerment of people, companies and communities.
- Double the financing for SDG 7 globally: from the current annual level of about US$ 500 billion to US$ 1 to 1.2 trillion per year until 2030.
- Scale up capacity-building and education, with renewed, cross-sectoral approaches: to develop human and institutional capacities and required skills in support of universal energy access and energy sector transformation.
- Invest in data collection systems and data analysis: to build institutional capacities at the national level and ensure effective monitoring of the SDG 7 targets, including, as needed, through improved, policy-relevant indicators.

Scope Of This Presentation:

Bamboo As Alternative renewable energy source within the clean-cooking solution context of SDG 7

Aim: Harnessing indigenous bamboo potential towards catalyzing clean energy transitions in Nigeria



- Bamboo is a collective name for a group of botanical species that all belong to the grass family, the Graminea. The term applies both to the living plant and to the products made from the plant.
- The United Nations Forum on Forests estimates that more than 2 billion people still rely on wood fuel to meet their primary energy needs such as cooking and heating, and much of this is charcoal.
- Most of the wood is generally harvested unsustainably, often illegally and this is a principal driver of tropical deforestation in some countries.
- Bamboo is a sustainable alternative for wood charcoal, especially in Africa and Asia, and lucrative African bamboo charcoal enterprises for household fuel already exist in Ethiopia, Ghana, Uganda and Zambia. Nigeria?

Bamboo and Cooking Energy context:

- Cooking energy: These fuels include firewood, charcoal, dung, and agricultural residues.

- When we talk of clean cooking in the context of SDG-7, we refer to people using cleaner fuels and energy-efficient modern stoves.





Source: https://everbamboo.com/pages/why-bamboo-charcoal

Why Bamboo Charcoal:



- Bamboo charcoal is SUSTAINABLE Source of Cooking Energy
  - Bamboos are widely distributed in northcentral and southern Nigeria

- Bamboo charcoal ELIMINATES ODOURS
  - Use bamboo charcoal as a:
  - deodorizer in your fridge, freezer, bedroom and bathroom, gym bag, hockey equipment, footwear, kitchen, car, pet area, renovation area, garage, compost pail and diaper pail
  - decoration for home and vivarium
  - air filter to absorb toxic chemical substances for commercial and industrial applications.

Source: https://everbamboo.com/pages/why-bamboo-charcoal

Why Bamboo Charcoal:



- Bamboo charcoal ABSORBS EXCESS MOISTURE
  - Bamboo charcoal has negative ionic charge attracting odours and excess moisture in the atmosphere.
  - It retains the high density and porous structure of its raw material bamboo culm. This structure enables bamboo charcoal to absorb excessive moisture effectively.

  - Use bamboo charcoal as a:
    - dehumidifier in your drawers, cabinets, closets, rice bin, garage, basement, and other storage areas.

Source: https://everbamboo.com/pages/why-bamboo-charcoal

Why Bamboo Charcoal:



- Bamboo charcoal PURIFIES + MINERALIZES WATER
  - When Bamboo charcoal is submersed in water, the charcoal softens the water, absorbs harmful minerals including chlorine and releases its natural minerals (calcium, sodium, magnesium) into the water.

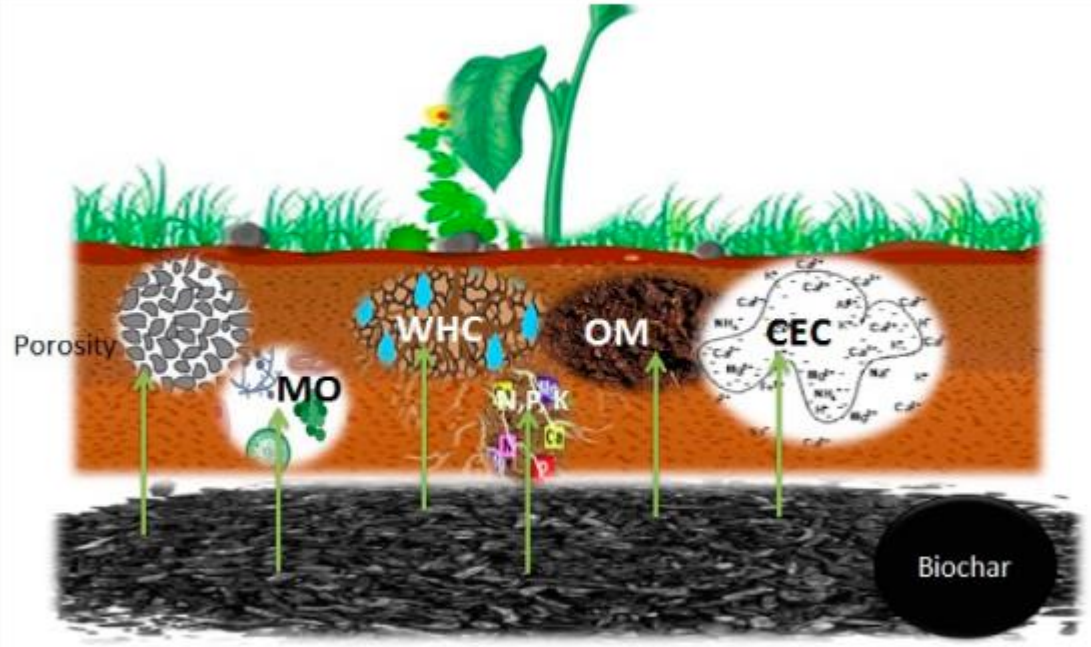
  - Use bamboo charcoal as a:
    - aquarium filter
    - water filter for bath water and non-drinking water for general household and industrial use
    - decoration for aquarium and floral arrangements

Source: https://everbamboo.com/pages/why-bamboo-charcoal

Why Bamboo Charcoal:

- Bamboo charcoal REGULATES MOISTURE CONTENT IN SOIL
  - By mixing bamboo charcoal granules with soil, countless pores from the granules absorb and hold excessive moisture. This moisture gets released back into the soil when it gets dry; providing better aeration for grass, plants and vegetables.

Figure 6. Beneficial effects of biochar on soil. OM = organic matter; WHC = water holding capacity; CEC = cation exchange capacity.



Biochar increases porosity, microorganisms (MO), water holding capacity, organic matter, nutrients and CEC of soil

https://www.mdpi.com/2073-4395/11/5/993

Source: https://everbamboo.com/pages/why-bamboo-charcoal

Other useful Bamboo Innovations for SDG7:

- At industrial scale, bamboo can be chipped or pellets can be made from waste, and this can be used to fire generators through gasification. Research is under way in India, Indonesia and Japan to determine how best to establish large-scale power generation based on bamboo plantations.

- As an innovative recent solution for energy provision, bamboo fibre can also be used to manufacture the blades of turbines for hydropower and wind energy. This is an emerging field of research and development, but the first modern windmills with bamboo blades are in operation in China.



Sources:

1. https://www.hansfriederich.com/2021/02/21/bamboo-for-sustainable-development/
2. https://www.bamboogrove.com/bamboo-turbine-blades.html

Concluding remarks

- Every Nigerian including the youth of Plateau State, must step up our actions.
  - Without urgent action, the Nigeria will fall short of achievement of SDG 7 and consequently other SDGs.
- SDG 7 is within our reach:
  - We should not only wait on government to act alone
  - Plateau State youths can be the first to innovate with Bamboo
    - Use of bamboo for constructing ecofriendly wind turbine.
    - Charcoal and biochar for energy and make dollars by export
- All Youth present at this webinar:
  - Should think of any small businesses that you can go into to making bamboo charcoal briquettes and show the health benefits of substituting smoke-free bamboo charcoal for traditional fuels.

Concluding remark - Making SDG 7 happen

- Take-away questions that can help motivate Youth Innovate Bamboo businesses for catalyzing Clean Energy Transitions/SDG-7:
  - What is the potential of woody bamboo to contribute to achieving SDG 7 and the Nationally Determined Contributions (NDCs) in Plateau State?
  - What are the challenges that need to be overcome in order to achieve the identified potential?
  - What possible solutions can I/you (as a Nigerian youth) need to innovate for ensuring a sustainable supply of renewable for rural landscapes in my state or country?
    - Think, globally! Act, locally!! Start Small, from available resources within your environment!!!

Thank You.

Mafeng'a hwo. (*Berom* language)