



# SUSTAINABLE ENGINEERING EDUCATION

Presented By

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## PREAMBLE

- The challenges of Sustainable Engineering Education (SEE) in most African countries including Nigeria today are enormous. As a result most African countries entered the 21<sup>st</sup> century insufficiently prepared to cope or compete in the global economy, where growth and development is heavily based on sustainability of engineering education.



## INTRODUCTION

- In the 21<sup>st</sup> century, sustainable development, which can be achieved through SEE is a major challenge in Africa and most other parts of the world.
- Sustainable Engineering Education posed a major challenge as practicing Engineers of the 21<sup>st</sup> century.
- It is a global problem. However, Africa is worse, as the problems of limited resources, technologies and energy is more severe in Africa. Also, is the problems of waste minimization.



## INTRODUCTION CONT.

- These challenges in Africa and the rest of the world can be address through sustainable engineering education.
- The idea is that educators should revise courses and curricula by introducing topics on sustainable Engineering, so that Engineering graduates will be well equipped to face and surmount these challenges as practicing engineers.



## AIM AND OBJECTIVES

- The aim of the new proposed sustainable engineering education for Nigerian/African is to ensure that undergraduate students will be taught among others the applications/ utilizations of available local materials and technologies in solving engineering problem in the society.
- The objectives include the design of:
  - Courses and curricula that include topics in sustainable engineering.
  - Sustainable energy and power systems.



## AIM AND OBJECTIVES CONT.

Sustainable design structure, construction, infrastructures and manufacturing systems.

Sustainable air and water resources.

New materials, reducing energy use and life cycle design and planning environment.

Identifications and applications of local materials and technologies for process and product designs.

Renewable energy and waste minimization.

Pollution control and prevention.



## CONCLUSION

- Sustainable Engineering Education with improved courses and curricula that will result in developing different methods of production and designing various structures, components/parts using local available materials and technologies will greatly enhance sustainability of engineering education and practice in particular Africa and the world in general.



***THANKS FOR LISTENING***