



## **Living in the 21st Century World: Perspective on Climate Change, Pandemic, and Digital Transformation**

### **Chapter 10 - Harnessing Global Energy Mix: The African Perspective Edward Agbai & Theophilus Boufini**

The world is witnessing an energy transition from non-renewable to renewable and sustainable energy sources. The reliance on non-renewable energy sources globally is partly responsible for climate change and influence scheming the international energy markets and macroeconomic dynamics. The developed economies are desirous of a renewable, cheap, and sustainable energy source in line with elaborated energy treaties of the Paris and COP 26 agreements. The developing economies depend on the volatile non-renewable energy source for revenue. This chapter seeks to provide background for various energy solutions, oil and gas, water, solar, wind Etc. Their advantages and disadvantages. The need for a global energy mix and its linkage to curbing climate change and global warming. The untapped energy potentials and the need for a sustainable planet. It will provide insight to prospects and challenges for harnessing the energy mix in the global energy transition and the dynamics of the forces interplay reluctance in transforming towards the renewable energy sources. It will describe the different technologies used to meet electric power and energy demand. The factors driving energy mixes include economic constraints, technical constraints, environmental requirements, and policy. The methodology and modelling tools used to access the energy mix. It will finally outline efforts to mitigate carbon emissions to achieve zero-emission and the future state of the energy system like the conservative scenario. Page 141 -155