

## The German Energy Transition and the Need for Basic Research Arising from it

**Prof. Dr. Fekadu Shewarega**University of Duisburg-Essen, Germany

## **Abstract:**

Germany has set itself an ambitious goal of transforming its entire energy system within a space of a few decades. This includes shutting down all nuclear power plants by 2022, reduction of the greenhouse gas emissions to 80-95 %, increasing the share of renewable to 60 %, increasing energy efficiency by up to 50 % all by 2050, with the price of electricity remaining affordable to industry and households. The presentation discusses the challenges arising from this fundamental transformation in terms of planning, operation and system reliability and gives an overview of ongoing researches to address these challenges.