

**ICRERA 2024**

**13<sup>th</sup> INTERNATIONAL CONFERENCE ON RENEWABLE  
ENERGY RESEARCH AND APPLICATIONS**

**Prof. Dr. Ing. Youcef SOUFI**

Full Professor in Electrical Engineering  
University Echahid Larbi Tebessi, Tebessa, Algeria  
E-mail: youcef.soufi@univ-tebessa.dz or [y\\_soufi@yahoo.fr](mailto:y_soufi@yahoo.fr)  
GSM:00213.541979376n



**Abstract**

**Title: Smart Grids for Green energy transition**

Smart Grid is now the buzzword in the power industry all over the world. The rise of smart grid is a boon not only to society as a whole but to all who are involved in the electric power industry, its customers, and its many stakeholders. It presents our planet with a revolutionary way of power transmission and distribution. It has even paved the way for many advanced forms of data prediction and handling, where the increased awareness of the environmental impact and the carbon footprint of all energy sources, including electric power production, have given impetus to the growth and adopting of renewable as well as alternative energy.

The modernization of electric grids toward a smart grid is being carried out to improve reliability, facilitate integration of renewable energies, and improve power consumption management. Also, the electric power systems throughout the world are facing radical change stimulated by the pressing need to decarbonize electricity supply, to replace ageing assets and to make effective use of rapidly developing information and communication technologies. Thus, the development and the implementation of a smart grid for power supply is one of the pressing issues in modern energy economy and it is promoted by many governments as a way of handling energy independence, global warming and security of supply based on the introduction of modern communications infrastructure, sensing, metering technologies, and modern energy management techniques based on the optimization of demand, energy and network availability.

This presentation addresses critical issues on smart grid Challenges, development and Opportunities where the main objective of this presentation is to provide a contemporary look at the current state of the art in smart grid as well as to provide a better understanding of the technologies, potential advantages and research challenges of the smart grid and provoke interest among the research community to further explore this promising research area.