

# Tentative Outline (Preliminary Proposal of Thematic Issue)

## Special/Thematic Issue for the journal Current Chinese Science - Energy

**Title of the Thematic Issue: Smart Grid-Renewable Energy Systems: Control, Applications, and FACTS Technology**

**Guest Editor's Name: Dr. Adel M. Sharaf**

**Co-Guest Editor's Names: Dr. Nagwa Fadl Ibrahim and Dr. Recep Cakmak**

• **Scope of the Thematic Issue (Brief introduction / abstract explaining the Thematic Issue):**

Integrated smart grids with distributed renewable energy microgrids using ac-dc-ac interfacing require consideration for effective stabilization, control, energy efficient utilization, power quality, and use of FACTS-Technology and optimized control strategies. This special issue deals with the smart grid- renewable energy integration and control. The issues of smart grid-renewable energy interfacing and integration encompasses power quality, voltage stability, efficient operation, converter topologies, and switch strategies as well as the impact on AC system security, reliability, and fault ride through in case of integrated PV/ Wind/fuel cell/ battery storage and FACTS stabilization devices and active power filters.

**Keywords:** Smart Grid, Renewable Energy, AI-Based control, and FACTS Technology

### Sub-topics:

- Smart Grids
- PV/ Wind/ Tidal- Wave Integrated Systems
- FACTS Stabilization and Control of Integrated Systems
- ViS -Virtual Storage Control
- ESS- Energy storage Applications in Smart Grids
- AI Based Optimal control Systems applications in Renewable Energy and Smart Grids
- Energy efficient Systems and Green Plug Devices
- Active Power Filters Design and Integration in AC- DC Integrated Systems
- V2H/V2G Battery Charging Schemes. and interfacing issues to the Smart Grid
- Control and optimization on micro and nano grids

### Schedule:

- ✧ Deadline to submit the finalized proposal of Thematic issue: 4<sup>th</sup> November, 2022

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