# **Special Issue**

# Sustainability of Distributed Generation through Virtual Power Plant

#### Message from the Guest Editors

Recently, with the integration of distributed generation (DGs) into electric power systems, it has become increasingly important to enhance management capabilities in this regard through different kinds of virtual power plants (VPPs). It is also important to exploit their ability to participate in electricity markets to maximize operating profits.

This Special Issue aims at presenting novel research on power systems operation, planning, and control; particularlly, in the case of integrating renewable energy sources to conventional power grids. The key subjects comprise of, but are not limited to:

- All categories of renewable energy sources and support of energy storage systems
- Grid integration of renewable sources
- Various kind of connections in regard to distributed generations
- Frequency and voltage stability
- Smart grids and virtual power plants
- Low inertia remedial actions
- Classical, optimal and model predictive control of power systems
- Artificial intelligence applied to energy systems
- Protection of microgrids
- Smart grid mitigation measures
- Virtual power plants
- Demand response
- Optimization technologies utilizing IoT and AI
- Vehicle-to-grid

### **Guest Editors**

Prof. Dr. Attia El-Fergany

Prof. Dr. Mahmoud El-kholy

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Deadline for manuscript submissions

closed (30 June 2023)



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I encourage you to contribute a research or comprehensive review article for consideration for publication in *Sustainability*, an international Open Access journal which provides an advanced forum for research findings in areas related to sustainability and sustainable development. *Sustainability* publishes original research articles, review articles and communications. I am confident you will find the journal contributes to enhancing understanding of sustainability and fostering initiatives and applications of sustainability-based measures and activities.

#### Editor-in-Chief

Prof. Dr. Marc A. Rosen Faculty of Engineering and Applied Science, University of Ontario Institute of Technology, Oshawa, ON L1G 0C5, Canada

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