



**Call for Papers
IEEE Transactions on Sustainable Energy**

**Special Section on
“Microgrids for Sustainable Energy Systems”**

Microgrids are Low and Medium Voltage distribution networks comprising various distributed energy resources (DER), namely distributed generators (DG) and storage devices together with controllable or flexible loads that can operate either interconnected and/or isolated from the main distribution grid as a controlled entity. DG technologies with the highest immediate potential are photovoltaics (PV) and small-scale combined heat and power (micro-CHP) units. The opportunity to locally utilise the waste heat from conversion of primary fuel to electricity using micro-CHPs at customer premises provides a key economic benefit of DG. These systems, together renewable DG, such as PV, small wind turbines, etc., can provide a substantial environmental carbon emission reduction, which is a critically important benefit given the commitments of various countries (or in some cases regional governments, such as California) to meet the Kyoto targets. Secondly, the presence of generation close to demand can increase the service quality seen by sensitive end uses. From the utility point of view, DG located close to loads reduces flows in transmission and distribution circuits with two important effects: loss reduction and the ability to potentially postpone expansion of network assets. The operation of *microgrids* offers the possibility of coordinating distributed resources in a decentralized way, so that they behave as a single producer or load in energy markets and can provide their full advantages of distributed resources in a consistent manageable way. A number of real world microgrids are already in operation worldwide, as off-grid applications, pilot cases and full scale demonstrations.

This special section in IEEE Transactions on Sustainable Energy will cover the contribution of microgrids to Sustainable Systems. We seek original papers with in-depth technical analysis on the following topics:

- **Environmental effects of microgrid operation**
- **Maximization of renewable penetration**
- **Economic and social effects for microgrid participants**
- **Economic and reliability effects for the utilities**
- **Technical advances to support microgrid sustainability**
- **Rural Electrification**

Preference will be given to experience and lessons learnt from real-world operating microgrids of all types, i.e. community/utility, commercial, industrial, institutional, campus, military and remote off-grid, including pilot projects and commercial scale demonstrations.

Prospective authors should send summaries (around 300-500 words) in pdf format to the editors of this special section. Based on these summaries, the editors will invite selected authors to submit full papers that will be reviewed following the standard IEEE Transactions on Sustainable Energy procedure through Manuscript Central:

<http://mc.manuscriptcentral.com/tste-pes>

The format for full papers is available at

<http://www.ieee-pes.org/templates-and-sample-of-pes-technical-papers>

Important Dates:

November 30, 2012: Deadline for summary submission

January 31, 2013: Invitations sent to selected authors to submit full papers

June 30, 2013: Deadline for full paper submission

Any comments or questions should be directed to the Guest Editor-in-Chief of this special section:

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