Call for Papers

Transactions on Emerging Telecommunications Technologies (ETT)

Designing and Planning of Energy Efficient Sustainable Cities and Societies: A Smart Energy Approach

The extensive attention drawn towards development of Internet and shift towards green energy, pioneered the novel concept of Internet of Energy (IoE) by converging the two notions with aid of Internet of Things (IoT). Increasing demand for a clean energy intensify the need of transforming the conventional grids. Decentralized energy generation and storage will characterize future energy grids. Such that, smart grids aim to cope with steadily increasing energy demands of the modern world. Even though renewable energy is considered as a solution, the radical shift from existing grids leave us with tremendous technical challenges arise with unpredictability and insecurity, which require an entirely new way of managing the energy system.

Subsequently, conventional energy management systems and techniques become obsolete and less efficient. Smart energy comes in here and make energy units, batteries, grids, chips, and any source of energy, smarter enough to handle complex extensions. Increasingly complex energy management systems must possess a remarkable ability to deal with the huge volumes of data generated at a high speed. Indeed, conventional data management techniques fail to fulfill requirements of the complex smart energy architectures. Quantum computing and artificial intelligence are identified as promising facilitators for the smart energy notion.

Furthermore, smart energy enables the grid infrastructure to improve energy generation and distribution, while facilitating the integration of renewable energy generators. The beauty of smart energy is that its benefits are not limited to the large manufacturers but also the utility providers, domestic prosumers, and long-tail solar companies. Simultaneously, smart energy management ensures grid data collection from the beginning to the very last end of the grid. Such aggregated data will empower utility decision making regarding load balancing, forecasting, pricing, etc. Effective mining on such data can optimize utilization of network assets, better planning on renewable energy utilization, mitigate unnecessary investments, etc. Subsequently, effective demand-side management can be guaranteed, alleviating security threats and reliability issues of the grid.

Transactions on Emerging Telecommunications Technologies journal is soliciting high quality unpublished manuscripts presenting original results for its special issue. The aim of this special issue is to bring novel research ideas, highlight the open issues, and indicate current research advancements and future directions in the field of smart energy based smart control systems and energy grids, their architectures and various applications in IoT.

Potential topics include, but are not limited to:

- Next generations of smart energy-based smart electronic/embedded devices architectures
- New algorithms and architectures for smart energy in the context of IoT
- distributed energy resources
- Applications of ICT in modelling and the analysis of power grids

- Smart energy integration with heterogeneous technologies
- Intelligent techniques supporting smart grids and smart energy paradigms
- New security and privacy models for energy infrastructures
- Energy efficient paradigms for smart cities
- Towards modeling and designing of energy efficient smart control systems
- Renewable energy planning
- Global demand for clean energy
- Artificial Intelligence in smart energies
- Quantum computing in smart energies
- Wireless powering of devices over several meters using IoE
- Migration from traditional electronics to smart energy based electronics
- Short-term and long-term load forecasting
- Grid energy resilience
- Modern demand side response strategies in smart environments
- Modern demand side management strategies
- Transactive energy management

The editors maintain the right to reject papers they deem to be out of scope of this special issue. Only originally unpublished contributions and invited articles will be considered for the issue. The papers should be formatted according to the ETT guidelines (http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1541-8251/homepage/ForAuthors.html). Authors should submit a PDF version of their complete manuscript via Manuscript central (http://mc.manuscriptcentral.com/ett) according to the timetable below.

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