

## Editorial

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With exploding population and limited resources, bottle necking of energy and natural resources is inevitable for mankind. Initially governments around the globe assumed subsidized prices of energy resources to be the solution to shield their respective economy from this energy crisis. But, soon it became evident that a subsidized resource has little effect on escalating energy demands and rising prices of conventional energy resources. In fact, the practice of shielding the economy from global energy inflation subsequently weakened their economy hence, causing the governments in weaker financial situations to either lower or completely stop their subsidies. At the same time, rising energy consumption of conventional energy resources at exponential rate caused degradation of environment in one way or another in the form of greenhouse emission, pollution, deforestation etc. Hence, for a brighter and better tomorrow, a synergy between the unstable economics, energy and environment is needed to be established to bring back the equilibrium. The world desperately requires breakthrough technologies of tomorrow and bright ideas for management of existing resources economically and efficiently to achieve the goal of sustainable energy and development.

It is evident that the energy, economy and environment are highly interdependent. Here, it may be appropriate to elaborate that the terms economy and environment are two independent topics on their own and this special issue focuses on the key aspects of economics and environment associated with all conventional and non-conventional methods for power generation, transmission and distribution hereby influencing each other significantly. Environmental concerns, permitting issues and high costs have slowed the expansion and rebuilding of the current power networks. This makes the electric power system more complex, heavily stressed and thereby vulnerable to cascade outages. Electric power utilities are trying to provide intelligent and smart solutions with economical, technical (secure, stable and good power quality) and environmental goals. There are several challenging issues in the future grid solutions such as, but not limited to, forecasting of load, price, ancillary services; penetration of new and renewable energy sources; bidding strategies of participants; power system planning & control; increased distributed generations and demand response in the electric market; tuning of controller parameters in varying operating conditions, etc.

In this special issue, nineteen papers, which are focusing various areas of emerging power systems such as power electronics application to power systems, generation scheduling, distribution system management and reliability, model order reduction, smart grid, automatic control, simulations, micro grids, etc. are considered. These papers utilize and address the various techniques such as artificial neural networks, swarm optimization, finite element, etc. These papers which are selected from the First IEEE Uttar Pradesh Section International Conference on Energy, Economics and Environment held during March 26-28, 2015 at Galgotias College of Engineering & Technology, Greater Noida (India) will be very useful to the researchers and academicians.

Being guest editors of this special issue on “Energy, Economics and Environment” for the International Journal of Engineering, Science and Technology (IJEST), we would like to thank all the authors for publishing their papers and all the reviewers for reviewing the papers of this special issue. We also gratefully acknowledge the assistance and encouragement provided by SA Oke, Editor, IJEST.

**Prof. Prabhakar Tiwari and Prof S N Singh**  
Guest Editors,  
Energy, Economics and Environment