## **Preface**

Energy and environment have become the central theme in several fields of research and in various policy arenas. The 2013 International Conference on Advances in Energy and Environmental Science provides a forum for accessing to the most up-to-date and authoritative knowledge from both industrial and academic worlds, sharing best practice in this exciting field. The conference was successfully held in Guangzhou during the period 30-31 July, 2013, co-organized by The Guangzhou Key Laboratory of Hydrogen Energy and Green Catalysis, Huizhou Research Institute, Institute of Energy and Catalysis etc.

The present volumes contain the selected papers from many submissions for this conference and provide up-to-date, comprehensive and worldwide state-of-the art knowledge in this field. All papers included in this collection had undergone the careful peer-review by the experts before it is selected for publications. This volume cover these sub topics: Development and Utilization of Solar Energy, Development and Utilization of Biomass Energy, Development and Utilization of Wind Energy, Geothermal Energy, Fuel Cell, Energy-saving Technology and Storage Technology, Power System and Automation, High Voltage and Insulation Technology, Power Electronics and Power Drives, Power Equipment, Smart Grid Technologies and Power System Management, Energy Chemical Engineering and Energy Materials, Energy Security, Management and Clean Use, Architecture, Construction Technology and Energy-saving Technology, New Energy Vehicles, Electric Vehicles, Machinery and Equipment for Industrial Manufacture, Modeling, Computational Technologies and Control in Industry.

The main objective of the book is to take the energy-development-environment discussion a step further. The book is intended to serve as resource material for scientists working on related topics in many disciplines, including energy science, environmental sciences, economics and policy analysis.

Finally, we would like to take this opportunity to thank all authors and participants at ICAEES 2013 for helping to make it a productive and interactive meeting.

The Organizing Committee of ICAEES 2013

#### 2013 International Conference on

## Advances in Energy and Environmental Science

(ICAEES 2013)

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The Guangzhou Key Laboratory of Hydrogen Energy and Green Catalysis Huizhou Research Institute of Sun Yat-Sen University Institute of Energy and Catalysis

### Co-organized by:

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