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| Title | Global Renewable Energy Based Electricity Generation and Smart Grid System for Energy Security. | | |
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| Published Journal Name | The Scientific World Journal | | |
| Type of Publication | Journal | | |
| Volume | 2014 | Issue |  |
| Publisher |  | | |
| Publication Date | 2014 | | |
| ISSN | 2356-6140 | | |
| DOI |  | | |
| URL |  | | |
| Other Related Info. |  | | |
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| Abstract |  |
| Energy is an indispensable factor for the economic growth and development of a country. Energy consumption is rapidly increasing worldwide. To fulfill this energy demand, alternative energy sources and efficient utilization are being explored. Various sources of renewable energy and their efficient utilization are comprehensively reviewed and presented in this paper. Also the trend in research and development for the technological advancement of energy utilization and smart grid system for future energy security is presented. Results show that renewable energy resources are becoming more prevalent as more electricity generation becomes necessary and could provide half of the total energy demands by 2050. To satisfy the future energy demand, the smart grid system can be used as an efficient system for energy security. The smart grid also delivers significant environmental benefits by conservation and renewable generation integration. | |