



可再生能源与分布式发电接入技术  
王成山, 高菲, 李鹏, 丁菲

**摘要:** 在严峻的能源形势下, 欧盟加大了对可再生能源和分布式发电技术研究的支持力度, 并在第五, 第六和第七框架计划下开展了一系列与之相关研究项目。鉴于, 介绍了这些项目的整体目标, 着重于DISPOWER, MICROGRIDS, MORE MICROGRIDS, EU-DEEP, FENIX等主要项目的研究内容及成果, 在此基础上介绍了代表欧洲未来电网发展趋势的“智能电网”的概念, 并揭示了这些研究带给我们的启示: 要从传统的集中控制思想转变到新的分布式控制理念; 要重视电力电子技术与ICT (Information and Communications Technology) 技术的应用; 要重视高渗透率下DER给输电网所带来的可靠性、安全性和电能质量等问题。

**关键词:** 欧盟; 能源形势; 可再生能源; 分布式发电技术

Review on the EU Research Projects of Integration of Renewable Energy Sources and Distributed Generation

WANG Cheng-shan, GAO Fei, LI Peng, DING Fei

**Abstract:** Facing the serious energy situation, Europe Union pays more and more attention to the researches on the integration of renewable energy sources and distributed generation, and supports a series of relevant research projects under The 5th, 6th and 7th Framework Programme. This paper introduces the overall objectives of the projects, focusing on the work packages and results of the main projects such as DISPOWER, MICROGRIDS, MORE MICROGRIDS, EU-DEEP, FENIX. The concept of SmartGrids, as the trend of future energy network of Europe, is also introduced. Finally, the enlightenment of what these researches bring to us is summarized as follows: to change the idea from centralization control to distribution control; to attach importance to the application of electric and electronic technologies and information communication technology; and to think much of reliability, security and power quality that come from distributed energy resources (DER) with a high penetration.

**Key words:** Europe Union (EU); energy situation; renewable energy sources (RES); distributed generation (DG)

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