

中国电网高速发展与可再生能源发电的关系

卫蜀作 蔡邕

中国电力科学研究院, 北京市 海淀区 100192

收稿日期 2007-12-26 修回日期 网络版发布日期 2008-3-3 接受日期

摘要

探讨了电网吸纳众多容量小、受自然条件制约且运行出力不确定电源的应对策略, 包括: ①针对出力的不确定性, 采取计及天气因素的日负荷预报方式预报其出力; ②由于农村沼气应用已有基础, 国内将沼气用于内燃机、燃气轮机和锅炉的技术已较为成熟, 且用管道输送沼气可节省运输能耗, 建议农、牧、林地区发展生物质沼气发电为主, 风能、太阳能发电为辅的中国农村型分布式发电。阐述了各种可再生能源发电的技术现状及发展方向, 提出了集中人力、物力积极开发创新, 结合试点示范, 逐步推广发展可再生能源发电的建议。

关键词 [电网](#); [可再生能源](#); [水力能](#); [生物质能](#); [太阳能](#); [风能](#)

分类号 [TM61](#)

Relations Between Rapid Development of Power Grids in China and Power Generation by Renewable Energy Resources

WEI Shu-zuo CAI Bin

China Electric Power Research Institute, Haidian District, Beijing 100192, China

Abstract

The coping strategies for power grid to absorb lots of small capacity and uncertain-output power sources restricted by natural conditions are researched. The strategies are as following: in view of the uncertainty of output, the daily load forecasting mode in which the weather factors are taken into account should be adopted to forecast the output of these small capacity power sources; because the biogas are widely applied in rural areas of China and the technologies of applying biogas in internal combustion engine, combustion gas turbine and boiler are mature and transmitting biogas by pipeline can save the energy consumption during the transportation, thus as for the rural distributed power generation in China it is suggested that in rural areas, pasturelands and forest regions the development of biogas power generation should be in the main position, the wind power generation and the solar thermal power generation are in the auxiliary position. Besides, the present technical situation and development trend of power generation by various renewable energy resources are expounded. In order to develop and spread power generation by renewable energy resources gradually, it is recommended that the manpower and material resources should be concentrated for the development and innovation, and the pilot demonstrations should be combined with.

Key words [power grid](#); [renewable energy resource](#); [hydraulic energy](#); [biomass energy](#); [solar energy](#); [wind energy](#)

DOI :

通讯作者 卫蜀作 weisz@epri.ac.cn

作者个人主页 卫蜀作 蔡邕

扩展功能

本文信息

- ▶ [Supporting info](#)
- ▶ [PDF \(211KB\)](#)
- ▶ [\[HTML全文\]\(OKB\)](#)
- ▶ [参考文献\[PDF\]](#)
- ▶ [参考文献](#)

服务与反馈

- ▶ [把本文推荐给朋友](#)
- ▶ [加入我的书架](#)
- ▶ [加入引用管理器](#)
- ▶ [复制索引](#)
- ▶ [Email Alert](#)
- ▶ [文章反馈](#)
- ▶ [浏览反馈信息](#)

相关信息

- ▶ [本刊中 包含“电网; 可再生能源; 水力能; 生物质能; 太阳能; 风能”的相关文章](#)
- ▶ 本文作者相关文章
- [卫蜀作 蔡邕](#)