

农村能源科学

基于AHP和模糊评判的生物质秸秆发电的效益评价

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摘要:

农作物秸秆是世界第一大可再生资源, 我国拥有量居世界首位。由于未高效合理利用, 不仅浪费了可利用的宝贵资源, 对生态环境也产生了不良的影响。本文采用模糊数学的原理对生物质秸秆发电效益进行层次分析和综合评价, 并从经济、社会和生态效益三个方面评价秸秆发电项目的综合效益, 结果显示, 生物质秸秆发电综合效益较好。最后以国能望奎生物质秸秆发电有限公司为例说明秸秆发电的所带来的综合效益。

关键词: 生物质秸秆资源 发电 综合效益

Abstract:

China leads the world in the production of straw, which is considered as the largest renewable resource. The irrational use of such resource not only results in a significant wasting of precious resources, but also jeopardizes the ecological environment. Based on the fuzzy mathematics theory, this paper implements an Analytic Hierarchy Process-based (AHP-based) analysis with a synthetic evaluation on the benefits of biomass straw fired power generation. The synthetic benefit of biomass straw fired power generation is evaluated under the consideration of three aspects: economic benefit, societal benefit as well as the ecological benefit. As indicated by the result, the overall benefit brought by biomass straw fired power generation is satisfactory. In the end, the Wankui biomass power generation Co., Ltd is taken case as a study case to illustrate the synthetic benefit of straw-fired power generation.

Keywords: biomass straw power generation synthetic benefit

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