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Review on Recent Development Micro Gas Turbine -Trigeneration System and Photovoltaic Based Hybrid Energy System (Conference Paper)

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Abstract

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Research on distributed power generation as an alternative method to the conventional power generation system continue to be developed to improve its commercialization capabilities. The cogeneration system and trigeneration system are technological improved alternatives in distributed generation where they offer enhancement and reliability in term of efficiency, emission performances and economic benefits. However, it is more feasible to implement the trigeneration system for most commercial and domestic distributed generations as the cooling demand is deliberately high compared to heating demand especially in hot and humid climate locations. Moreover, micro gas turbine is observed to be a beneficial prime mover in cogeneration and trigeneration system based on several criteria such as ability on acquiring high heat to power ratio characteristic as well as lower greenhouse gas emission. On the other hand, the role photovoltaic in building integrated system provides opportunities for renewable energy system engagement in trigeneration based distributed generation systems. This paper emphasize on summarizing the research work perform on cogeneration system or trigeneration system in hybrid mode with photovoltaic. There are also preceding sections on overviewing the state of art of cogeneration system and the trigeneration system as well as photovoltaic technologies in power generation. © 2016 The Authors, published by EDP Sciences.

Indexed keywords

Engineering controlled terms: Cogeneration plants, Distributed power generation, Gas turbines, Greenhouse gases, Renewable energy resources

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