



**energies**



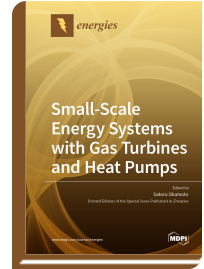
*Special Issue Reprint*

## **Small-Scale Energy Systems with Gas Turbines and Heat Pumps**

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A heat pump system can produce an amount of heat energy that is greater than the amount of energy used to run the heat pump system. Thus, a heat pump system is considered to be a machine system that can use energies efficiently, as is the load leveling air-conditioning system utilizing unutilized energies at high levels. Adaptations of gas turbines for industrial, utility, and marine-propulsion applications have long been accepted as means for generating power with high efficiency and ease of maintenance. Cogeneration with gas turbine is frequently defined as the sequential production of useful thermal energy and shaft power from a single energy source. For applications that generate electricity, the power can either be used internally or supplied to the utility grid. This Special Issue intends to provide an overview of the existing knowledge related with various aspects of “Small-Scale Energy Systems with Gas Turbines and Heat Pumps”, and contributions on, but not limited to the following subjects were encouraged: wake of stator vane to improve sealing effectiveness; gas turbine cycle with external combustion chamber for prosumer and distributed energy systems; computational simulation of gas turbine engine operating with different blends of biodiesel; experimental methodology and facility for the engine performance and emissions evaluation using jet and biodiesel blends; experimental analysis of an air heat pump for heating service; hybrid fuel cell-Brayton cycle for combined heat and power; design analysis of micro gas turbines in closed cycles. Seven papers were published in the Special Issue out of a total of 12 submitted.



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