
In the current study, a novel trigeneration system was presented to utilize the SPT for combined power generation, heating, and cooling. The trigeneration system consists a ...

These multigenerational systems offer an effective and sustainable solution to global issues, including clean energy, water scarcity, and rising cooling demands, particularly ...

The escalating energy prices and the increasing environmental impact posed by the industrial usage of energy have spurred industry to adopt various approaches to conserving energy and ...

The Future of Solar Energy considers only the two widely recognized classes of technologies for converting solar energy into electricity -- photovoltaics (PV) and concentrated solar power ...

Trigeneration is the production of combined cooling, heat, and power from a single generator or process. The trigen system produces electricity and useful heat which is utilised for hot water, ...

It is impossible to avoid the numerous irreversibilities caused by the solar power tower (SPT) system. Therefore, it is important to make an efficient energy generation system ...

This chapter is divided into nine sections, and begins with introduction of cogeneration and trigeneration technologies, building sector energy needs, and renewable systems. The second ...

This article introduces a new trigeneration system designed to meet the escalating energy demands by harnessing solar energy. Notably, the system features dual-mode ...

Trigeneration refers to the simultaneous generation of electricity and useful heating and cooling from the combustion of a biomass fuel or a solar heat collector.

This paper presents an exergy and environmental analysis of a novel trigeneration system with biomass and solar energy coupling utilization. The novel trigeneration system ...

Notably, the system features dual-mode operation and integrates ultrasound technology for hydrogen production, enabling it to adapt to varying levels of energy production ...

This study investigates the integration of renewable energy sources into trigeneration systems that include desalination, with the goal of maximizing renewable energy ...

rime mover of solid oxide fuel cells and solar energy was simulated to supply the re uired energy of a sample building in Shahrood, Iran. For this purpose, at first, the required loads of the ...

Examination of the system energy production and demands shows 27 and 52% lower energy needed to meet the energy demand ...

Wang and Yang [82] analyzed hybrid biomass and solar energy-based trigeneration system to improve efficiency. The system is composed of biomass gasification, an internal ...

This study proposes a solar-based trigeneration system for producing power, heating, and cooling at -40 °C for food storage. To improve the performanc...

Trigeneration offers some attractive energy efficiency, cost and emissions cost savings including: Onsite simultaneous high efficiency ...

A polygeneration system is a modified version of a cogeneration system, in which more than two objectives (i.e heat, power, cooling, production of energy or fuels) are achieved. ...

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