

Innovation of Solar Air Conditioning





Overview

Can solar energy be used for air conditioning?

The utilization of renewable energy sources like solar energy is being given a serious consideration to meet the power requirements of the air-conditioning sector as energy demands drastic increase for air conditioning applications [7].

What are the different types of solar air conditioning technologies?

This chapter presents an overview of various solar air conditioning technologies such as solar PV, absorption, desiccant, and adsorption cooling systems. It includes feasibility and comparative analysis of numerous standalone and hybrid configurations of solar cooling systems, which were investigated in past.

Is solar energy a viable alternative for air conditioning?

It is therefore the need of the time to evaluate alternate and renewable energy resources in all sectors, especially in air conditioning. Solar energy is one of the most efficient, clean, and affordable energy alternatives available today, and its use for space cooling and heating has proved to be feasible [6].

How does solar-assisted solid desiccant cooling system work?

This moist air passes through heat recovery wheel at stage (7-8) and becomes hot. This hot air passes through heating coils at stage (8-10) and desiccant material regenerated by increasing the temperature using solar energy. Figure 2. Working principle of solar-assisted solid desiccant cooling system [20].



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