

Systematic forecasts of solar collector's performance in various sites of different climates in Algeria

International Journal of Sustainable Energy, Volume 29, Issue 3, 2010.

Authors: N. Moummi, A. Moummi , Aoues K., Mahboub C., Youcef Ali S.

Abstract

This paper presents the results of theoretical models suggesting investigation of the performance of a solar air flat plate collector. The model can predict the temperature of the outlet air. This will be compared with the results obtained by the experimental results. The range of experimental results related to the thermal performances of plane–air solar collectors and various practical uses, inspires us to undertake this work in the context of a rational exploitation of local solar field. Indeed the setting up of a solar system to satisfy a well-determined need in a given site has to be done only after first having estimated the system productivity relative to the solar field actually available by fine weather (bright sky) or by bad days (covered sky) and then having an exact knowledge of the evolution of the climatic parameters.

Keywords: air collectors, fins, efficiency, outlet temperature, altitude, insulation part.

Link <http://www.tandfonline.com/doi/abs/10.1080/14786460903556139#.U1zL7IV5P78>