

The Possibility of Solar Water Heating in Kenyan Food Processing Plants

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Date: 1996

Abstract

There is need to rationalize the consumption of both fuel wood and petroleum products in Kenya. A target quantity of hot water is used in Food processing plants at temperatures which can easily be attained by flat plate solar collectors. Some flat plate solar collectors were tested and their thermal performance determined in terms of the well known Hottel- WhUHer-BUss equation. The long term thermal performance of the solar collectors at Kitale in western Kenya was estimated. It was found that a single-glazed collector with a black-chrome selective surface was the best performing flat plate collector for delivery temperatures of about 100°C. It was concluded that flat plate solar collectors can be used to provide at least part of the energy required for water heating in Kenyan food processing plants.