

# **Designing Solar PV for Topping up Energy of an Oil based Solar Thermal Collector for Cooking Application**

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Biomass represents the major source of energy for heating and cooking in many countries of Sub-Saharan Africa. Indoor pollution related to biomass burning is a serious public health problem in this region. Biomass resources are depleting in many regions of the continent which make women and children walk long distances in its search. Solar cooking can be one of the solutions for this problem. Indirect solar thermal systems for cooking enable the cooker to prepare the meals under the shade and at any time of the day. It is in this context that an oil based solar system for cooking application is being developed. So far a solar thermal collector has been successfully tested. The output temperature for passive circulation is around 140 °C. A solar PV system has been designed to increase the temperature of the working fluid to the desired cooking levels. This paper presents the results of this study in its technical aspect.