Renewable energy is one of the most promising solutions to energy shortage that may occur in the future particularly in remote areas. Solar cells suffer from the problem of high temperature, which reduces the electrical efficiency and operational life. In this study we investigate a new hybrid technique of cooling and voltage induction. A set of small generators installed on the back of a solar panel operating under the influence of heat and magnetic energy are called thermo-magneto-electric generators (TMEG). A modeling study was done using COMSOL Multiphysics5.2a (COMSOL) software as a package to simulate the physical states of the system. This study showed that a TMEG has the ability to improve the efficiency as a result of reducing the temperature. An induction voltage is also an output of the system and can be combined with the output of the solar panel composing the hybrid system.