ABSTRACT

The increasing need for electric energy in the rapid depletion of conventional sources of energy / fossil energy , has prompted efforts - efforts to develop renewable energy alternatives . One source of renewable energy has enormous potential , especially for Indonesia, which is located in the tropics is a solar energy / solar . Solar energy / solar energy can be converted into electricity by using the photoelectric effect that occurs in solar cell components . Solar cell can convert sunlight into electrical energy that can be used directly or stored in batteries .

Dye- sensitized Solar Cell (DSSC) is a method of working principle of solar cell that can convert light energy into electrical energy . DSSC solar cell is composed of a semiconductor TiO2 located on a glass substrate berkonduksi and soaked with Dye . Function for the photosensitizer dye made from plant extracts - plants that can be utilized and used substrate types derived from conductive glass ITO (Indium Tin Oxide) . Construction DSSC using a layered system consisting of a working electrode (TiO2 semiconductor , dye , and electrolyte) and the counter electrode (carbon) which are both placed on glass berkonduksi electron cycle to occur .

In the final task this time has succesfully designed solar cell semiconductor material with a TiO2 DSSC method . The solar cell can work in the event of the conversion of light into electrical energy . Expected in the final project can be created by a renewable energy source that is economical and effective . That the source of electrical energy that humans need to be fulfilled in accordance with the desired .

Keywords: DSSC, TiO2, Dye, ITO