Solar AC power generation

ABSTRACT

This seminar has opted a way to generate AC power directly from a solar panel. It is important because it makes it possible to simply hook the solar panels directly into the power grid without the need for expensive DC to AC power conversion equipment. This invention, when commercialized will make the cost of solar power more practical and affordable. Here's the problem. Solar panels today produce DC power which has to be converted to AC to be used by most homes and businesses. The price of solar panels combined with the price of inverters, phase synchronizers, installation and maintenance has made the price of solar prohibitive. Add to that the loss of power from the different components used in the DC to AC conversion process and it becomes even more unattractive. But these problems would be reduced if there was a better way. Today AC power is produced for the power grid by AC generators. The generators are powered by mechanical energy provided by water turbines (hydro-electric) or steam turbines powered from coal, natural gas or nuclear fuel. The mechanical energy rotates the coils of the generator flips direction during rotation in the magnetic field the resulting voltage produced is sinusoidal or AC. In this seminar we have replicated this sinusoidal voltage by mechanically manipulating alternate banks of solar cells to turn off and on.