

MODELLING AND INSTALLATION OF PHOTOVOLTAIC SYSTEMS



DENİZ SELKAN POLATKAN
Halide Nusret Zorlutuna sok 11/1 Cankaya
Ankara Türkiye
Selkan.polatkan@motifproje.com

ABSTRACT

The sun is an exhaustible and renewable source of energy. It is also clean and sustainable. Now, photovoltaic technology offers solutions to convert sunlight into electricity by using solar cells. To explain the photovoltaic cell more simply, photons from sunlight knock electrons into a higher state of energy, creating electricity. The connection of solar cells, forms solar panels. Using solar panels and connecting each other you can obtain photovoltaic array which can be a kind of decentralized electric power station for the living places and buildings.

Solar cells produce direct current electric which can also be used to power equipment or to recharge a battery. The first practical application of photovoltaic was to power orbiting satellites and other spacecraft and pocket calculators, but today the majority of photovoltaic modules are used for grid connected power generation. To convert the Direct Current to Alternating Current an inverter is used.

Main components of photovoltaic systems are ; Photovoltaic panels, charge controllers, dc or ac loads, converters or inverters, batteries, cables, lightning protection and additional power sources (hybrid systems).

Now we can also solve our energy problems using them in our living places. BIPV building integrated photovoltaics is a new branch of the architecture, to develop on that way.

KEY WORDS :

Photovoltaic, BIPV