

Abstract

Nowadays, human life in the world depends on electricity. With the high growth of electricity demand, the concept of environmentally friendly renewable energies began to be introduced in 1970. One of them is wind power. Wind Power Plant converts wind energy into electrical energy by using wind turbines or windmills.

The working principle of DC generator is to transform kinetic energy into electrical energy. This generator produces DC voltages ranging from 1 volt to 6 volt which comes up, because, if the rotor is rotated under the influence of a magnetic field, the magnetic field will be intersected by the wire windings on the rotor. This would lead to the voltage induction. Now for this thesis, the generator will be used as the power source of battery charger. Electric voltage generated by the generator which is approximately equal to 1 volt to 6 volts will be used to charge the 12V voltage battery that had passed the first voltage regulator previously to get the voltage stable. This 12V battery is used as storage of the energy so the lights can be used even if there is no wind. Energy that has been stored in the battery, then, will be used to do ration process systems and to light the street lightings.

From the results of the testing that has been done, a charging system with the output voltage of 13.8 volts which is stable can do charging process to battery with DC Chopper method type boost converter which then will be used to light street lamps by harnessing wind energy .

Keywords: street lighting, boost converter, DC generators, batteries.