

Energy and Environmental Design Project

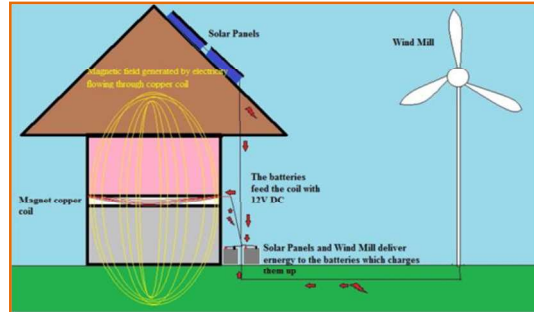
Personal Grid – Increased Efficiency

Mission Statement

Most houses pull electricity from the grid in the form of 120 volts (V) of alternating current (AC). Most devices in a house run on 12V of direct current (DC), which requires AC to be transformed into DC, resulting in 20 to 40 percent of energy loss. The goal of this project is to research and design a method in which power can be wirelessly transmitted in the form of 12V DC through a house with electrical magnetic waves, which can be delivered to a receiver attached to various devices.

Synopsis

Energy is wasted everyday though transforming 120 volts (V) of alternating current (AC) to 12V of direct current (DC). This happens in the majority of houses across the nation and this transforming of currents results in 20-40 percent energy lost. AC is able to deliver high power to houses over long distance, it can travel many miles where DC can't. But, there are only a handful of devices and appliances in a house hold that use AC while the remainder operate on DC, or have the potential to run on DC but have built in transformers. The Grid team has researched wireless power technology to develop an energy efficient personal grid, by transmitting 12V DC from a green personal grid wirelessly. Power will be sent from a transmitting magnet copper coil to a receiving magnet copper coil. This innovation to the grid will result in more houses installing green energy sources i.e. solar panels, windmills that will charge up a system of batteries that will feed the wireless system resulting in less energy loss.



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