ABSTRACT

TITLE:	Bicycle Powered Generator
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ABSTRACT: The purpose of this project is to design a bicycle-powered system to generate electricity for off-grid users. The system consists of a bicycle, a generator wired to a charge controller, 12 volt deep cycle battery, and an inverter. A charge controller controls current going into the battery. Lastly, the inverter converts 12 volt DC into alternating current (AC) which can be used for house appliances. The electric power produced will be determined by generator size, gear ratio of the bike, time of operation, and how long and hard a person wants to work out. This bike-powered generator system is designed to provide at least 60 watt-hours of usable power per hour of riding time, while being comfortable, quiet, and small enough to be easily portable. The total bike generator system without the bike should not cost over $400. The system as designed is capable of lighting a 13 watt compact fluorescent bulb for four hours per day.