

ENERGY CONSERVATION TORCH

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ABSTRACT

I got the idea of doing this project through a magazine. The main reason that I chose this title as my project is because I am interested doing this kind of interesting thing.

Another reason that triggers me to do this project is because our families are living in a small village, which the electric supply often cut off suddenly, especially at night it is very inconvenient for us. So the torch is quite important device for us. But a common problem with small torches is the short life both of the batteries and the bulb. The batteries of a small torch will commonly last only two to three hours, and many bulb filaments burn no more than a few weeks before fusing. It is very inconvenient and expensive for us to always change the batteries and bulb. So I decided to do this project, which uses no batteries and short life bulb. It also can provide ample light around a table, for waking on a footpath, or for reading. Besides this, torch batteries can sometimes be hard to come by, especially when camping or visiting remote areas. So the idea for a better torch was born.

This project paper is about the Energy Conservation Torch, its construction and the possible outcomes that it can produce.

In this project complete hardware path. The energy conservation torch uses no batteries, not even rechargeable. An occasional twist of a knob provides light without battery power. Power is provided by a 12V stepper motor based on using finger twist of a knob, and fed into a super capacitor to store the power. In order to conserve power, the LED is using and pulsed with a 50% duty cycle by using the main IC Hex Schmitt Inverter. While the 50% duty cycle leads to far more than the expected doubling of the torch's periods of service.

And the more detail about this project will be mentioned in this report below.