

# Portable Self Powered Generator that Uses Magnetic Induction to Generate Electricity

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A) **PURPOSE** The desire for energy is causing major land degradation, pollutions, increase in ozone layer depletion, causing diseases in mankind and increasing the rate of depletion of Mother Nature. Around the world access to electricity in under developed communities is a major problem in towns' worse still in rural areas. I have created a self-powered generator that generates electricity without need for fossil fuels and does not depend on its surroundings. It is cheap and affordable device that operates without need for recharging with electricity tokens and fuels. It is a small and portable generator. B) **PROCEDURE** The self-powered generator is started by 2 (3.7 v) rechargeable batteries that power a motor which rotates a magnet that induces electrical current in the copper coils. One of the copper coils is connected to a full wave rectification system which I used to convert AC to DC and the output DC is used to power the motor and recharge the batteries that operate the generator. The other copper coils are connected to a super capacitor which prevents the ripple effect and also connected to a full wave rectification system. the output is connected to an invertor which will inurn convert the electricity. C) **DATA** The generator produces electricity (DC) total voltage 12v and(AC) 220 volts and power 500 watts. Compared to other sources of electricity my generator is portable, self powered and reliable. D) **CONCLUSION** The project turned out as I expected but with a little monetary funding I'm looking forward to executing my plans of a much better generator that is more efficient and robust. There will be a general increase in job creation and information dissemination as electricity will be available in under developed communities.

## Awards Won:

Edison International : Fifth Award of \$500

Raytheon Technologies Corporation: Each winning project will receive \$1,000.