**Research Question:**

How effective is 220v DIY electromagnetic generator compared to fossil fuel generator in terms of “healthiness” and how affordable.

**Hypothesis:**

The 220v DIY electromagnetic generator will generate more clean and affordable energy than fossil fuel generators.

**ROL (***Review of Literature***)**

The 3 R’s (Reduce, Reuse, Recycle) is very popular in the economic parts of the world since 2015, but this process is used to recycle matter only. This essay will show you a solution to “recycle” energy that is used to run vehicles such as cars, bicycles, and even school bags.

Nitoriyo (2018) said that the materials of creating a DIY electromagnetic generator is only some magnets, some bearings, and a long (9m) string of copper wire, which once putted in a particular format and rotated, will form electrical energy. Saha (2008) pointed out that a “sandwich” shape of a moving magnets that is coiled and two stable magnets can generate electrical energy or electricity once rotated. ElectricalPosts (2020) explained that the principle of the electromagnetic generator is called Faraday’s law of electromagnetic induction. Which says that when a conductor links with a changing flux, it will have an induced emf across it. The value of induced emf across the conductor depends on the rate of change of flux linkage with the conductor. ElectricalPosts (2020) also says that the direction of the induced emf in the conductor can be determined by Fleming’s Right Hand Rule, this rule says that on your right hand if you stretch your thumb, first finger and second finger perpendicular to each other, and if you align your right-hand thumb along the direction of motion of the conductor in the magnetic field, and first finger along the direction of magnetic field, then you second finger indicates the direction of emf in the conductor.