**Significance of the study**

Based on the results of the 2016 Household Energy Consumption Survey (HECS), electricity remains as the most common source of energy used by households in the Philippines. Filipinos use electricity every day; from lighting up their homes or establishments to making their houses more comfortable to live in (e.g heating, ventilation and air conditioning). Unfortunately, the Philippine government has implemented the tax increase in coal thus making the generation of electricity more expensive.

The study is targeted towards researching and exploring creative and futuristic ideas to save energy with the help of basic understanding of control systems that include program logic conditions.

The study would benefit the following:

The **Average Filipino household** due to the design of the system that focuses on saving electricity thus making unwanted consumption of energy eliminated or at the very least, lessened.

The **Energy Service Providers**, because once the system is put into place, the average Filipino household will spend less energy which results to less generation of electricity making it easier to maintain and at the fraction of the original cost.

The **Electricians,** due to a systematic design of the lights and appliances in a classroom as well as the system itself, a skilled professional is required to install and maintain the system in turn creating a demand for electricians, improving employment.

The **planet, Mother Earth,** due to the system’s design, the generation of electricity is decreased because of lesser consumption by clients. Less generation of electricity requires less burning of fossil fuels thus decreasing carbon emissions in power plants.

Limitations

The limitations of the study include that the tests of the system are controlled, thus creating results that may differ if tested in true environments. The researchers face the ability to miss circumstances or certain scenarios in real environment that is improbable to replicate in the controlled environment because of the sheer amount of events in the real world. There is also a high chance of discrepancy in testing the efficiency of the system in saving electricity and recording carbon dioxide emissions due to the use of theoretical calculations and established conversion factors rather than using data from electricity meters and the data of emissions in power plants.