# **Abstrac****t**

The limited nature of non-renewable energy sources is the reason why the development of new renewable energy sources and the improvement of present renewable energy sources are always being conducted. Despite the advancements in renewable energy technologies, it is still not sufficient. In the Philippines, the total consumption of electric energy per year is 78.30 billion kWh, while the country only self-produces 86.59 billion kWh per year. The amount of electric energy that the country is producing is expected to decrease due to the decrease in the contribution of renewable energy sources. To aid the power sector and benefit from the large population of vehicles in the country, the researchers propose to design and optimize an on-road kinetic energy harvester that would be capable of producing renewable energy out of the kinetic energy that is present between the moving vehicles and the road.

After the initial calculations, the 3D modeling and design of the independent variables and On-Road Kinetic Energy Harvester will be done using AutoCAD. The virtual fabrication will be done using SolidWork3D, while the simulation and validation of the design will be done using ANSYS and SolidWorks3D. After the tabulation of the results and optimization of the design, the final design will be delivered. The researchers are expecting to produce a design that is fully-optimized for urban and rural use. A functioning and efficient On-Road Kinetic Energy Harvester would help the Philippines in its power crisis and decrease the country’s dependence on non-renewable energy sources.