

Abstract

Our dependence on electricity is an ever-growing factor. As newer technologies and innovations reach the market, the consumption of energy in the form of electricity is expanding exponentially. On the other hand the cost of generating electricity is increasing due to the shortage of the raw materials used for it. There is a substantial amount of advertising and buzzing around the words sustainable and renewable energy in the last decade or so. We are heading in the right direction.

There have been many natural sources of electricity generation for centuries, but technology and infrastructure were not evolved enough to harness those natural resources. Hydro, Solar and Wind are not physical phenomenon that suddenly appeared in the last century, they have been since inception of the Earth, but we were unable to harvest the energy within these sources to generate electricity.

Of the three sources of energy mentioned above, Solar energy is probably the best in terms of investment cost and quick return on investment. There is a relatively low cost of setting up a solar plant in comparison to that of a hydro or wind powerplant, and the availability of sun light in a tropical country such as ours makes it one of the best investments.

Even though the sun is available throughout the year, the electricity that could be harvested from it varies every month due to certain physical factors. The ability to predict the amount of electricity that could be generated from Solar energy paves way to improve the planning of its consumption.

In this project we've used Time Series Modelling to predict the amount of electricity that could be generated from a specific site. We use the historical data from the site of interest as the input and forecast the electricity generation through different methodologies.