Reference:
Dataset Title: Climate Change
Source: https://data.worldbank.org/topic/climate-change
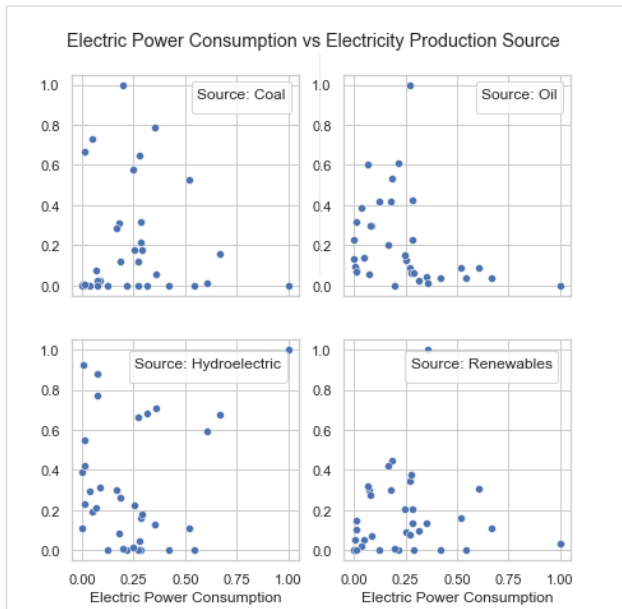GitHub: github.com/nidhin-da/climatechange-repository

Introduction
The analysis performed is for clustering and model fitting with indicators constituting to electric power consumption and its production from various sources on 34 randomly selected countries in the world.

**Electricity Consumption vs Electricity Prod. Source**

Above is the scatter plot of electric power consumption vs electricity production sources like coal, oil , hydroelectric and renewables. The Electricity production by coal plot looks clear and thereby clustered by k-means.

Clustering by K-Means
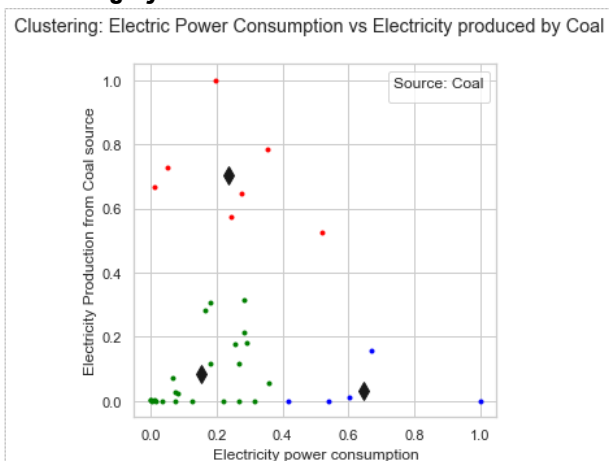
Expected to form a cluster of three and divided by the colours green, red, blue with the centroid marked as diamond symbols. Characteristically, green ones are in majority and concentrated, red ones dispersed and blue constituting to the least of the lot.

Exponential and Logistic Function Models
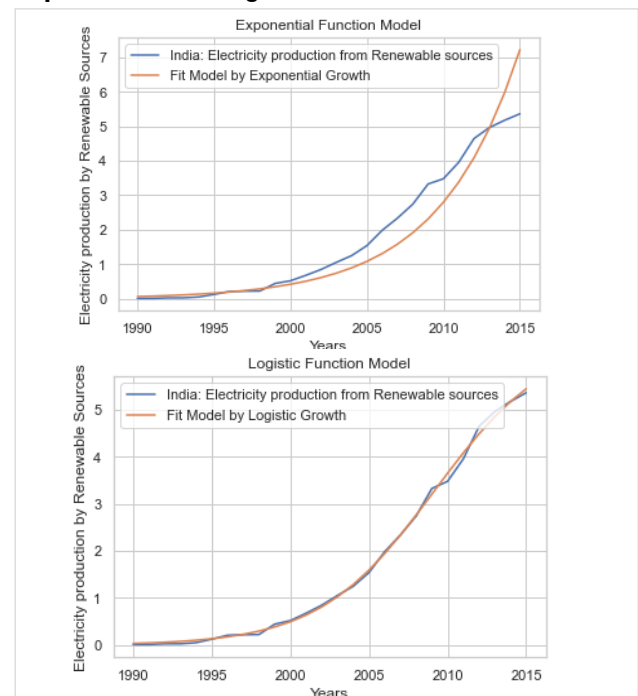
The above is Exponential and Logistic function models ran over the electricity production by renewable sources in India. The logistic model interestingly fits the trend over the years and proves to be fairly accurate guide to predict outcome of the next years!

Logistic Model Prediction on India
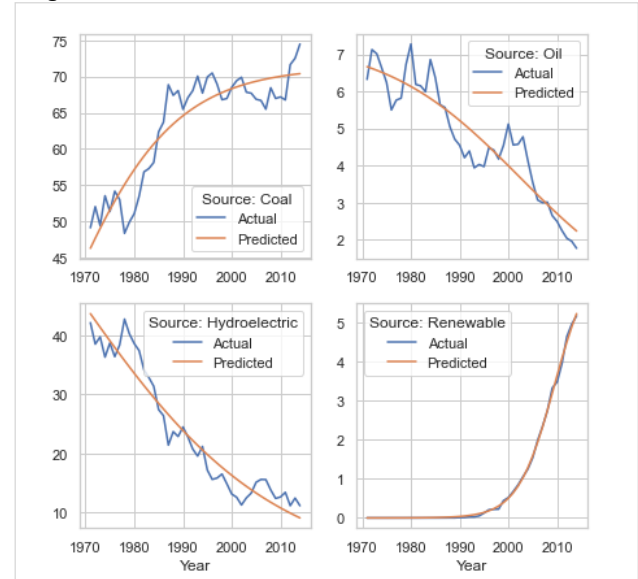
Electricity production by means of coal as a source though has seen steady increase throughs the 80's has had a declined growth since. The high costs have forced the reliance on oil-based electricity production since the 80's to reduce steeply. Also, given the initial costs of setting up hydroelectric production and geographical constraints, there is a continued decline in its contribution. Production by renewable sources has seen a very encouraging growth pattern over the years as India pushes itself to fight climate change.

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