Energy production and consumption data time series analysis

This data package(time\_series\_60min\_singleindex.xlsx) contains different kinds of timeseries data relevant for power system modelling, namely electricity prices, electricity consumption (load) as well as wind and solar power generation and capacities. The data is aggregated either by country, control area or bidding zone. Geographical coverage includes the EU and some neighboring countries. All variables are provided in hourly resolution. Which covers the period 2015-mid 2020.

Problem:

1. In order to have an intuitive understanding of the data, you can simply visualize the data. And propose some statistical description of data in combination with various methods.
2. Taking **Germany** as the research object, analyze and explain the current situation of electric energy in Germany. Show the properties of different energy production from data source.
3. Analyze the power consumption of various energy sources from different time resolutions (day, week, month, year). And then make a prediction of the future power consumption.
4. Analyzes the factors such as power energy, economy, environment and cost, establishes a model of power energy structure, and puts forward policy suggestions for the sustainable development of power energy in China.