

Time Series Analysis of Open Power System Data

Abstract

In the broadest definition, a time series is any data set where the values are measured at different points in time. Many time series are uniformly spaced at a specific frequency, for example, hourly weather measurements, daily counts of web site visits, or monthly sales totals. While working with a time series of energy data, we'll use time-based Indexing, resampling, and rolling windows to explore variations in electricity demand and renewable energy supply over time. In this report, I focused on capturing the trends, frequencies, seasonality and then visualizing time series data. I shall conclude in this report how electricity consumption and production (by wind and solar) have varied over time as daily totals in gigawatt-hours (GWh).