*Project:*

**Business Objective:**

A combined-cycle power plant comprises gas turbines, steam turbines, and heat recovery steam generators. In this type of plant, the electricity is generated by gas and steam turbines combined in one cycle. Then, it is transferred from one turbine to another. We have to model the energy generated as a function of exhaust vacuum and ambient variables and use that model to improve the plant's performance.

**Data Set Details:**

This is a project where the variable to be predicted is energy production

The data file contains 9568 observations with five variables collected from a combined cycle power plant over six years when the power plant was set to work with a full load.

*The variables, or features, are the following:*

temperature, in degrees Celsius.

exhaust\_vacuum, in cm Hg.

amb\_pressure, in millibar. (Ambient pressure)

r\_humidity, in percentage. (Relative humidity)

energy\_production, in MW, net hourly electrical energy output.

**Additional Variable Information**Features consist of hourly average ambient variables - Temperature (T) in the range 1.81°C and 37.11°C,- Ambient Pressure (AP) in the range 992.89-1033.30 milibar,- Relative Humidity (RH) in the range 25.56% to 100.16%- Exhaust Vacuum (V) in teh range 25.36-81.56 cm Hg- Net hourly electrical energy output (EP) 420.26-495.76 MWThe averages are taken from various sensors located around the plant that record the ambient variables every second. The variables are given without normalization.