Airbus

Scope
We will be working with the Chief Engineer of Digital Product Development and Manufacturing and his team with the goal of contributing to the open source project, OS-Climate. OS-Climate is a project that many Fortune 500 companies are contributing to in order to make climate data more accessible. Airbus has incentives to contribute to OS-Climate for a number of reasons. First, they want to do good for the world... but it's a big company that wants to make money, and there are always other motives. The main reason is that there is a pact among similar companies to reduce CO_2 emissions by 50% by 2050. In order to achieve this, it will require the contribution of many companies. Working solo to gain an edge is not an option with a goal this large.

Goals
1. Gather Data And Create Datasets:
We will create and validate datasets with data for gas, coal, rare earth metals, and renewables. We plan to scrape and extract data from various sources and validate Airbus' existing data. We will perform a series of data wrangling, cleaning, manipulation, and initial analytics. The output may be multiple CSV files that are ready to be used for further analytics for OS-Climate.

2. Create Pricing Model:
We will use the data we collected to create a pricing model that measures the price of a resource based on various factors. We will test our models, run statistical tests for validation, and run economic evaluations. For example, we may add scarcity price-adders as features to measure dynamic prices, and we may use regression techniques to predict likely prices based on certain scenarios. We can use the standardized regression coefficients to figure out the most important features and the most significant correlations of the dataset.

3. The end goal is to add this data to OS-Climate for public access. Depending on the criteria of OS-Climate, we will output directly to the platform's database. We may provide documentation if necessary.

Specifications:

Data
1. Stock (renewable resources that Airbus uses for manufacturing)
      a. Recoverable stock though time
      b. Demand
      c. Extraction quantity
      d. Hubert curve

2. Price
   a. Extraction cost by resource type
   b. Transport cost
   c. New tech
   d. Politics
   e. Plant construction price estimate

Model
1. Stock
   a. Predicting stock quantities through time
   2. Price
   a. Predicting stock price through time

Skills: Data Analysis, Machine Learning