Final Project Proposal

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Summary of the dataset:
The Form EIA-861 and Form EIA-861S (Short Form) data files include information such as peak load, generation, electric purchases, sales, revenues, customer counts and demand-side management programs, green pricing and net metering programs, and distributed generation capacity.

Objectives and Motivating Problem: Be able to easily visualize the United States in an interactive way to see how different aspects of the electric industry has transformed with time since 2013 using the data from this website: https://www.eia.gov/electricity/data/eia861/. The reason we go from 2013 rather than 1990 is because the most interesting data that we'd like to explore began collection starting in the year 2013 (as noted on the website).

The aspects we will potentially explore and plot include Distribution Systems, Energy Efficiency, Net Metering, Dynamic Pricing, and Advanced Meters. We will not utilize every single one of these datasets, but only the ones that in our research appear most interesting and relevant. From this we hope to discover trends regarding energy usage and distinct differences between regions in terms of energy development, especially with utilizing energy efficiently.

Rough Plan & Approximate Milestones:

1. Pre-process data to be smaller, more manageable, and hold only relevant data
2. Program the map of the US with a tooltip pop up feature, which will form the foundation of our project
3. Decide on if we will display multiple maps for each year, or add an interactive slider to change throughout the year.
    - We prefer to use an interactive slider because it would be cleaner and visually more appealing, but we wish to keep our options open because of limitations on time and technical ability
    - Potential mapping system that switches which parameter is being visualized by the user, along with a color scheme that matches to which parameter(s) are being currently outputted

Deliverables:

- An interactive map that displays the data by state
    - If we have time, we would like to expand the data to differentiate between cities within the state
- Relevant information displayed for the selected state
- Data mapped to color for visual appeal and broad understanding of data for the nation as a whole