EV Power - Lab 4 Project Report: Comparing Price and Proportion of Clean Energy Ehroughout the US

Part 0: libraries

Part 1: Defining Research Question

Chosen Question: Do states with higher renewable usage have lower average electricity prices?

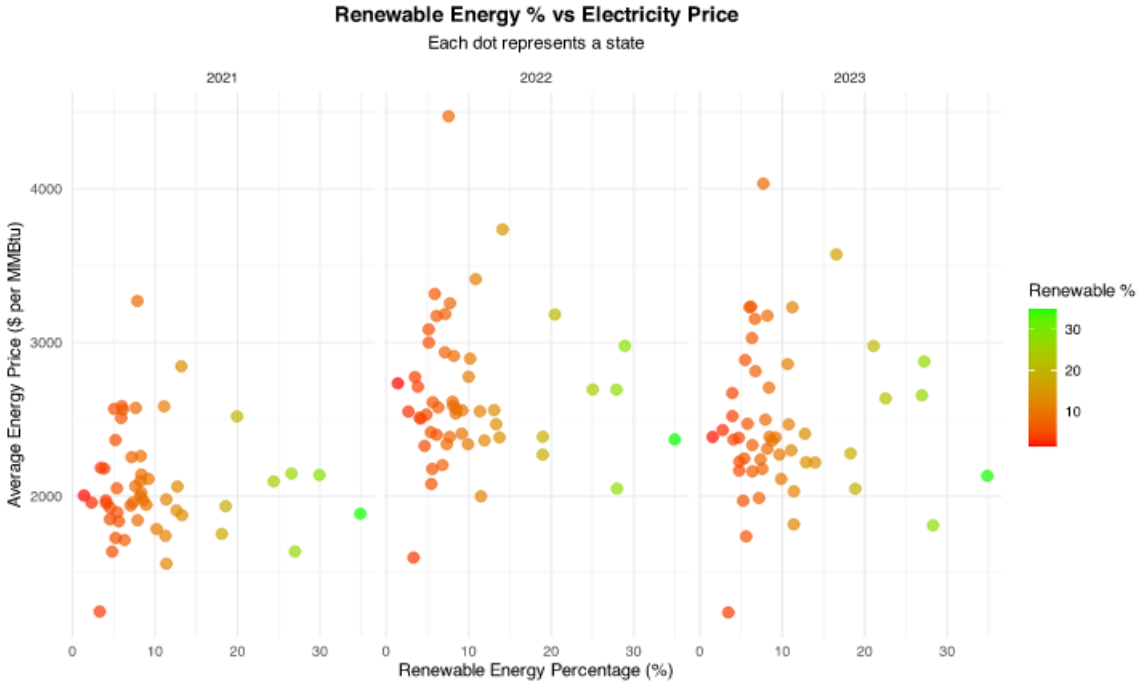
Part 2: Data Preparation and Cleaning

Part 3: Joining / Pivoting Datasets for Analysis

```
# A tibble: 6 × 6
  state  year total_renewable_use total_energy_all renewable_percentage
  <chr> <dbl>               <dbl>            <dbl>                <dbl>
1 AK     2021                9598           684975                 1.40
2 AK     2022               10410           730276                 1.43
3 AK     2023               11762           746979                 1.57
4 AL     2021              239816          2352656                10.2
5 AL     2022              232035          2337513                 9.93
6 AL     2023              223458          2265008                 9.87
# ℹ 1 more variable: avg_price <dbl>
```

I joined the datasets that had the total renewable energy numbers, the total general energy numbers, and each states' avg energy price. I did this to create a table (part of which is above) that has a percentage of clean energy for each state in a given year. I also added the price variable so we can compare prices to percentage of energy that is clean.

Part 4: Mapping and Dashboard Visualization



Conclusions: There does not a appear to be a clear relationship between avg energy price and percentage of clean energy that a given state uses (based on the visualizations). However, there are most likely a lot more variables that we need to take into account to do a more detailed analysis. For example, states with higher general costs of living are more likely to have higher energy costs. It still could be the case that using clean energy does imporove costs, but that places that use clean energy are in general more expensive for other reasons. An interesting insight the visualizations show are that energy prices increase dramatically from 2021 to 2022, presumably due to the Russia-Ukraine war and the resulting increase of gas prices. We also don't see too much movement in the direction of clean energy, which surprised me.