

EV Power - Lab 4 Project Report

Research Question

What is the overall trend in both total energy and renewable energy across the United States from 2021-2023?

Data and Methods

Proportion of Renewable Energy

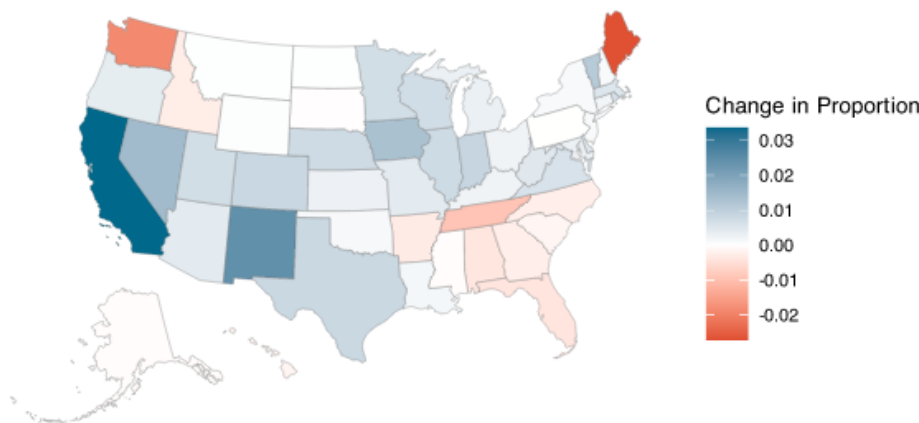
State	2021	2023
California	0.1318767	0.1656624
New Mexico	0.0836008	0.1078673
Nevada	0.0920663	0.1066681
Tennessee	0.0731567	0.0637603
Washington	0.2438154	0.2252097
Maine	0.2992298	0.2719696
U.S. Total	0.0819833	0.0875411

Change in Total Energy 2021-2023

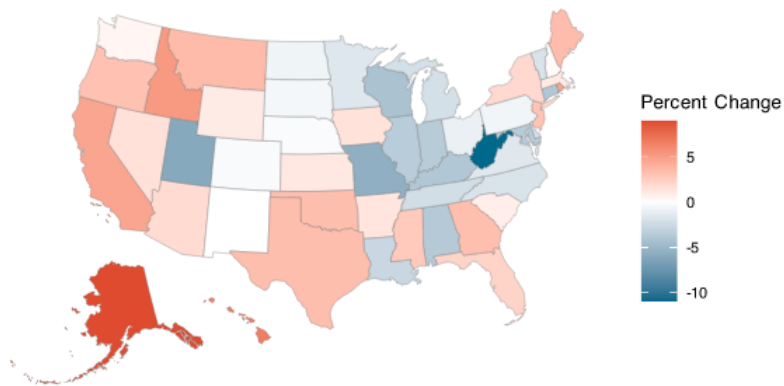
State	Percent Change
Alaska	9.0520092
Hawaii	6.6551494
Idaho	5.2521962
Missouri	-5.6070170
Utah	-6.0403701
West Virginia	-10.9761159
United States Total	0.2793108

Map Visualizations

Renewable Energy Use from 2021-2023



Total Energy Change from 2021-2023



Analysis

Looking at the change in renewable energy use from 2021 to 2023, the change in proportion of renewable energy over total energy use is illustrated with the color scale on the right where the deeper the blue, the greater increase in proportion of renewable energy (Renewable Energy Proportion 2023 - Renewable Energy Proportion 2021). For example, California when from about 13.2% of their energy being renewable in 2021 to 16.5% in 2023, an increase of roughly 3%. On the other hand, Maine experienced a decrease of roughly 3%, seen from both the table and the deep red on the map. However, there has been an increase overall in the proportion of renewable energy usage from 2021 to 2023, with most states exhibiting an increase rather than a decrease.

It is also important to look at total energy trends as well, to bring the previous data into context with overall energy trends, because though, for example, California experienced the greatest increase in proportion of renewable energy, California also experienced an increase in total energy use overall from 2021-2023. Some states, like West Virginia, while they haven't experienced as much of an increase in renewable energy, have experienced a decrease in total energy use overall, which may lead to lesser environmental impacts than a state that increased their proportion of renewable energy use, but also increased total energy use overall. Additionally, though not as clear to see as the previous, we can also get a sense of total energy use across the whole of the United States, which, as can be seen from the table, experienced an overall percent increase of 0.27%.