**Project 1 Dashboard Report** – Amaya Owens, Lauren McIntosh, Paige Hill

**Introduction**

This dataset includes information about CO2 emissions from several countries across the world. There are many variables that were measured, making it difficult to choose key variables to focus on. The variables utilized in the dashboard are the country, year, GDP, population, temperature change from CO2, and the CO2 per capita. These variables allowed us to explore the effects of CO2 in relation to GDP, population, and global temperature changes. CO2 can negatively affect the environment, so looking into which countries have the greatest CO2 emissions can put some perspective on where those emissions are coming from and which countries could do better.

**Basic Information**

We utilized a few extra pieces of information that may have interested viewers. In the overview tab, this includes a count of the number of countries in the dataset, the worst CO2 emitter per capita in 2022, and the temperature change limit set by Paris Accords. This gives viewers a general overview of what they can look out for in the dashboard. The overview tab also includes a graph with the global temperature change from CO2 over time so that viewers can see the trend of how much the global temperature change has been increasing. It also includes a projection to visualize how long it may take before the temperature change reaches the limit set by the Paris Accords.

There is also some extra information on the average CO2 emissions by country so that viewers can see the average CO2 per capita for a country. We also included a table with the top 10 worst CO2 emitters in the world to see their average CO2 emissions, average GDP, and average population. This shows the countries that are emitting the most CO2 into the air.

**Key questions**

Is a higher GDP related to a higher level of CO2 emissions?

To answer this key question, the dashboard presents a visualization that compares average GDP and CO2 over the years. The dashboard shows that as time goes on, both the average GDP and CO2 levels increase. They follow similar paths as they increase, with dips occurring on both graphs over time. In 2020, there is a considerable dip for both graphs, likely due to the COVID pandemic. Production and sales likely occurred less across the world causing both the GDP and CO2 levels to stop increasing.

Does a higher population correlate with greater CO2 emissions?

To answer this key question, the dashboard has a visualization that shows CO2 emissions per capita versus population for different countries. Viewers can select different regions to see the trends for each region. The graph is interactive so viewers can hover over a point and see the specific information for that point such as year and country. The countries are also indicated by color to make it easier to see which countries are contributing the most to CO2 emissions compared to their population. Viewers can see that certain countries stand out with how much CO2 they emit, with the middle east being the region that has the most CO2 emissions with lower populations. The graph shows that there is no clear relationship between population and per capita emissions.

Is there a relationship between CO2 emissions and the average change in temperature for the world?

To answer this key question, the dashboard has a graph with a dual y-axis that compares CO2 emissions and the temperature change over the years. Both variables have increased over time, and while nothing is directly correlated, the consistently high CO2 emissions may play a role in the increasing average in temperature change.

**Appendix**

GDP graph code

A screenshot of a computer code

AI-generated content may be incorrect.A white background with blue text

AI-generated content may be incorrect.

Population graph codeA screenshot of a computer program

AI-generated content may be incorrect.A screenshot of a computer

AI-generated content may be incorrect.

Temperature change and co2 emissions graph codeA computer code on a white background

AI-generated content may be incorrect.

Groupby operationA close-up of a computer screen

AI-generated content may be incorrect.

Pivot tableA screenshot of a computer code

AI-generated content may be incorrect.