

# Climate Change Data Analysis Report

**Author:** [Student Name]

**Date:** [Submission Date]

**Dataset:** owid\_climate\_data.csv

**Python File:** [your\_script\_name.py]

## 1. Overview

### Objective:

Provide an overview of the entire report. What is the context, where did the data come from, how was the data treated and analyzed, what were the findings.

### Dataset Summary:

Provide a top level summary of the dataset.

- co2: CO<sub>2</sub> emissions per country per year (metric tons)
- country: Country name
- Etc.

## 2. Step-by-Step Data Analysis Pipeline

### Step 1: Data Import & Cleaning

#### What was done:

- Imported the CSV using `pandas`
- Dropped rows with missing values in `co2` or `temperature`

#### Code Snippet:

```
python
CopyEdit
import pandas as pd

df = pd.read_csv("owid_climate_data.csv")
```

```
df = df.dropna(subset=["co2", "temperature"])
df.head()
```

**Screenshot / Output:**

*(Insert screenshot of `df.head()` output here)*

**Summary:**

Brief Summary of Findings.

## Step 2: Exploring Sets & Writing Functions

**What was done:**

- Created a set of all unique countries
- Defined a function to extract data for a given country and year range

**Code Snippet:**

```
python
CopyEdit
countries = set(df['country'])
print("Unique countries:", len(countries))

def get_country_data(df, country, start_year, end_year):
    return df[(df['country'] == country) &
              (df['year'] >= start_year) &
              (df['year'] <= end_year)]

india_data = get_country_data(df, 'India', 2000, 2020)
```

**Screenshot / Output:**

*(Insert screenshot of India data from 2000–2020)*

**Summary:**

Brief Summary of Findings.

### 3. Summary of Findings

#### Key Observations (without interpretation):

Example: The CO<sub>2</sub> emissions varied widely between countries in 2020, with some outliers. A gradual upward trend in average global temperature is visible over the years. [...]

### 4. Appendix

#### Included Files:

- Python Script: `climate_analysis.py`
- etc.