

# Unearthing the Environmental Impact of Human Activity: A Global CO<sub>2</sub> Emission Analysis



Miniproject on  
Unearthing the Environmental Impact of  
Human Activity: A Global CO<sub>2</sub> Emission  
Analysis

**BACHELOR OF SCIENCE**

In  
**Mathematics**

**By**

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**CHATRAPATTI**

***Unearthing the Environmental Impact of  
Human Activity: A Global Co2 Emission***

# **Analysis**



## **1. Introduction:**

### **1.1. Overview**

*Carbon dioxide (CO<sub>2</sub>) is released into Earth's atmosphere mostly by the burning of carbon-containing fuels and the decay of wood and other plant matter. Under all conditions found naturally on Earth, CO<sub>2</sub> is an invisible, odorless gas. It is removed from the atmosphere mostly by plants which extract carbon from CO<sub>2</sub> to build their tissues and by the oceans in which CO<sub>2</sub> dissolves. Because CO<sub>2</sub> is opaque to infrared radiation in the atmosphere, it acts as a blanket*

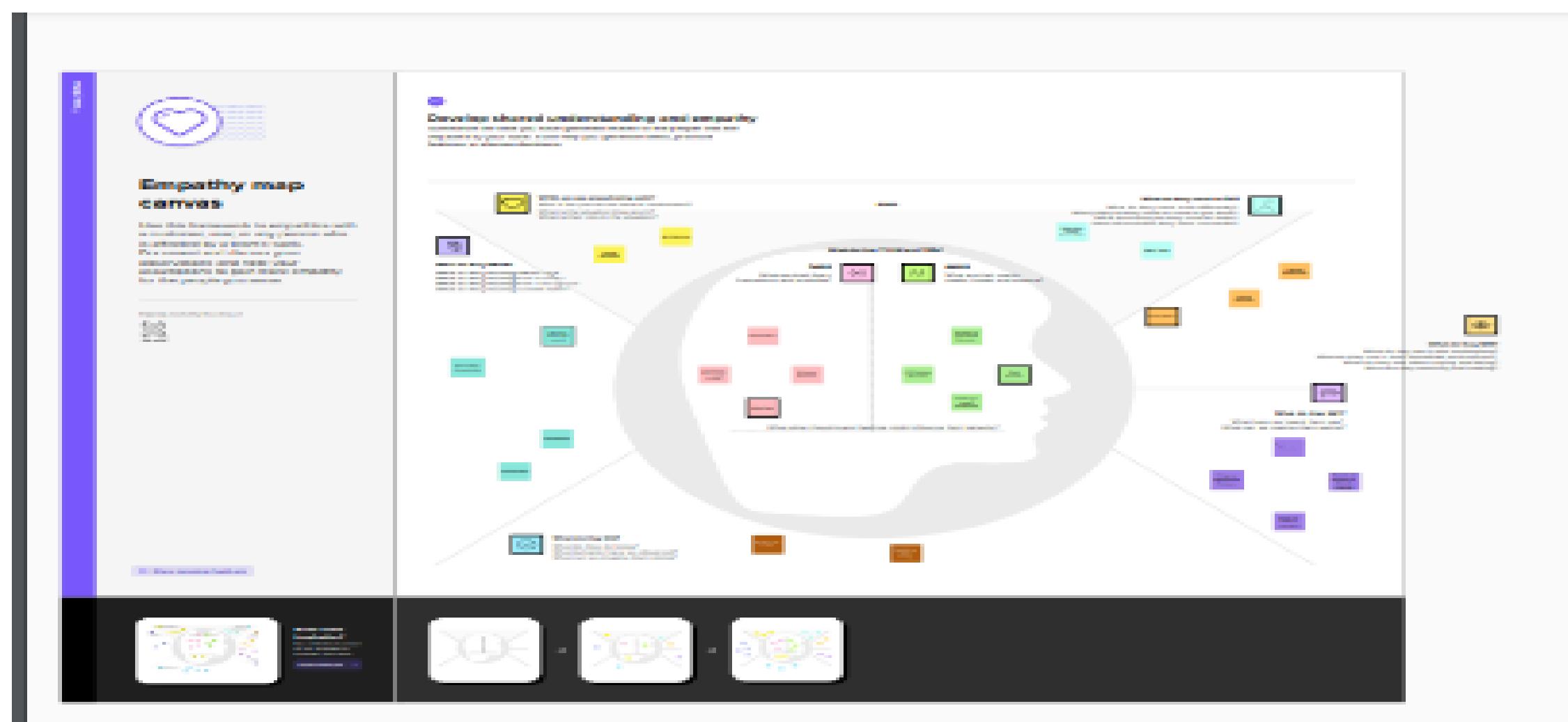
*to slow the loss of heat from earth into space. Although other gases are also causing earth climate to warm. Co<sub>2</sub> alone is responsible for about three-fourths of global warming.*

## **Purpose:**

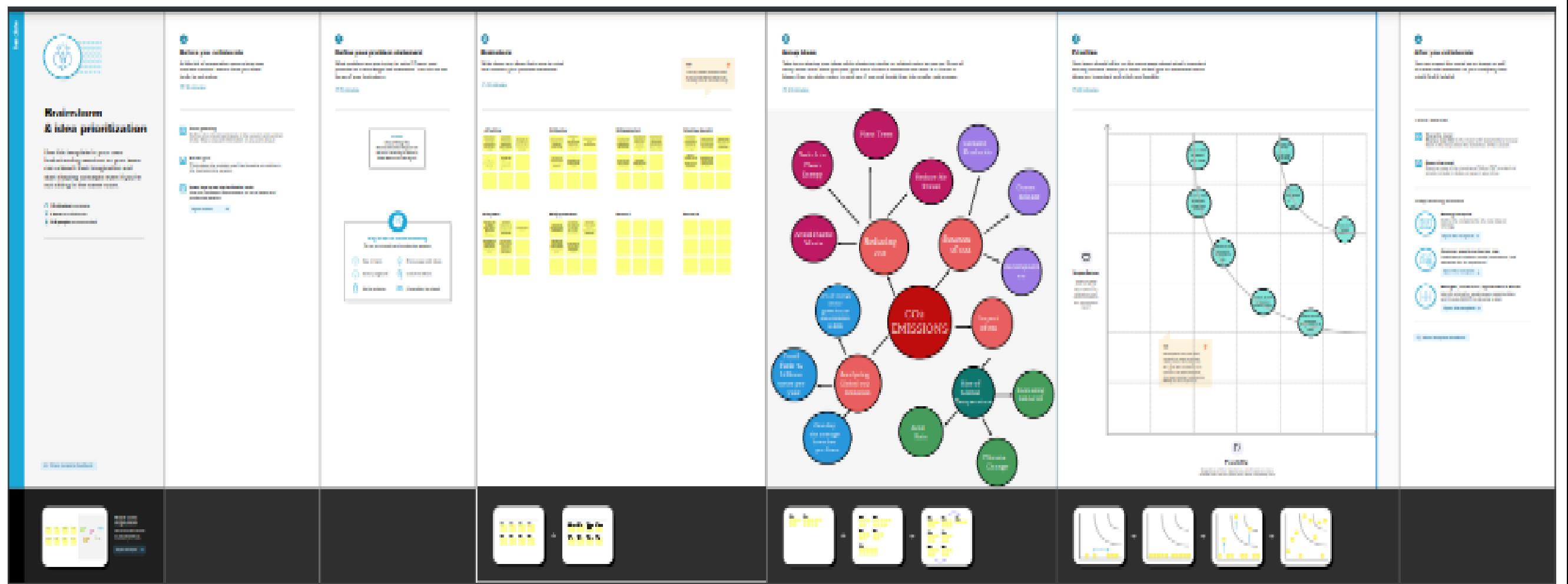
*In this project we are trying to analysis the **Global Co<sub>2</sub> Emission** and **Reduce & Control Co<sub>2</sub> Emission**.*

## **2. Problem Definition & Design Thinking:**

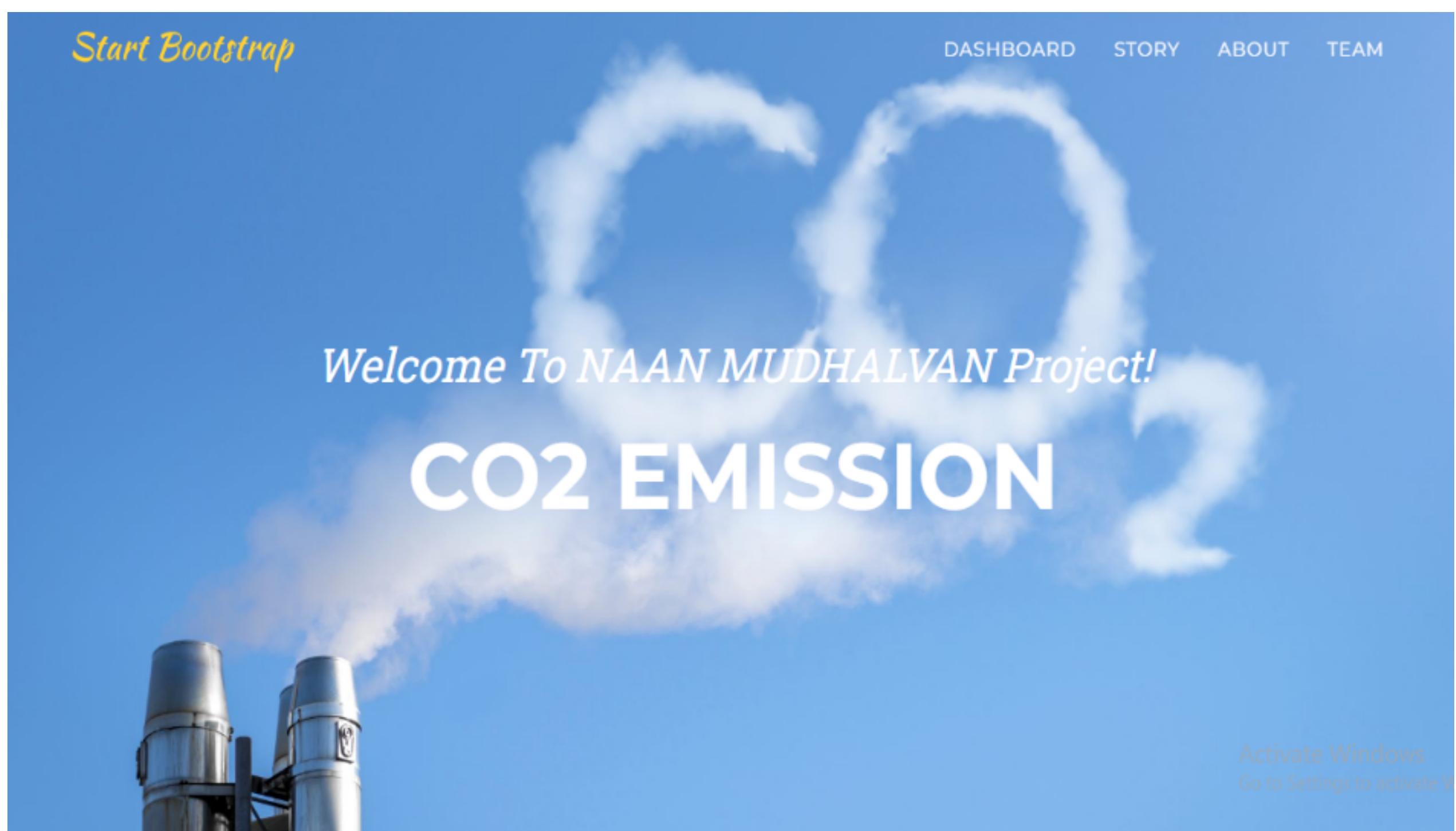
### **2.1. Empathy Map:**



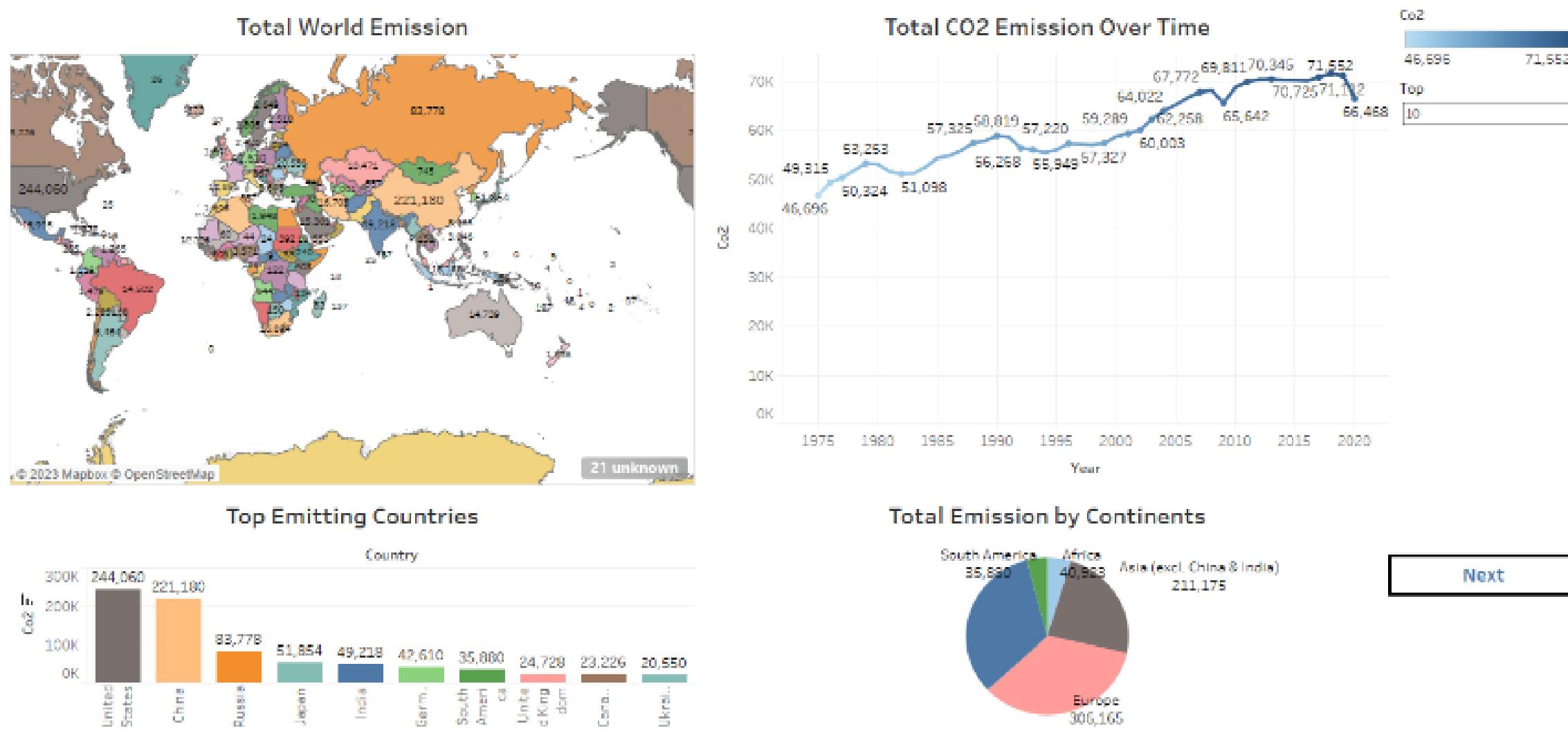
### **2.2. Ideation & Brainstorming Map:**



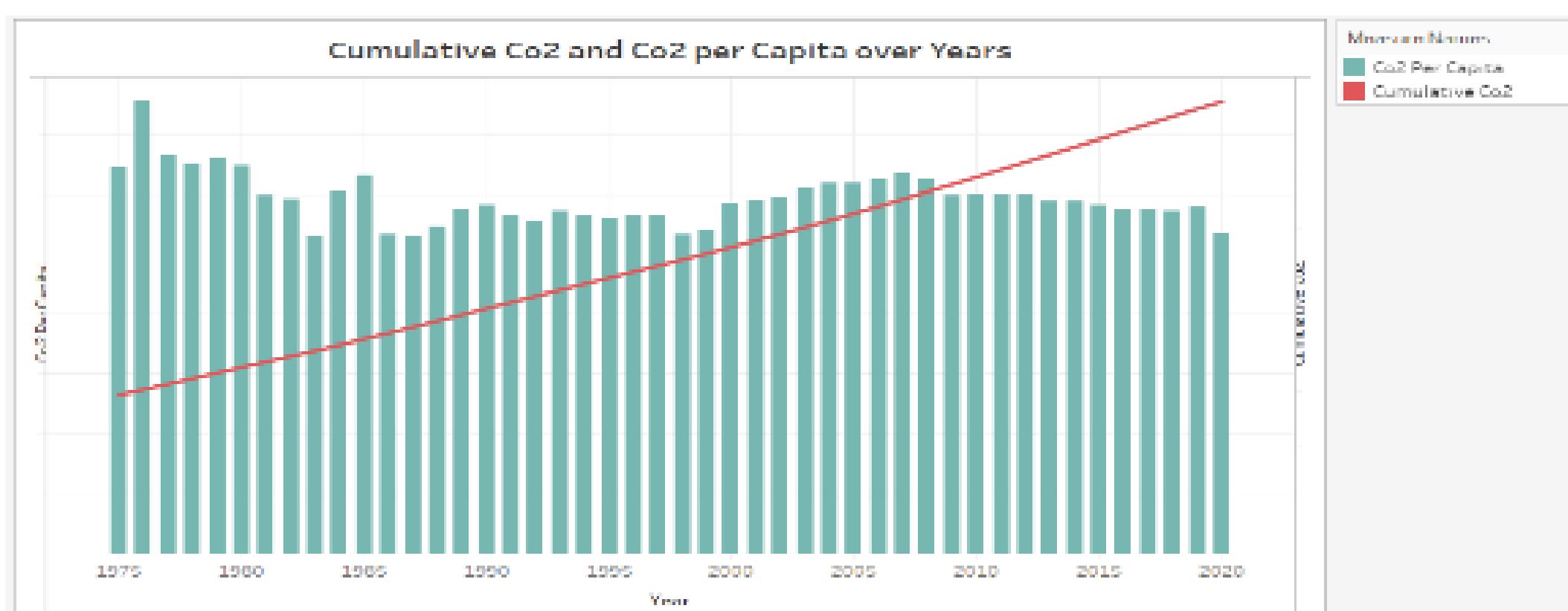
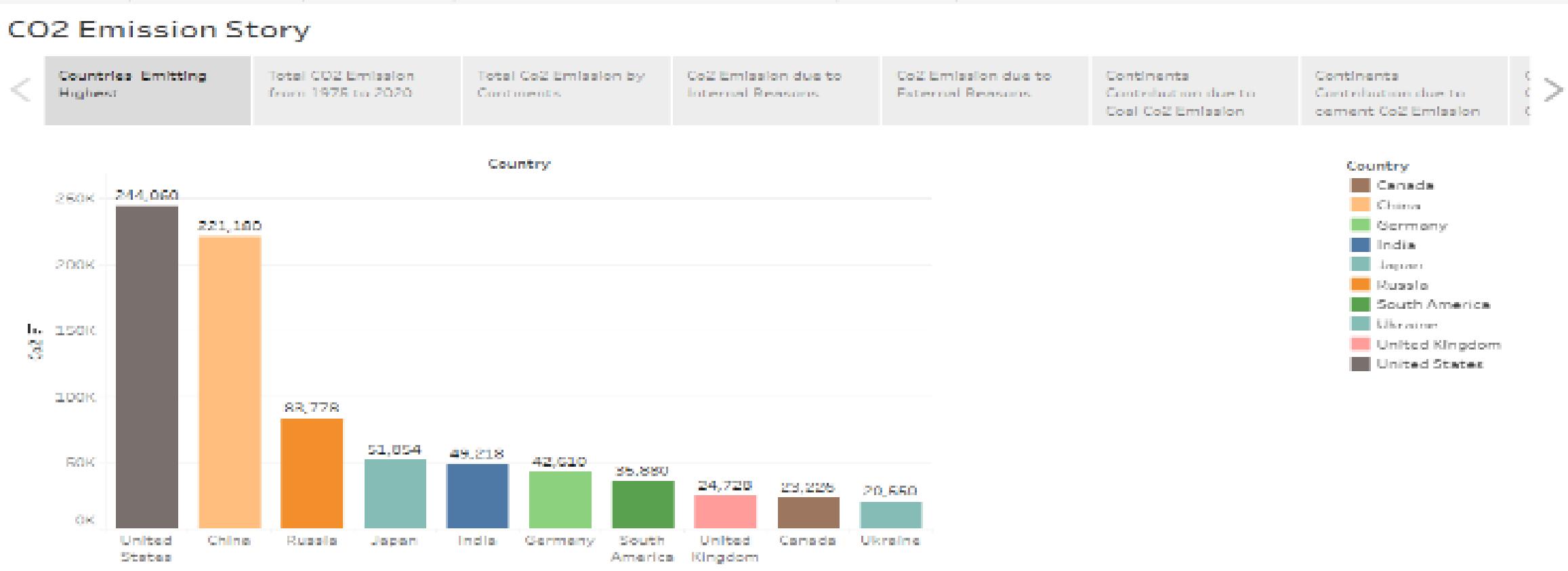
### 3.RESULT:

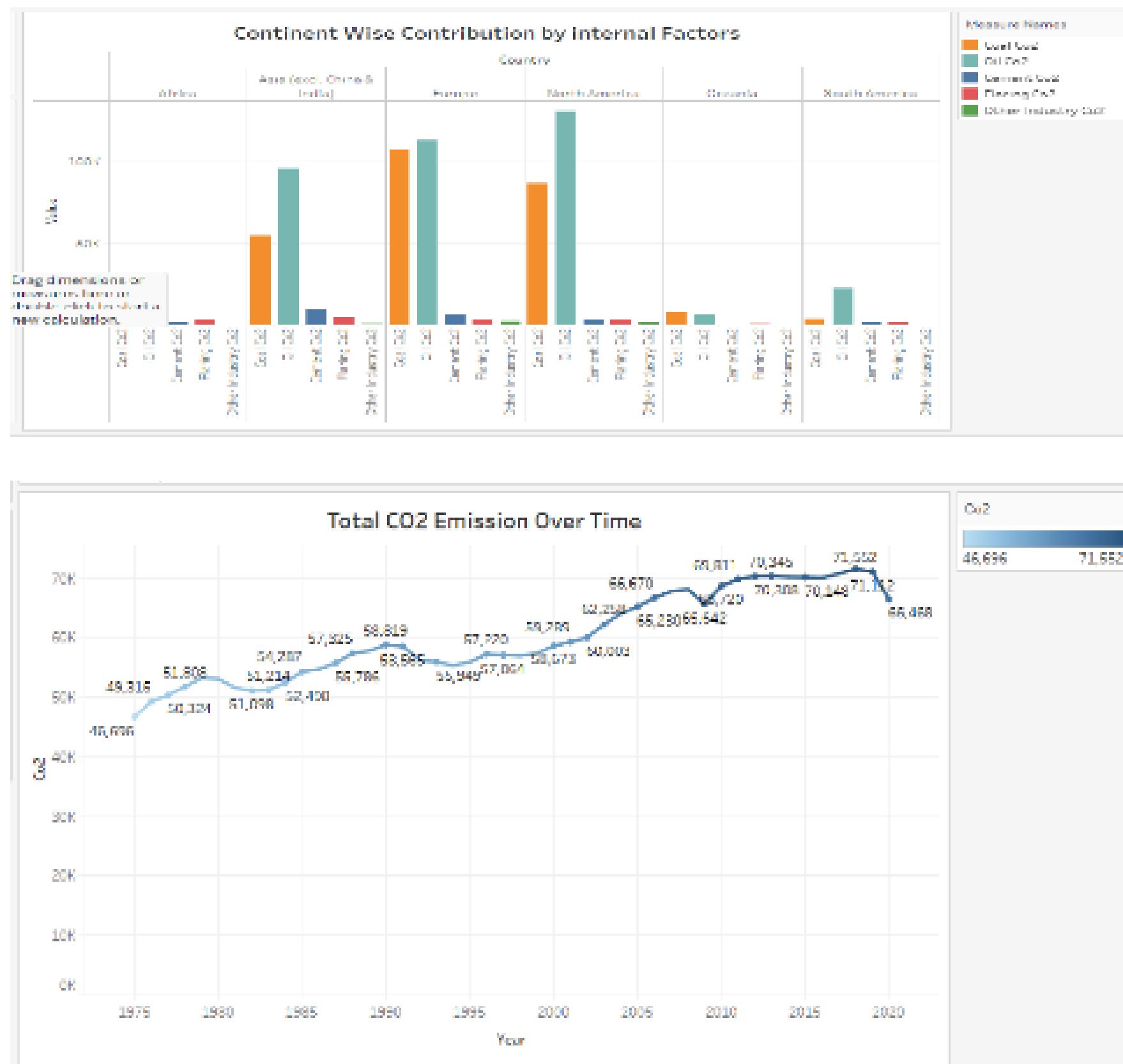


**DASHBORAD**



## STORY



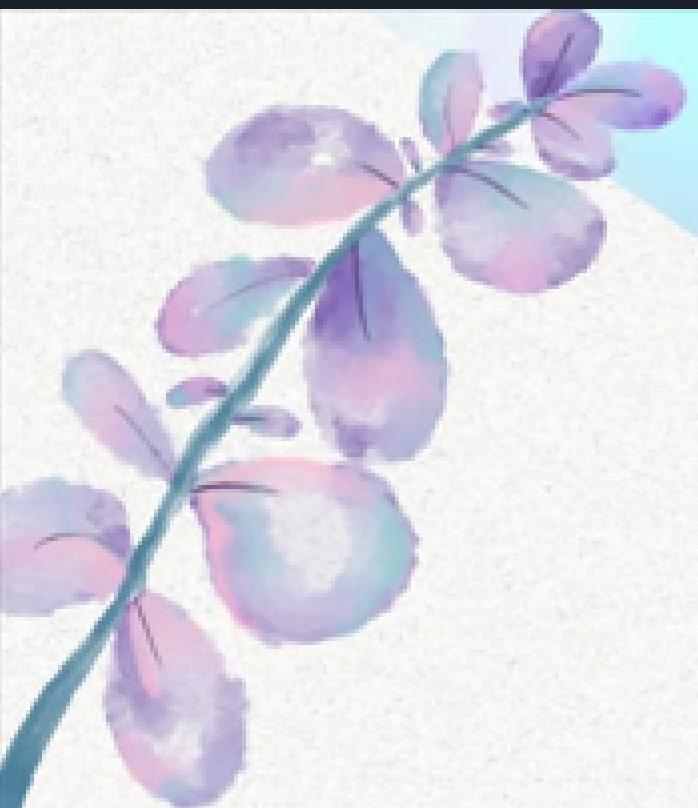


## ABOUT

### ABOUT

Global warming is one of the biggest challenges currently being faced by the human race. CO2 Emission refers to the Carbon Dioxide Emitted throughout the World. The data throws light onto how much fossil fuels are burnt, per year, per nation, which amounts to an increase CO2 every year. Analysing Global CO2 Emission across countries from 1975 to 2020. This dataset contains a record of CO2 Emission by each Country and Region of Earth, here we are going to analyse and visualise Country Wise, Region Wise and Overall CO2 Emission on Earth.

## TEAMMEMBERS



# ANGELS

CO2 emission

**J.Pavithra**

Team leader

**N.Nivetha**

Team member

**G.kayathri**

Team member

**M.Rajalakshmi**

Team member

**M.. vijayalakshmi**

Team member

**S.Sathiya Gandhi**

Team member

## 4.ADVANTAGES & DISADVANTAGES:

### **ADVANTAGES:**

- ☒ *Green plants grow faster with more CO<sub>2</sub>. Many also become more drought-resistant because higher CO<sub>2</sub> levels allow plants to use water more efficiently. More abundant vegetation from increased CO<sub>2</sub> is already apparent.*
- ☒ *Carbon dioxide is an important greenhouse gas that **helps to trap heat in our atmosphere**. Without it, our planet would be inhospitably cold. However, an increase in CO<sub>2</sub> concentrations in our atmosphere is causing average global temperatures to rise, disrupting other aspects of Earth's climate.*
- ☒ *Because air pollution and greenhouse gases are often released from the same sources, cutting greenhouse gas emissions in an effort to slow climate change also reduces air pollutants, such as fine particulate matter (PM<sub>2.5</sub>). Reducing these co-emitted air pollutants **improves air quality and benefits human health**.*
- ☒ *CO<sub>2</sub> plays various roles in the human body including **regulation of blood pH, respiratory drive, and affinity of hemoglobin for oxygen (O<sub>2</sub>)**. Fluctuations in CO<sub>2</sub> levels are highly regulated and can cause disturbances in the human body if normal levels are not maintained.*
- ☒ *Green plants grow faster with more CO<sub>2</sub>. Many also become more drought-resistant because higher CO<sub>2</sub> levels allow plants to use water more efficiently. More abundant vegetation from increased CO<sub>2</sub> is already apparent.*

## ***Disadvantages:***

- ☒ CO<sub>2</sub> emissions act like a blanket in the air, trapping heat in the atmosphere, and warming up the Earth [11]. This layer prevents the Earth from cooling, and thus raises global temperatures. Global warming would affect environmental conditions, food and water supplies, weather pattern, and sea levels.
- ☒ ***This change in concentrations causes warming and is affecting various aspects of climate, including surface air and ocean temperatures, precipitation, and sea levels. Human health, agriculture, water resources, forests, wildlife, and coastal areas are all vulnerable to climate change.***
- ☒ Carbon emissions affect human life directly by causing more respiratory complications due to the increase in air pollution. Even worse, carbon emissions kill some animal species and destroy food, which highly affects humans.
- ☒ ***Abstract: Air pollutants are responsible for a number of adverse environmental effects, such as photochemical smog, acid rain, death of forests, or reduced atmospheric visibility. Emissions of greenhouse gases from combustion of fossil fuels are associated with the global warming of Earth's climate.***

## **5.APPLICATIONS:**

- ☒ The production of CO<sub>2</sub>-based fuels and chemicals is energy-intensive and requires large amounts of hydrogen. The carbon in CO<sub>2</sub> enables the conversion of hydrogen into a fuel that is easier to handle and use, for example as an aviation fuel. CO<sub>2</sub> can also replace fossil fuels as a raw material in chemicals and polymers.
- ☒ Carbon dioxide is **Earth's most important greenhouse gas**: a gas that absorbs and radiates heat. Unlike oxygen or nitrogen (which make up most of our atmosphere), greenhouse gases absorb heat radiating from the Earth's surface and re-release it in all directions— including back toward Earth's surface.
- ☒ Carbon dioxide in solid and in liquid form is used for **refrigeration and cooling**. It is used as an inert gas in chemical processes, in the storage of carbon powder and in fire extinguishers. **Metals Industry**: Carbon dioxide is used in the manufacture of casting molds to enhance their hardness.
- ☒ CO<sub>2</sub> is also widely used in **food and beverage production, the fabrication of metal, cooling, fire suppression and in greenhouses to stimulate plant growth**.
- ☒ Carbon dioxide is used in oil wells for oil extraction and to maintain pressure within a formation. When CO<sub>2</sub> is pumped into an oil well, it is partially dissolved into the oil, rendering it less viscous, allowing the oil to be extracted more easily from

*the bedrock. Considerably more oil can be extracted from through this process.*

## **6. CONCLUSION:**

*Here we analyze the Global Co2 Emission by empathy map, brainstorming, data preparation, data visualization, dashboard, story, advantages & disadvantages of Co2 Emission and Application of co2 Emissions.*

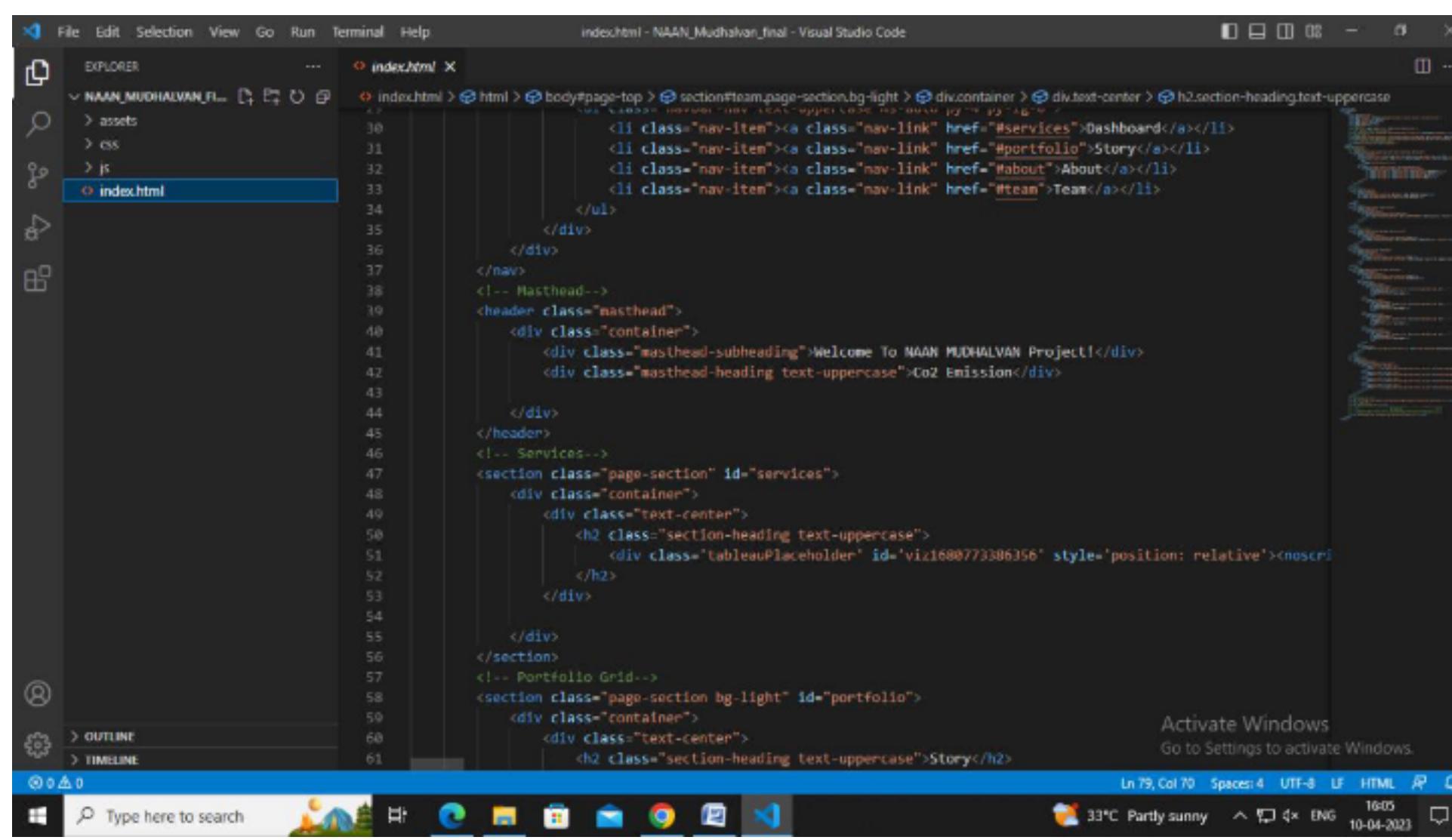
## **7. FUTURE SCOPE:**

*CO2 can also replace fossil fuels as a raw material in chemicals and polymers. Less energy-intensive pathways include reacting CO2 with minerals or waste streams, such as iron slag, to form carbonates for building materials. The future market potential for CO2-derived products and services is difficult to assess.*

*In the Annual Energy Outlook 2022 (AEO2022) Reference case, which assumes no changes to current laws or regulations, the U.S. Energy Information Administration (EIA) projects that U.S. energy-related carbon dioxide (CO<sub>2</sub>) emissions will fall to 4.5 billion metric tons in 2037, or 6% below the energy-related CO<sub>2</sub> ...*

*Based on a business-as-usual trend, global carbon dioxide emissions are forecast to increase to some **43.08 billion metric tons** in 2050, in comparison to 35.3 billion metric tons of carbon dioxide in 2018.*

## 8.APPENDIX:



The screenshot shows the Visual Studio Code interface with the file 'index.html' open in the editor. The code is an HTML document for a website named 'NAAN\_MUDHALVAN'. It includes sections for navigation, masthead, services, and portfolio.

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>NAAN_MUDHALVAN</title>
  </head>
  <body>
    <div><a href="#">NAAN MUDHALVAN</a></div>
    <div><h1>NAAN MUDHALVAN</h1></div>
    <div><h2>Co2 Emission</h2></div>
    <div><h3>Our Services</h3></div>
    <div><h3>Our Portfolio</h3></div>
    <div><h3>About Us</h3></div>
    <div><h3>Team</h3></div>
    <div><h3>Contact Us</h3></div>
  </body>

```

The code is heavily commented with '<!--' and '--&gt;' to indicate different sections like 'Services', 'Portfolio Grid', and 'Masthead'. The 'services' section contains a placeholder for a Tableau visualization.</p>

File Edit Selection View Go Run Terminal Help index.html - NAAN\_Mudhalvan\_final - Visual Studio Code

EXPLORER index.html

NAAN\_MUDHALVAN\_F... assets.css.js index.html

```
<html>
  <body>
    <section id="team.page-section.bg-light">
      <div>
        <div>
          <h2>Story</h2>
          <div><!-- Story --></div>
        </div>
      </div>
    </section>
    <!-- About -->
    <section id="about">
      <div>
        <div>
          <h2>About</h2>
          <h3>Global warming is one of the biggest challenges of our time.</h3>
        </div>
      </div>
    </section>
    <!-- Team -->
    <section id="team">
      <div>
        <div>
          <h2>Queens</h2>
          <h3>Co2 Emission</h3>
        </div>
      </div>
      <div>
        <div>
          <div>
            <div>
              <div>
                <div>
                  
                  <h4>R.S.Dharshini</h4>
                  <p>Team Leader</p>
                </div>
              </div>
            </div>
            <div>
              <div>
                
                <h4>K.Kavyageetha</h4>
                <p>Team Member</p>
              </div>
            </div>
            <div>
              <div>
                
                <h4>M.Devi</h4>
                <p>Team Member</p>
              </div>
            </div>
            <div>
              <div>
                
                <h4>D.Thanulakshmi</h4>
                <p>Team Member</p>
              </div>
            </div>
          </div>
        </div>
        <div>
          <div>
            <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusamus et iusto odio dignissimos.
          </div>
        </div>
      </div>
    </section>
    <!-- Clients -->
    <div>
      <div>
        <div>
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Activate Windows  
Go to Settings to activate Windows.

In 79, Col 70 Spacers: 4 UTF-8 LF HTML 16:05 33°C Partly sunny 10-04-2023

File Edit Selection View Go Run Terminal Help index.html - NAAN\_Mudhalvan\_final - Visual Studio Code

EXPLORER index.html

NAAN\_MUDHALVAN\_F... assets.css.js index.html

```
<html>
  <body>
    <section id="team.page-section.bg-light">
      <div>
        <div>
          <div>
            <div>
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File Edit Selection View Go Run Terminal Help index.html - NAAN\_Mudhalvan\_final - Visual Studio Code

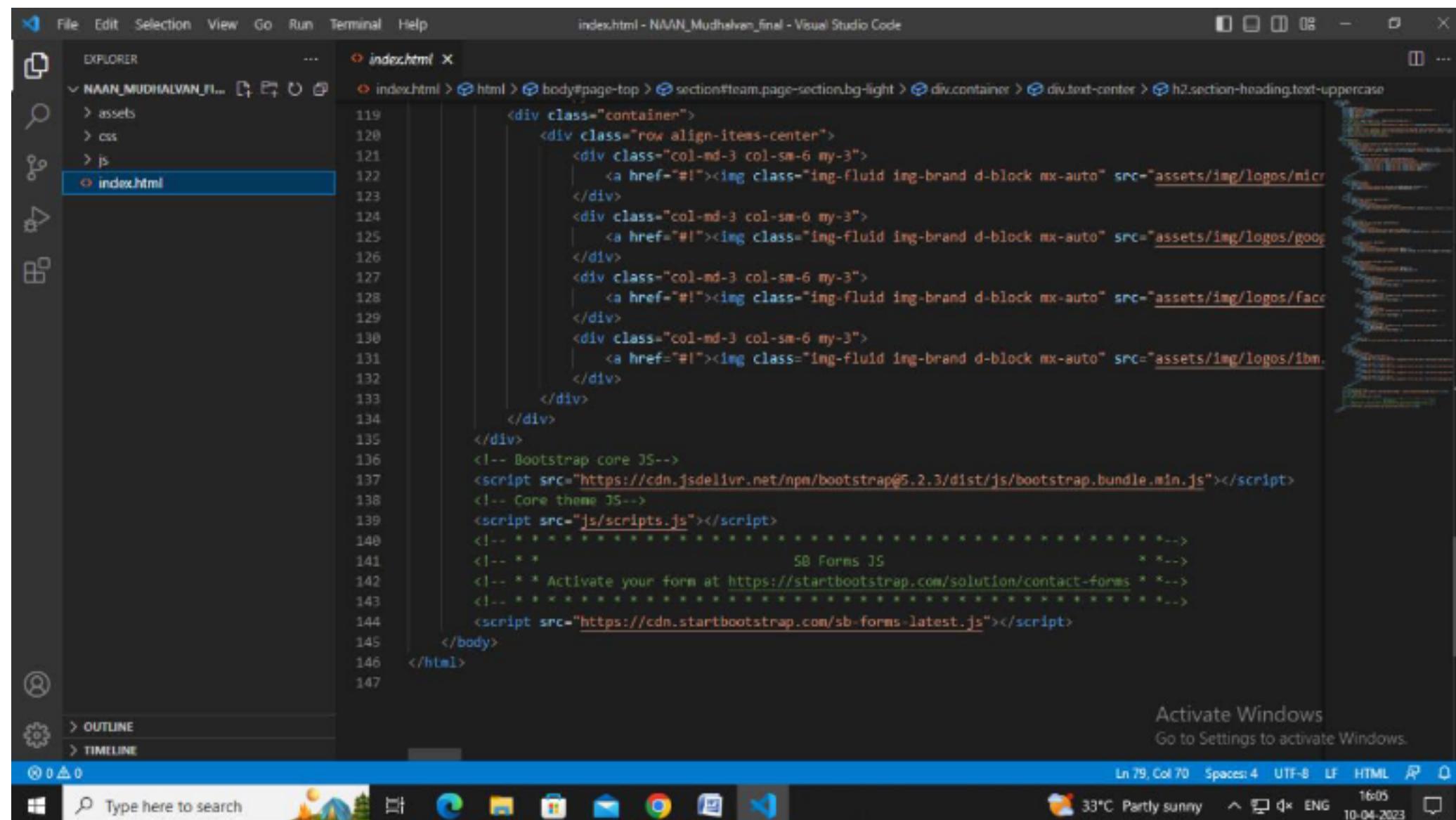
EXPLORER index.html

NAAN\_MUDHALVAN\_F... assets.css.js index.html

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<html>
  <body>
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      <div>
        <div>
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```

Activate Windows  
Go to Settings to activate Windows.

In 79, Col 70 Spacers: 4 UTF-8 LF HTML 16:05 33°C Partly sunny 10-04-2023



```
<div class="container">
    <div class="row align-items-center">
        <div class="col-md-3 col-sm-6 my-3">
            <a href="#">
        </div>
        <div class="col-md-3 col-sm-6 my-3">
            <a href="#">
        </div>
        <div class="col-md-3 col-sm-6 my-3">
            <a href="#">
        </div>
        <div class="col-md-3 col-sm-6 my-3">
            <a href="#">
        </div>
    </div>
</div>
<!-- Bootstrap core JS-->
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.3/dist/js/bootstrap.bundle.min.js"></script>
<!-- Core theme JS-->
<script src="js/scripts.js"></script>
<!-- * * * SB Forms JS * *-->
<!-- * * Activate your form at https://startbootstrap.com/solution/contact-forms * *-->
<!-- * * * * *-->
<script src="https://cdn.startbootstrap.com/sb-forms-latest.js"></script>
```

# THANK YOU

