A Global CO_2 Emission Analysis

Project Report Submitted by,

Team ID: NM2023TMID25157

20UPH1293	VIGNESH P (**Team Leader**)
20UPH1289	HARIVIGNESH P
20UPH1290	NAVEEN KUMAR R
20UPH1291	SARAVANAN C
20UPH1292	VADIVEL G

Course: B.Sc., Physics

SALEM SOWDESWARI COLLEGE (For Women)

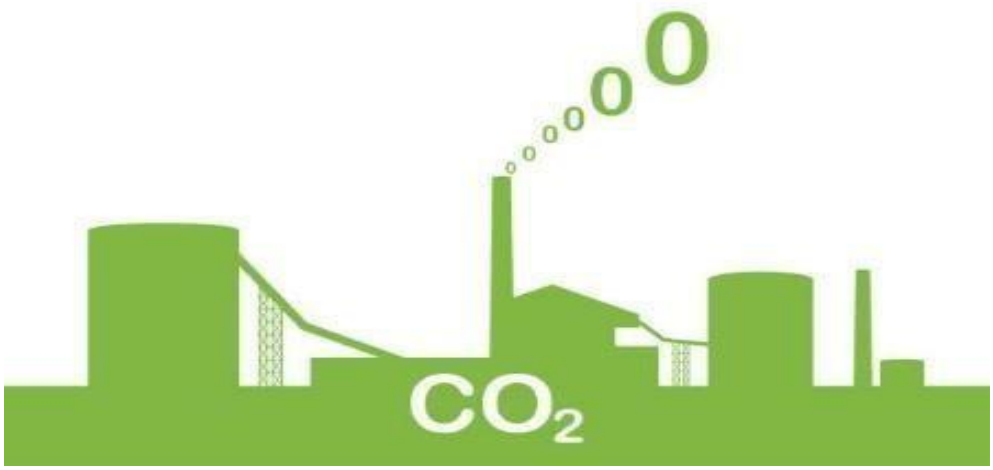
(Affiliated to Periyar University)

SALEM-10

TABLE OF CONTENT

S.NO	TITLE
1	INTRODUCTION
	1.1 overview
	1.2 Purpose
2	DEFINITION & DESIGN THINKING
	2.1Empathy Map
	2.2.Ideation and Brainstorming
3	RESULT
4	ADVANTAGES & DISADVANTAGES
5	APPLICATION
6	CONCLUSION
7	FUTURE SCOPE

A GLOBAL CO2 EMISSIONS ANALYSIS



1. INTRODUCTION

1.1 Overview

CO_2 emission refer to the release of CO_2 gas in the atmosphere. The majority of CO_2 emission are a result of human activities such as burning fossil fuels and emission of gases from various company activities. The increasing of CO_2 in the atmosphere has caused the earth's temperature to raise, sea-level rise and extreme weather events and this pose huge health threat in living organisms.

1.2 Purpose

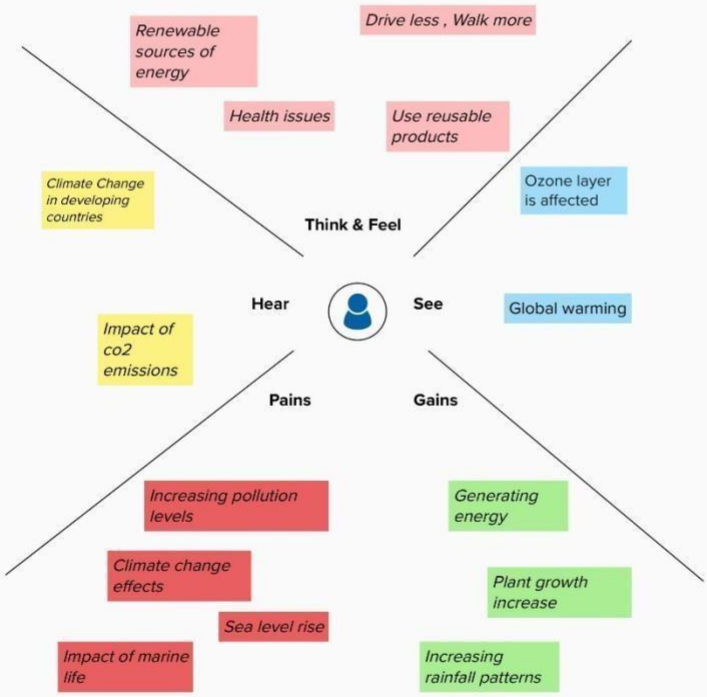
The purpose of CO_2 emissions analysis is to assess the amount of carbon dioxide and other greenhouse gases being released into the atmosphere as a result of human activities. This analysis is critical to understanding the extent of human impact on the environment and climate.

2. PROBLEM DEFINITION & DESIGN THINKING

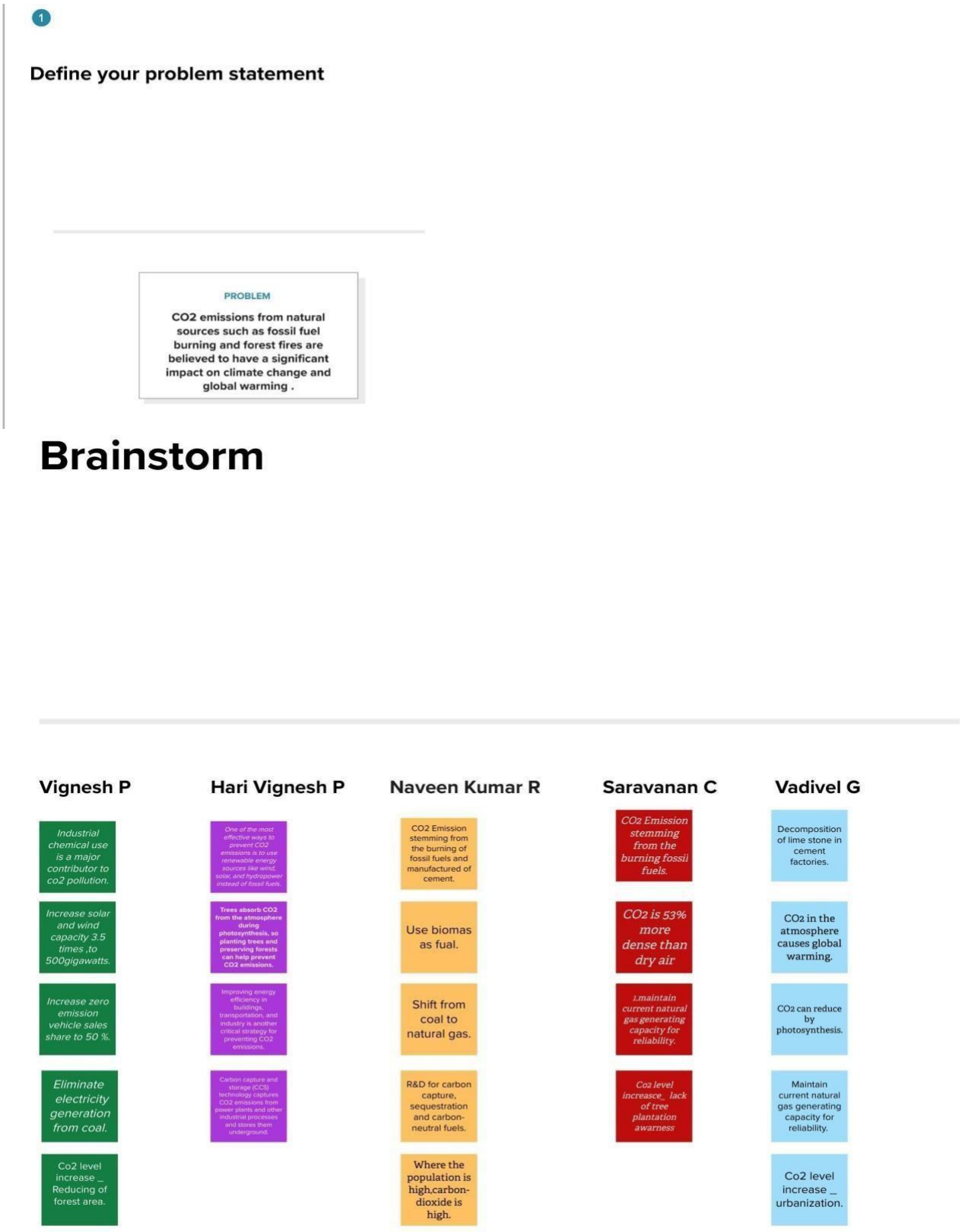
2.1 Empathy Map

1	**Date**	16 March 2023
2	**Team ID**	NM2023TMID25157
3	**Project Name**	A Global CO2 Emission Analysis

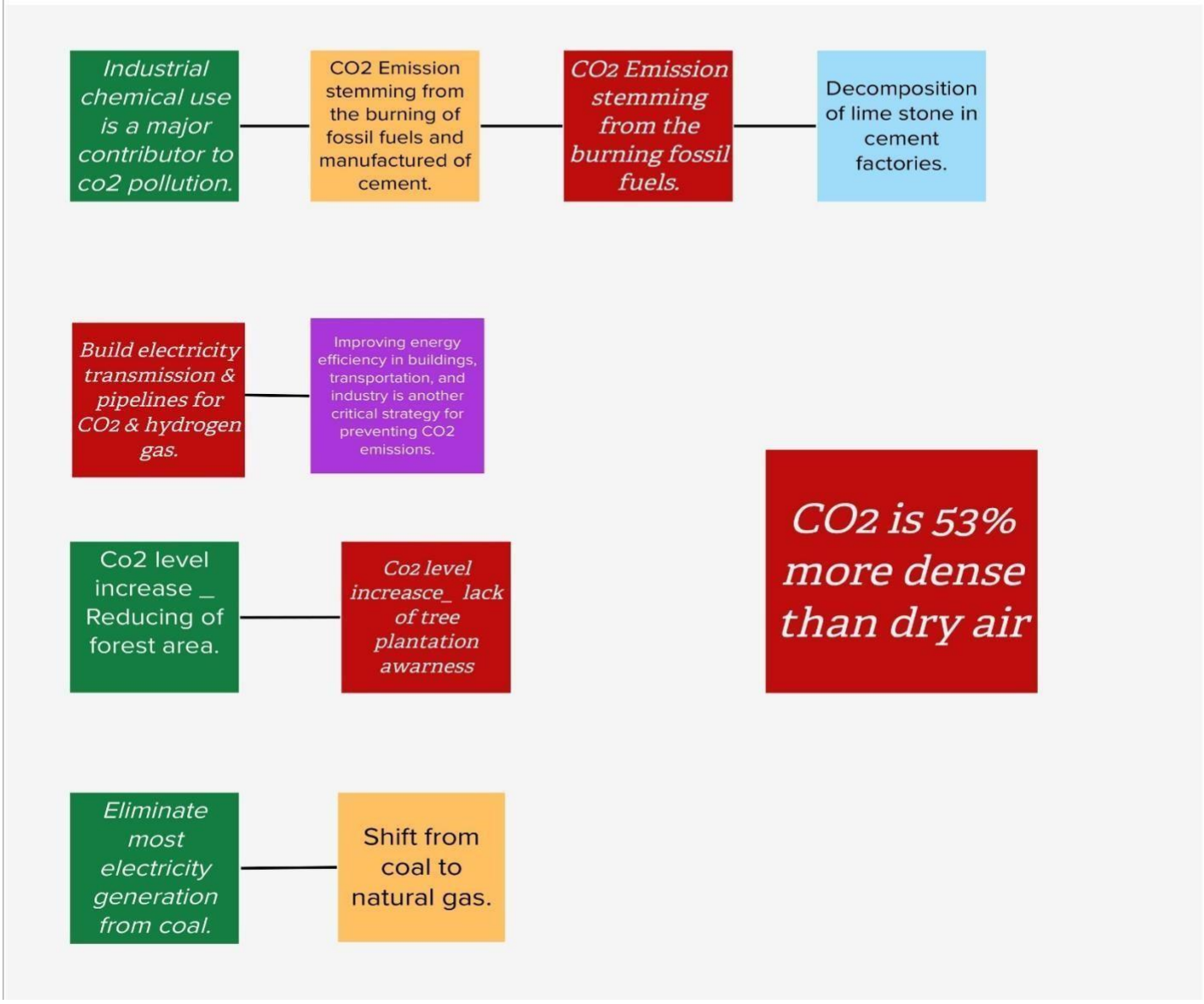
Global CO2 emissions



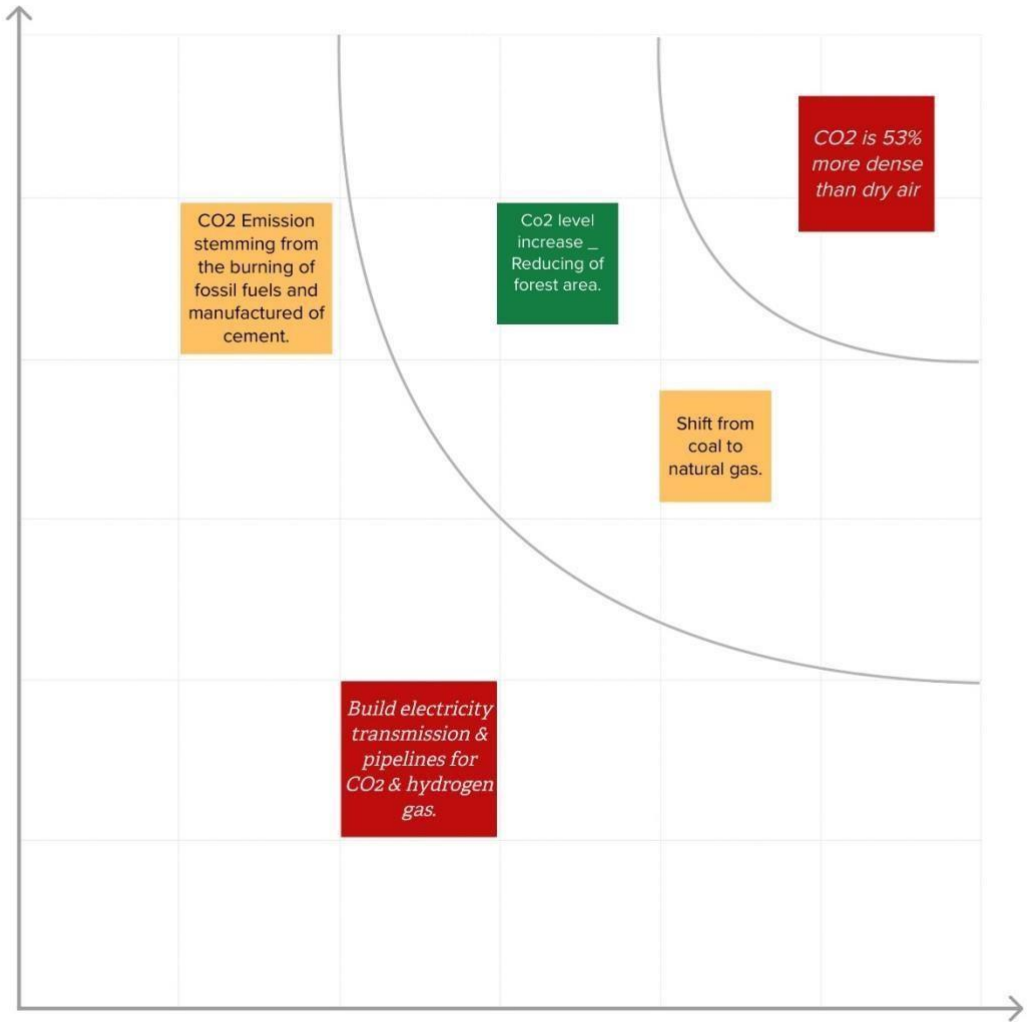
2.2Ideation and Brainstorming Map



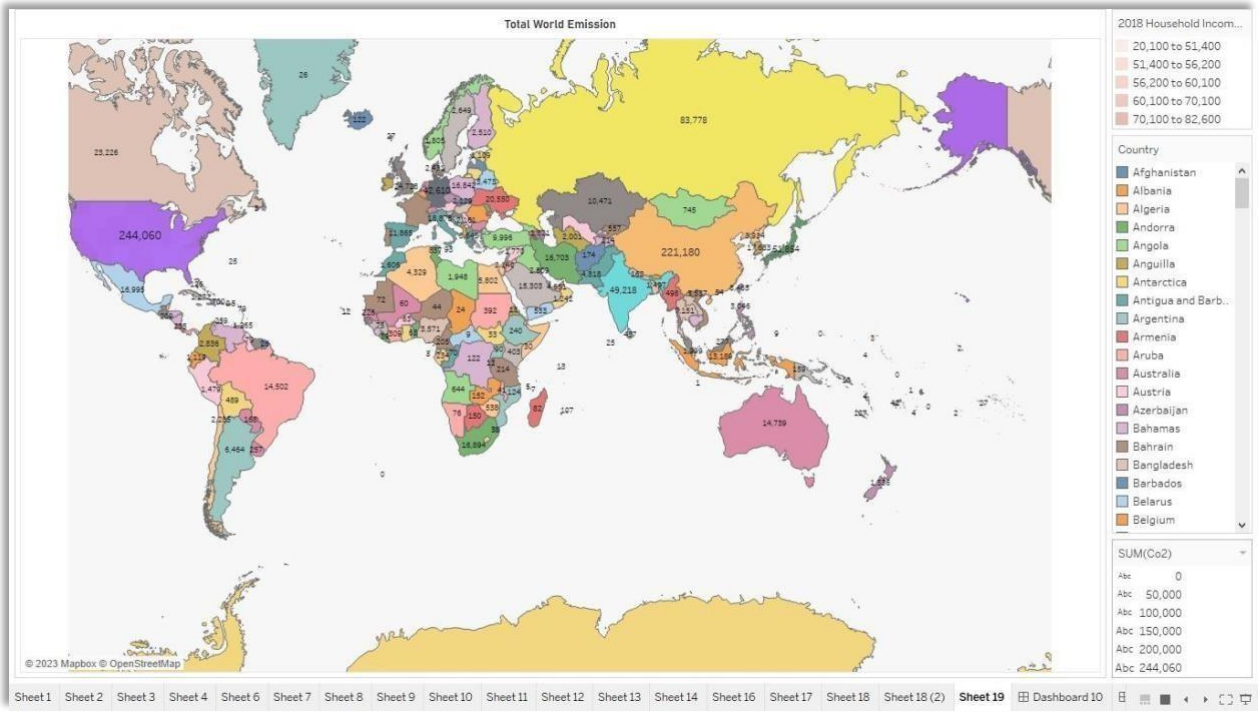
Group ideas

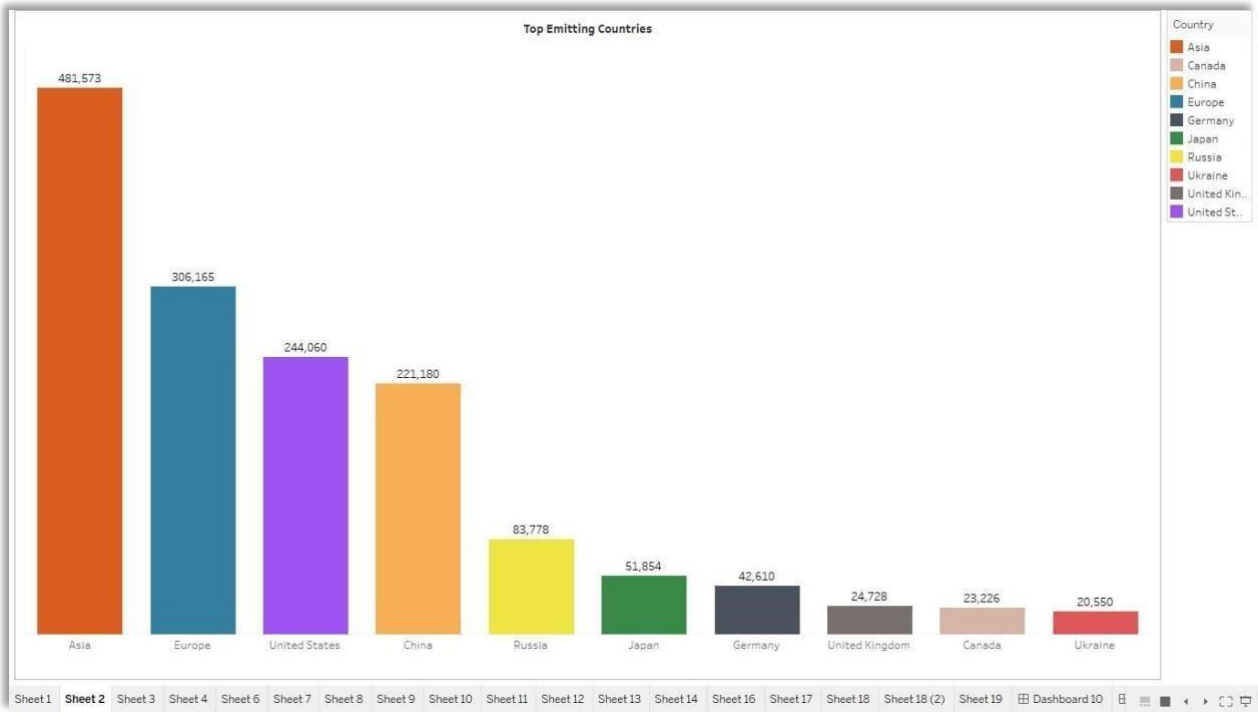

Industrial chemical use is a major contributor to co2 pollution.
CO2 Emission stemming from the burning of fossil fuels and manufactured of cement.
CO2 Emission stemming from the burning fossil fuels.
Decomposition of lime stone in cement factories.
Build electricity transmission & pipelines for CO2 & hydrogen gas.
Improving energy efficiency in buildings, transportation, and industry is another critical strategy for preventing CO2 emissions.
CO2 is 53% more dense than dry air
Co2 level increase _ Reducing of forest area.
Co2 level increasce_ lack of tree plantation awarness
Eliminate most electricity generation from coal.
Shift from coal to natural gas.

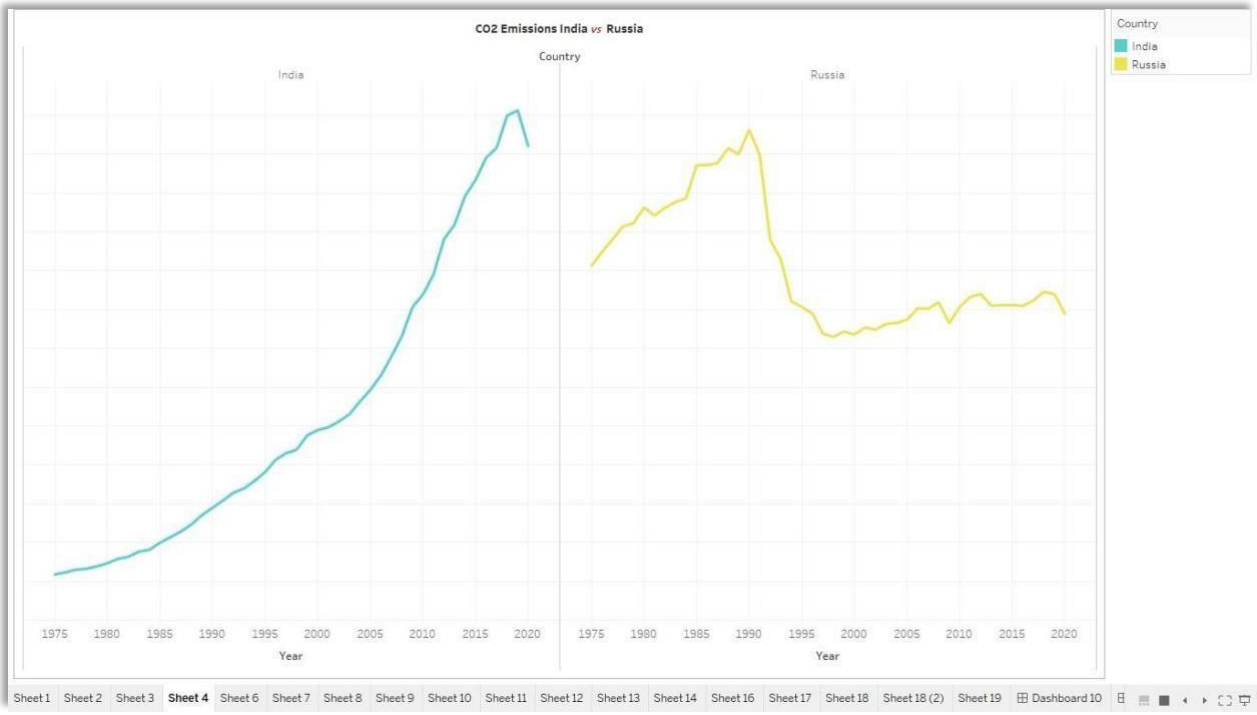
Prioritize

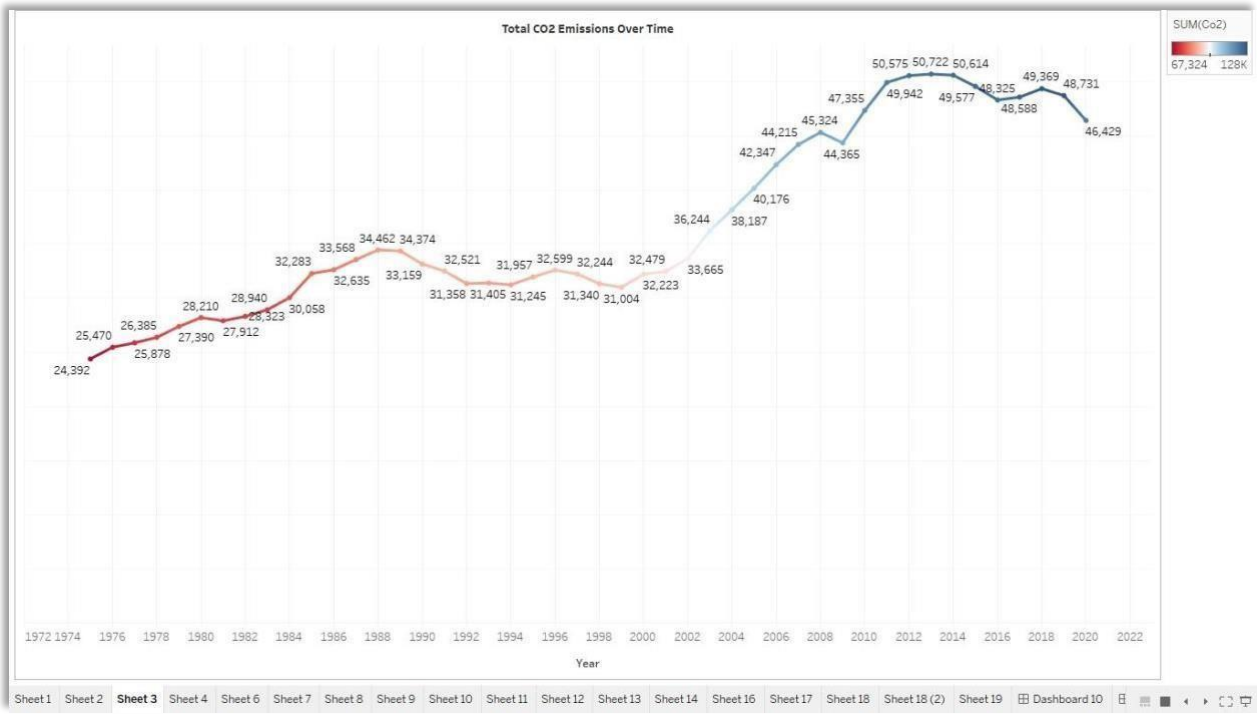

CO2 Emission stemming from the burning of fossil fuels and manufactured of cement.
Co2 level increase _ Reducing of forest area.
CO2 is 53% more dense than dry air
Shift from coal to natural gas.
Build electricity transmission & pipelines for CO2 & hydrogen gas.

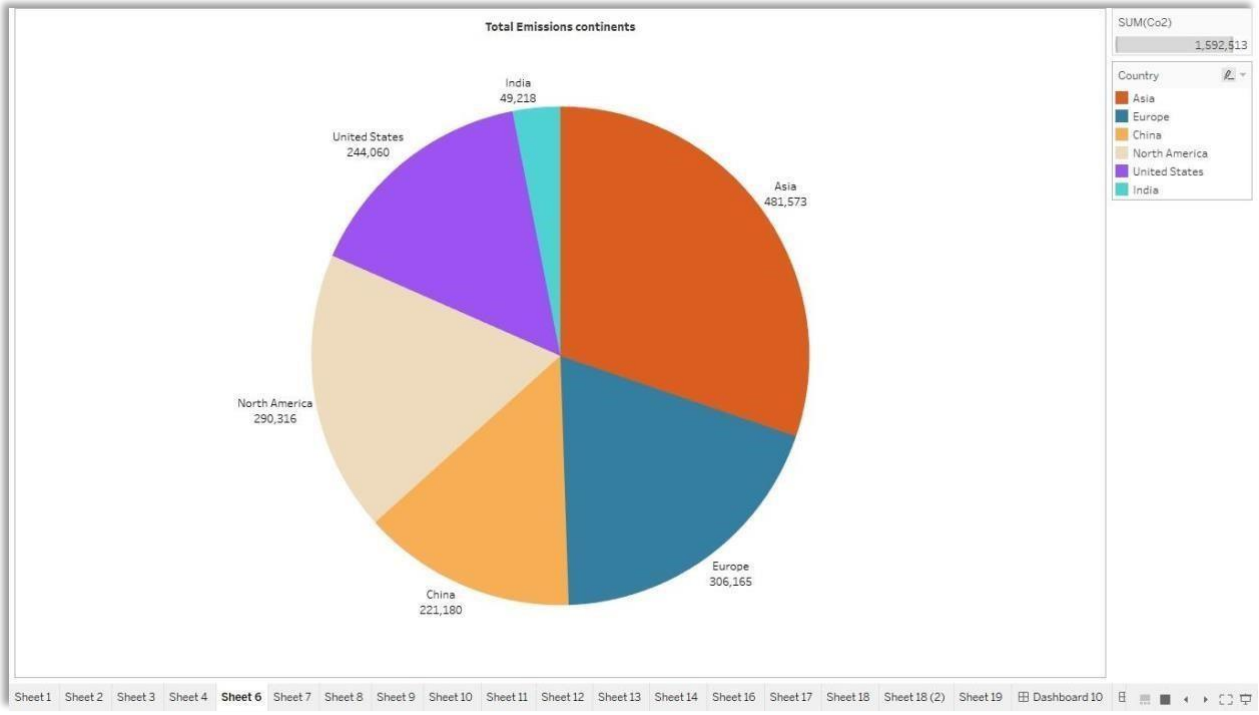
3. RESULT

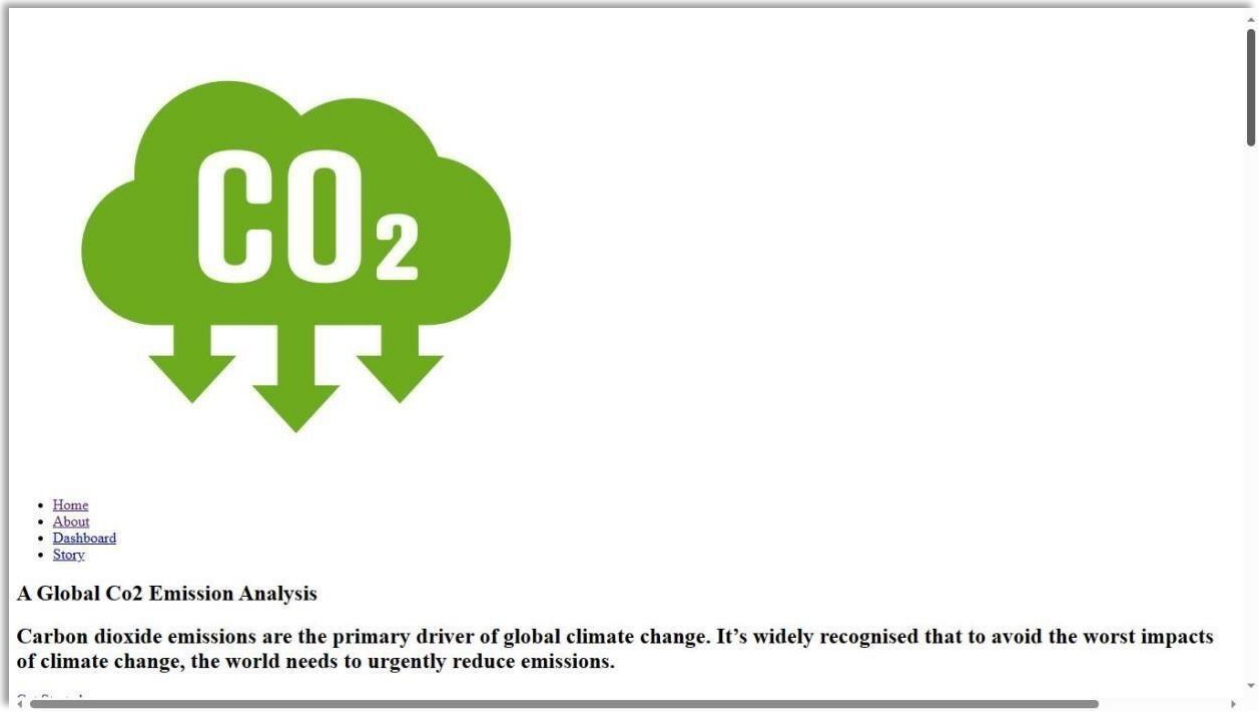

Total World Emission
2018 Household Incom...
20,100 to 51,400
51,400 to 56,200
56,200 to 60,100
60,100 to 70,100
70,100 to 82,600
Country
Afghanistan
Albania
Algeria
Andorra
Angola
Anguilla
Antarctica
Antigua and Barb..
Argentina
Armenia
Aruba
Australia
Austria
Azerbaijan
Bahamas
Bahrain
Bangladesh
Barbados
Belarus
Belgium
SUM(Co2)
0
50,000
100,000
150,000
200,000
244,060
244,060
221,180
83,778
49,218
14,739
© 2023 Mapbox © OpenStreetMap
Sheet 1
Sheet 2
Sheet 3
Sheet 4
Sheet 6
Sheet 7
Sheet 8
Sheet 9
Sheet 10
Sheet 11
Sheet 12
Sheet 13
Sheet 14
Sheet 16
Sheet 17
Sheet 18
Sheet 18 (2)
Sheet 19
Dashboard 10

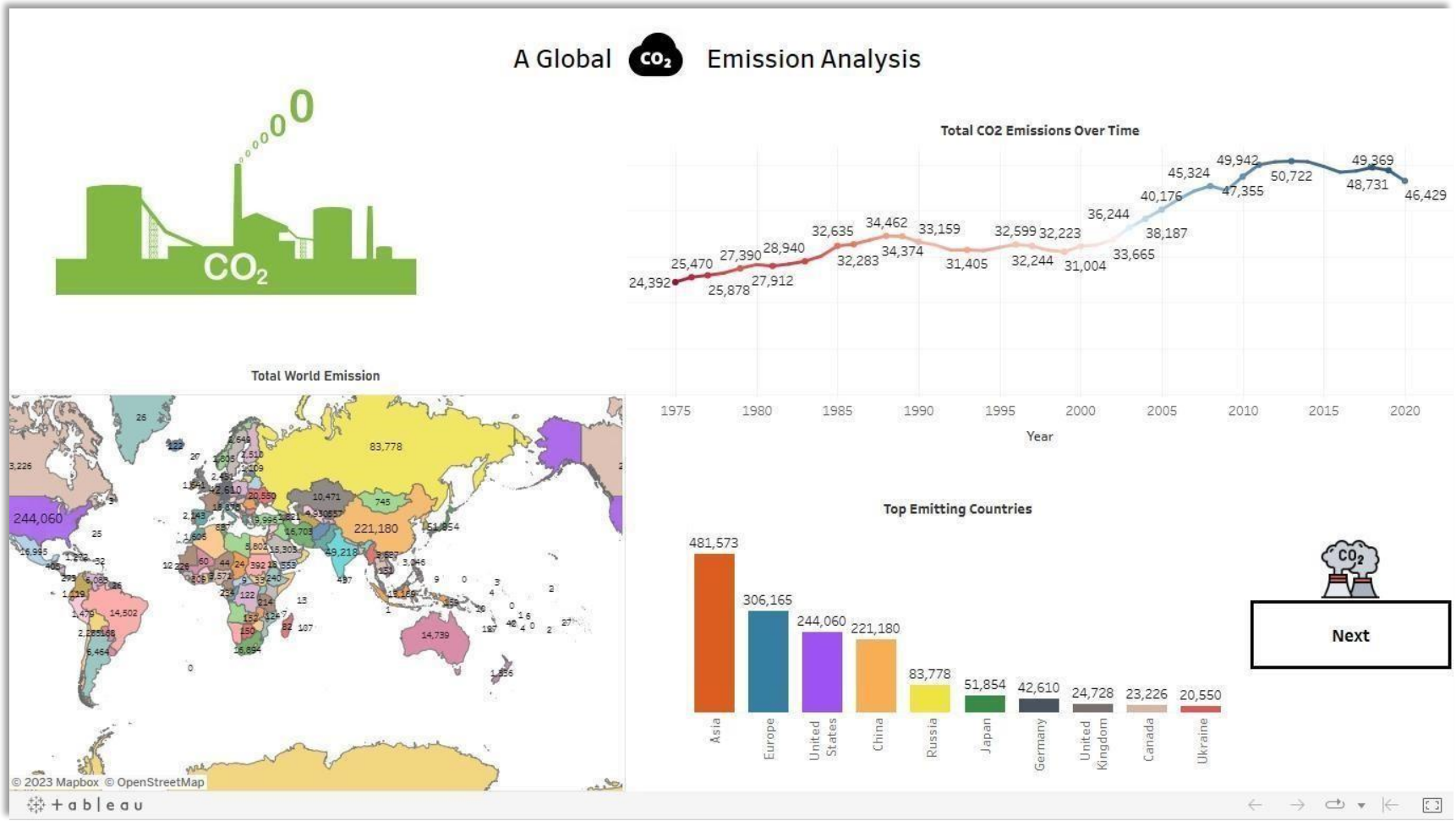

Top Emitting Countries
Country
Asia
Canada
China
Europe
Germany
Japan
Russia
Ukraine
United Kin..
United St..
481,573
306,165
244,060
221,180
83,778
51,854
42,610
24,728
23,226
20,550
Asia
Europe
United States
China
Russia
Japan
Germany
United Kingdom
Canada
Ukraine
Sheet 1
Sheet 2
Sheet 3
Sheet 4
Sheet 6
Sheet 7
Sheet 8
Sheet 9
Sheet 10
Sheet 11
Sheet 12
Sheet 13
Sheet 14
Sheet 16
Sheet 17
Sheet 18
Sheet 18 (2)
Sheet 19
Dashboard 10

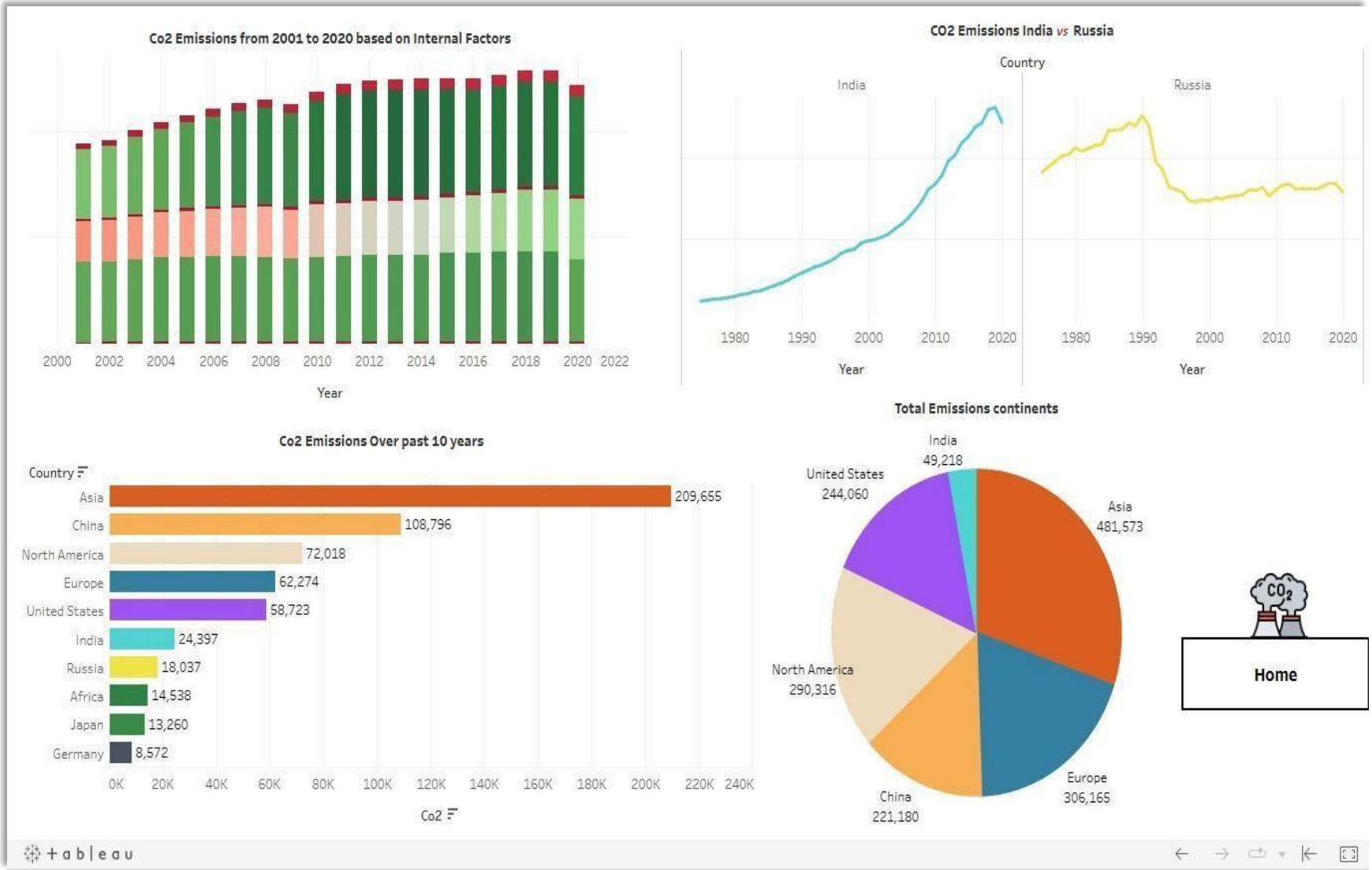

CO2 Emissions India vs Russia
Country
India
Russia
Country
India
Russia
1975 1980 1985 1990 1995 2000 2005 2010 2015 2020
Year
1975 1980 1985 1990 1995 2000 2005 2010 2015 2020
Year
Sheet 1 Sheet 2 Sheet 3 Sheet 4 Sheet 6 Sheet 7 Sheet 8 Sheet 9 Sheet 10 Sheet 11 Sheet 12 Sheet 13 Sheet 14 Sheet 16 Sheet 17 Sheet 18 Sheet 18 (2) Sheet 19 Dashboard 10

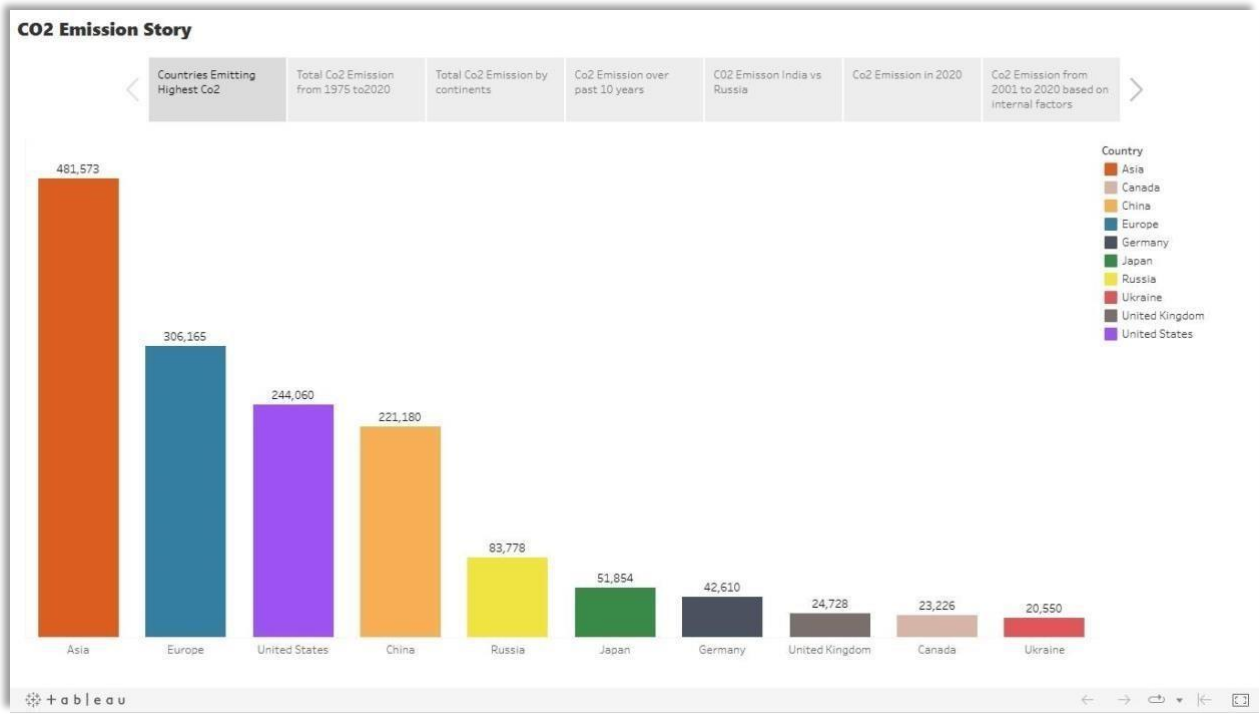

Total CO2 Emissions Over Time
SUM(Co2)
67,324 128K
24,392
25,470
26,385
25,878
28,210
27,390
28,940
27,912
28,323
30,058
32,283
32,635
33,568
34,462
33,159
34,374
32,521
31,358
31,957
31,405
32,599
31,245
32,244
31,340
32,479
31,004
32,223
33,665
36,244
38,187
40,176
42,347
44,215
44,365
45,324
47,355
49,942
50,575
50,722
49,577
50,614
48,325
48,588
49,369
48,731
46,429
1972 1974 1976 1978 1980 1982 1984 1986 1988 1990 1992 1994 1996 1998 2000 2002 2004 2006 2008 2010 2012 2014 2016 2018 2020 2022
Year
Sheet 1 Sheet 2 Sheet 3 Sheet 4 Sheet 6 Sheet 7 Sheet 8 Sheet 9 Sheet 10 Sheet 11 Sheet 12 Sheet 13 Sheet 14 Sheet 16 Sheet 17 Sheet 18 Sheet 18 (2) Sheet 19 Dashboard 10


Total Emissions continents
India
49,218
United States
244,060
Asia
481,573
North America
290,316
Europe
306,165
China
221,180
SUM(Co2)
1,592,513
Country
Asia
Europe
China
North America
United States
India
Sheet 1
Sheet 2
Sheet 3
Sheet 4
Sheet 6
Sheet 7
Sheet 8
Sheet 9
Sheet 10
Sheet 11
Sheet 12
Sheet 13
Sheet 14
Sheet 16
Sheet 17
Sheet 18
Sheet 18 (2)
Sheet 19
Dashboard 10


CO2
Home
About
Dashboard
Story
A Global Co2 Emission Analysis
Carbon dioxide emissions are the primary driver of global climate change. It's widely recognised that to avoid the worst impacts of climate change, the world needs to urgently reduce emissions.


A Global CO2 Emission Analysis
CO2
Total CO2 Emissions Over Time
24,392
25,470
25,878
27,390
27,912
28,940
32,635
32,283
34,462
34,374
33,159
31,405
32,599
32,244
32,223
31,004
36,244
33,665
40,176
38,187
45,324
47,355
49,942
50,722
48,731
49,369
46,429
1975
1980
1985
1990
1995
2000
2005
2010
2015
2020
Year
Total World Emission
83,778
244,060
221,180
© 2023 Mapbox © OpenStreetMap
Top Emitting Countries
481,573
306,165
244,060
221,180
83,778
51,854
42,610
24,728
23,226
20,550
Asia
Europe
United States
China
Russia
Japan
Germany
United Kingdom
Canada
Ukraine
Next
+ a b l e a u


Co2 Emissions from 2001 to 2020 based on Internal Factors
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
Year
CO2 Emissions India vs Russia
Country
India
Russia
1980
1990
2000
2010
2020
Year
Co2 Emissions Over past 10 years
Country
Asia
209,655
China
108,796
North America
72,018
Europe
62,274
United States
58,723
India
24,397
Russia
18,037
Africa
14,538
Japan
13,260
Germany
8,572
0K
20K
40K
60K
80K
100K
120K
140K
160K
180K
200K
220K
240K
Co2
Total Emissions continents
India
49,218
United States
244,060
Asia
481,573
North America
290,316
China
221,180
Europe
306,165
Home
tableau



ADVANTAGES & DISADVANTAGES

Advantages

- ✓ Identification of major sources of emissions
- ✓ Monitoring of progress in reducing emissions
- ✓ Benchmarking of emissions performance across sectors, companies, and countries
- ✓ Incentivization of emissions reduction efforts

Disadvantages

- ✓ Limited Data
- ✓Difficulty in Measuring Emissions

APPLICATION

CO_2 emission analysis projects can help with policy decisions, identifying high-emitting industries, tracking progress towards emissions reduction, facilitating carbon trading, supporting sustainable business practices, and promoting investment in renewable energy and clean technology.

CONCLUSION

Important for justifying climate change by providing information to policy decisions and promote sustainable practices. Nonetheless, efforts to develop and improve CO_2 emissions analysis projects are crucial for addressing climate change. This analysis using Tableau software provides immediate insight of CO_2 emissions in the single dashboard. This analysis also alerts the human society to take necessary action to reduce CO_2 emission to Secure from Global warming.

FUTURE SCOPE

- ✓ Much information have to make available
- ✓ Which type of company emits much CO_2
- ✓ Analysis of Key Data Metrics
- ✓ Promote renewable energy
- ✓ Implement carbon pricing mechanisms
- ✓ Promote alternative transportation

Thank You