PROJECT REPORT

1. INTRODUCTION

1.1 OVERVIEW

According to the Environment production agency Carbon dioxide (Co2) is the primary greenhouse gas emitted through human activities.

In 1971 the current OECD countries were responsible for 67% of world Co2 emissions.

In 2021, Co2 accounted for 79% of all U.S greenhouse gas emission from human activities.

As a consequence of rapidly rising emissions in the developing world, the OECD contribution to the total fell to 37% in 2013.

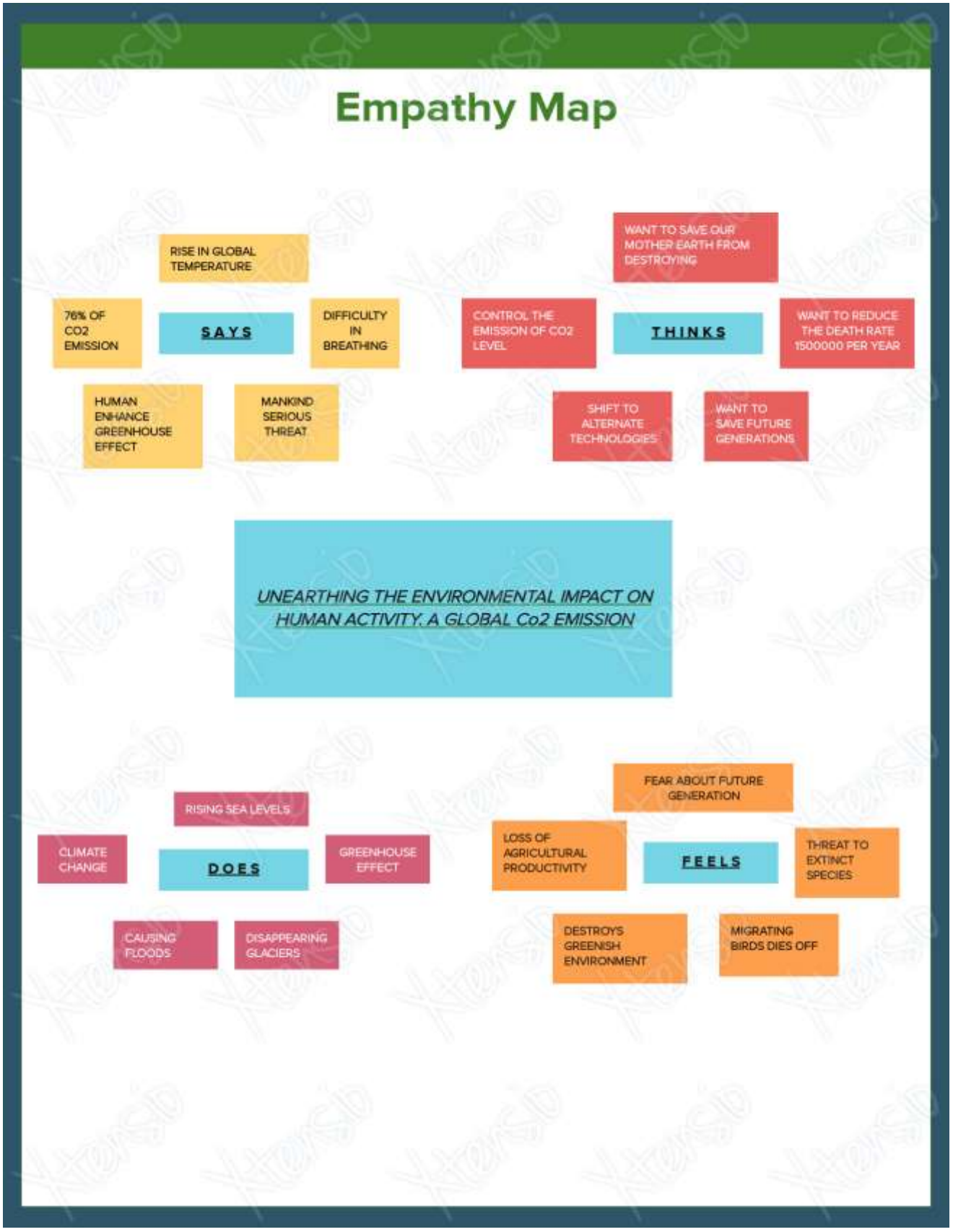
Driven primarily by increased use of coal, Co2 emissions from fuel combustion in China increased over tenfold between 1971 and 2013.

1.2 PURPOSE

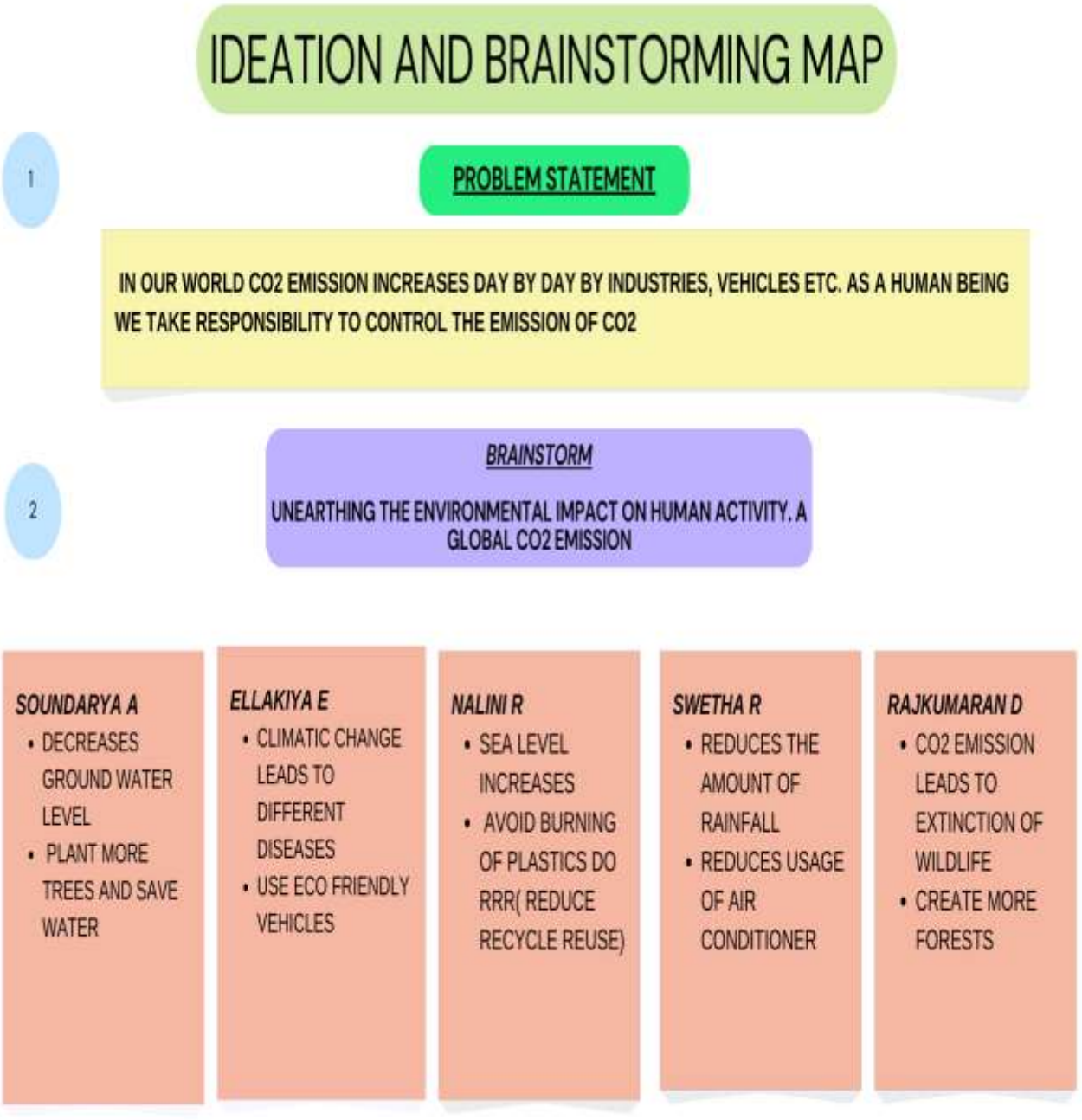
The purpose of Co2 emission analysis to determine the global amount to Co2and other greenhouse gas accrete the full lifecycle of a product,service and operation.

2. DEFINITION AND DESIGN THINKING

2.1 EMPATHY MAP



2.2 IDEATION AND BRAINSTROMING MAP



3. RESULT

Top Co2 Emitting Countries For Past 10 Years

- The First highest Co2 emission - China.
- Second highest Co2 emission -United States.
- Third highest Co2 emission-India.

Continents Contribution towards Co2 emission

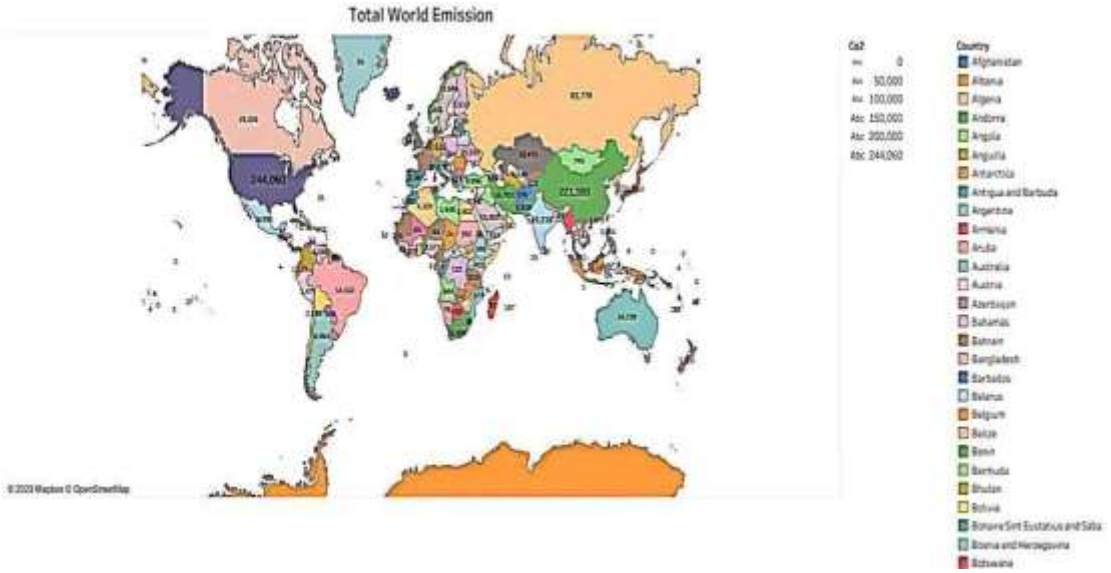
- The First highest Co2 emitting continent -Asia.
- The Second highest Co2 emitting continent-Europe
- Lowest Co2 emitting continent-Australia.

Overall India contribution towards Co2 emission

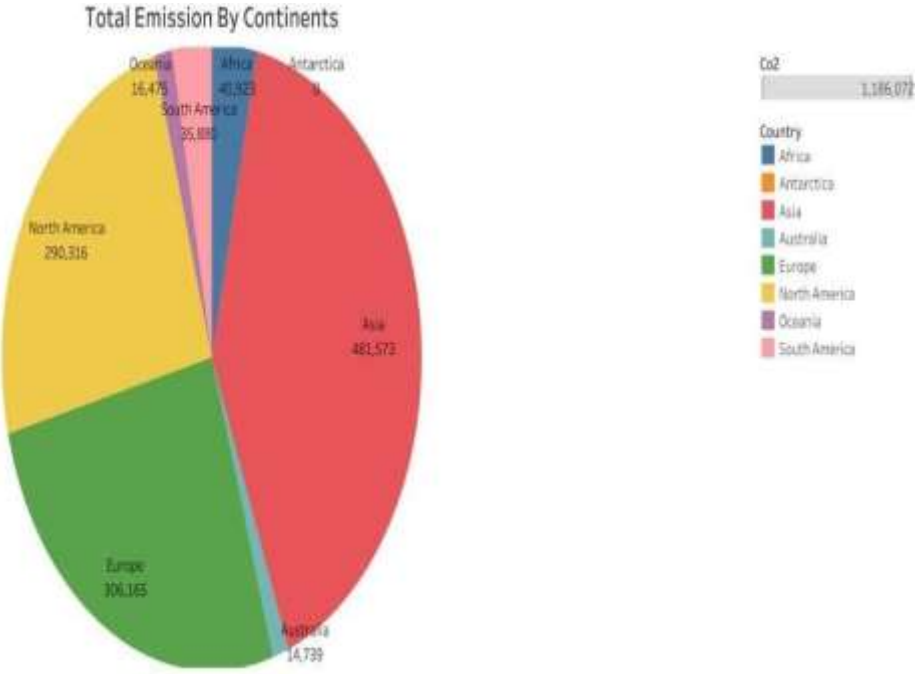
- The first highest Co2 emitting factor -Coal.
- The second highest Co2 emitting factor-Oil.

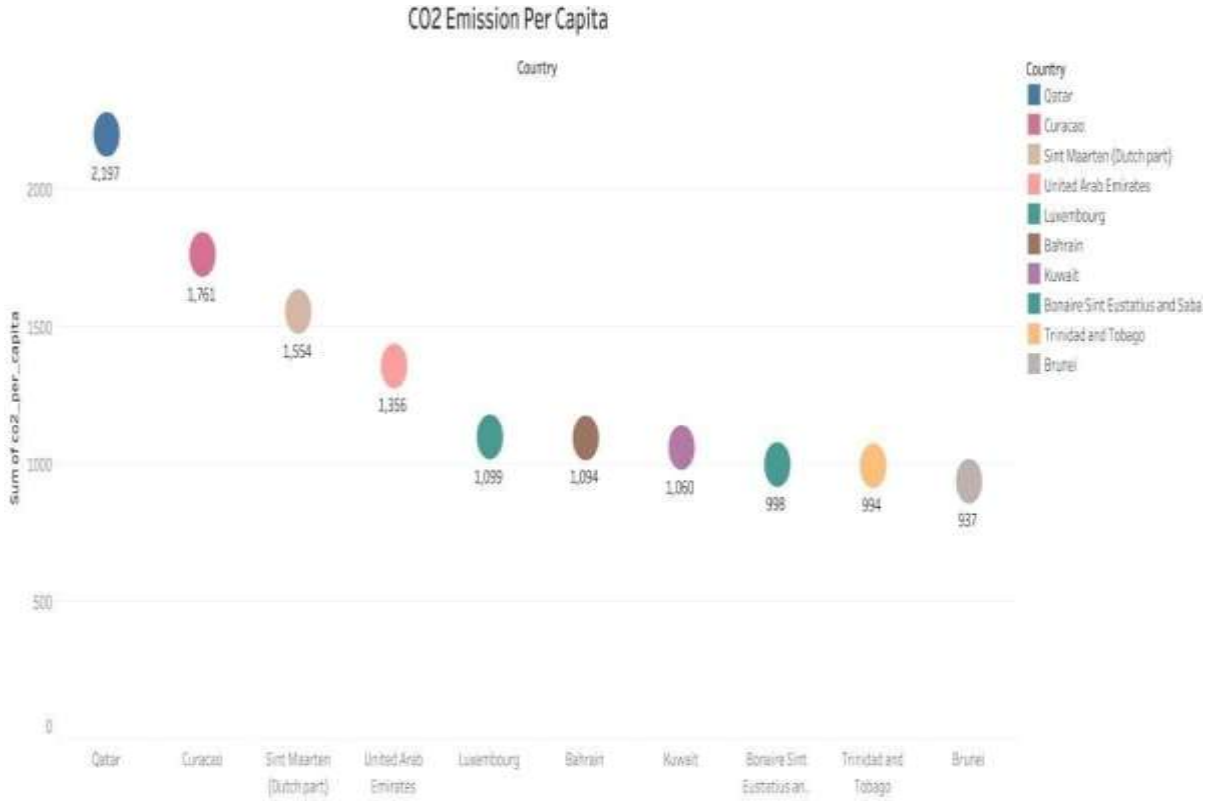
Over all Co2 emission over time

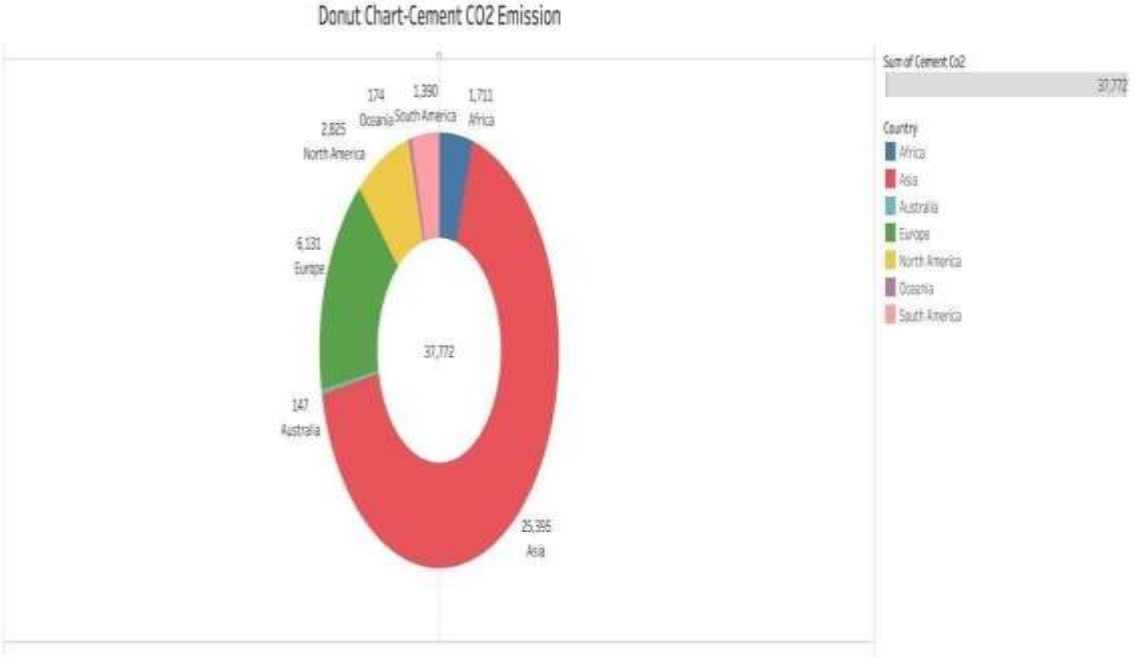
- In 1997 the Co2 emission was 6734(in metric tons).
- In 2019 the Co2 emission was 128423(in metric tons).
- In 2020 the Co2 emission was 12193(in metric tons).



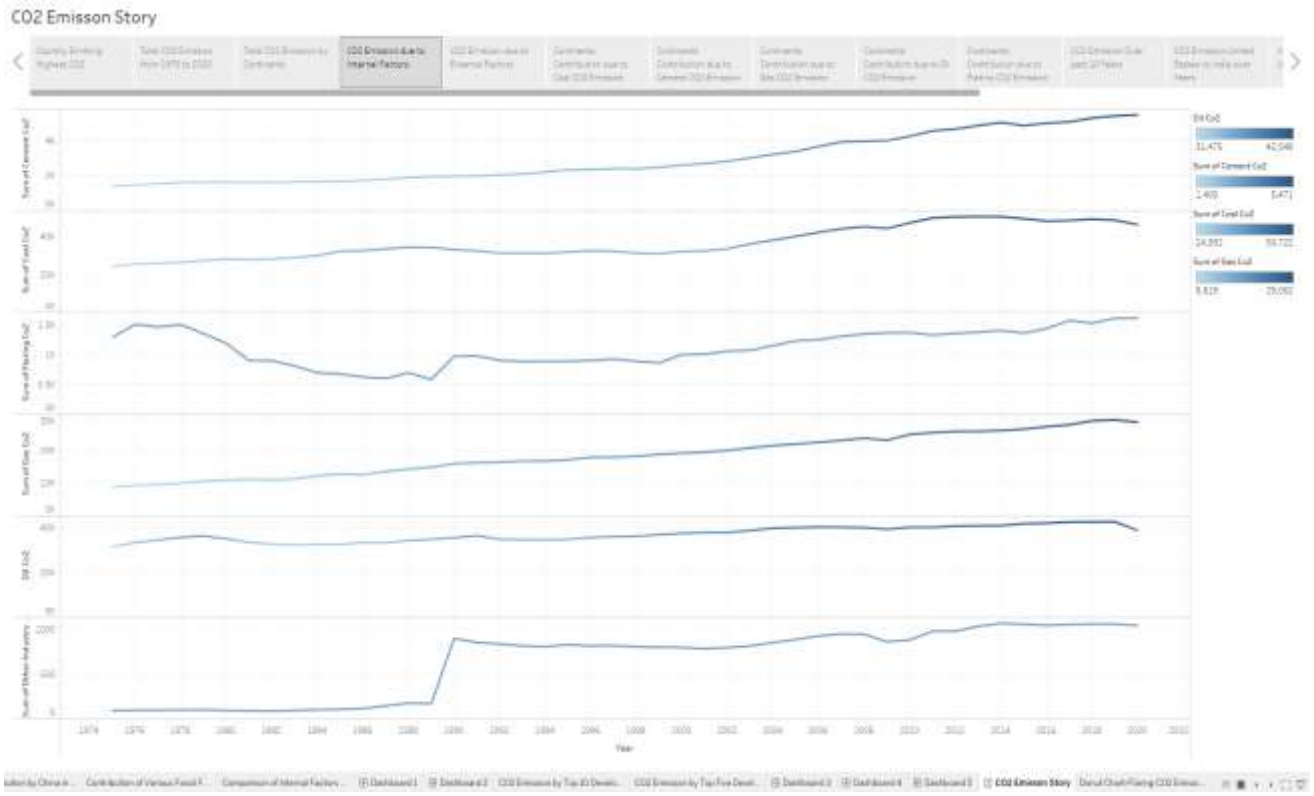

CO2 Emission Over Time
Co2
67,324
128,453
Co2
Year
67,324
71,105
75,108
72,870
76,977
75,014
77,136
74,498
74,919
80,844
82,788
85,631
86,622
88,195
86,108
88,759
86,353
87,648
86,236
89,954
90,056
90,524
89,566
93,999
92,998
95,821
100,340
104,331
107,355
110,616
113,347
112,661
122,026
124,342
124,747
124,780
128,453
128,422
121,593


Total Emission By Continents
Africa
40,925
Antarctica
0
Asia
481,573
Australia
14,739
Europe
106,165
North America
290,316
Oceania
16,475
South America
25,885
Co2
1,186,072
Country
Africa
Antarctica
Asia
Australia
Europe
North America
Oceania
South America

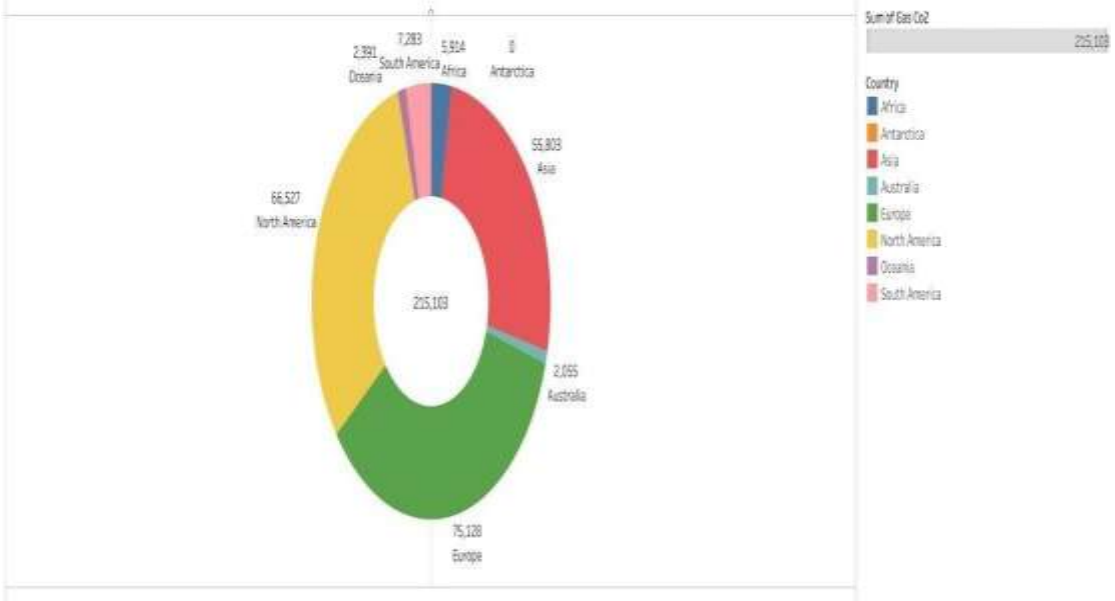

CO2 Emission Per Capita
Country
Sum of co2_per_capita
2,397
1,761
1,554
1,356
1,099
1,094
1,060
998
994
937
2000
1500
1000
500
0
Qatar
Curacao
Sint Maarten (Dutch part)
United Arab Emirates
Luxembourg
Bahrain
Kuwait
Bonaire Sint Eustatius an..
Trinidad and Tobago
Brunei
Country
Qatar
Curacao
Sint Maarten (Dutch part)
United Arab Emirates
Luxembourg
Bahrain
Kuwait
Bonaire Sint Eustatius and Saba
Trinidad and Tobago
Brunei

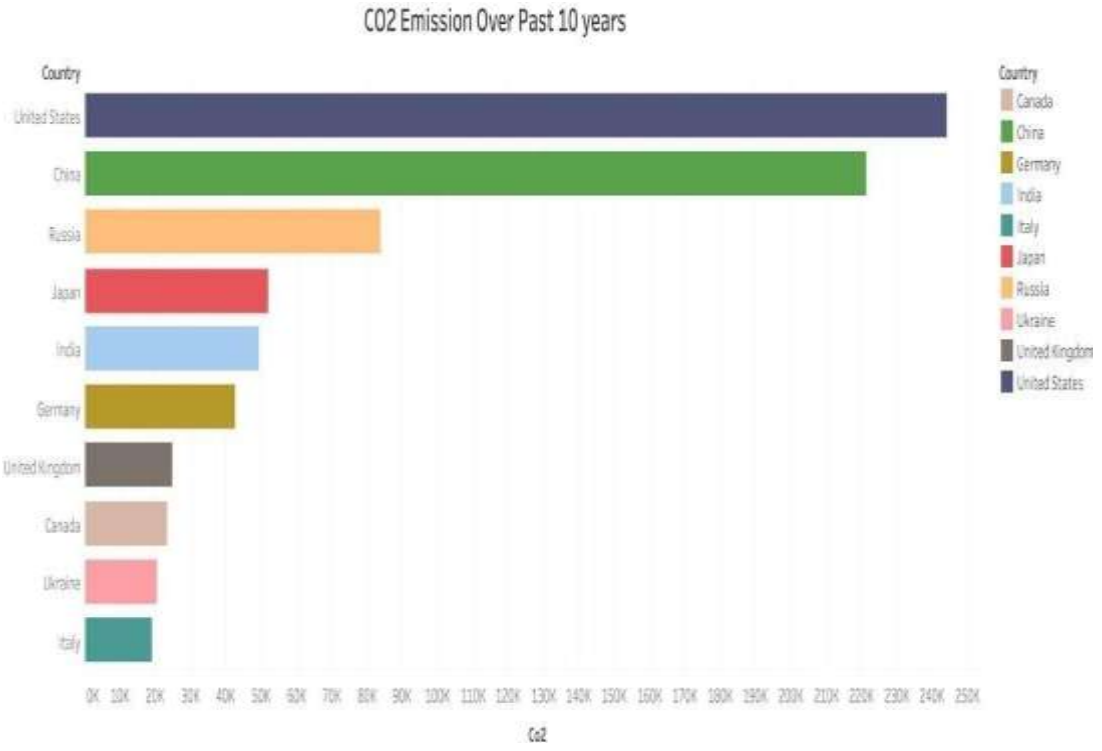

Donut Chart-Cement CO2 Emission
174
Oceania
1,390
South America
1,711
Africa
2,825
North America
6,131
Europe
37,772
147
Australia
25,395
Asia
Sum of Cement Co2
37,772
Country
Africa
Asia
Australia
Europe
North America
Oceania
South America

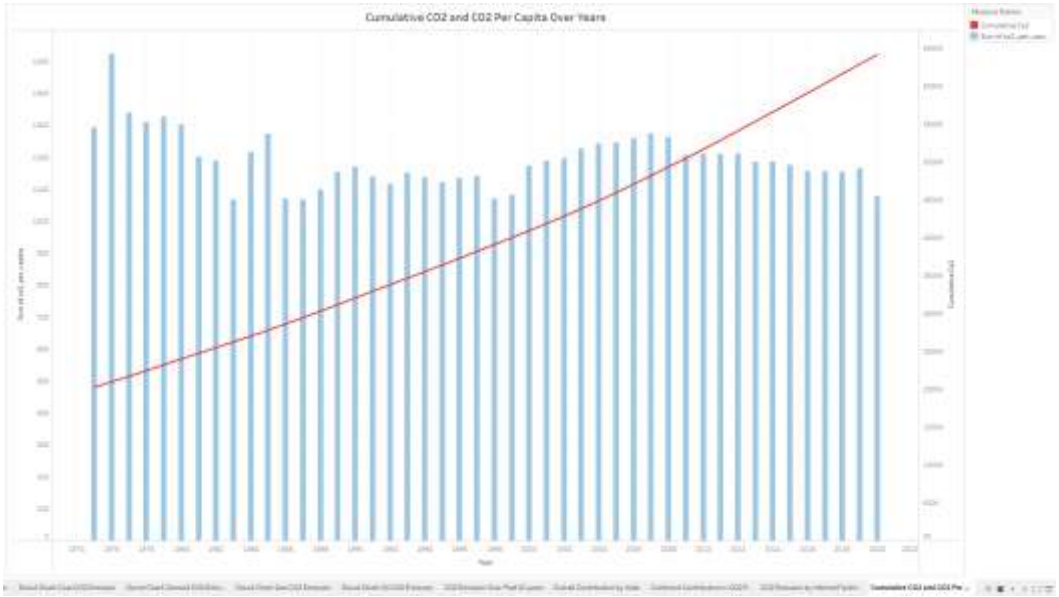
CO2 Emisson Story

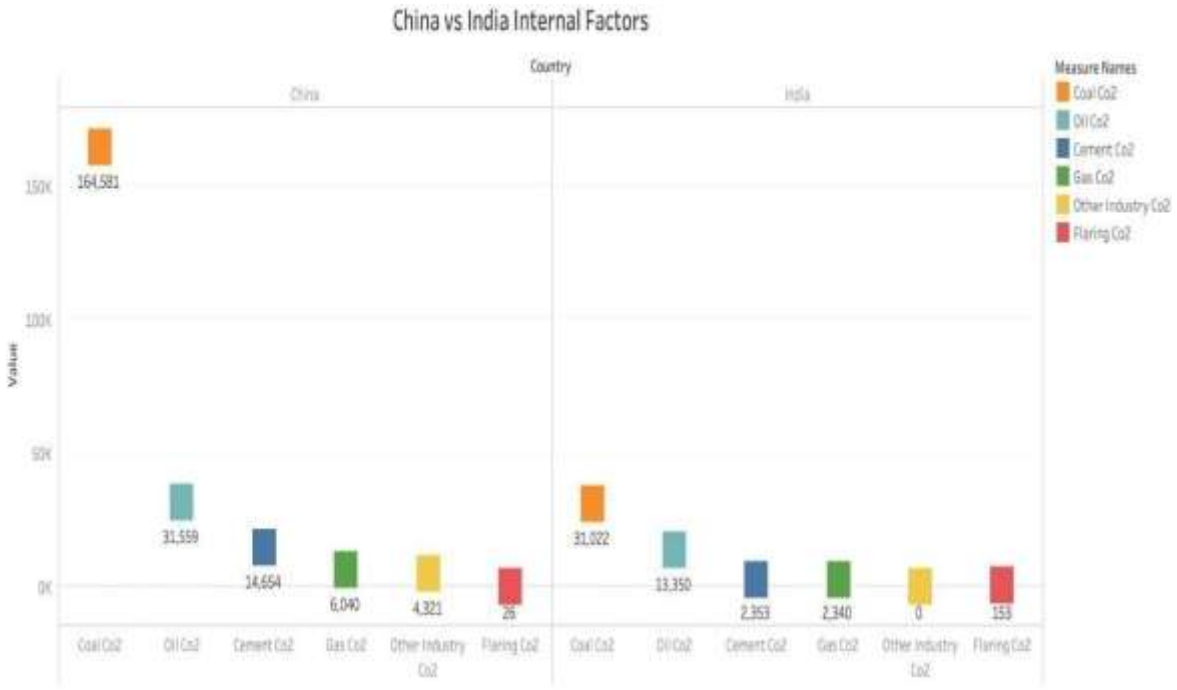


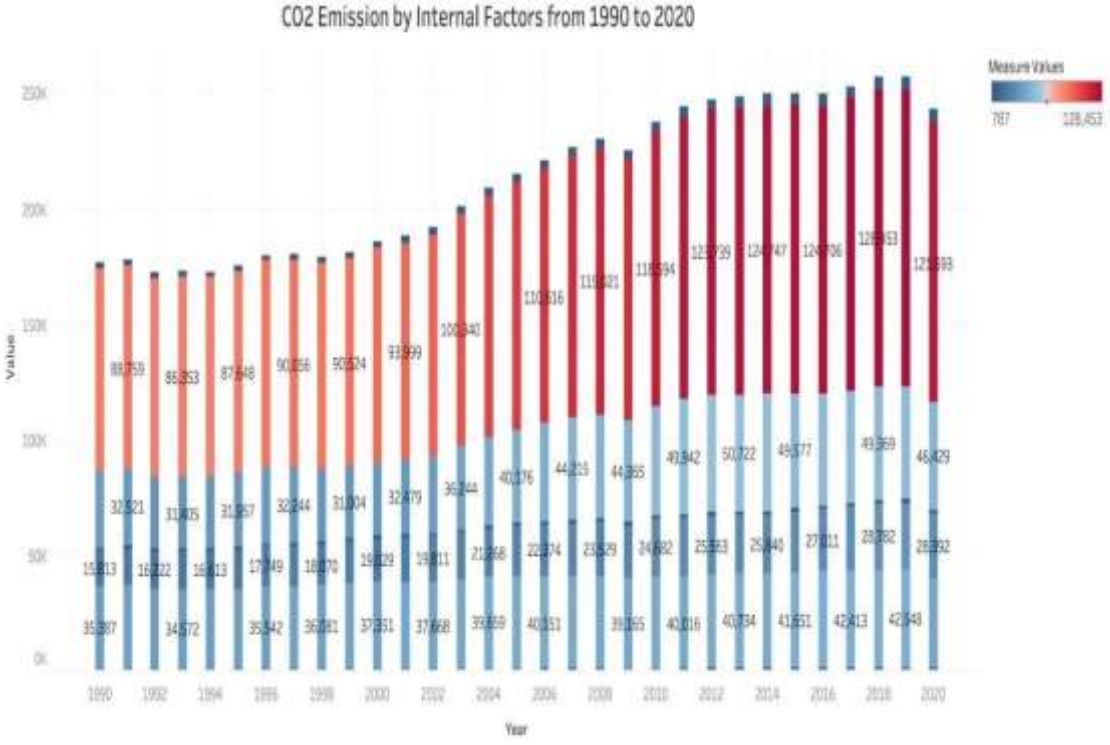
Donut Chart-Gas CO2 Emission

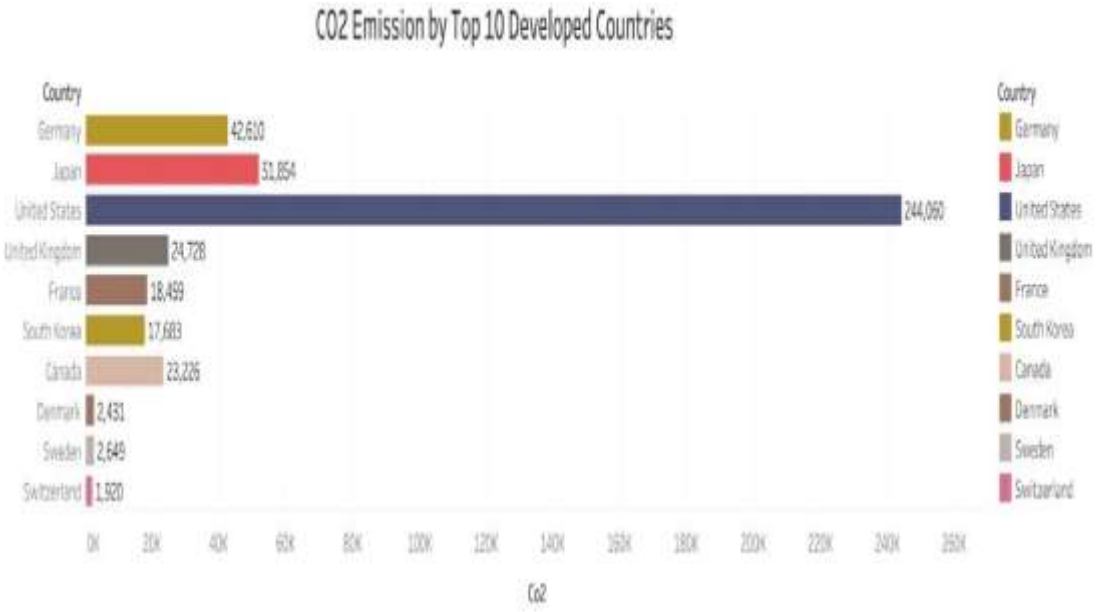


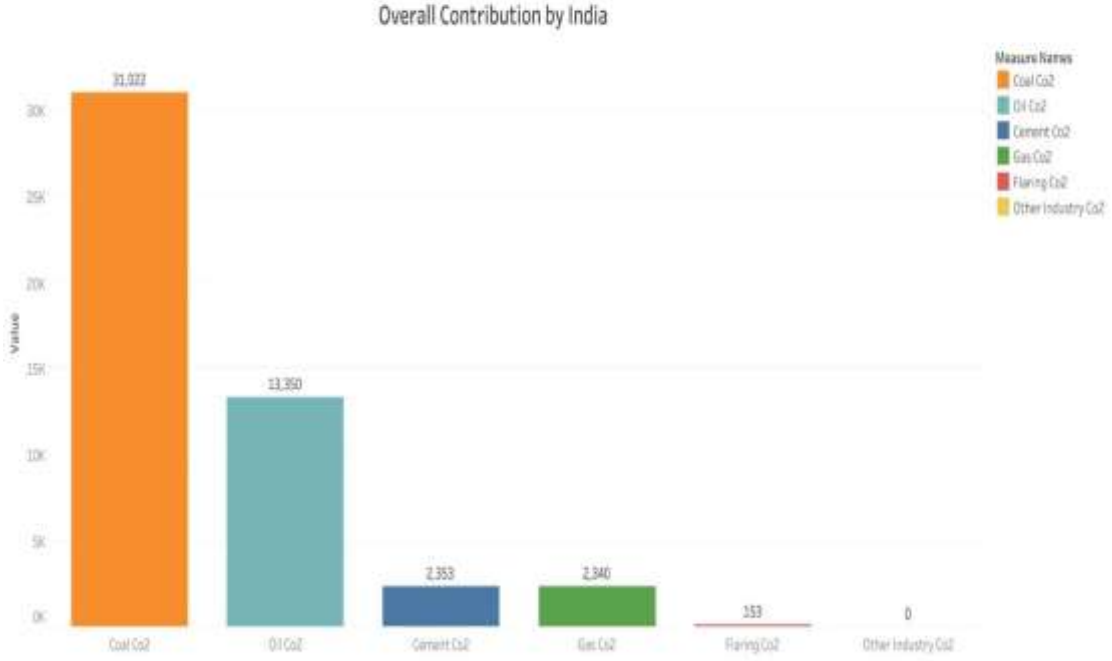

CO2 Emission Over Past 10 years
Country
United States
China
Russia
Japan
India
Germany
United Kingdom
Canada
Ukraine
Italy
0K 10K 20K 30K 40K 50K 60K 70K 80K 90K 100K 110K 120K 130K 140K 150K 160K 170K 180K 190K 200K 210K 220K 230K 240K 250K
Co2
Country
Canada
China
Germany
India
Italy
Japan
Russia
Ukraine
United Kingdom
United States

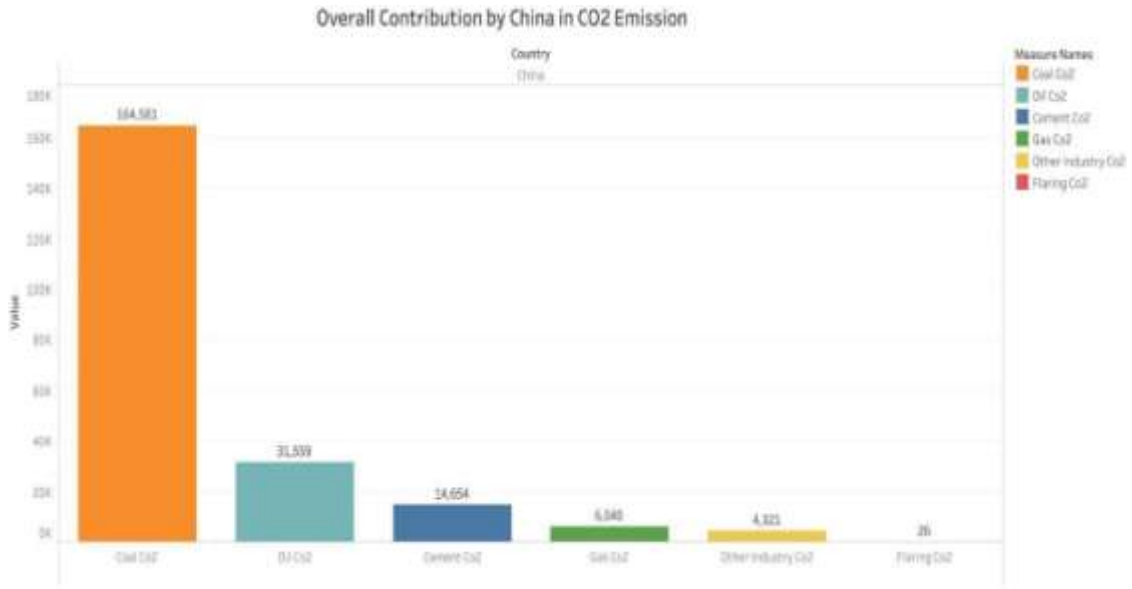

Cumulative CO2 and CO2 Per Capita Over Years

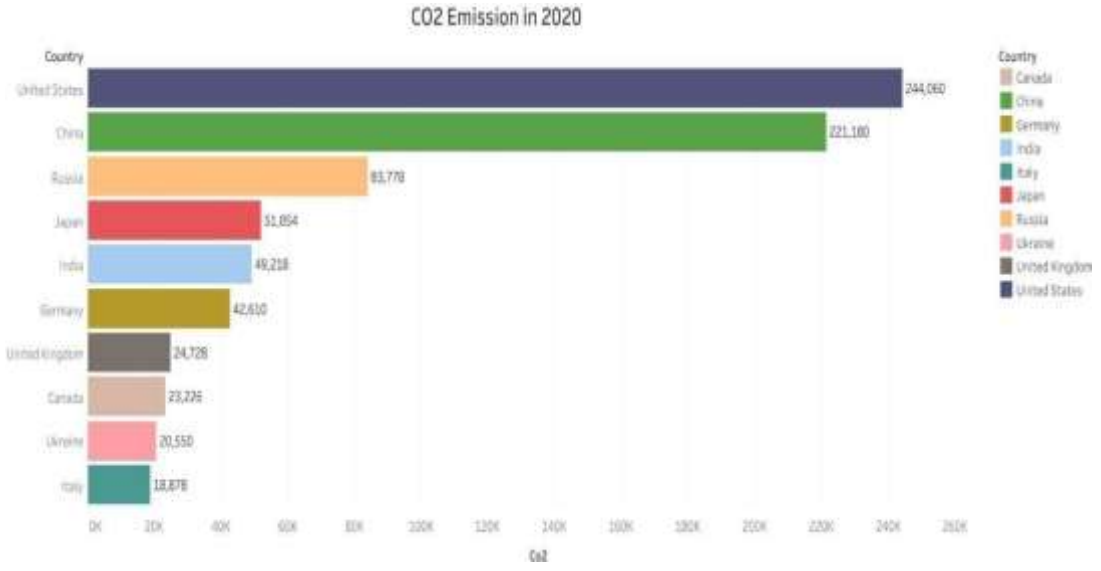

China vs India Internal Factors
Country
China
India
Measure Names
Coal Co2
Oil Co2
Cement Co2
Gas Co2
Other Industry Co2
Flaring Co2
Value
150K
100K
50K
0K
164,581
31,559
14,654
6,040
4,321
26
31,022
13,350
2,353
2,340
0
153
Coal Co2
Oil Co2
Cement Co2
Gas Co2
Other Industry Co2
Flaring Co2

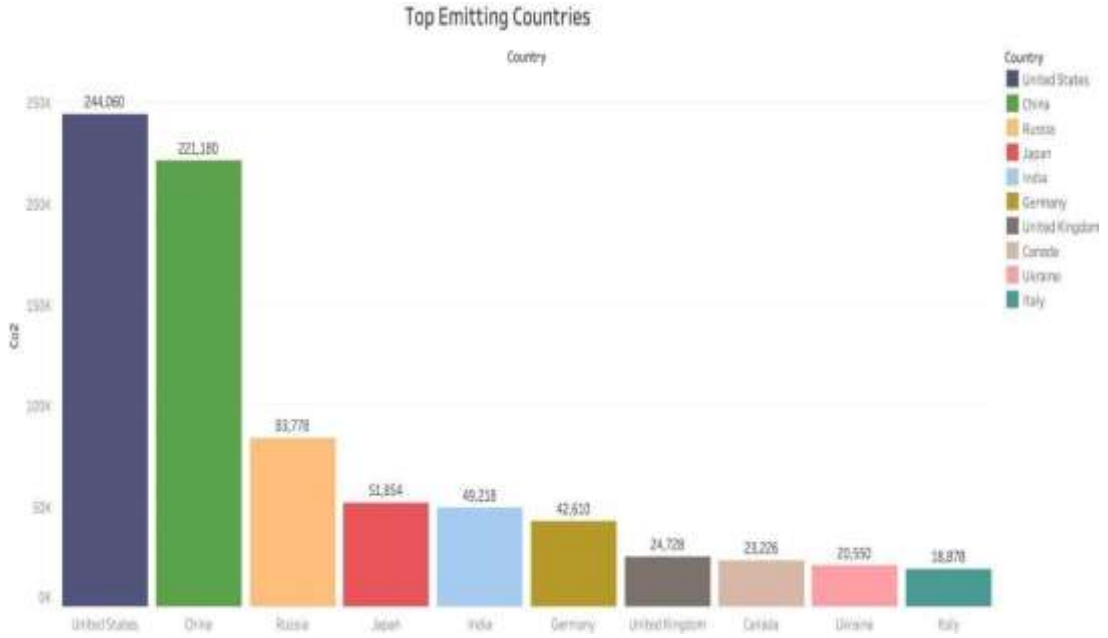

CO2 Emission by Internal Factors from 1990 to 2020
Measure Values
787
128,453
Value
250K
200K
150K
100K
50K
0K
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
Year

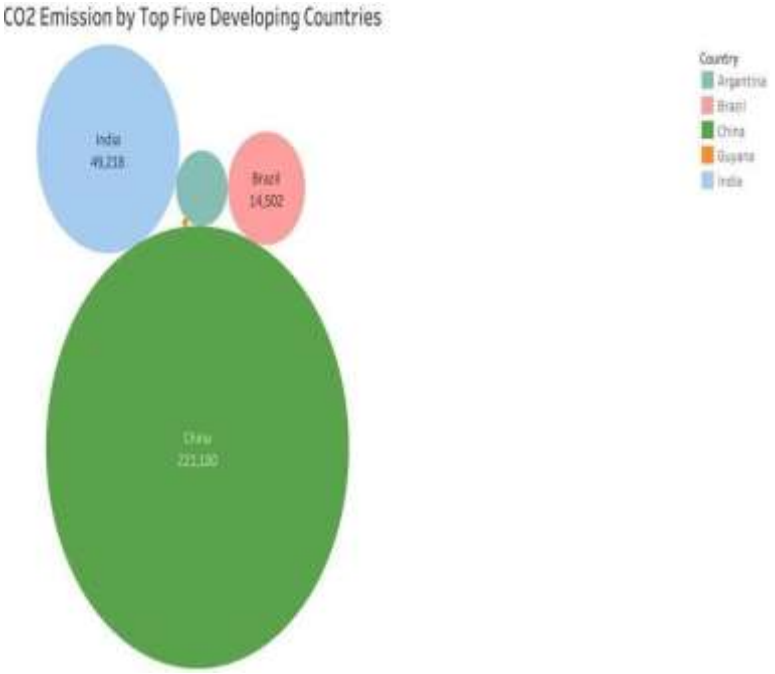

CO2 Emission by Top 10 Developed Countries
Country
Germany
Japan
United States
United Kingdom
France
South Korea
Canada
Denmark
Sweden
Switzerland
42,610
51,054
244,060
24,728
18,499
17,683
23,226
2,431
2,649
1,920
0K
20K
40K
60K
80K
100K
120K
140K
160K
180K
200K
220K
240K
260K
Co2


Overall Contribution by India
Measure Names
Coal Co2
Oil Co2
Cement Co2
Gas Co2
Flaring Co2
Other Industry Co2
Value
31,022
13,350
2,353
2,340
153
0
30K
25K
20K
15K
10K
5K
0K
Coal Co2
Oil Co2
Cement Co2
Gas Co2
Flaring Co2
Other Industry Co2


Overall Contribution by China in CO2 Emission
Country
China
Measure Names
Coal Co2
Oil Co2
Cement Co2
Gas Co2
Other Industry Co2
Flaring Co2
Value
164,583
31,539
14,654
6,340
4,321
26


CO2 Emission in 2020
Country
United States
China
Russia
Japan
India
Germany
United Kingdom
Canada
Ukraine
Italy
244,060
221,180
83,770
51,854
49,218
42,610
24,728
23,226
20,550
18,878
Co2


Top Emitting Countries
Country
Co2
250K
200K
150K
100K
50K
0K
244,060
221,180
83,778
51,854
49,218
42,610
24,728
23,226
20,592
18,878
United States
China
Russia
Japan
India
Germany
United Kingdom
Canada
Ukraine
Italy
Country
United States
China
Russia
Japan
India
Germany
United Kingdom
Canada
Ukraine
Italy


CO2 Emission by Top Five Developing Countries
India
49,218
Brazil
14,502
China
221,180
Country
Argentina
Brazil
China
Guyana
India

4. ADVANTAGES AND DISADVANTAGES

- ❖ The world wide Co2 emission rate can be calculated.
- ❖ By using statistical data we can ensure some technique to reduce this Co2 by several methods.
- ❖ The first and the foremost technique is CARBON CAPTURE techniques.

- ✓ The methods and CCS technologies are the necessary for carbon capture have some simplification to them .
- ✓ By using the fossil fuels for power plants to generate electricity which is very costly .
- ✓ High co2 level can cause poor air quality and for even extinguish pilot light on gas-power appliances .

5. APPLICATION

A mixture of argon and carbon dioxide is commonly used today to achieve a higher welding rate and reduce the need for post weld treatment.

It used as an inert blanket , as a product dispensing propellant and an extraction agent . It can also be used to displace air during canning .

6. CONCLUSION

With regard to mineral carbonation technology ,a major question is how to exploit the reaction heat in practical designs that can reduce cost and net energy .

With regards to industrial users of captured Co2, further study of the net energy and Co2 balance of industrial processes that use the captured Co2 could help to establish a more complete picture of the potential of this option .

However, the integration of capture, transport and storage in full-scale projects is needed to gain the knowledge and experience required for a more widespread deployment of CCS technologies.

7. FUTURE SCOPES

The carbon (and oxygen) in Co2 can be used as a alternative to fossil fuel in the production of chemical , including plastics, fibres and synthetic rubbers

To keep global warming to no more than 1.5 degree C -as called for in the paris agreement-emissions need to be reduced by 45% by 2030 and reach net zero by 2050.