

# PROJECT REPORT

## 1. INTRODUCTION

- **OVERVIEW**

According to the Environment production agency Carbon dioxide (Co<sub>2</sub>) is the primary greenhouse gas emitted through human activities.

In 1971 the current OECD countries were responsible for 67% of world Co<sub>2</sub> emissions.

In 2021, Co<sub>2</sub> 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, Co<sub>2</sub> emissions from fuel combustion in China increased over tenfold between 1971 and 2013.

- **PURPOSE**

The purpose of Co<sub>2</sub> emission analysis to determine the global amount to Co<sub>2</sub> and other greenhouse gas accrete the full lifecycle of a product, service and operation.

## 2. DEFINITION AND DESIGN THINKING

### EMPATHY MAP



# IDEATION AND BRAINSTORMING MAP

## IDEATION AND BRAINSTORMING MAP

1

### PROBLEM STATEMENT

IN OUR WORLD CO2 EMISSION INCREASES DAY BY DAY BY INDUSTRIES, VEHICLES ETC. AS A HUMAN BEING WE TAKE RESPONSIBILITY TO CONTROL THE EMISSION OF CO2

2

### BRAINSTORM

UNEARTHING THE ENVIRONMENTAL IMPACT ON HUMAN ACTIVITY. A GLOBAL CO2 EMISSION

#### **SOUNDARYA A**

- DECREASES GROUND WATER LEVEL
- PLANT MORE TREES AND SAVE WATER

#### **ELLAKIYA E**

- CLIMATIC CHANGE LEADS TO DIFFERENT DISEASES
- USE ECO FRIENDLY VEHICLES

#### **NALINI R**

- SEA LEVEL INCREASES
- AVOID BURNING OF PLASTICS DO RRR( REDUCE RECYCLE REUSE)

#### **SWETHA R**

- REDUCES THE AMOUNT OF RAINFALL
- REDUCES USAGE OF AIR CONDITIONER

#### **RAJKUMARAN D**

- CO2 EMISSION LEADS TO EXTINCTION OF WILDLIFE
- CREATE MORE FORESTS

### 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

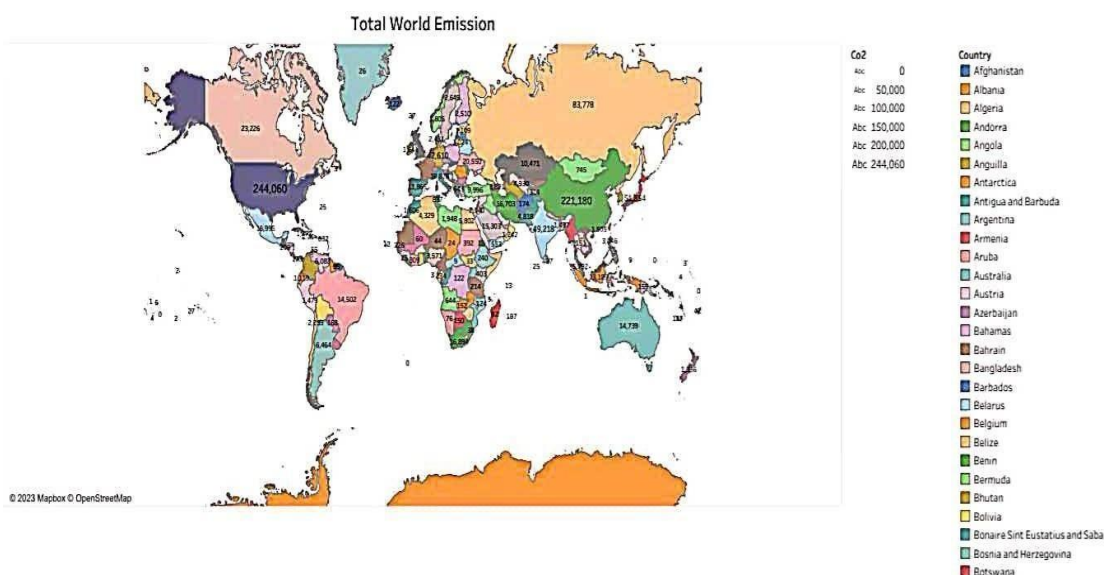
- The First highest Co2 emitting continent -Asia.
- The Second highest Co2 emitting continent-Europe
- Lowest Co2 emitting continent-Australia.

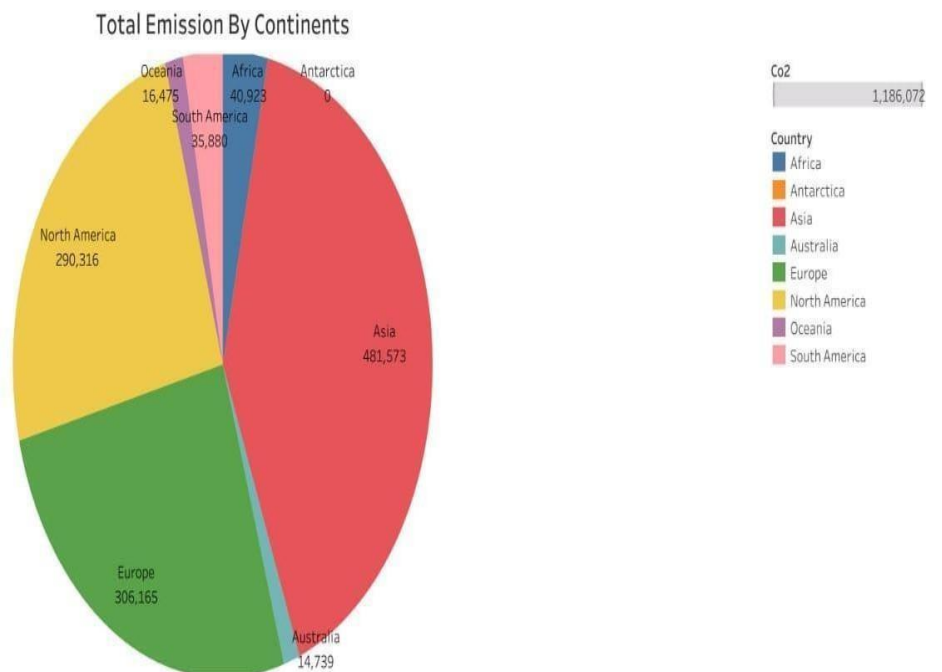
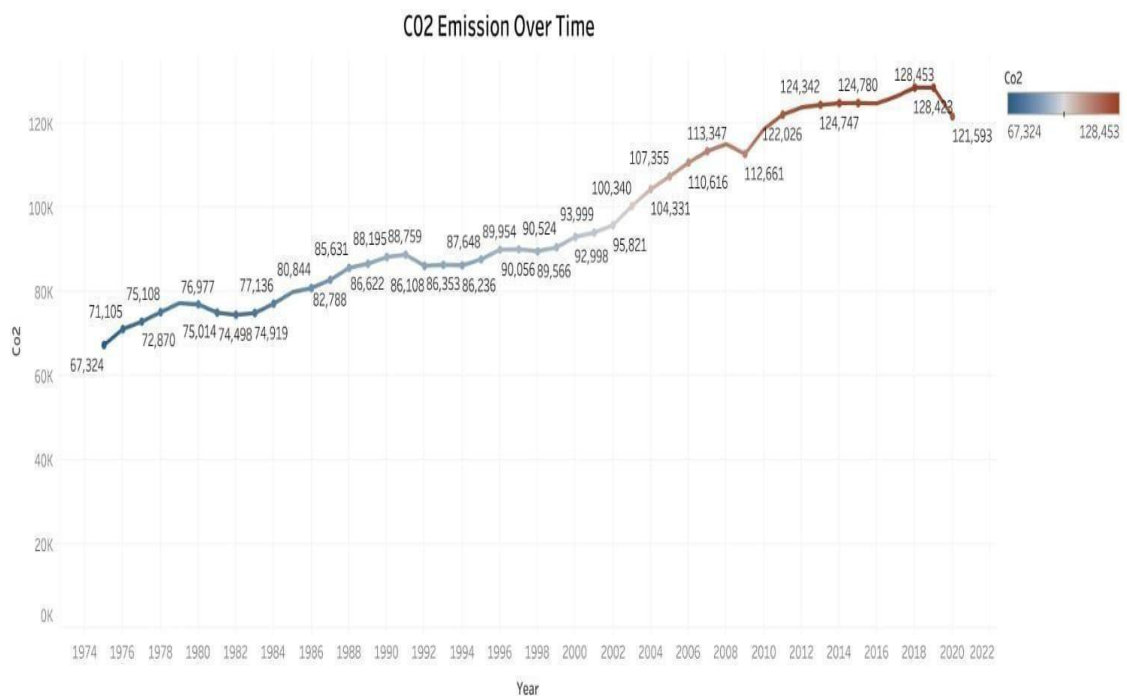
#### Overall India contribution towards Co2 emission

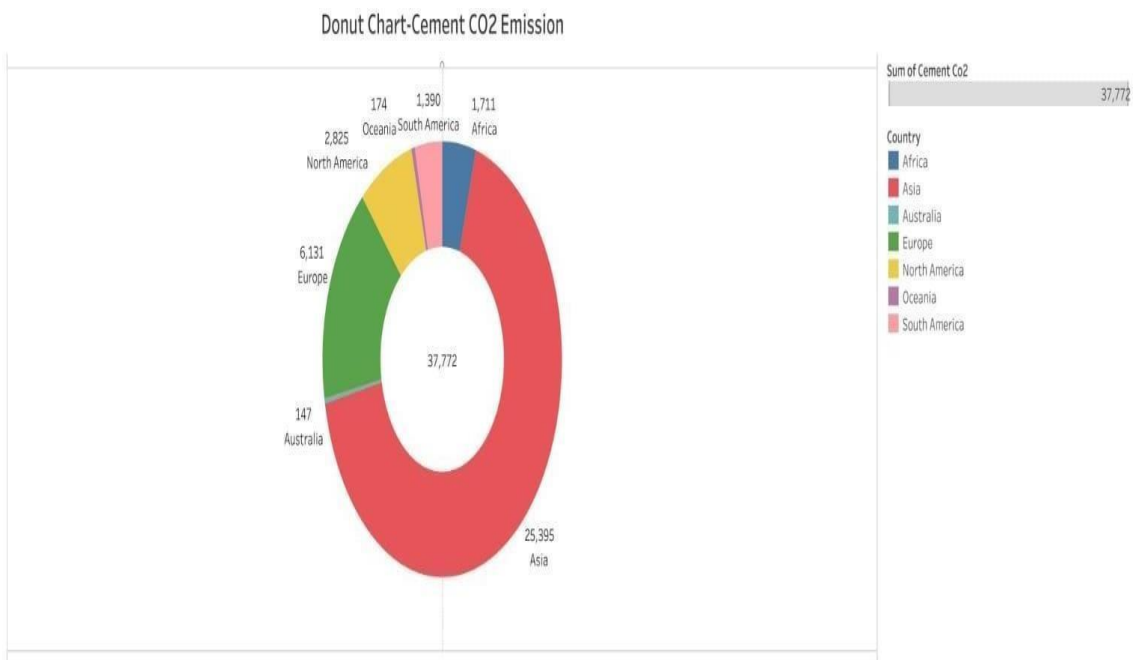
- The first highest Co2 emitting factor -Coal.
- The second highest Co2 emitting factor-Oil.

#### Over all Co2 emission over time

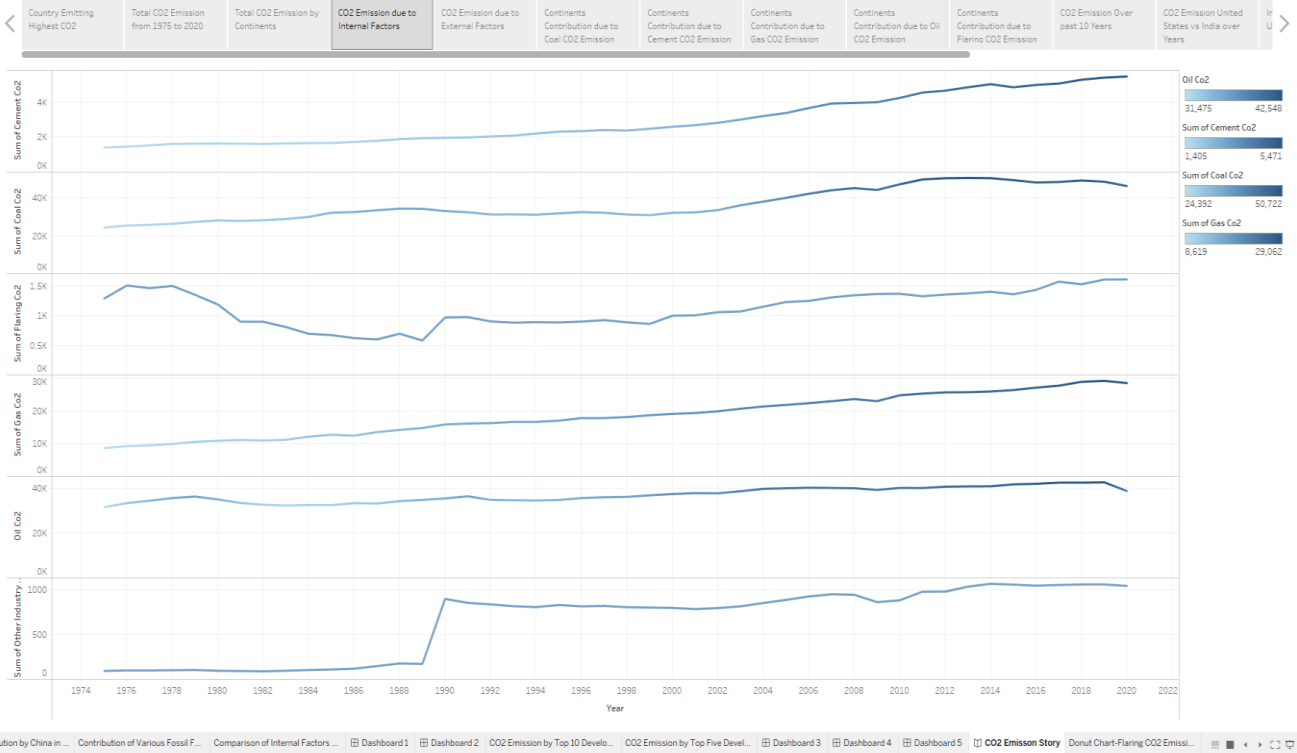
- In 1997 the Co2 emission was 6734(in metric tons).
- In 2019 the Co2 emission was 128423(in metric tons).
- In 2020 the Co2 emission was 12193(in metric tons).



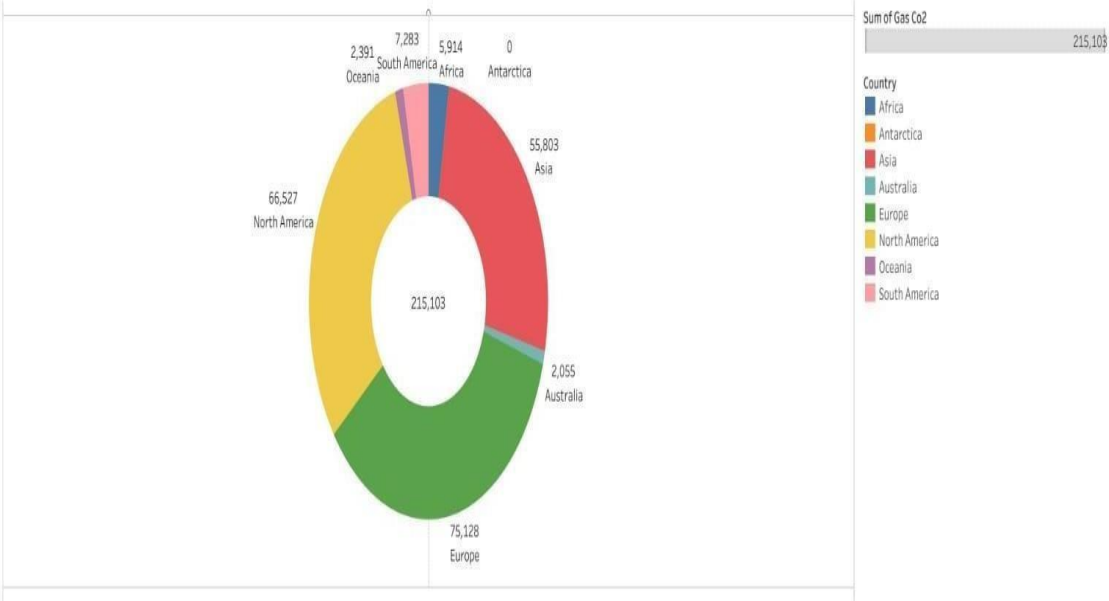




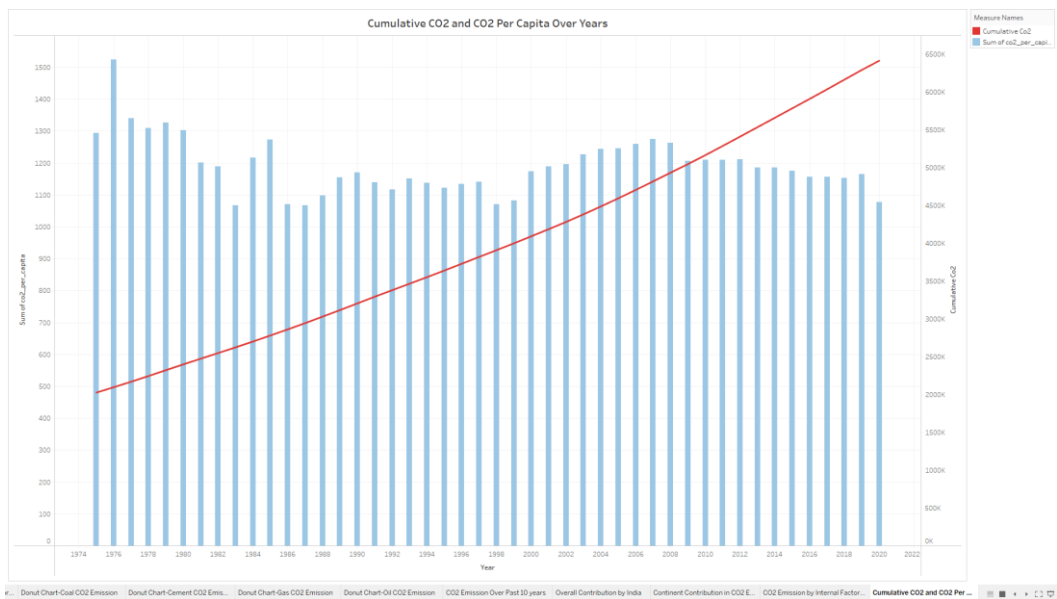
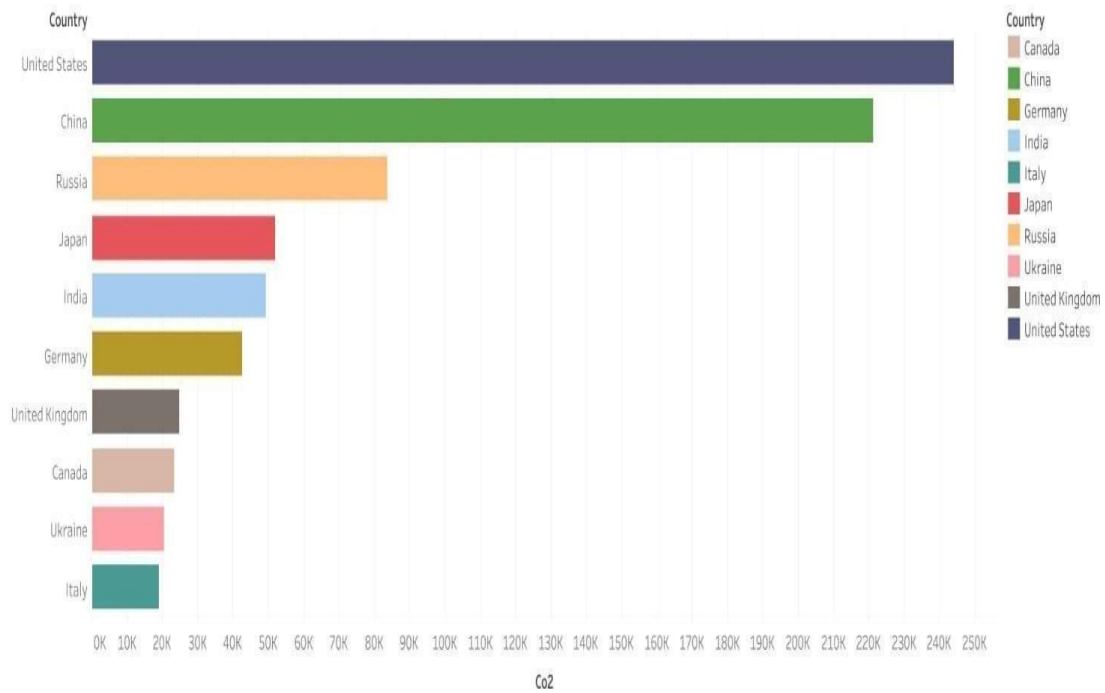
CO2 Emission Story



Donut Chart-Gas CO2 Emission

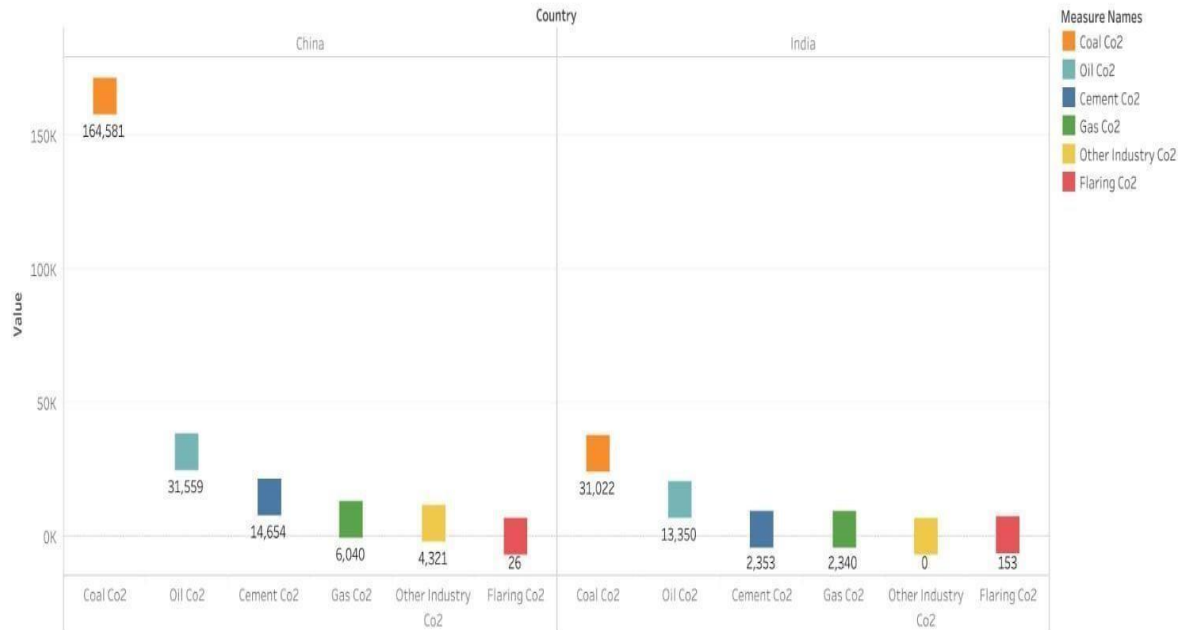


### CO2 Emission Over Past 10 years

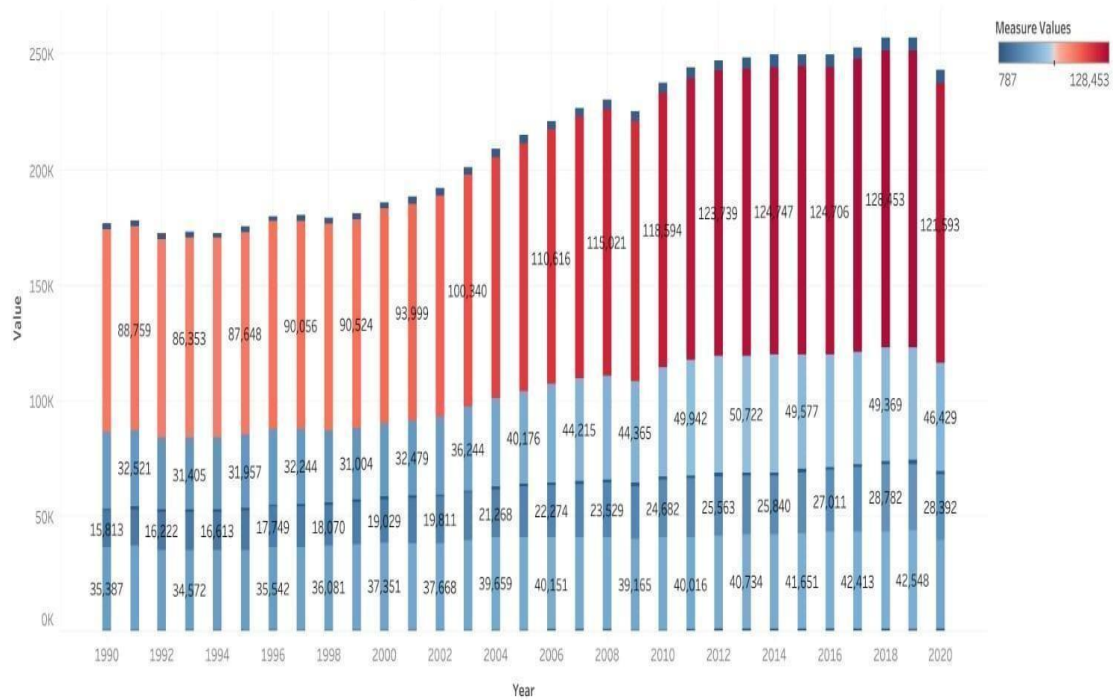




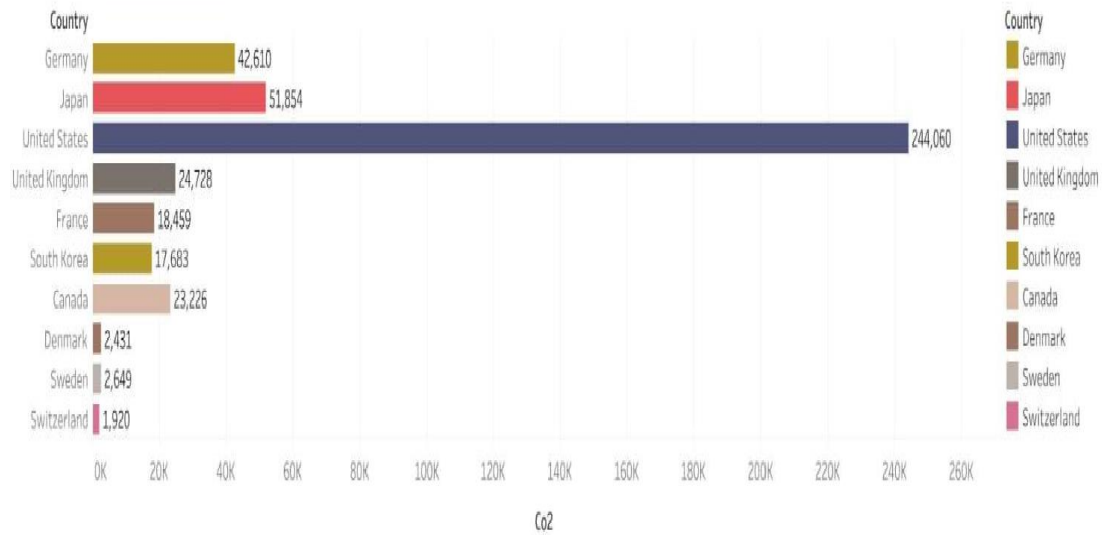
## China vs India Internal Factors



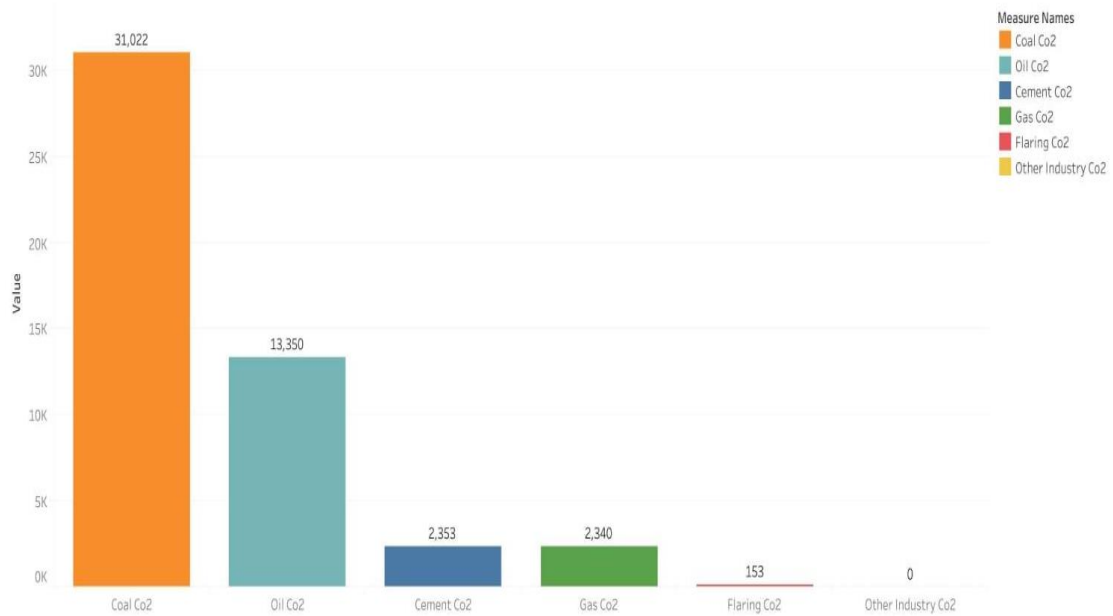
## CO2 Emission by Internal Factors from 1990 to 2020



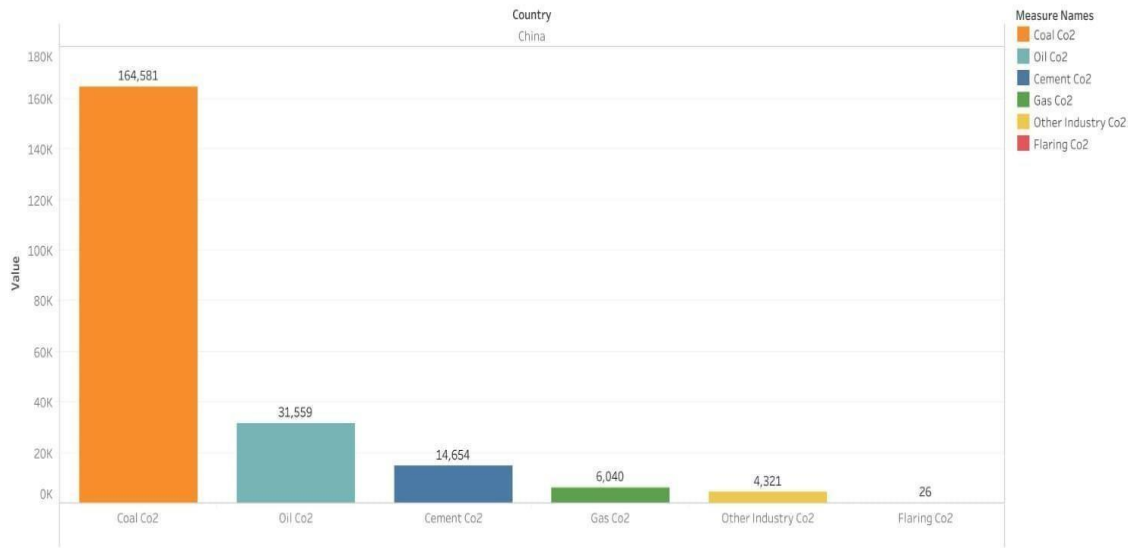
### CO2 Emission by Top 10 Developed Countries



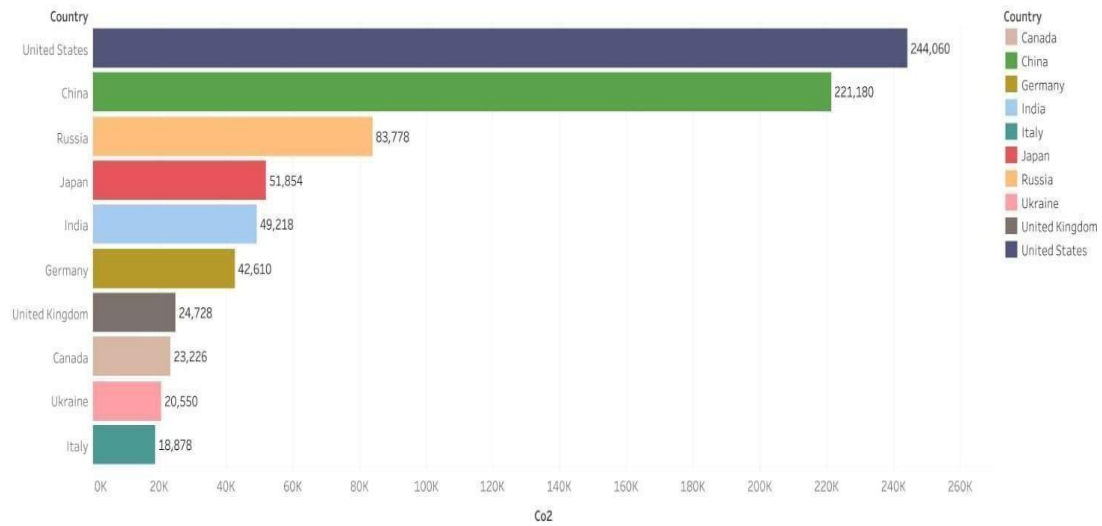
### Overall Contribution by India

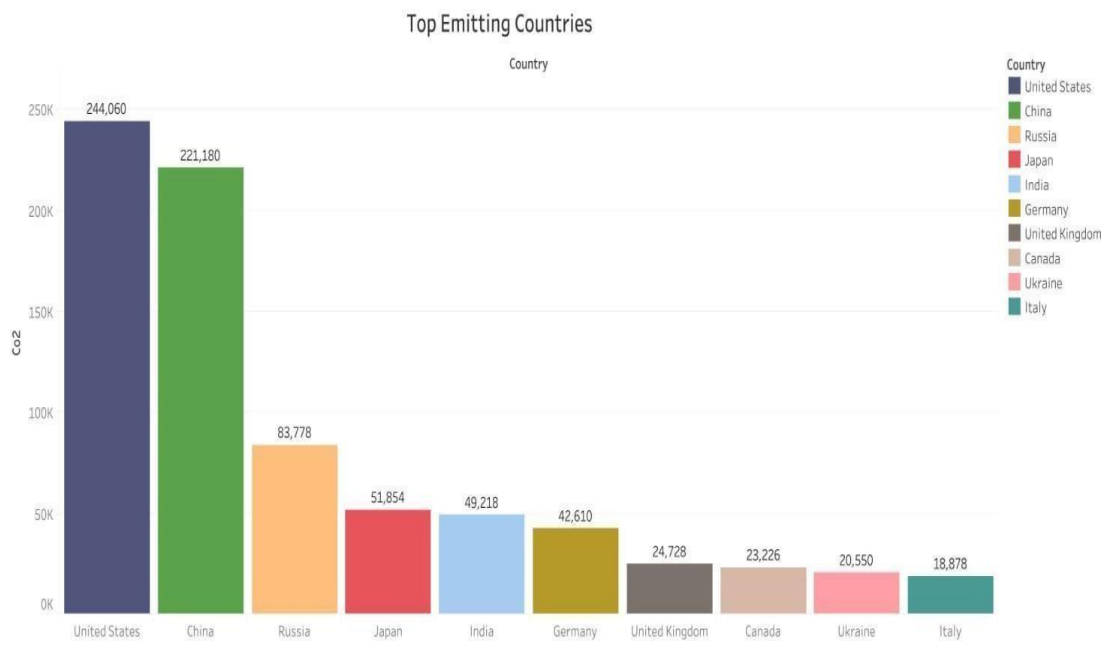


Overall Contribution by China in CO2 Emission

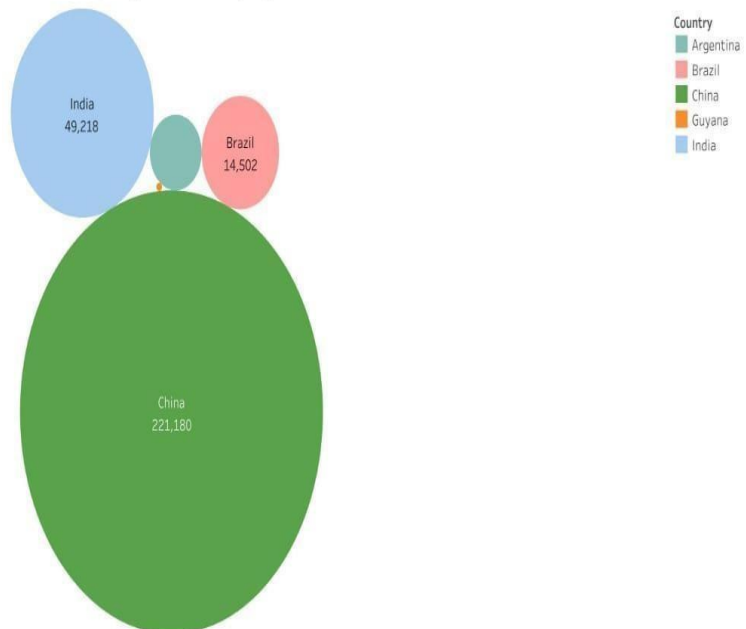


CO2 Emission in 2020





### CO2 Emission by Top Five Developing Countries



## **4. ADVANTAGES AND DISADVANTAGES**

- ❖ The world wide Co<sub>2</sub> emission rate can be calculated.
- ❖ By using statistical data we can ensure some technique to reduce this Co<sub>2</sub> 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 co<sub>2</sub> 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  $\text{CO}_2$ , further study of the net energy and  $\text{CO}_2$  balance of industrial processes that use the captured  $\text{CO}_2$  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  $\text{CO}_2$  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.