

# A GLOBAL CO<sub>2</sub> EMISSION ANALYSIS

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**A PROJECT REPORT**

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Paste the empathy map screenshot

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# INTRODUCTION

## 1.1 PROJECT OVERVIEW

Carbon dioxide emissions or CO<sub>2</sub> emissions are emissions stemming from the burning of fossil fuels and the manufacture of cement. They include carbon dioxide produced during consumption of solid, liquid and gas fuels as well gas flaring.

## 1.2 PURPOSE

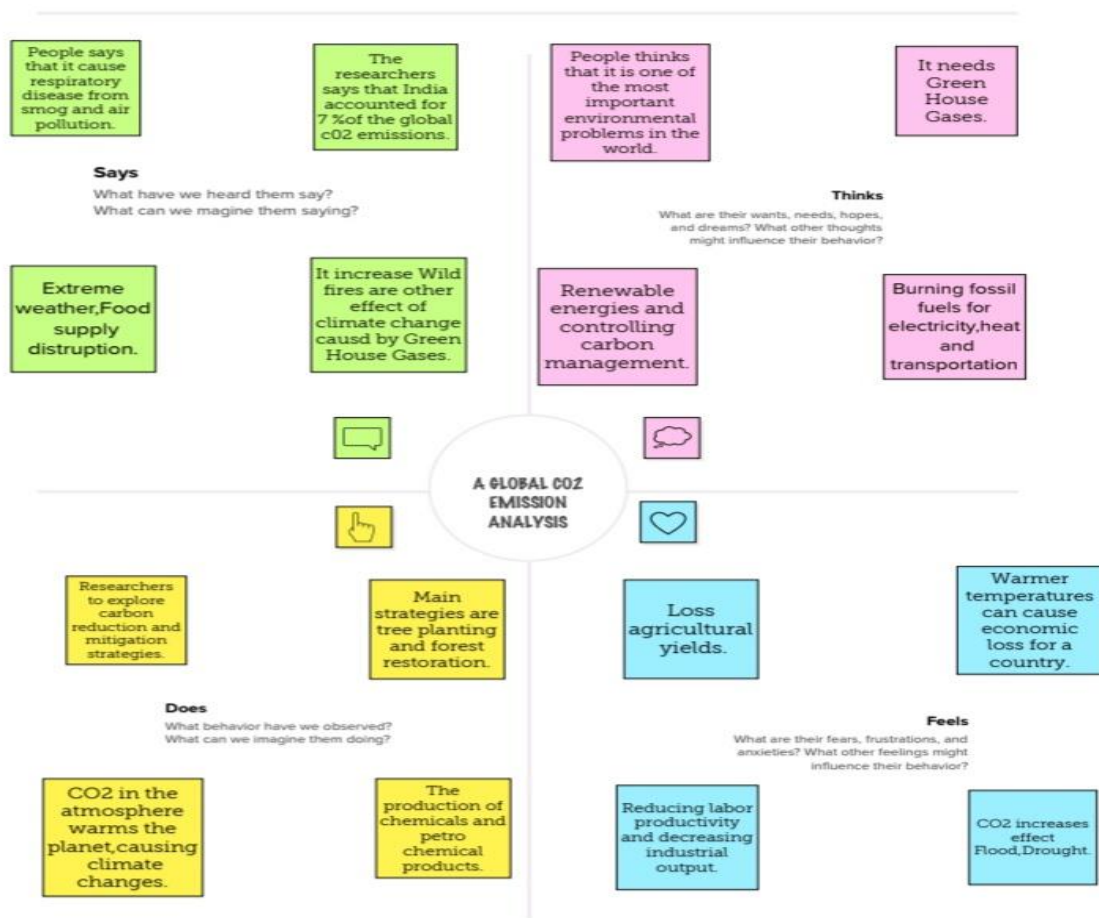
The largest absolute sector increases in emissions in 2022 was from electricity and heat generation. Electricity and heat sector emissions increased by 1.87%, reaching an all-time high of 14.6 Gt.

# PROBLEM DEFINITION & DESIGN THINKING

## 2.1 EMPATHY MAP

An empathy map is a simple, easy-to-digest visual that captures knowledge about a user's behaviours and attitudes. It is a useful tool to help teams better understand their users.


Creating an effective solution requires understanding the true problem and the person who is experiencing it. The exercise of creating the map helps participants consider things from the user's perspective along with his or her goals and challenges.



## 2.2 IDEATION & BRAINSTORMING MAP




Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions.


Template



## Brainstorm & idea prioritization


Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.


 10 minutes to prepare  
 1 hour to collaborate  
 2-8 people recommended




### Before you collaborate

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.


 10 minutes

 **Team gathering**


Define who should participate in the session and send an invite. Share relevant information or pre-work ahead.


 **Set the goal**

Think about the problem you'll be focusing on solving in the brainstorming session.

 **Learn how to use the facilitation tools**


Use the Facilitation Superpowers to run a happy and productive session.

[Open article](#) 




### Define your problem statement

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

 5 minutes


PROBLEM


We show that increased co2 levels lead to a decrease in ozone concentrations in the tropical lower stratosphere .





### Key rules of brainstorming


To run an smooth and productive session


 Stay in topic.

 Encourage wild ideas.

 Defer judgment.

 Listen to others.

 Go for volume.

 If possible, be visual.

2

## Brainstorm

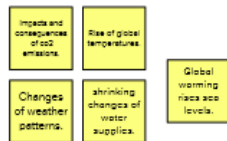
Write down any ideas that come to mind that address your problem statement.

🕒 10 minutes

### TIP

You can select a sticky note and hit the pencil [switch to sketch] icon to start drawing!

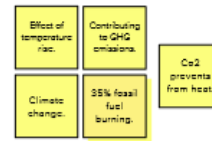
#### PAVITHRA.P



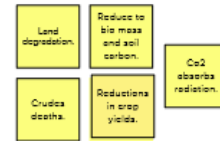
#### PRIYADHARSHINI.K



#### RANJINI.M



#### SHOBIYA.S



3

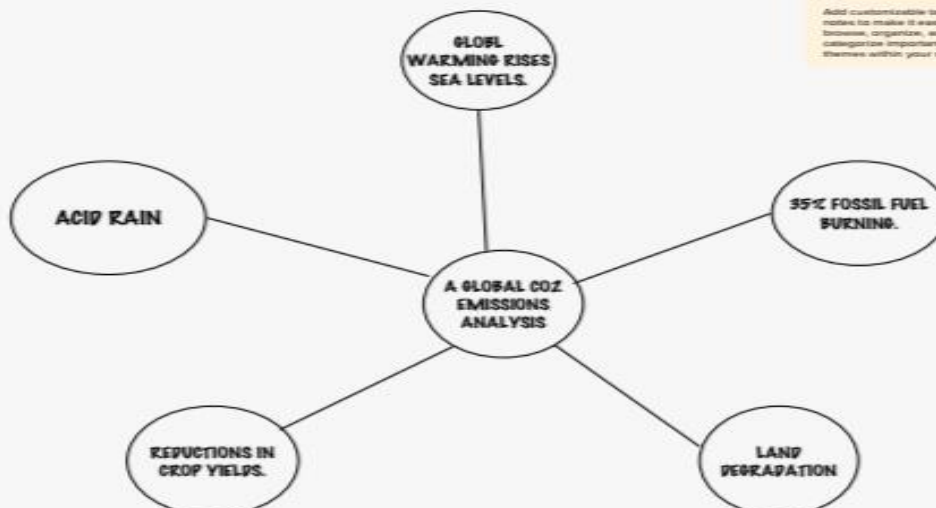
## Group ideas

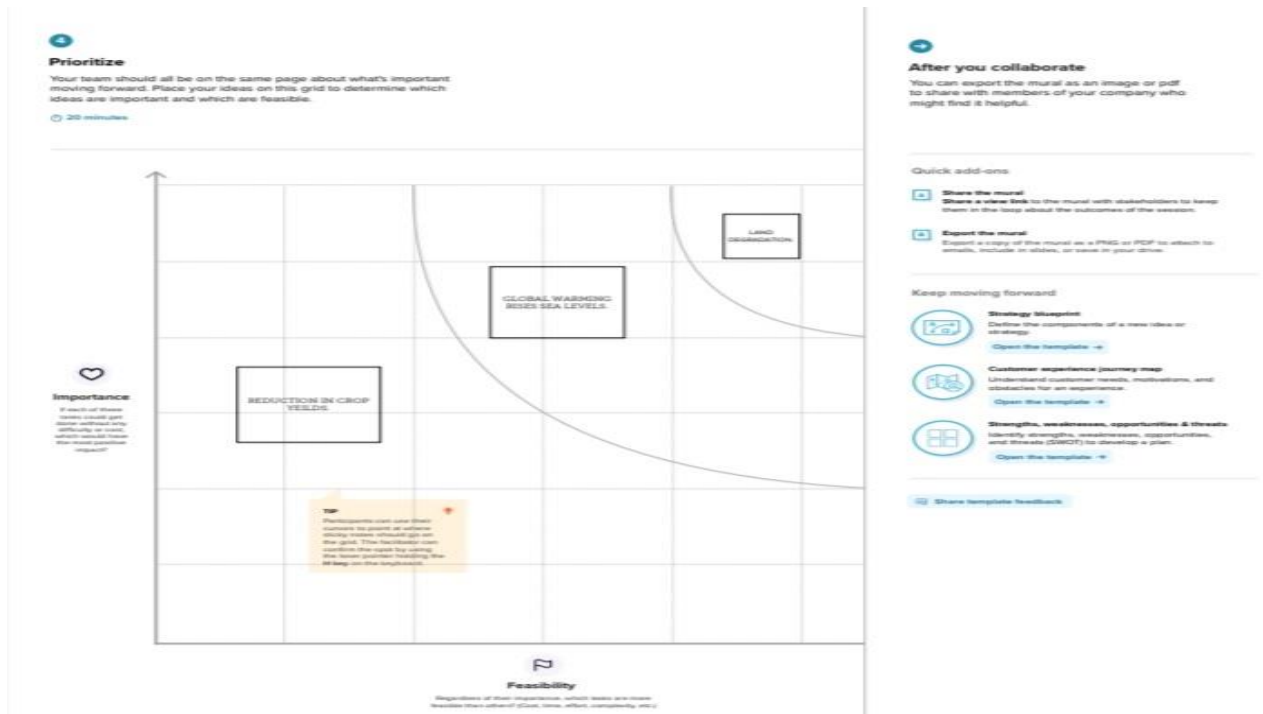
Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you and break it up into smaller sub-groups.

🕒 20 minutes

### TIP

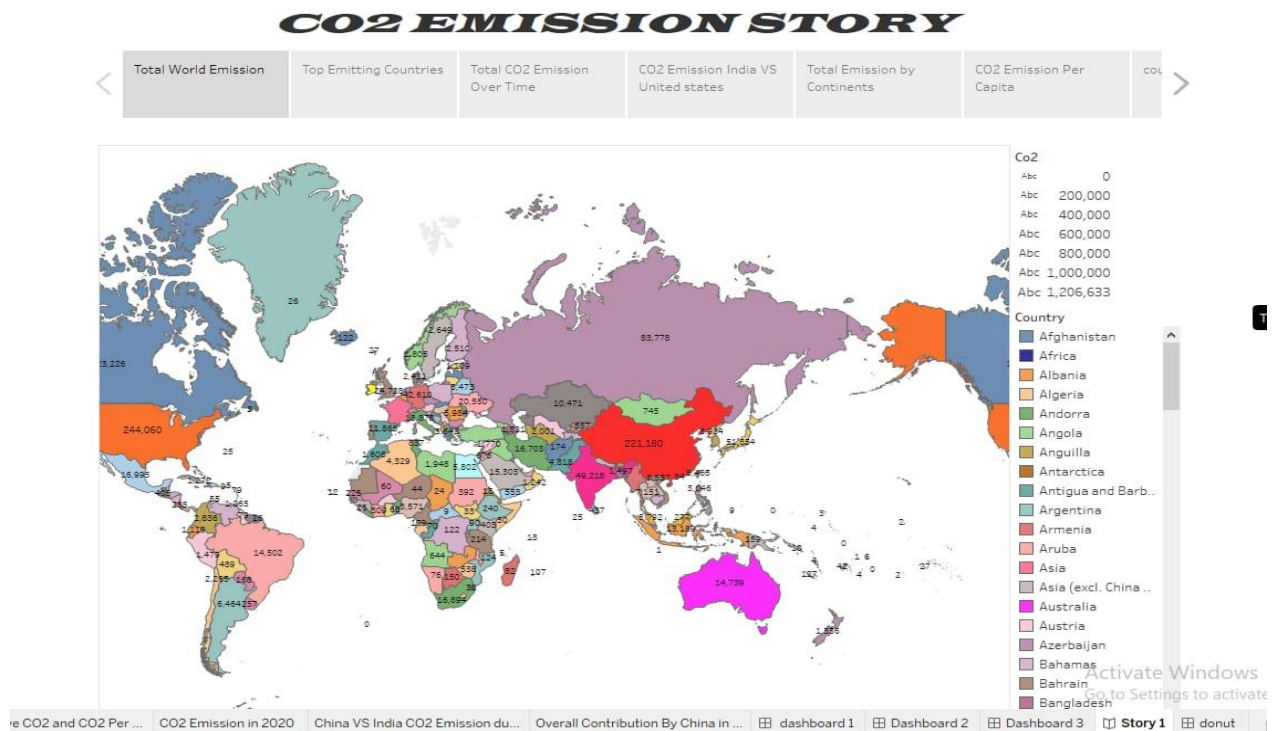
Add customizable tags to sticky notes to make it easier to find, remove, organize, and categorize important ideas as themes within your mural.



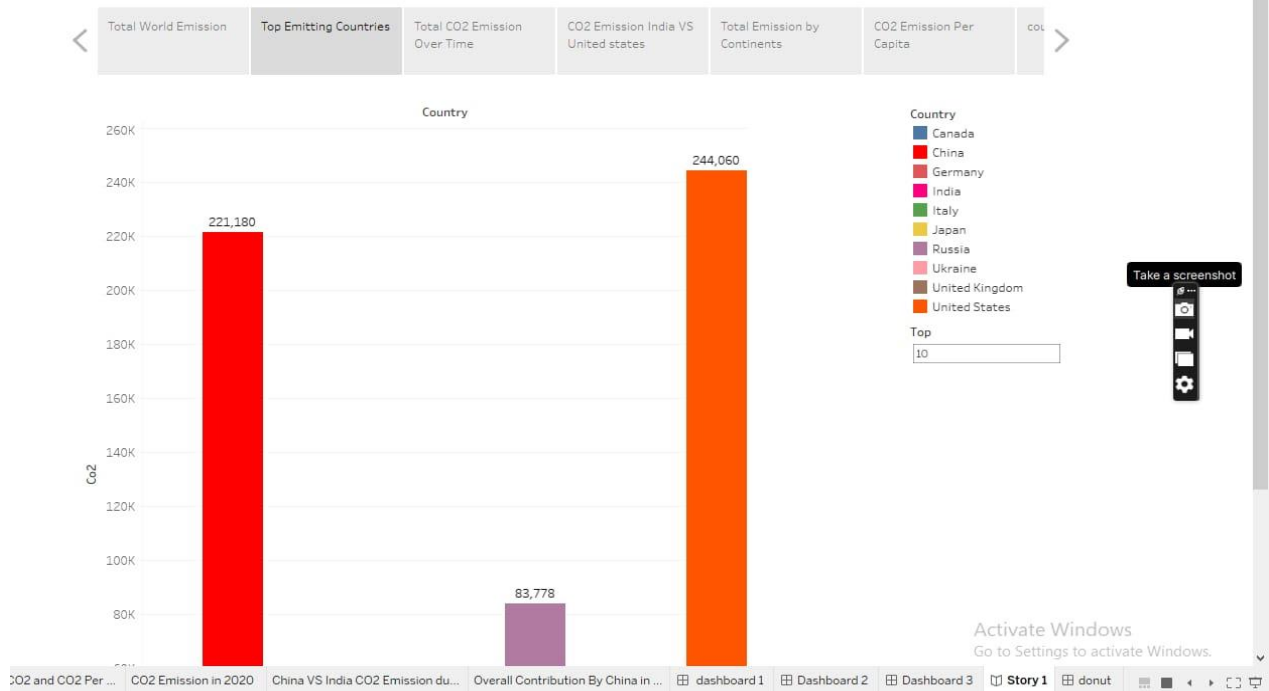


## RESULT

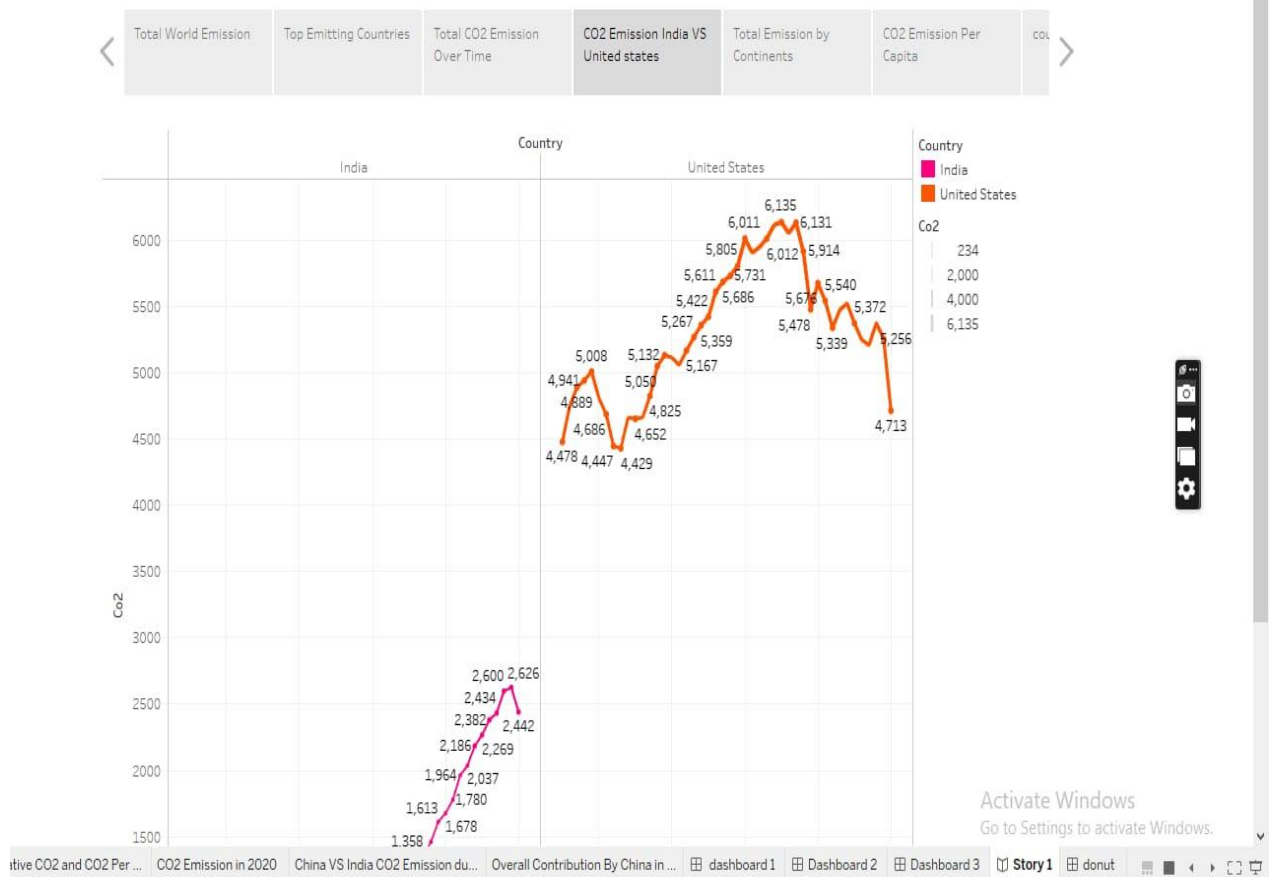
## OUTPUT



## CO2 EMISSION STORY

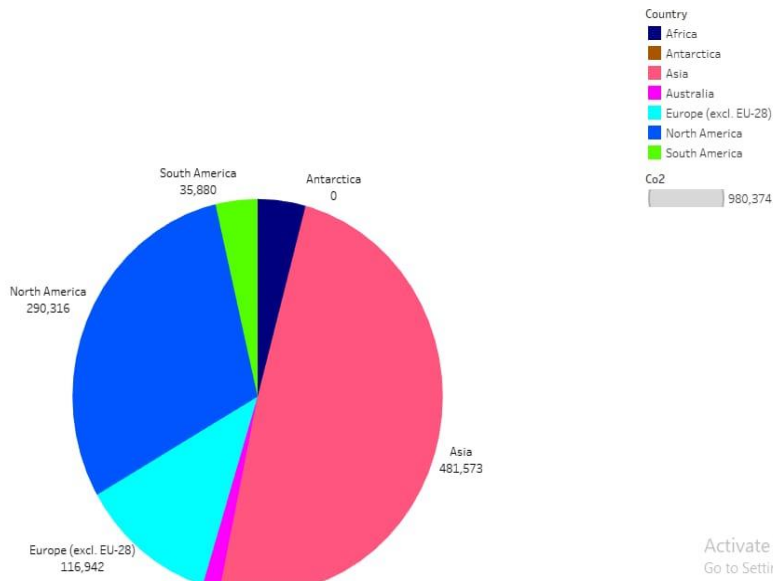


## CO2 EMISSION STORY



# CO2 EMISSION STORY

- Total World Emission
- Top Emitting Countries
- Total CO2 Emission Over Time
- CO2 Emission India VS United states
- Total Emission by Continents
- CO2 Emission Per Capita



Take a screenshot

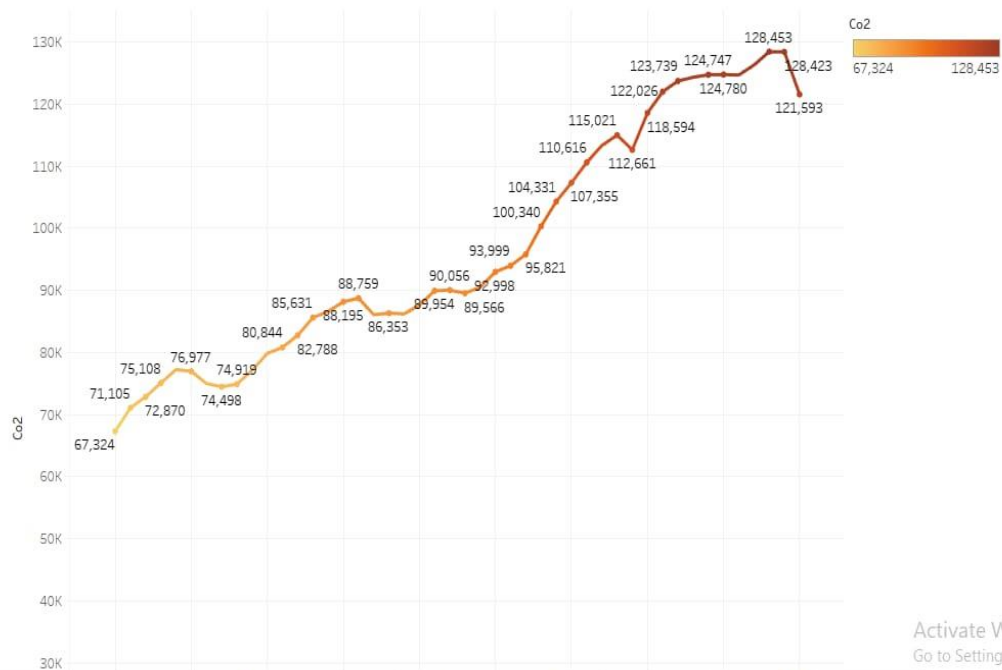


Activate Windows  
Go to Settings to activate Windows.

ulative CO2 and CO2 Per ... CO2 Emission in 2020 China VS India CO2 Emission du... Overall Contribution By China in ... dashboard 1 Dashboard 2 Dashboard 3 Story 1 donut

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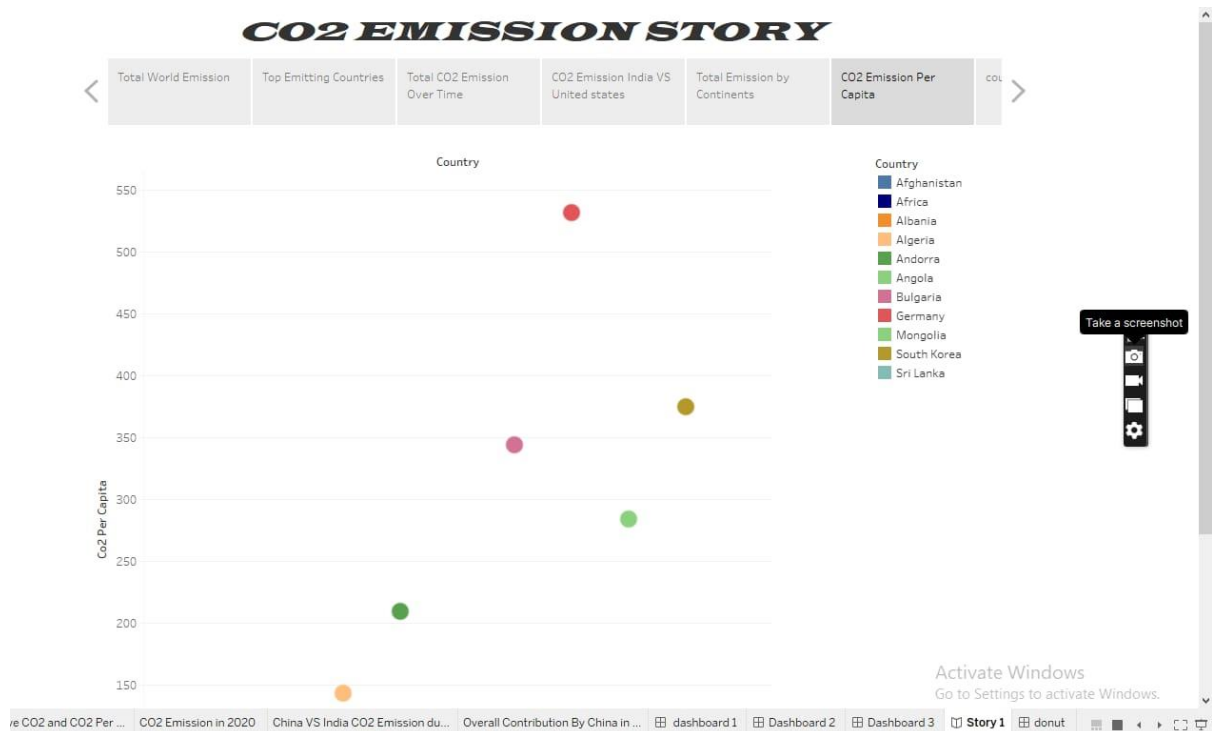
Take a screenshot



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CO2 Per ... CO2 Emission in 2020 China VS India CO2 Emission du... Overall Contribution By China in ... dashboard 1 Dashboard 2 Dashboard 3 Story 1 donut





## ADVANTAGES & DISADVANTAGES

### ADVANTAGES

1. Technology more mature than other alternatives ; can easily retrofit into existing plants; High CO<sub>2</sub> concentration enhance sorption efficiency; fully developed technology. commercially deployed at the required scale in some industrial sectors; opportunity for retrofit to existing plant;
2. Very high CO<sub>2</sub> concentration that enhances absorption efficiency; mature air separation technologies available; reduced volume of gas to be treated. Hence required smaller boiler and other equipment; CO<sub>2</sub> is the main combustion product, which remains unmixed with N<sub>2</sub>, thus avoiding energy intensive air separation;

### DISADVANTAGES

1. Low CO<sub>2</sub> concentration affects the capture efficiency;
2. Temperature associated heat transfer problem and efficiency decay issues associated with the use of hydrogen-rich gas turbine fuel; high parasitic power requirement for sorbent regeneration; inadequate experience due to few gasification plants currently operated in the market; high capital and operating costs for current sorption systems; High efficiency drop and energy penalty; cryogenic O<sub>2</sub> production is costly; corrosion problem may arise;
3. Process is still under development and inadequate large scale operation experience;

## **APPLICATIONS**

Greenhouse gas emissions can be reduced by making power on site with renewables and other climate-friendly energy resources. Cleaner air & skies-reducing our carbon emissions helps reverse the impact of global warming overall, but more specifically, benefits the overall air equality.

## **CONCLUSION**

Reducing forest loss will reduce carbon emissions. Forests are crucial for reducing emission from the agriculture and Land-use sectors. Reducing the effects of climate change on people and maintaining and strengthening food security.

## **FUTURE SCOPE**

Fuel combustion, company vehicles and fugitive emissions. These are also known as direct emissions from activities of an organization or under their control. This can include gas boilers, fleet vehicles and air-conditioning leaks.

## **SOURCE CODE**

### **A. SOURCE CODE**

Unearthing\_the\_Environmental\_Impact\_of\_Human\_Activity\_A\_Global\_CO2\_Emission\_Analysis.pdf