UNEARTHING THE ENIVIRNONMENTAL IMPACT OF HUMAN ACTIVITY: A GLOBAL CO2 EMISSION ANALYSIS

INTRODUCTION

Over view

Global warming is one of the biggest challenges currently being faced by the human race, although correlation is not causation, a likely cause of global warming is due to increased atmospheric carbon dioxide from human activities. CO_2 Emission refers to the carbon dioxide emitted throughout the world. For this analysis we will be focusing on CO_2 Emission and its effects on the world we live in as well as some key factors and stats that may play a role in emission of CO_2 globally.

Fossil fuel use is the primary source of CO_2. This project throw light onto how much fossil fuels are burnt, per year, per nation, which amounts to an increase in CO_2 every year.

Purpose

This project will help researchers and environment experts to predict global warming and thus CO_2 emission can be decreased.

PROBLEM DEFINITION AND DESIGN THINKING

Empathy Map

Says

What have we heard them say?
What can we imagine them saying?

Changes in where different wildlife populations can live and survive

Ice caps to melt and converts to water causing sea level to rise

Increase in spreading of diseases such as infectious pox and fever, etc

Thinks

What are their wants, needs, hopes, and dreams? What other thoughts might influence their behavior?

Concern about the current amount of carbon and carbon emission into the atmosphere

The harmful effect on humans and animals

The effect on environment in the upcoming years

The causes of increased carbondi oxide emissions

CUSTOMER

People re-reusing the household items such as an electrical appliance rather than throwing them away

Increasing the forest density in the world

Using less polluting energy sources

The fear of water scarcity due to low rainfall

The fear of increasing global temperature as a result and its adverse effects

The fear of forest fire, drought and food scarcity

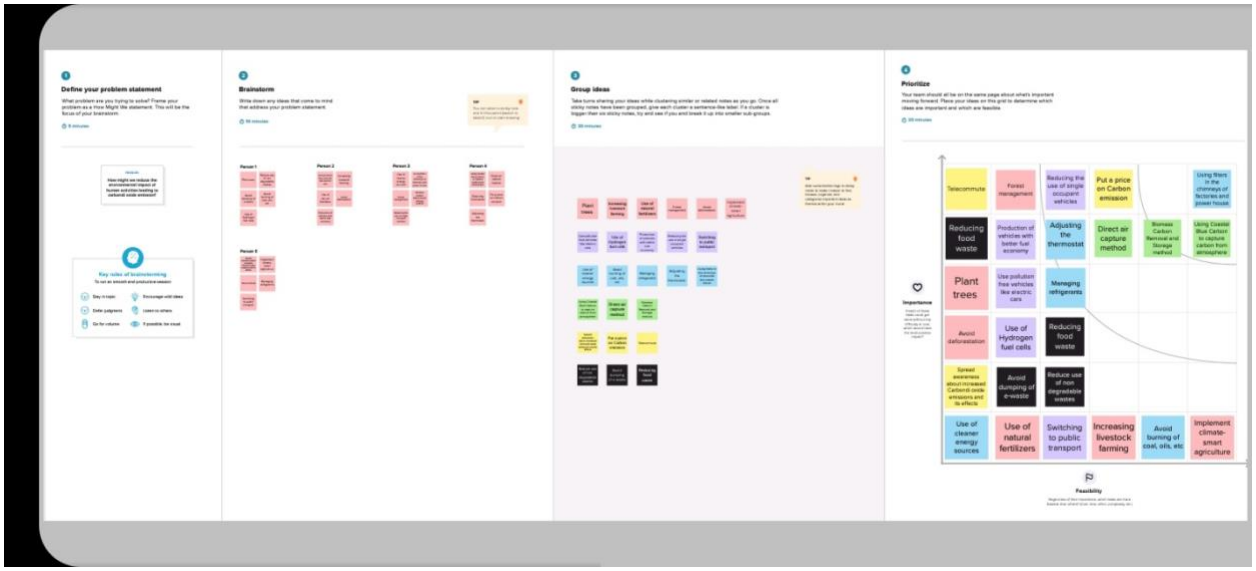
Does

What behavior have we observed?
What can we imagine them doing?

Feels

What are their fears, frustrations, and anxieties? What other feelings might influence their behavior?

Ideation & Brainstorming Map



RESULT

We have used the dataset to create data visualization. Then we have organized the data into Dashboard and Story which is data in an organized, easy-to-read format.

1. Dashboard

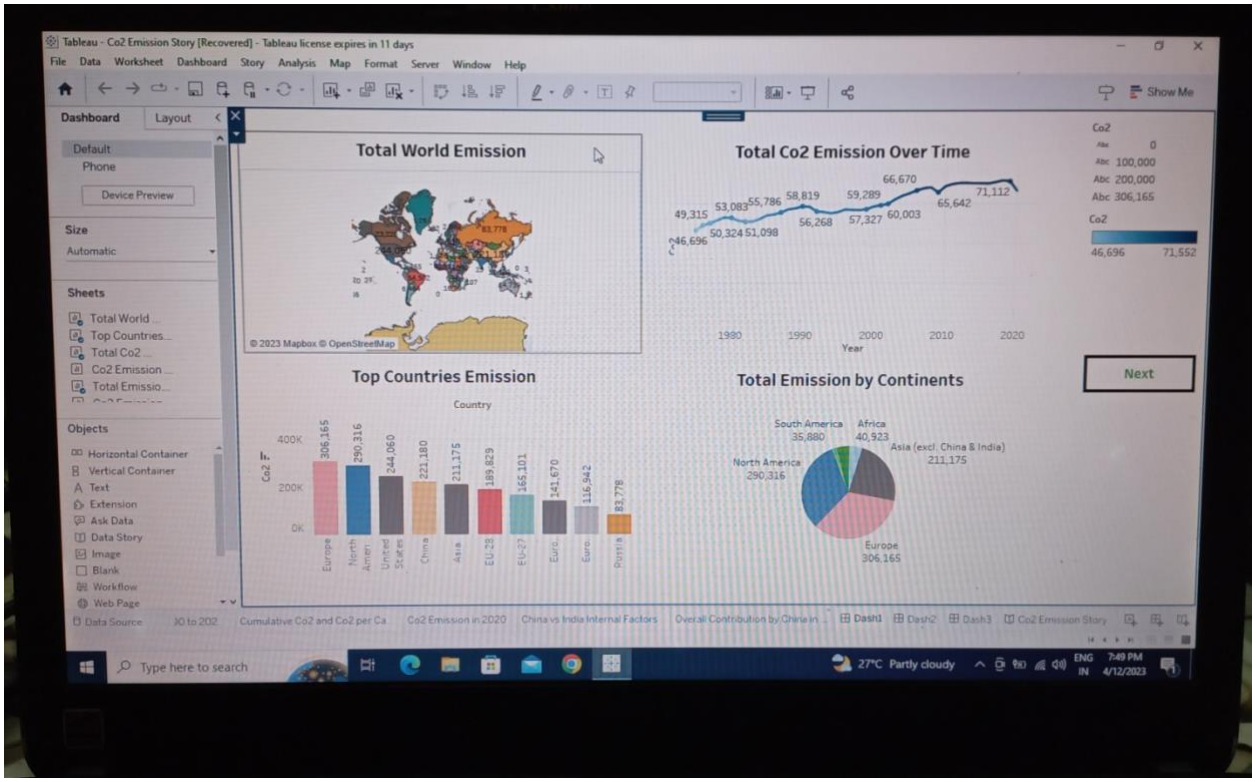
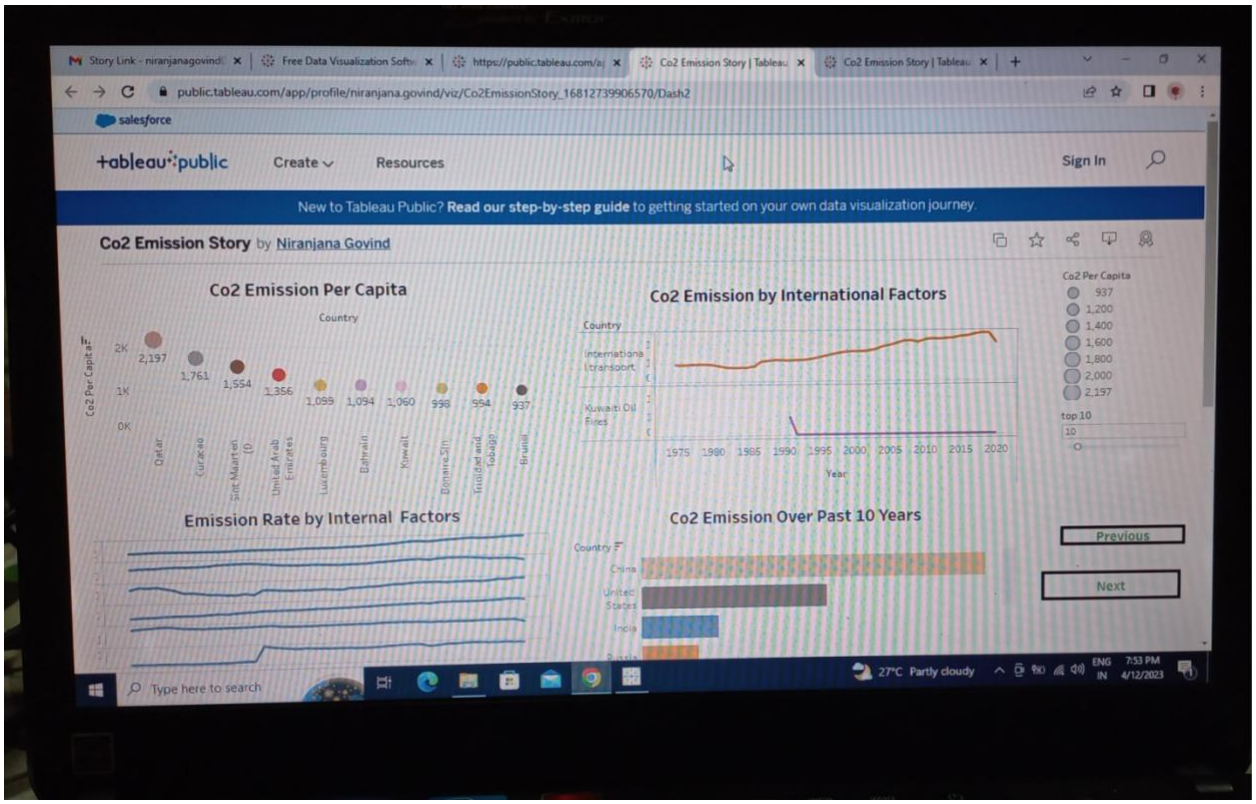


Tableau - Co2 Emission Story [Recovered] - Tableau license expires in 11 days
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Dashboard Layout
Default
Phone
Device Preview
Size
Automatic
Sheets
Total World ...
Top Countries...
Total Co2 ...
Co2 Emission ...
Total Emissio...
Objects
Horizontal Container
Vertical Container
Text
Extension
Ask Data
Data Story
Image
Blank
Workflow
Web Page
Total World Emission
© 2023 Mapbox © OpenStreetMap
Total Co2 Emission Over Time
49,315 53,083 55,786 58,819 59,289 66,670 71,112
46,696 50,324 51,098 56,268 57,327 60,003 65,642
1980 1990 2000 2010 2020
Year
Co2
0
100,000
200,000
306,165
46,696 71,552
Top Countries Emission
Country
Co2
400K
200K
0K
306,165 290,316 244,060 221,180 211,175 189,829 165,101 141,670 116,942 83,778
Europe North Amer.. United States China Asia EU-28 EU-27 Euro.. Euro.. Russia
Total Emission by Continents
South America 35,880
Africa 40,923
Asia (excl. China & India) 211,175
North America 290,316
Europe 306,165
Next
Data Source 30 to 202 Cumulative Co2 and Co2 per Ca Co2 Emission in 2020 China vs India Internal Factors Overall Contribution by China in ... Dash1 Dash2 Dash3 Co2 Emission Story
Type here to search
27°C Partly cloudy
ENG IN 7:49 PM 4/12/2023


Story Link - niranjanagovind
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salesforce
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Co2 Emission Story by Niranjana Govind
Co2 Emission Per Capita
Country
Co2 Per Capita
2K
1K
0K
2,197 1,761 1,554 1,356 1,099 1,094 1,060 998 984 937
Qatar Curaçao Sint Maarten (D... United Arab Emirates Luxembourg Bahrain Kuwait Bonaire,Sin... Trinidad and Tobago Brunei
Co2 Emission by International Factors
Country
International transport
Kuwaiti Oil Fires
1975 1980 1985 1990 1995 2000 2005 2010 2015 2020
Year
Co2 Per Capita
937
1,200
1,400
1,600
1,800
2,000
2,197
top 10
10
Emission Rate by Internal Factors
Co2 Emission Over Past 10 Years
Country
China
United States
India
Previous
Next
Type here to search
27°C Partly cloudy
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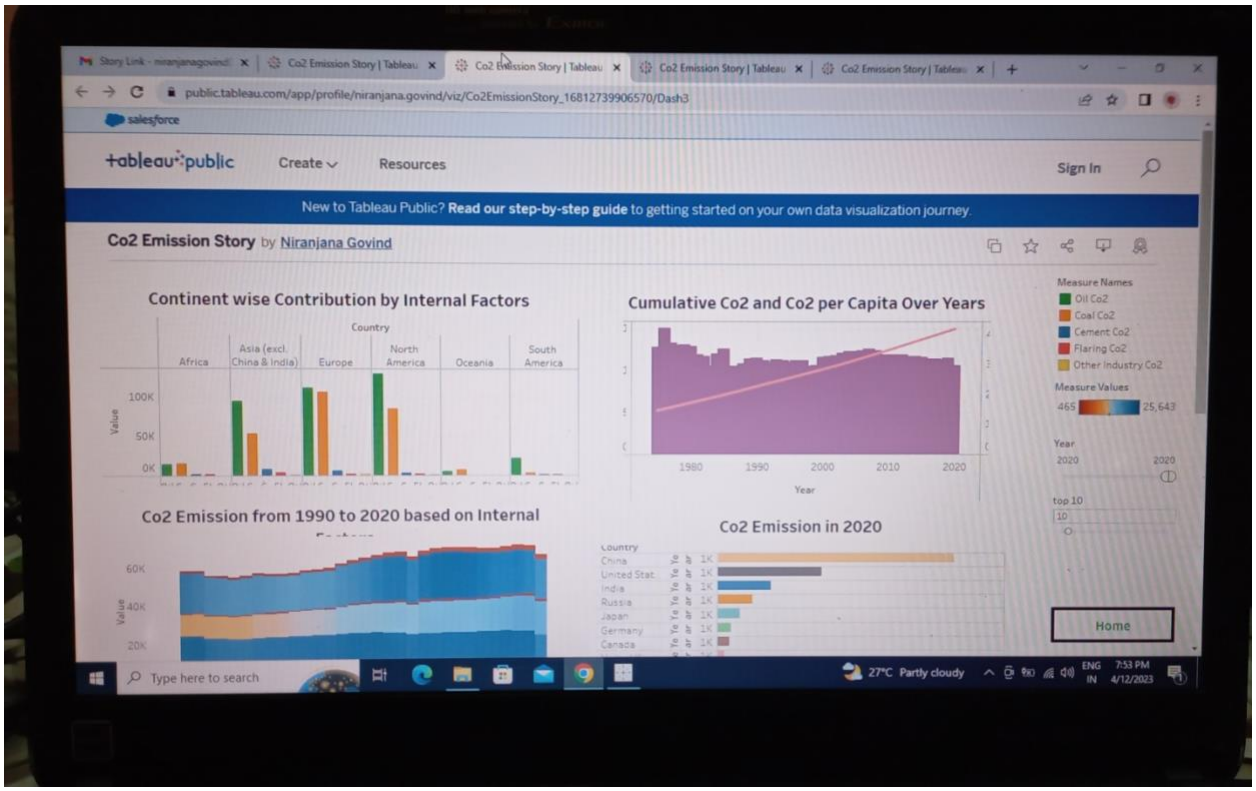
public.tableau.com/app/profile/niranjana.govind/viz/Co2EmissionStory_16812739906570/Dash3
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Co2 Emission Story by Niranjana Govind
Continent wise Contribution by Internal Factors
Cumulative Co2 and Co2 per Capita Over Years
Co2 Emission from 1990 to 2020 based on Internal
Co2 Emission in 2020
Measure Names
Oil Co2
Coal Co2
Cement Co2
Flaring Co2
Other Industry Co2
Measure Values
Year
top 10
Home
Type here to search
27°C Partly cloudy
ENG IN 7:53 PM 4/12/2023

2. Story

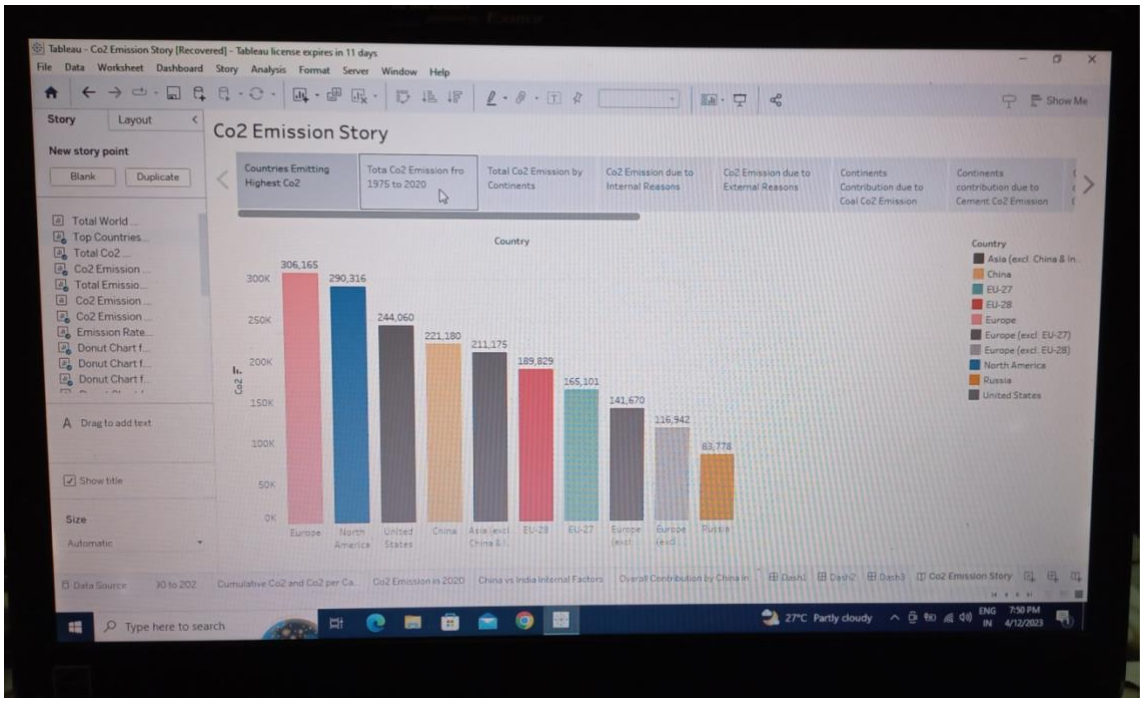
Tableau - Co2 Emission Story [Recovered] - Tableau license expires in 11 days
File Data Worksheet Dashboard Story Analysis Format Server Window Help
Story
Layout
New story point
Blank
Duplicate
Co2 Emission Story
Countries Emitting Highest Co2
Tota Co2 Emission fro 1975 to 2020
Total Co2 Emission by Continents
Co2 Emission due to Internal Reasons
Co2 Emission due to External Reasons
Continents Contribution due to Coal Co2 Emission
Continents contribution due to Cement Co2 Emission
Country
306,165
290,316
244,060
221,180
211,175
189,829
165,101
141,670
116,942
83,778
Europe
North America
United States
China
EU-28
EU-27
Russia
Drag to add text
Show title
Size
Automatic
Type here to search
27°C Partly cloudy
ENG IN 7:50 PM 4/12/2023

ADVANTAGES & DISADVANTAGES

1. Advantages of CO_2 emission:
    - Green plants grow faster with more $CO_{2.}$
    - Benefit of green house gases for photosynthesis.

2. Advantages of reducing CO_2 emission: $_2$
    - Improve air quality and save lives.
    - Improved water and soil quality.

3. Disadvantages of CO_2 emission:
    - Rise in sea level .
    - Leading to the loss of coastal land.
    - Threats to biodiversity.
    - Change in precipitation pattern.
    - Volcano eruption.
    - Air pollution.
    - Rise in earth temperature causing global warming.

APPLICATIONS

Worldwide emission of $CO_2$from burning fossil fuels total about 34 billion tones per year about 45% of this from coal CO_2, about 35% from oil CO_2 and 20% from gas CO_2.

By analyzing the global CO_2 emission across countries from 1975 to 2020 every country can set goals to decrease this amount of CO_2 emission yearly.

CONCLUSION

Global warming is not something to take lightly. The oceans are warming and the polar ice caps are melting and green house gas level is at an all time high.

Large CO_2 emission depletes resource on large and small scales from country deforestation activities to one home increased use of air conditioning.

We have analyzed the top emitting countries, CO_2 emission India vs USA, CO_2 emission per capita, CO_2 emission over past 10 years etc. Using this data we can help stabilize the Earth atmosphere and reduce global warming and its effects.

FUTURE SCOPE

Once our CO_2 emission analysis has been calculated, SCS offers complete the service option to achieve carbon neutrality, including guidance on the purchasing of verified carbon offset. Carbon neutral certification demonstrates to decarbonization and neutralization by meeting the requirement of the SCS.