

PROJECT REPORT

1. INTRODUCTION

1.1 Overview

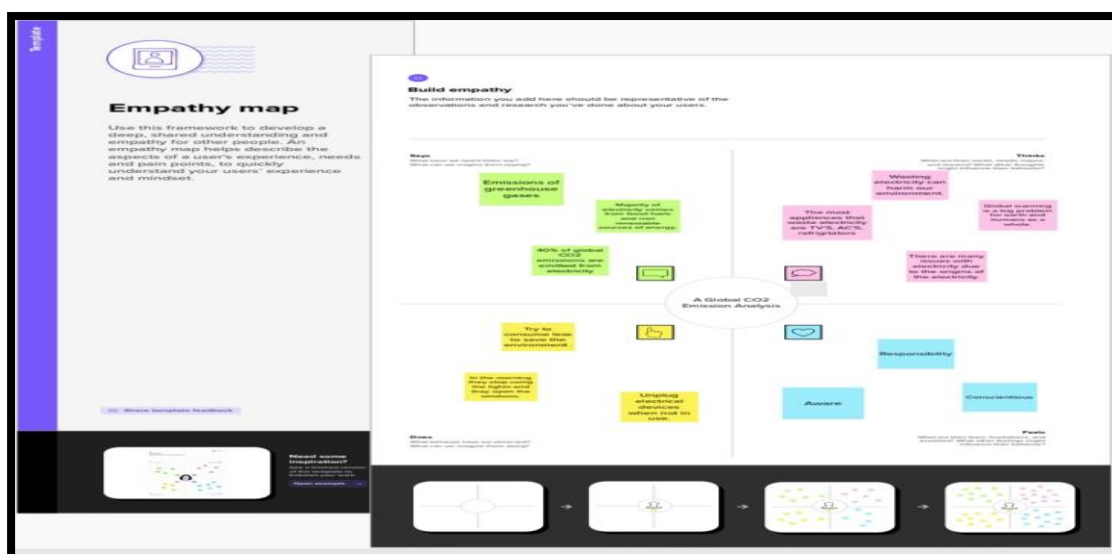
Carbon dioxide emissions are emissions stemming from the burning of fossil fuels and the manufacture of cement; they include carbon dioxide produced during consumption of solid, liquid, and gas fuels as well as gas flaring.

1.2 Highlights

CO2 use has potential to support climate goals, but robust life-cycle assessment is essential. CO2 use applications can deliver climate benefits where the application is scalable, uses low-carbon energy and displaces a product with higher life-cycle emissions. Quantification of these benefits can be challenging and improved methodologies are needed to inform future policy and investment decisions.

2. PROBLEM DEFINITION & DESIGN THINKING

2.1 Empathy map

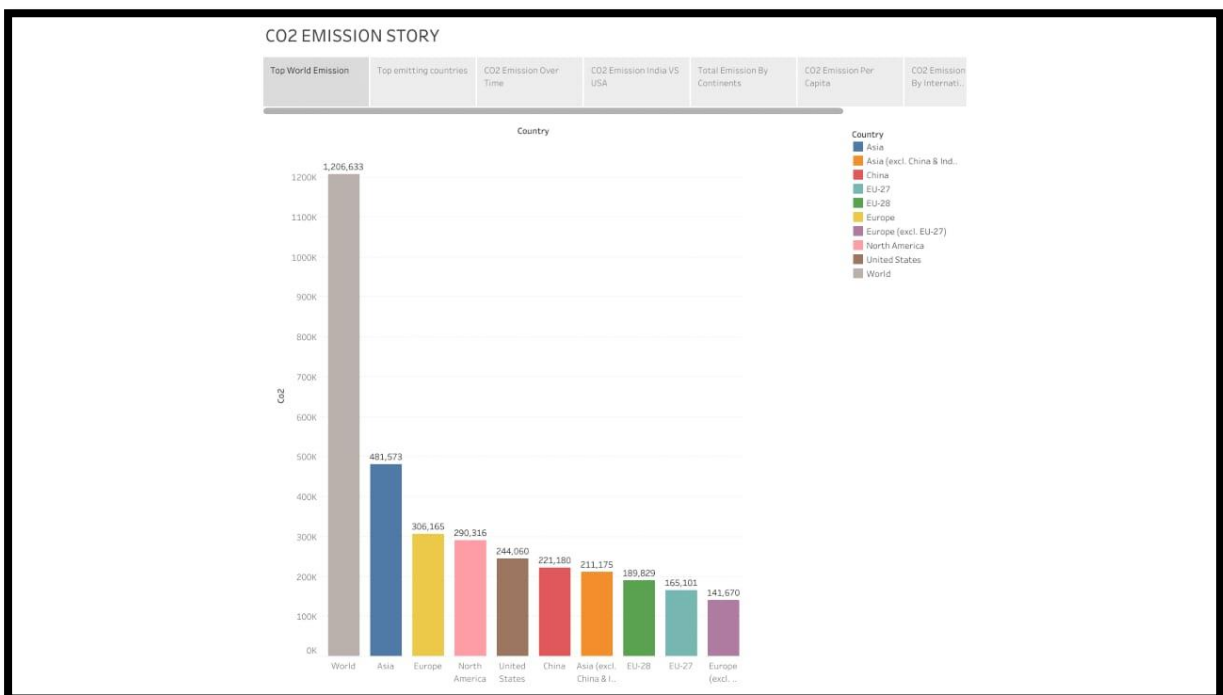


2.2 Ideation & Brainstorming map

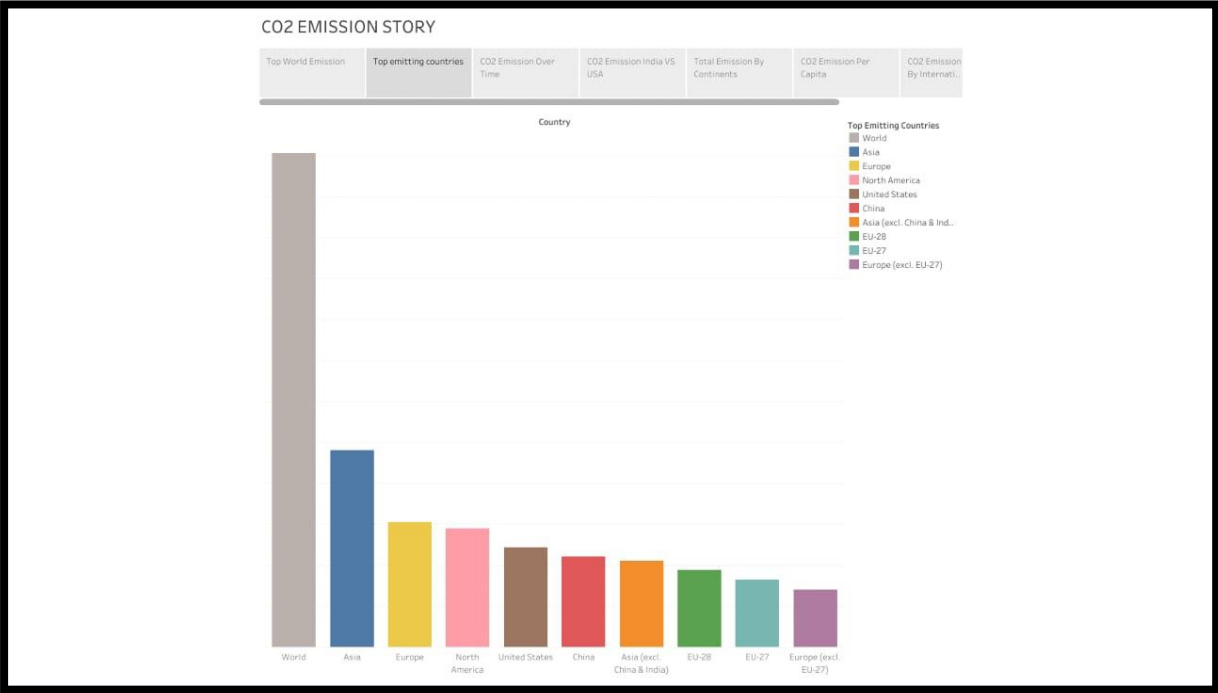


3.RESULT

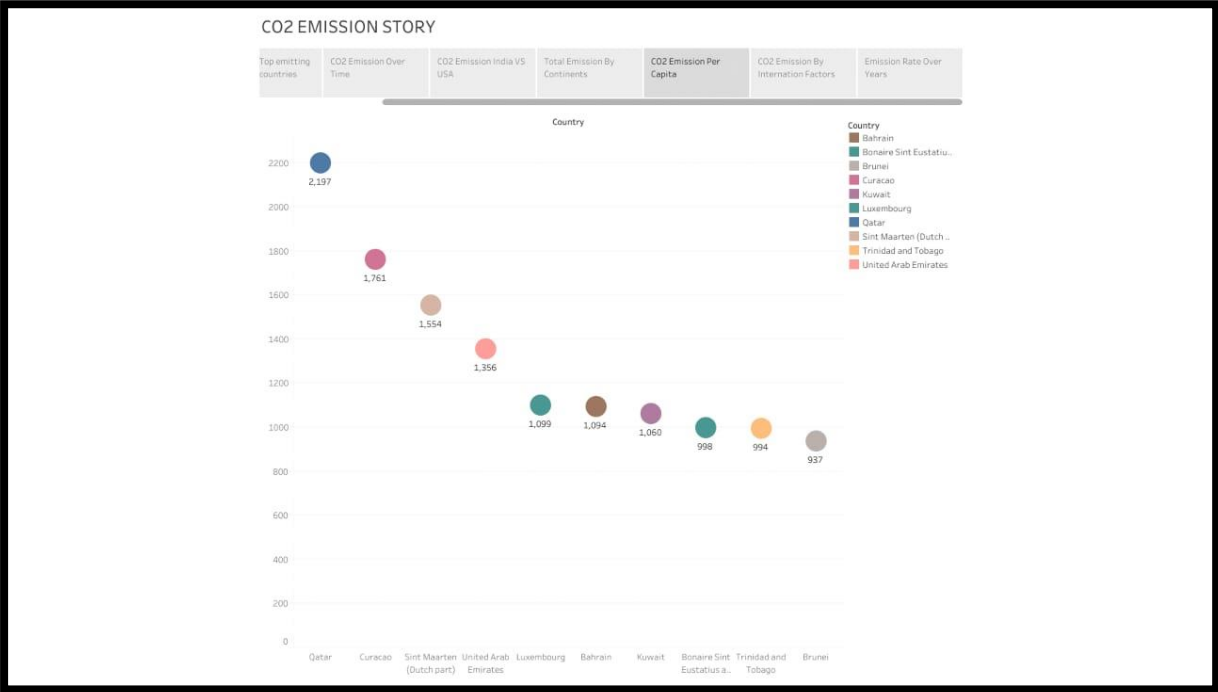
Top World Emission



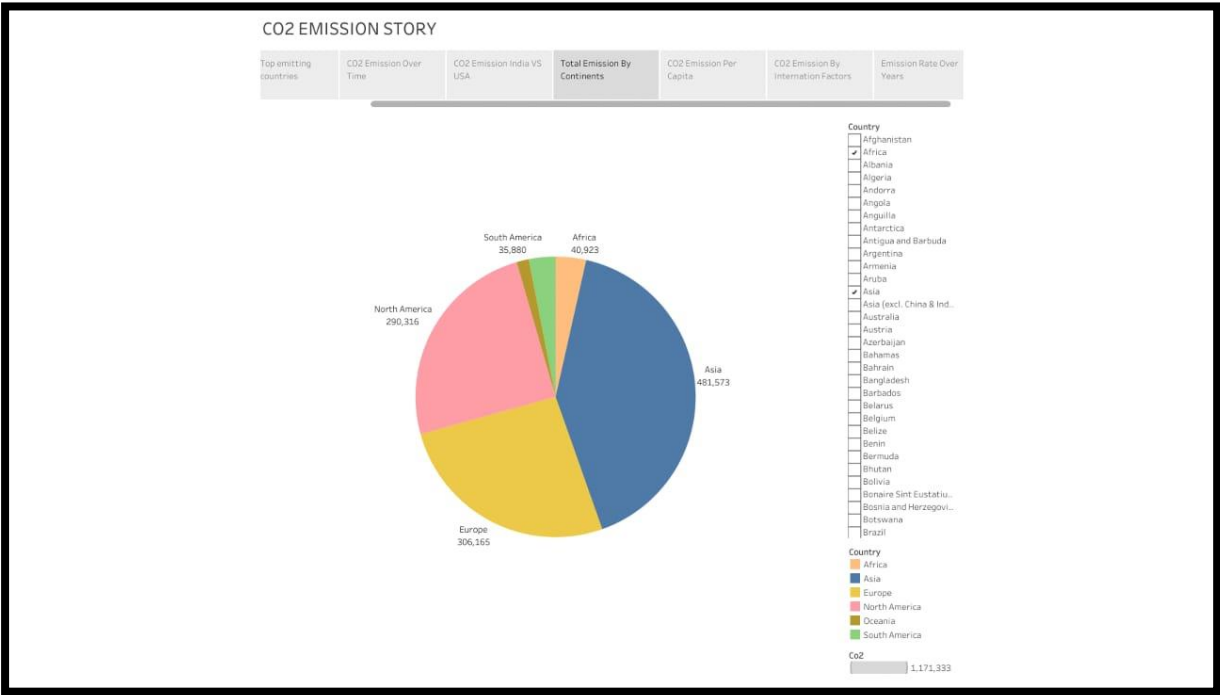
Top Emitting Countries



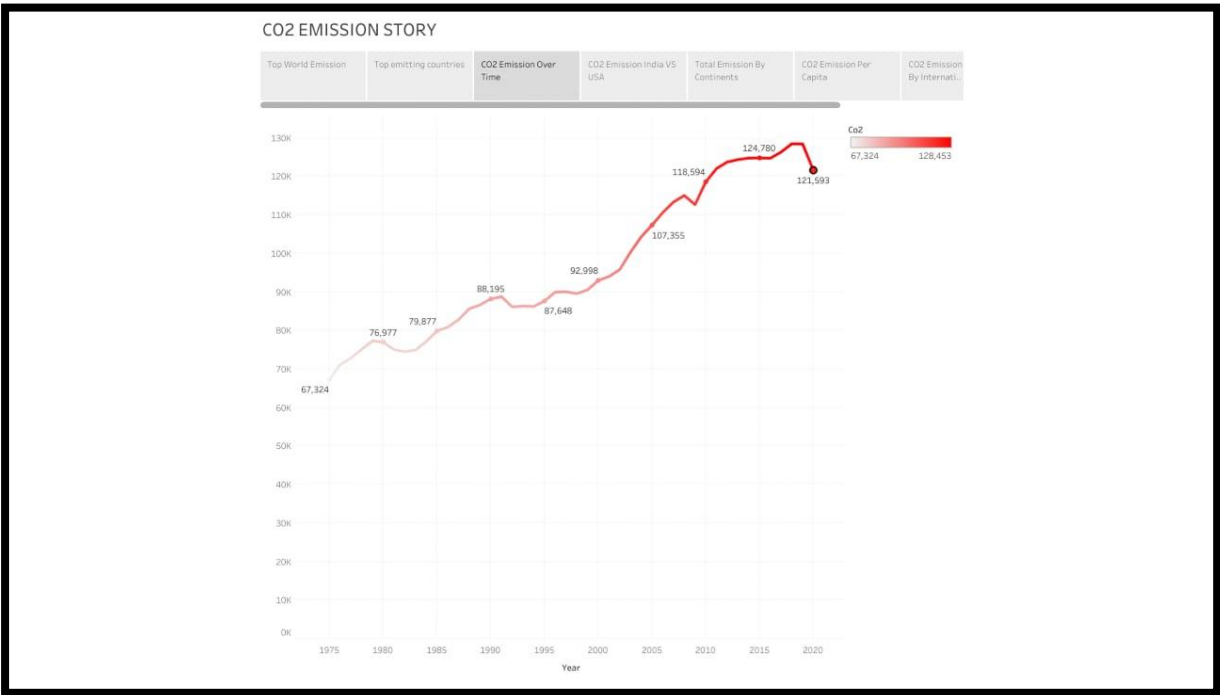
CO2 Emission Per Capita



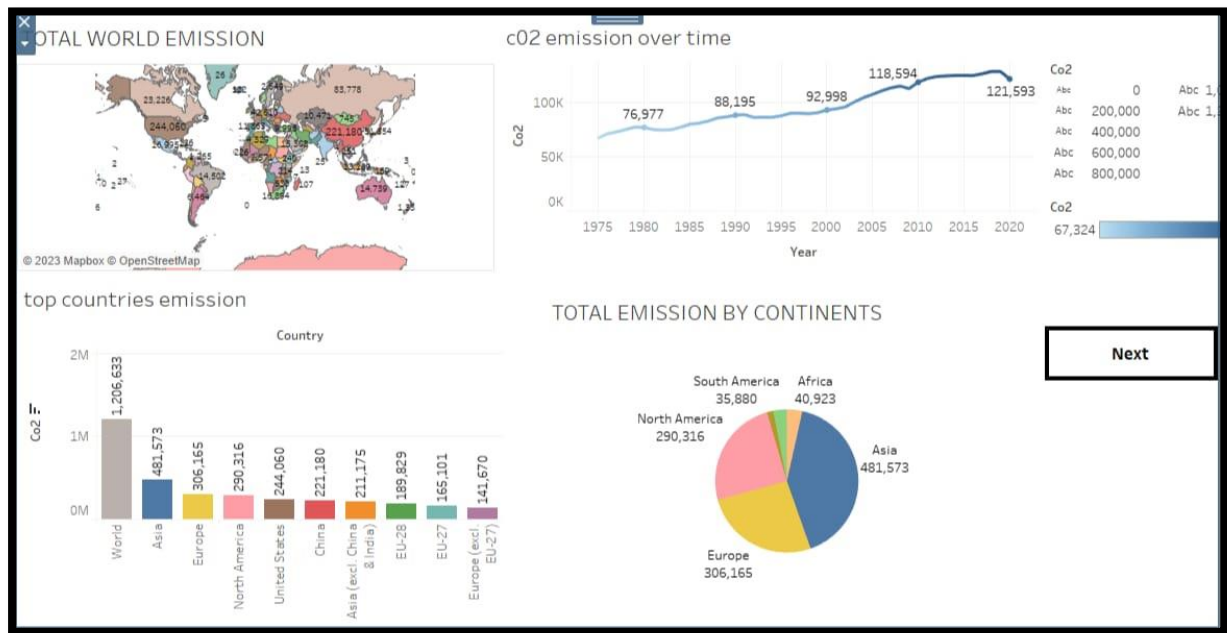
Total Emission By Continents



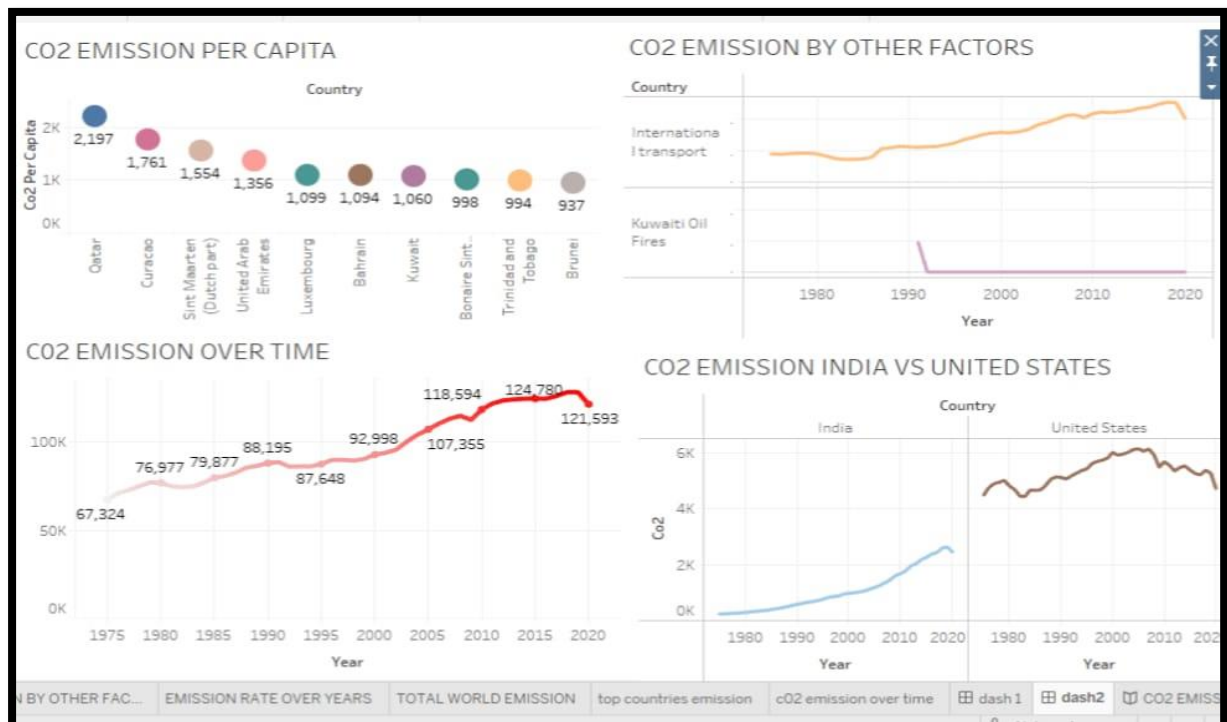
Co2 Emission Over Time



CO2 Emissions Dashboard (1)



CO2 Emissions Dashboard (2)



4. ADVANTAGES

- Wide availability and low.
- High thermal stability.
- Low sensitivity to moisture(AC).
- High pore size and tunable pore size

DISADVANTAGES

- Low CO₂ adsorption capacity.
- Low CO₂ selectivity.
- Deactivation of synthesis adsorbent.
- Slow adsorption kinetics and mass transfer.

5. APPLICATIONS

Carbon dioxide is used as a refrigerant, in fire extinguishers, for inflating life rafts and life jackets, blasting coal, foaming rubber and plastics, promoting the growth of plants in greenhouses, immobilizing animals before slaughter, and in carbonated beverages.

6. CONCLUSION

Carbon capture and sequestration is an attractive option for reducing greenhouse gas emissions and could even help remove carbon dioxide from the atmosphere.

7. FUTURE SCOPE

CO₂ emissions from energy combustion grew by around 1.3% or 423 Mt in 2022, while CO₂ emissions from industrial processes declined by 102 Mt. Emissions from industrial processes declined by 102Mt. Emissions growth in 2022 was below global GDP growth, reverting to a decades-long trend of decoupling emissions and economic growth that was broken in 2021.

8. APPENDIX

A. Source Code

Dashboard link:

https://public.tableau.com/views/atchaya/dash1?:language=en-US&publish=yes&:display_count=n&:origin=viz_share_link