IDEAS

Title: GreenHouse Gas.
Author: Aaron Tang
Date: 7/10/2024.

1)
choropleth
map

greenhouses gases emission.
2) dot density map

GHG emissions
across the years.

stacked area chart
↓
total
gas.

CO2
emission
vs
GDP.

greenhous
by
sector.

→ different
categorise
to total emissio

→ ghg intensity
across geographical
regions or emissions.

Compare
→ between
different
categories.
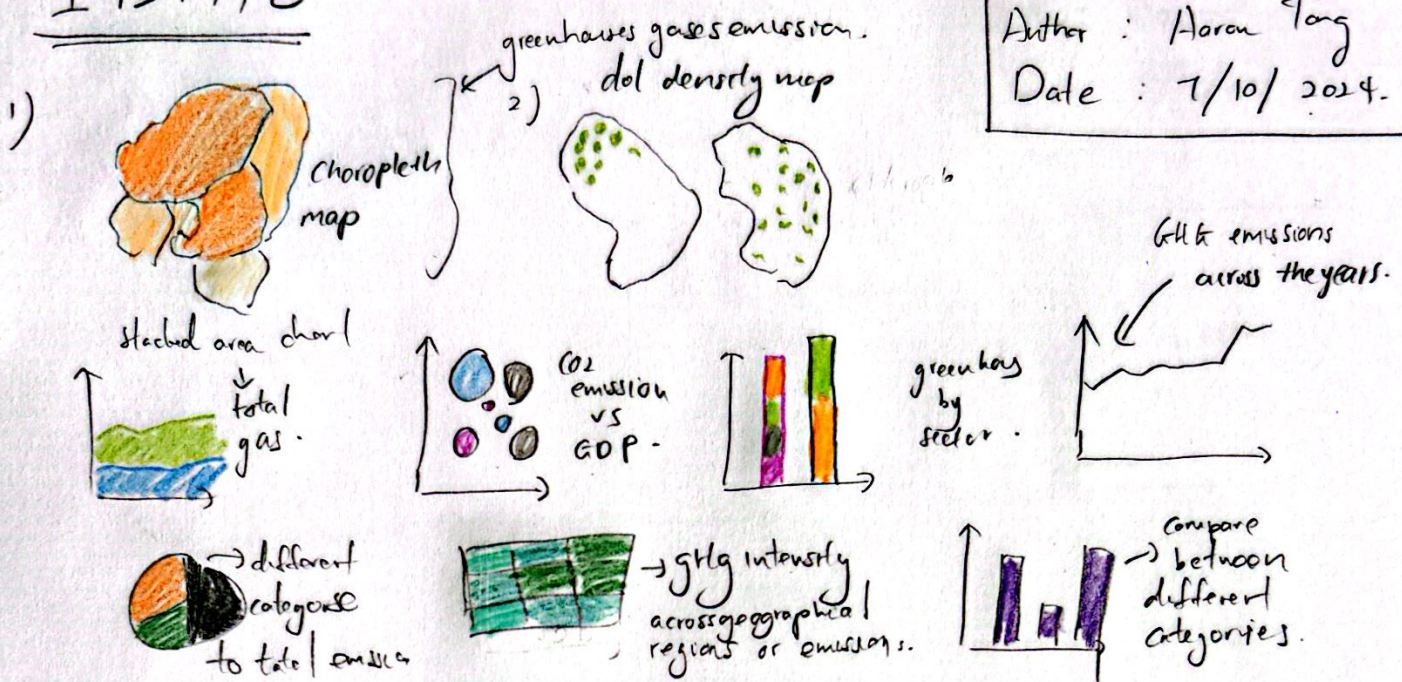
Filter

Pie Charts → not ideal for comparing
multiple categories

Area Charts → area under the curve
can make it difficult to precisely
compare values at specific points in time.

Categorise.

- Group data by continents
  or economic blocks
- categorise countries as
  developed, developing, or
  under developed to compare
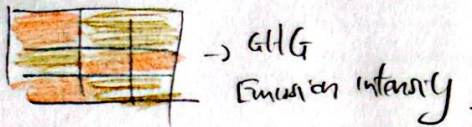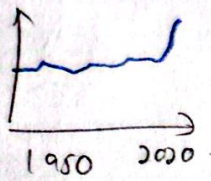 emission patter r.

Combining and Refining

- group sectors like agriculture,
  and land use together to see
  their combined effect on total
  emissions
- refine the data to highlight
  key time periods, such as
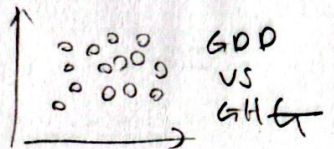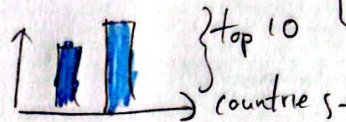 during major international agreements

Questions.

1) is the visualization
   intuitive and easy to
   understand for target
   audience.
2) How might this visualization
   influence decision making
   in educational and
   economic sector.

Layout

Global CO₂ Emission Overtime.

1950   2020

→ GHG
Emission intensity.

Stacie Bar

} Top 10
→ countries.

GDP
VS
GHG.

← by sector.

Focus.

- GHG Analysis Dashboard.
  - give users a clear and interactive way to explore greenhouse gas data from different perspectives.
- spend most time toggling between different visualizations

Operations

- allow users to zoom in on specific period
- users can toggle between sector
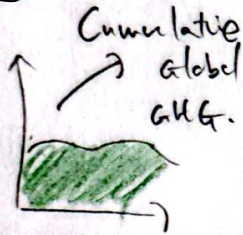- toggle to see emissions per capita.

Advantage.

- explore GHG data from multiple perspectives, making it easier to derive insights
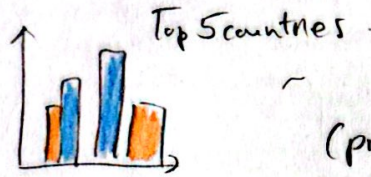- can filter, zoom, and select different views.

Disadvantages.

- overload of information
- find dashboard overwhelming.
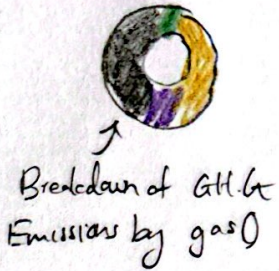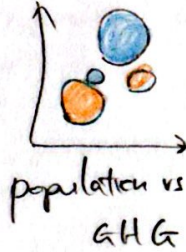- hard for non-technical users to understand.
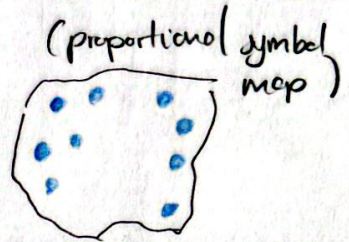
Layout

Cumulatie → Global GHG.

Top 5 countries

(proportional symbol map).

Breakdown of GHG Emissions by gas()

population vs GHG

Radar Chart → GHG emission from multiple sector

Operations

- hover over specific years to see cumulative GHG
- clicking on different gases in the donut chat provides more detailed information about emissions
- select different countries from a drop down to see how sector specific emissions compare within each nation.

Focus

- focus on comparing emissions across various sectors, countries, and gases.
- a dashboard where users can click on different sectors to view sector-specific data for selected countries.
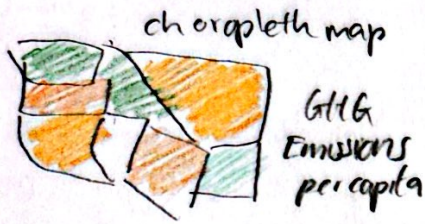
Advantages

Diverse Perspectives
- allow users to view emissions data from multiple angle
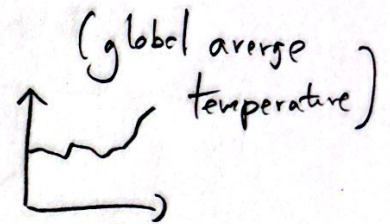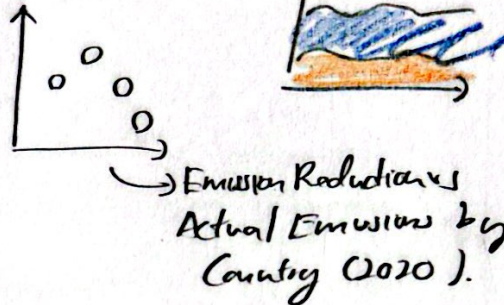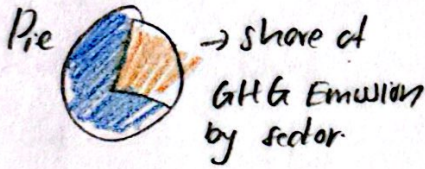- adds a dynamic and engaging element to the data.

Disadvantages

- hard for user to interpret radar chart
- a lot of interaction may require extra explanation for users to fully understand what the data represent.

Layout

Name: Aaron
Title : greenhouse gas
Date : 4/10/2024
Sheet : 4

choropleth map

GHG Emissions per capita

Global GHG Emissions by gas type over time

(global average temperature)

Pie → share of GHG Emission by sector

→ Emission Reductions Actual Emission by Country (2020).

Focus

- users will likely spend most of their time interacting with the Map and Stacked Area Chart to understand emissions intensity
- hover over countries in the map to see emissions per capita

Advantages

- provides a long term view of how the composition of GHG emissions has evolved, giving insights into trends.
- useful for spotting periods of accelerated emissions. increases or decreases

Operations

- click on countries to get detailed information
- zoom in on specific time periods to see how individual gases like methane or CO_2
- see percentage change

Disadvantages

- require additional explanation for users
- visually overwhelming
- provides limited information
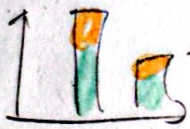
Layout

Based off sheet 4
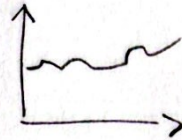
Choropleth map

Stacked area chart

Stacked bar chart
→ By sector.

line chart
} global average temperature.

→ CO_2 emission per capita vs GDP.

Focus.

- provide a comprehensive review of GHG emissions on a global scale, broken down by county, gas type, and sector.
- focus on company county - specific emission using the Map.

Detail

- R for data cleaning
- Vs code to code
- Vega Lite Editor for making graph
- own a git hub account.

☞

Operations

- Hover over a county
- zoom into specific time period
- toggle between sectors to view specific emissions contributions
- Hover over specific years to see exact global temperature values.
- tooltips display the average.

Estimated time and effort: 7 days to build all idiom and 3 days for final design.

specific requirement: laptop and desktop.