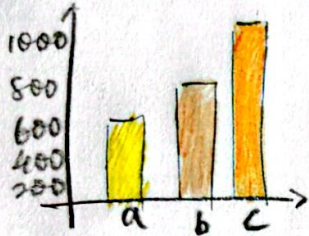


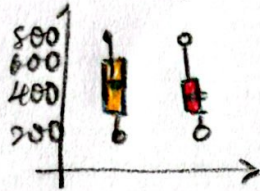
# IDEAS

① Qualitative GDP value. & Asean climate.

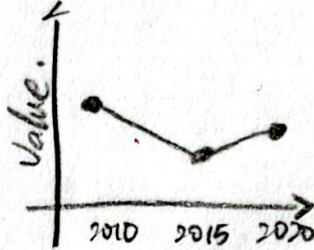
② Bar chart.



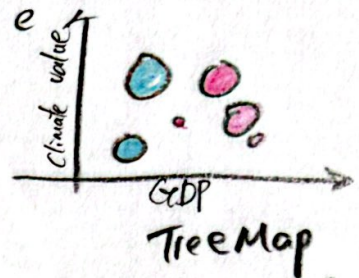
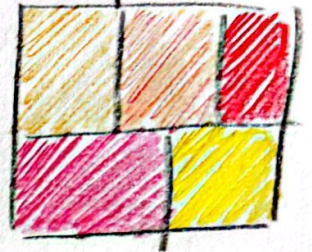
③ Boxplot



④ line chart

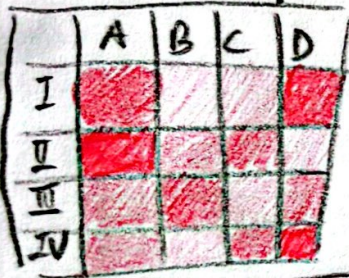


⑤ ~~Box plot~~



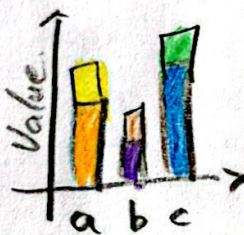
② categorization

③ Heat Map

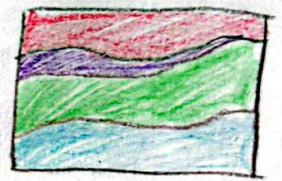
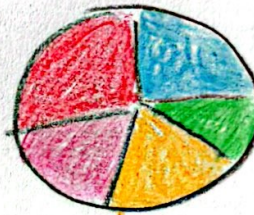


country.

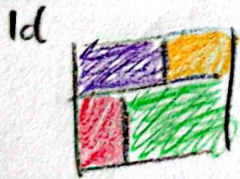
③ stacked bar chart.



③ Pie chart. ⑤ stacked area chart



## FILTER



Not Informative about the quality & trends.



Too hard to read & not meaningful.

## Categorize.

climate attribute.

① categorical  
Based on climate attribute.  
CO<sub>2</sub> emission,  
GHGas emissions.

② Qualitative  
Based on climate attribute.  
CO<sub>2</sub> emission  
GHGas emissions  
PM 2.5 Exposure.  
Renewable energy.

## Question.

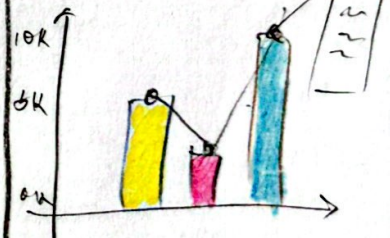
- Q1. who are the top climate value & how has output changed overtime?
- Q2. where is the highest contribute of GDP.

Author: Mah Qing Tong.  
Date: 21 October 2025

sheet 1: Task: Planning.

## Combine & refine

1a & c combined.



1a & c use for trend data.

1b: check for the mean value.

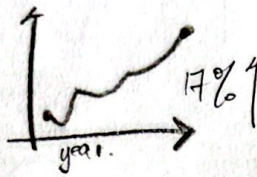
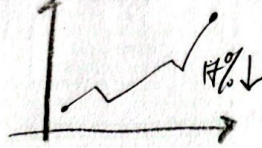
2a use for comparison

2c: use for comparison the value of climate values.



## Asean climate vs GDP

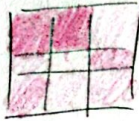
## ① Trend. GDP

② CO<sub>2</sub> emission

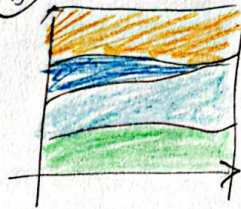
## ③ GDP value.



## ④ Heat Map



## ⑤



## ⑥ Map



- ① Trend GDP & ② CO<sub>2</sub> emission / Renewable.  
 ↳ show comparison between 2010 ~ 2020.  
 ↳ show total amount between climate attribute.

## ④ Heat Map

- ↳ make comparison between the correlation ship

## ③, ⑤ &amp; ⑥

- ↳ show the diff between countries.  
 ↳ make use colour to differentiate.

## Operation.

Have a climate attribute & country dropdown menu to choose.

Eg. Malaysia ▼  
Vietnam .

Focus.

- ↳ No main focus point but will based on the country.  
 ↳ In heatmap, we will highlight the climate attribute.  
 ↳ Tooltip will show all information.

Discussion.Advantages.

- ↳ well structure.  
 ↳ focus on country when we need.  
 ↳ user easy readable & usable.

Disadvantages.

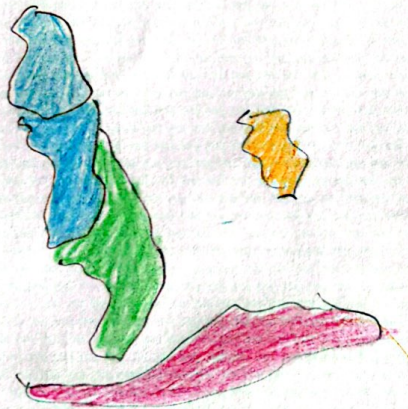
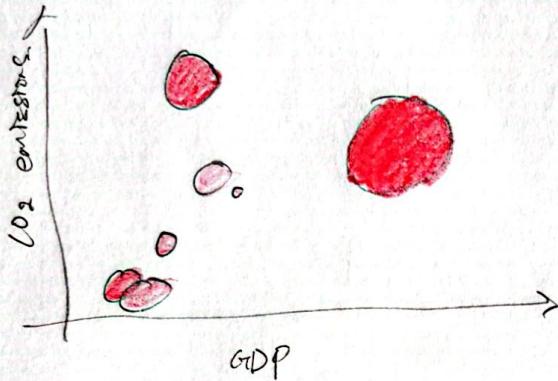
- ↳ Too more informative.  
 ↳ Need to focus on one visualisation.



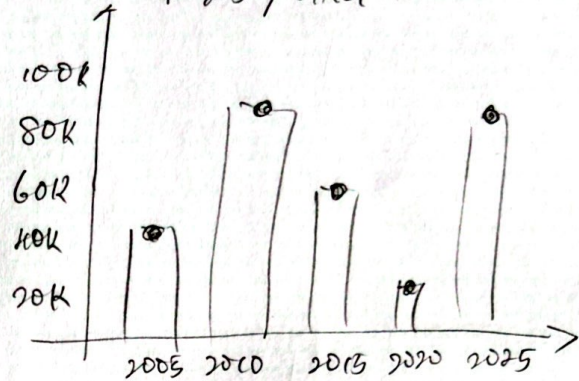
# LAYOUT

Name: Mah Bing Tong sheet 13

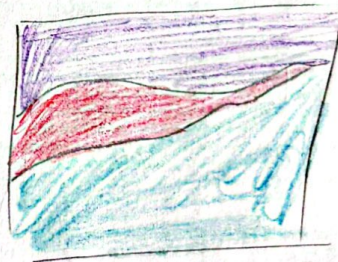
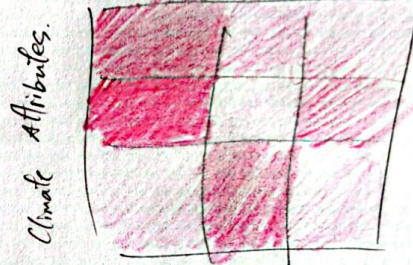
Economic Growth vs CO<sub>2</sub> Emission.



PM2.5 / GHG Emission.



Attributes.



## Focus.

Focus on Bubble chart.

↳ Based on the size of bubble.  
density of colour.

second focus point is Map

↳ make a comparison between countries between climate Attributes.

## Operations.

selected country.

↳ will highlight the country in bubble chart & stacked Area chart.

↳ And show the details of that country CO<sub>2</sub> emissions, other, PM2.5, renewable.

## Discussion.

### Advantages.

↳ clear to see the information of Attributes of climate.

↳ use highlight to focus the country & trends that we want to see.

### Disadvantages.

↳ not more focus on other attribute

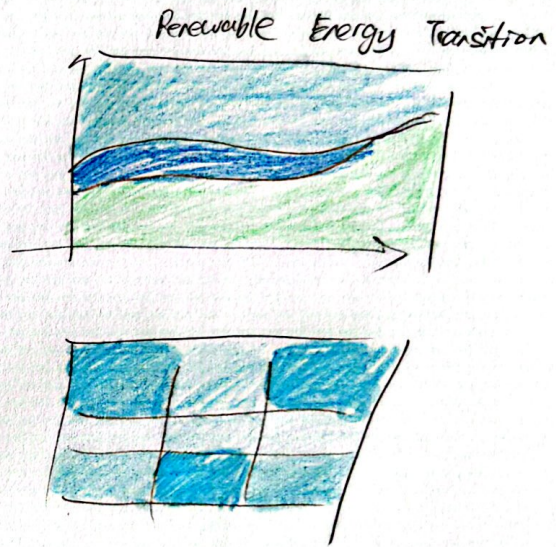
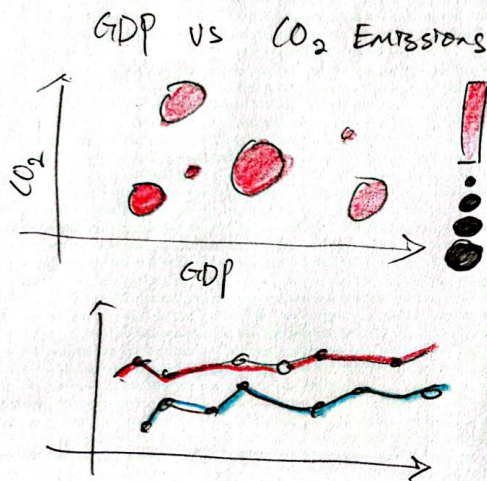
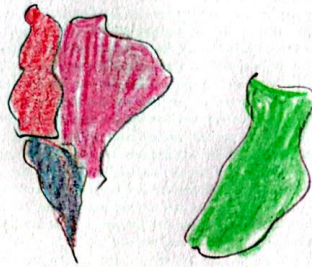
↳ lose more information



# LAYOUT.

Mah Qing Tong sheet : 4

## ASEAN Country Vs Environmental Indicators



### Focus.

- ↳ No main focus chart, all graph are important.
- ↳ Try to make it storytelling & link it all together.
- ↳ Emphasis on annotations to guide users.
- ↳ Focus on each country.

### Operation.

- ↳ We can click on the dropdown menu to choose selection.
- ↳ It will prompt out all the information & details.

### Discussion.

#### Advantages.

- ↳ Have a nice & clean insight to show our user & a clear details for each country.

#### Disadvantages.

- ↳ Some part might be duplicate like line chart &



# LAYOUT.

Name: Mak Ainy Tong sheet : 5

Based on sheet 2:

ASEAN Environmental Indicators Map (2006 ~ 2020)

## Focus:

↳ No main Focus Graph  
all Graph are important.

↳ All country, chart will  
given in details  
information.

↳ Dashboard will be  
change when we focus  
on the country.

↳ make sure we have  
a connections between  
each graph.

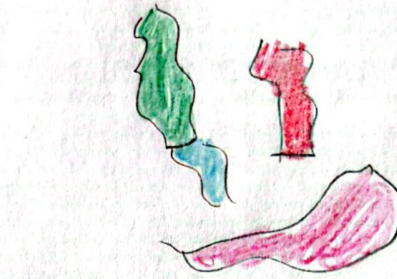
## Operation.

select / filter country

↳ the country can be  
select

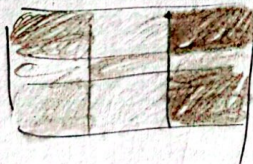
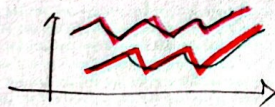
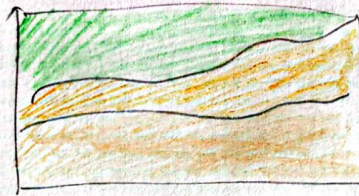
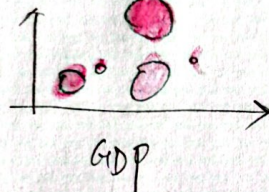
↳ CO<sub>2</sub> emission, GHG emission, Renewable energy,  
PM 2.5 emission will be changed based  
on the country.

↳ click dropdown Malaysia, change countries.



Malaysia

ASEAN : GDP vs CO<sub>2</sub> Emissions.



## Details

→ Make use of Vega-lite to check the visualisation.  
use R & Excel to do data cleaning.

→ Estimates around 4 days to build  
all icons & 3 days for design.

→ Pop out message when we select some  
larger visualisation need extra elements.