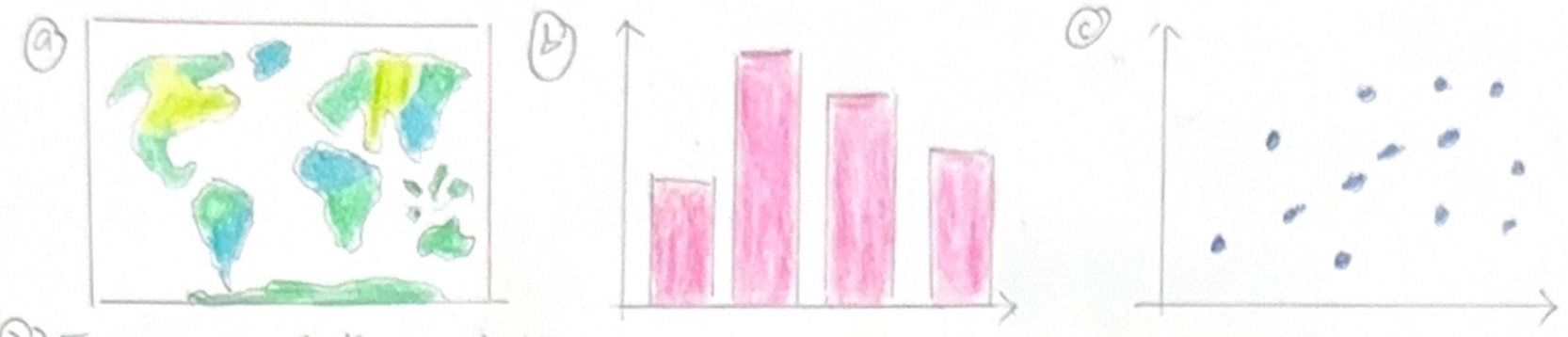
IDEAS

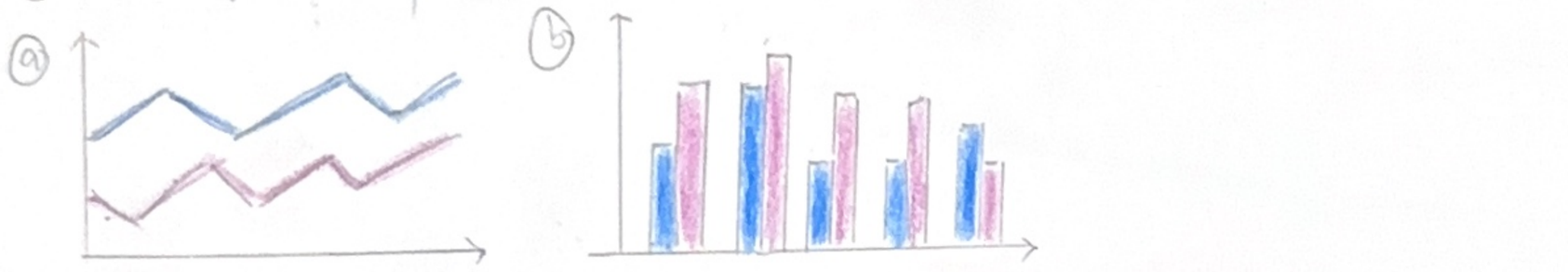
Author : Chen Ming Yang
Date : 14/10/2025
Sheet : 1
Task : Planning Visualization

① global PM2.5 AQI & ④ Global renewable (Year 2022)



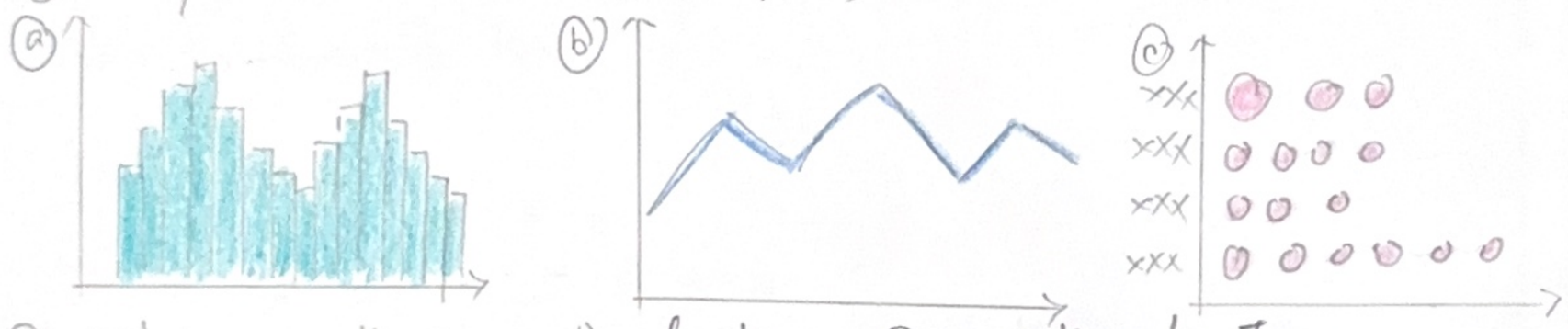
② Top 10 PM 2.5 Countries

③ Death from air pollution (World vs Malaysia)

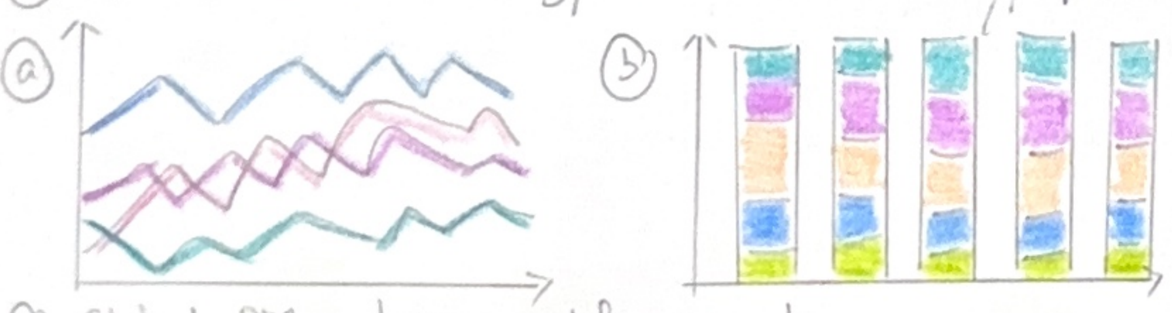


⑤ CO_2 emission

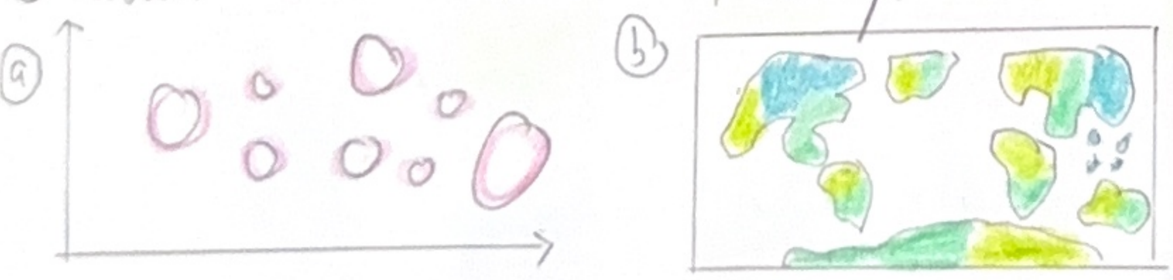
⑥ Malaysia renewable trend (1965 - 2020)



⑦ Global Renewable Energy Production Composition by Type.



⑧ Global PM value vs life expectancy



Categorize

→ suitable for map Idiom
① & ⑤ & ⑧ & ④

→ show time changing
③ & ⑥ & ⑦

→ ranking
②

Questions

1. Can the map Idioms be combined together ?

2. It is a good storytelling ?

Filter

① for idea ① and ④, the bubble chart is being filtered as there is too many country data need to show. Bubble chart will make the chart be compler & busy

② Idea ③ is no needed, it doesn't represent a lot of information. and it can be present during story-telling

Combine & Refine

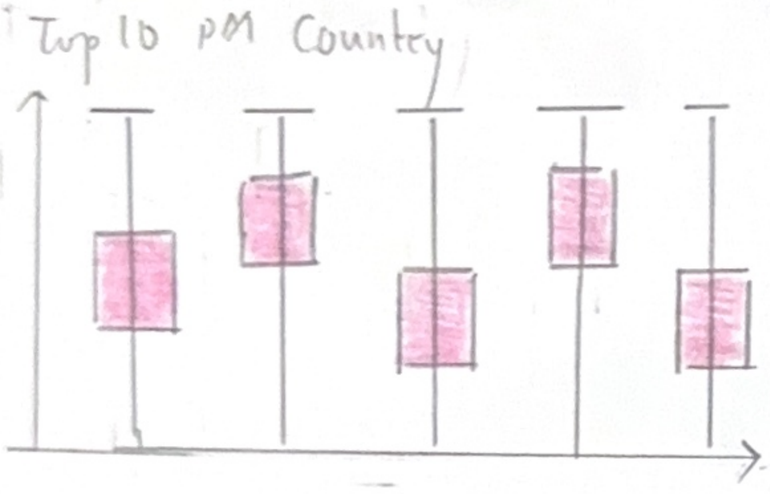
1. for idea ① and ④, map Idiom is the best choice as it can show more detail and provide a good visualization

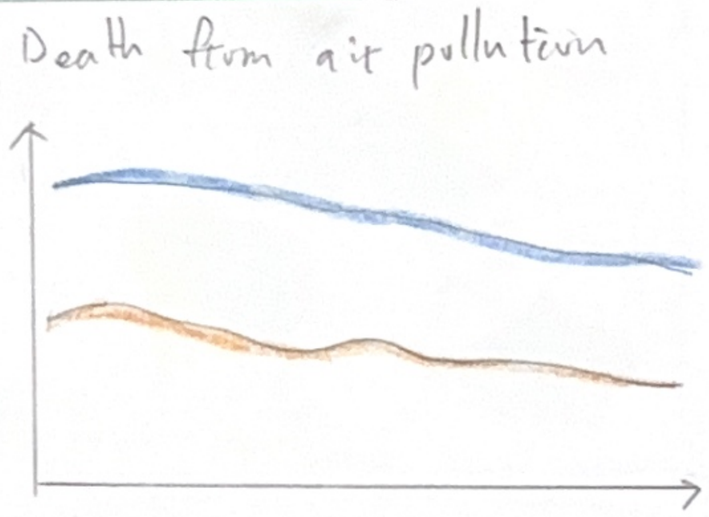
LAYOUT 1

FROM POLLUTION TO SOLUTION

Background about air pollution and it causes

Global PM2.5 AQI & Global Renewable 2022

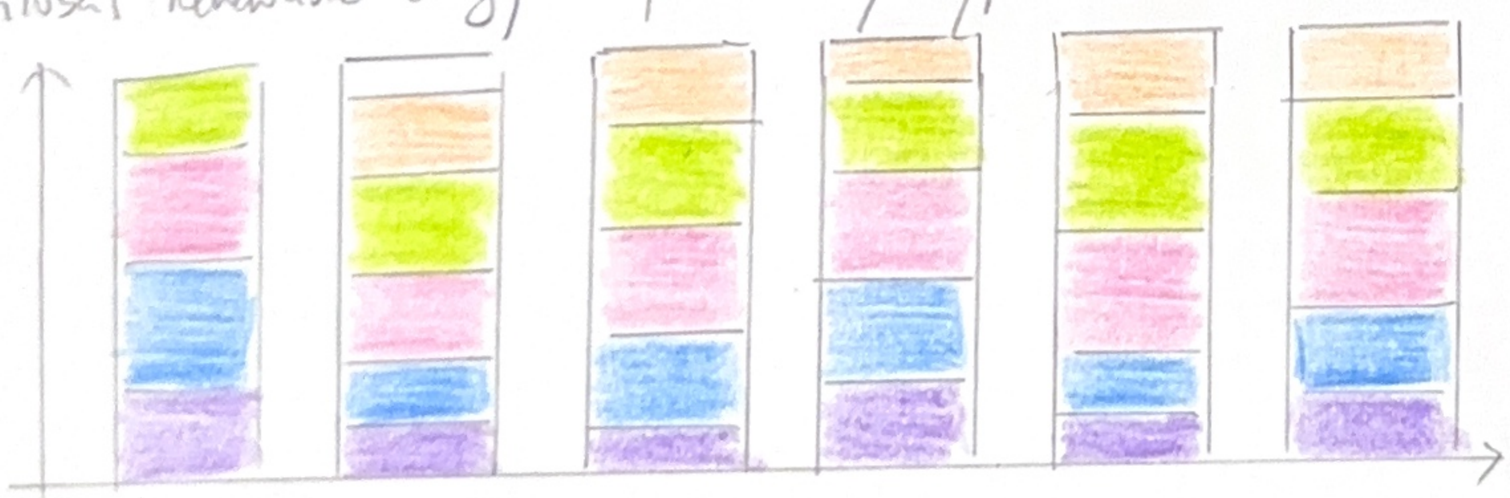




Story telling about solution

Malaysia Renewable Trend

Global Renewable Energy Composition by Type



Conclusion

Author : Chen Ming Yang

Date : 15/10/2025

Sheet = 2

Task = Design

Operation

① button for switch data shown in the map as it is a combined map

② filter button for malaysia renewables trend as it contain data from 1965->2024. so filter is useful for better visualization

Discussion

Advantages

↳ have a good story telling

↳ good user interaction

Disadvantages

↳ as it required action for changing data at map, user might confuse

Focus

①

Focus on the global air pollution map and the renewable energy production around the world

↳ both are in the same map, but it need user manually switch the topic to show in the map.

LAYOUT 2

Author = Chen Ming Yang

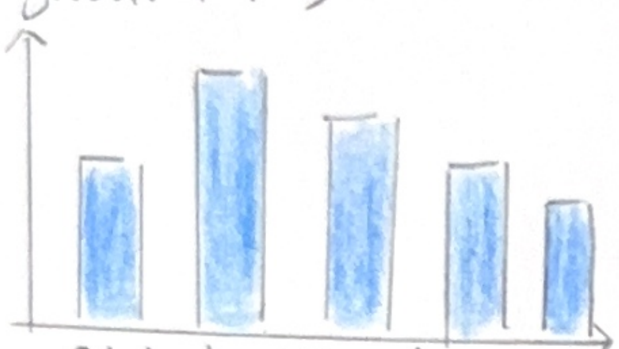
Date = 15/10/2025

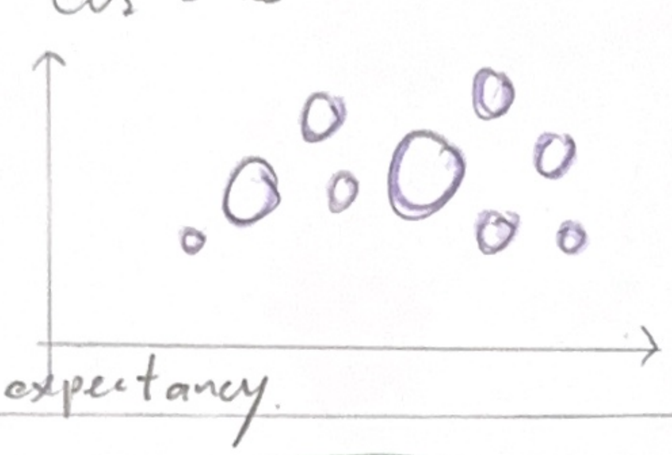
Sheet = 3

Task = Design

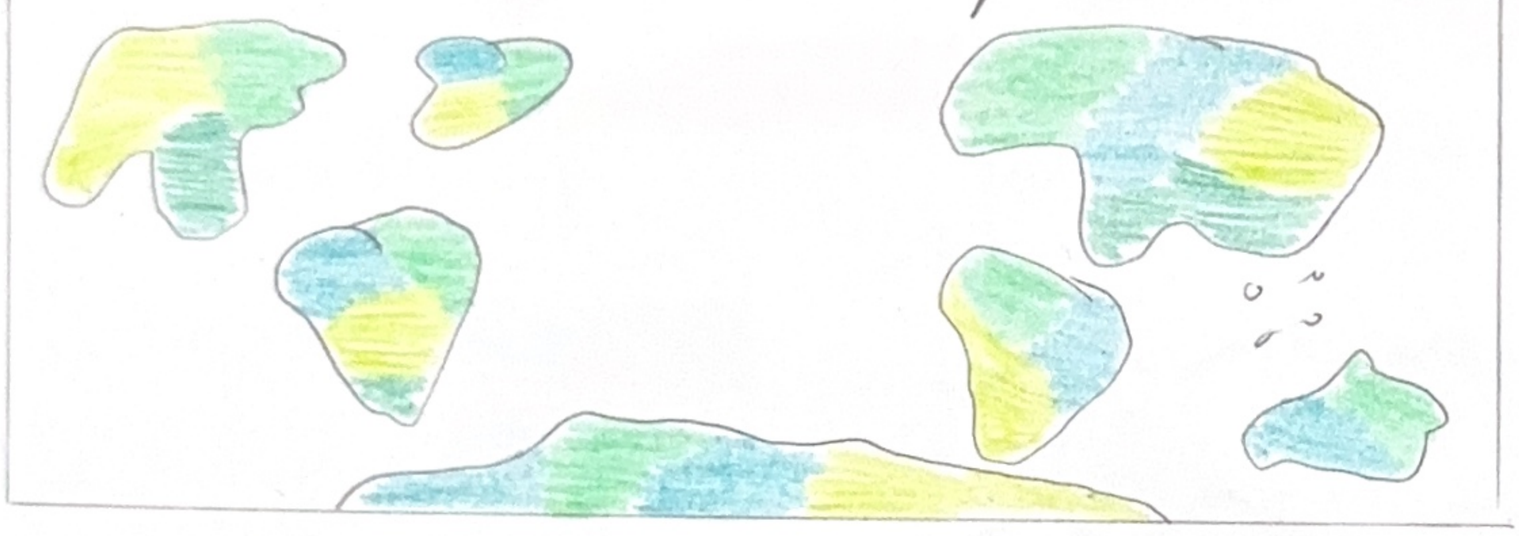
Breath better

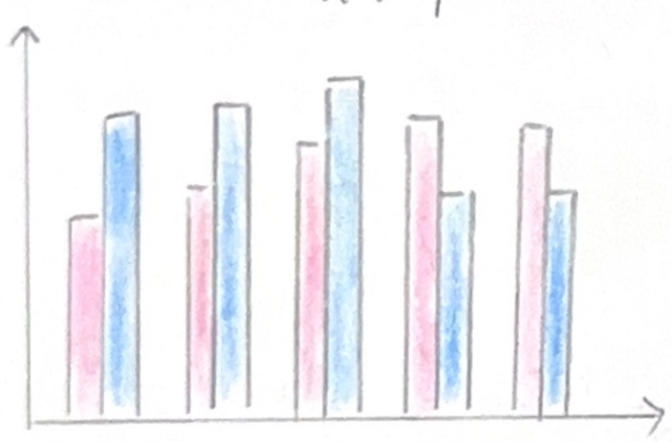
How renewables can reduce air pollution





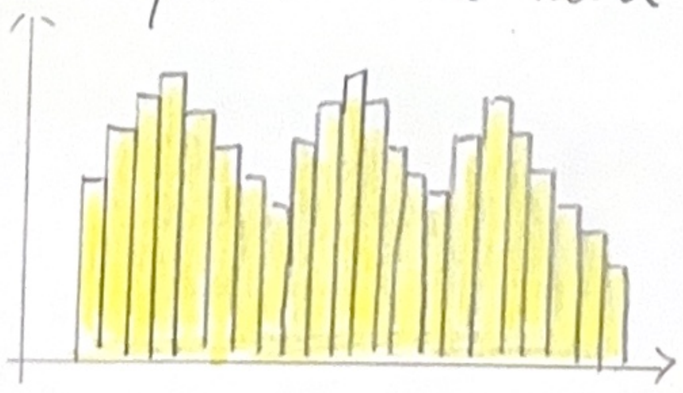
Global PM value vs life expectancy.





Top 10 PM country

Solution :



Discussion

Advantages

↳ each part is equally important

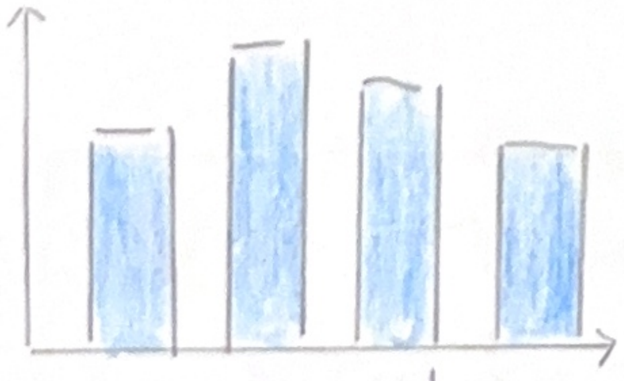
Disadvantages

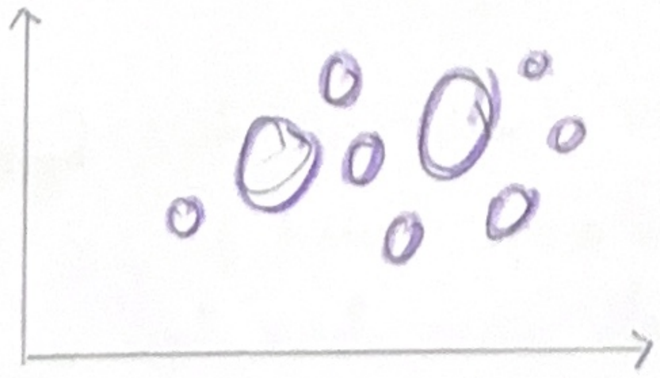
↳ Part story-telling

↳ arrange might be confusing for user when reading

Focus

① focus is more on the global PM2.5 and CO2 emission which is the air pollution.





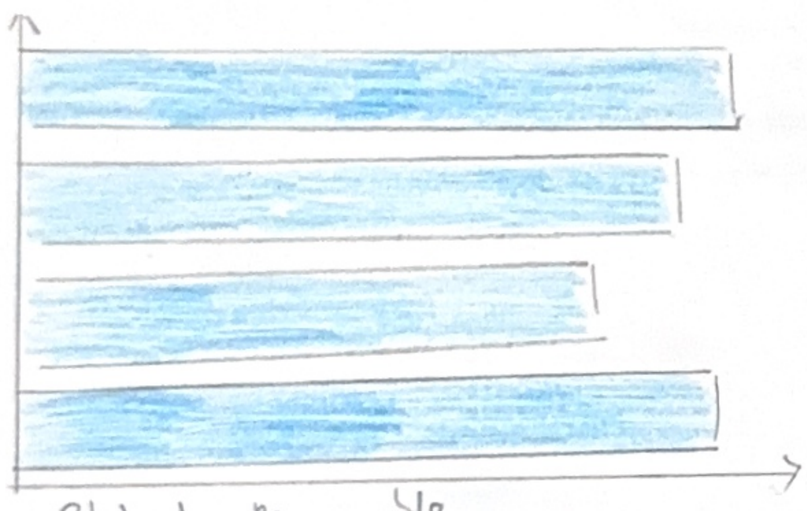
② the transition between the air pollution to solution is rely on story telling.

LAYOUT 3

Clearing the Air !!

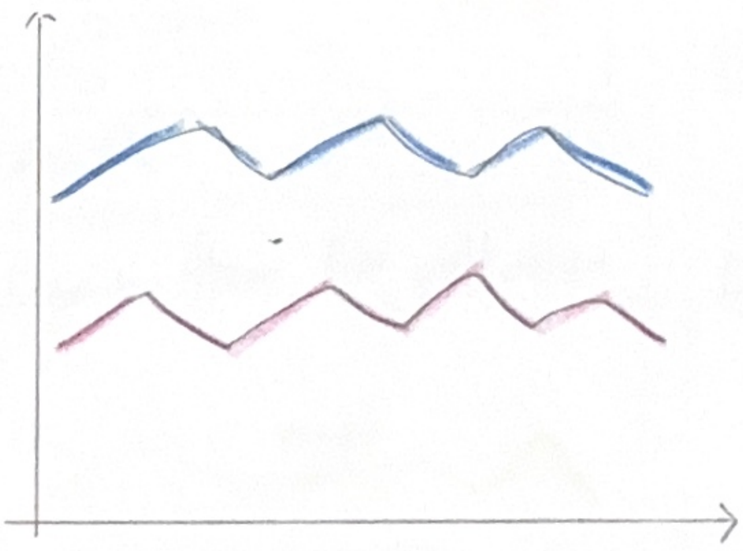
Global PM2.5 AQI

Top 10 PM 2.5 country

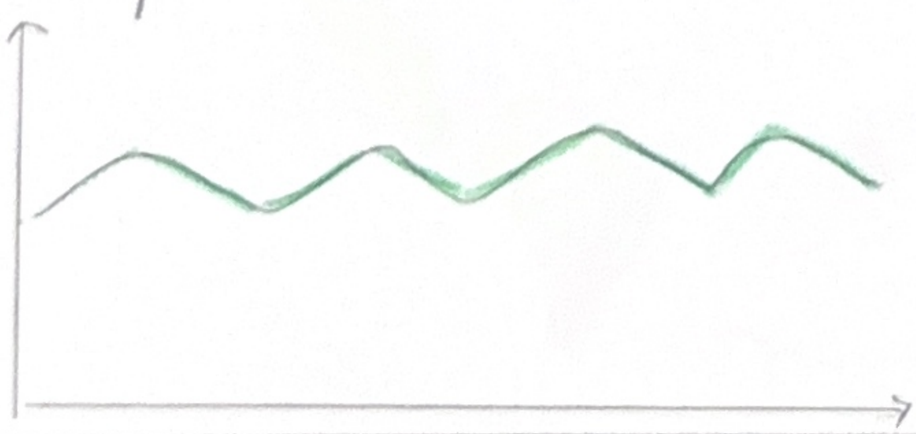


Global Renewable

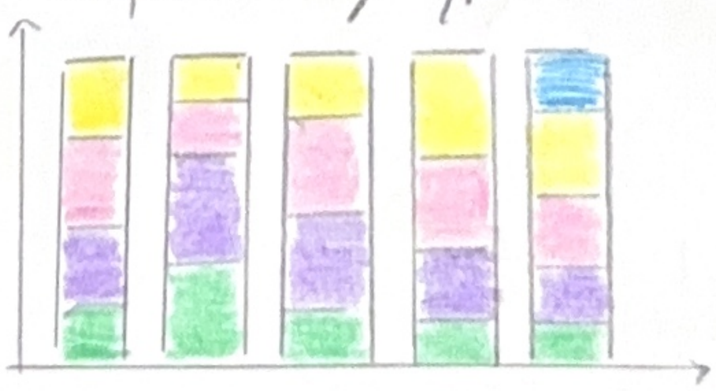
Death from air pollution



Malaysia renewable trend (1965-2014)



Global Renewable Production Composition by Type



Author : Chen Ming Yang

Date : 16/10/2025

Sheet : 4

Task : Design

Operation

① filter for year
↳ malaysia renewable trend can be filter by year range to observe the trend

② annotation as it is lack of story telling

Discussion

Advantages

↳ good layout visual

↳ seperate visual equal for two part of the visualization

Disadvantages

↳ Lack of story telling

Focus

① Focus are on the two map which is Global PM 2.5 AQI and Global Renewable

② Different from Layout sheet 2, it have seperate map instead of combined map it give user more clean visual and more directly.

③ As there is two map as focus, it also highlight both important part for this Data visualization : ① Air pollution

② Solution : Renewable

LAYOUT (Combined Layout 1 & 3)

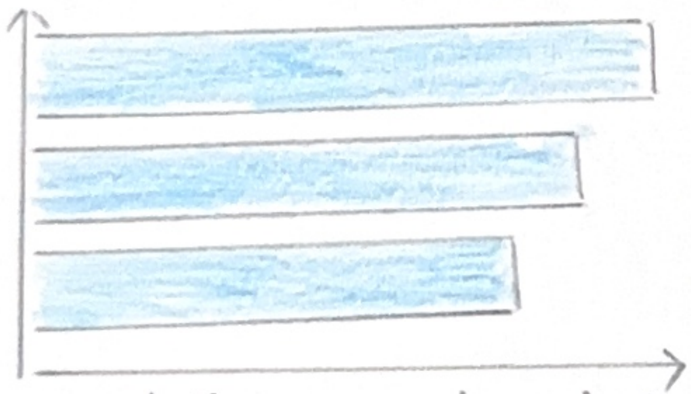
FROM POLLUTION TO SOLUTION

Background of air pollution and it causes and consequences

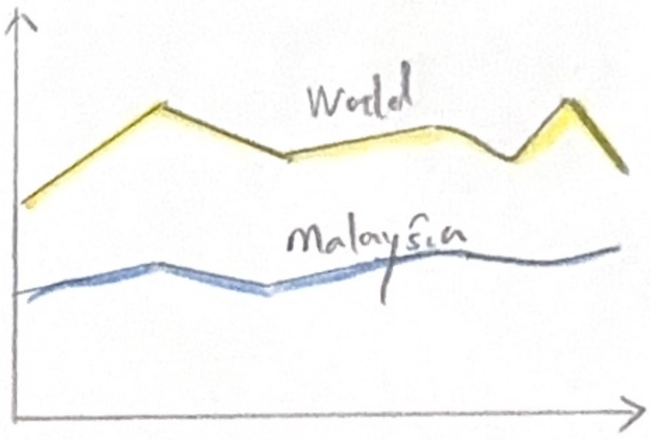
Global PM2.5 AQI

Story about how it can cause death

Top 10 PM2.5 country

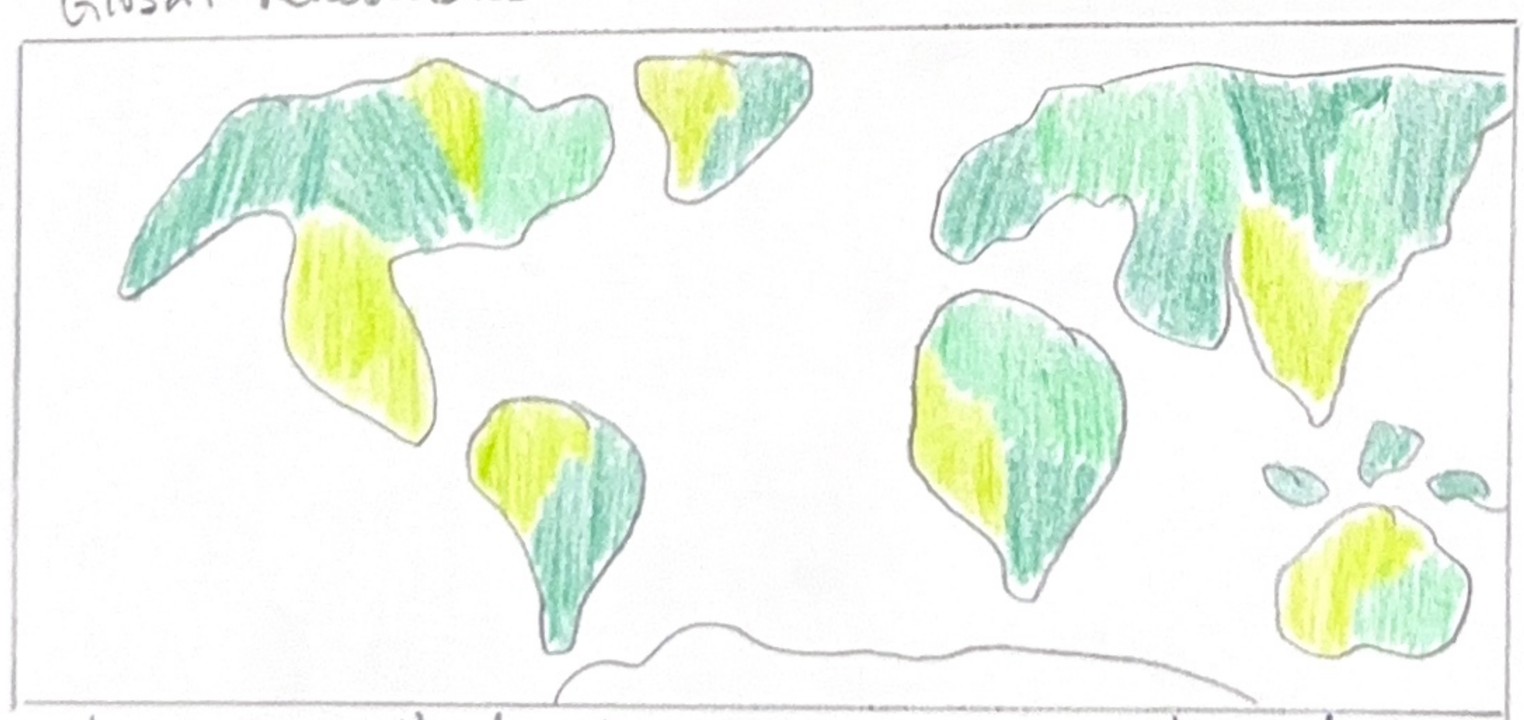


Death from Air pollution

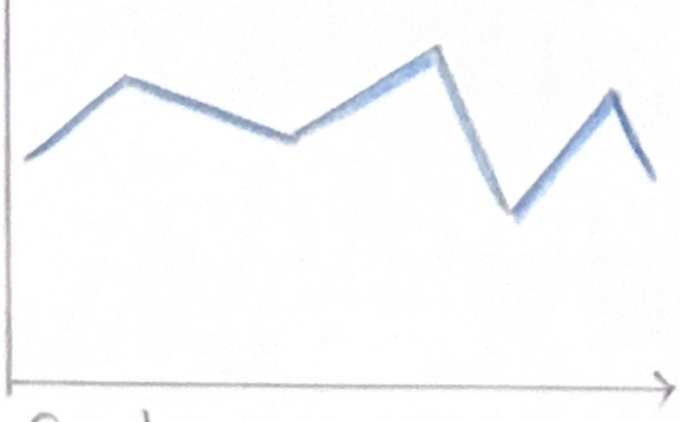


Story telling about solution

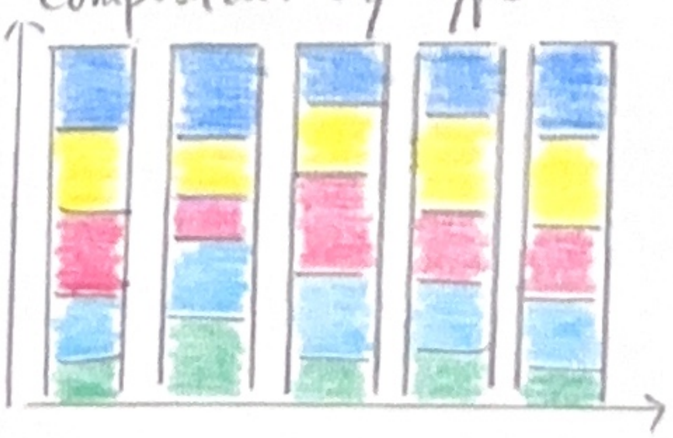
Global Renewables



Malaysia renewable trend



Global Renewable Production composition by Type



Conclusion

Author : Chen Ming Yang

Date : 17/10/2025

Sheet : 5

Task : Final layout Design

Operation

① filter button for malaysia renewable trend as it contain 1965-2024 data. filter is useful for better visualization

② annotation & tooltip

Focus

① it combine the advantages from layout 1 & 3.

② it use the layout from layout 3 because it distribute the importance equally to two main part : air pollution & renewable solution

③ it use the good story telling from layout 1 as it contain guidance thought the visualization and it have conclusion.

Details

Dependencies = Vega-Lite & Python for data cleaning and aggregation

Estimated time & effort :

① data cleaning and aggregation for csv needed.

② plot each graph in the data visualization using vega lite

③ combined all graph and add story telling and arrange layout

Required time = 1 week

Specific requirement = dataset & python skills.