IDEAS

Areas of Interest: Fossil fuels, global warming, climate change, CO2 emissions/ greenhouse gases.

export by fuel type

exports by country

CO2 per capita.

export by fuel type.
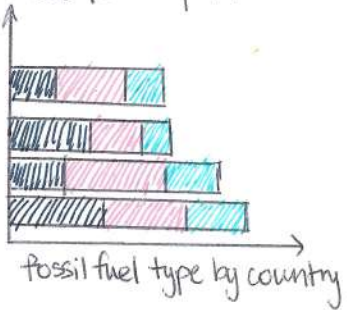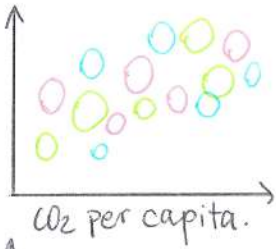

fossil fuel type by country

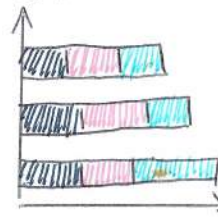| XYZ | XYZ | XYZ | ↓ |
| XYZ | XYZ | XYZ | ↑ |

Summary statistics.
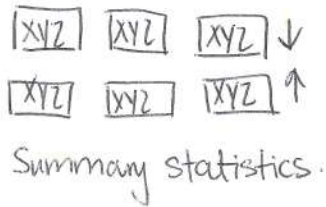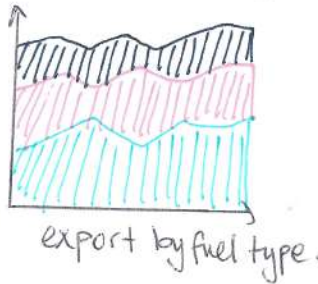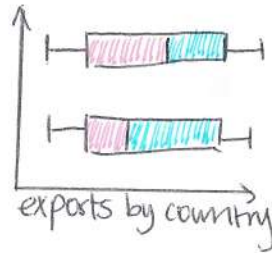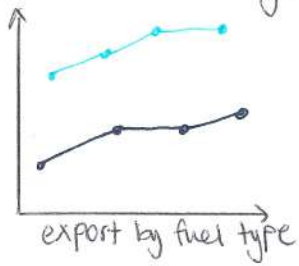
Choropleth to compare fossil fuel usage or CO2 emissions globally.
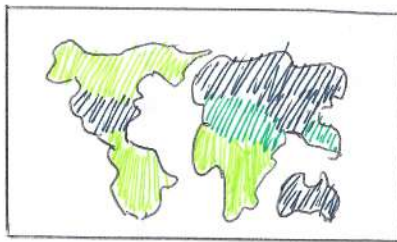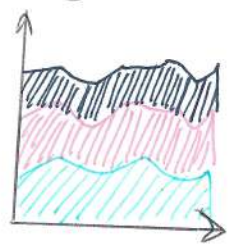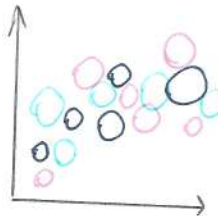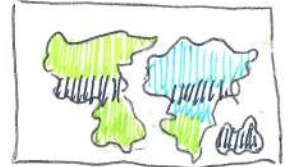

FILTER

① stacked bar

② stacked area

③ bubble chart

④ choropleth.

CATEGORIZE

Trend: Fossil fuel production and CO2 emissions
↓
Usage vs export contributions
↓
CO2 emissions breakdown
↓
World fossil fuel usage for energy purposes

COMBINE & REFINE
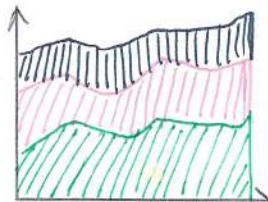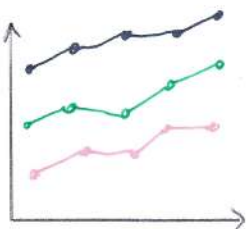
- exports by year for fossil fuels can be converted to stacked area chart for a better sense of total exports.

QUESTION

a) Do the visuals correlate with each other in the article and are they ordered in a narrative manner?

b) What should be the main message conveyed by the visuals?

c) What does the statistics say about Australia's position in fossil fuel exports/CO2 emissions compared to the rest of the world?

LAYOUT

TITLE

SUMMARY SECTION

~~~~~~~~~~~~~~~~~~~~~~

Fig no. ~~~~~~

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Information to support choropleth ~~~~~~~~~~

Legend

countries

greenhouse emissions
(over time)

countries

fuel type (energy
use)

Fuel type

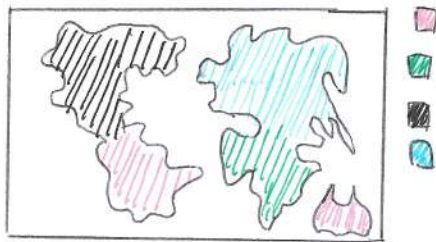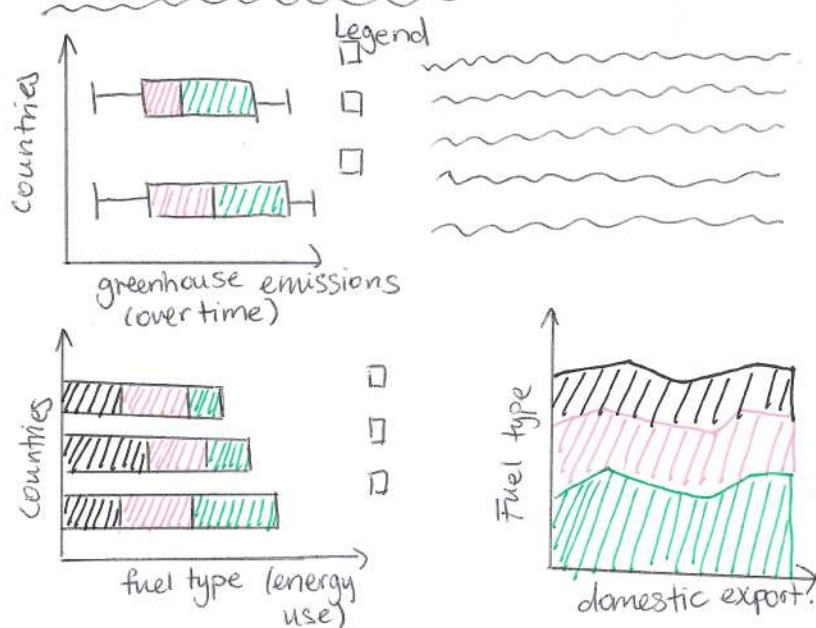domestic export.

OPERATION

countries

Country
Selection

Legend

country selector
option
(to compare
countries)

tooltip

Choropleth
stat
range
(by hue).
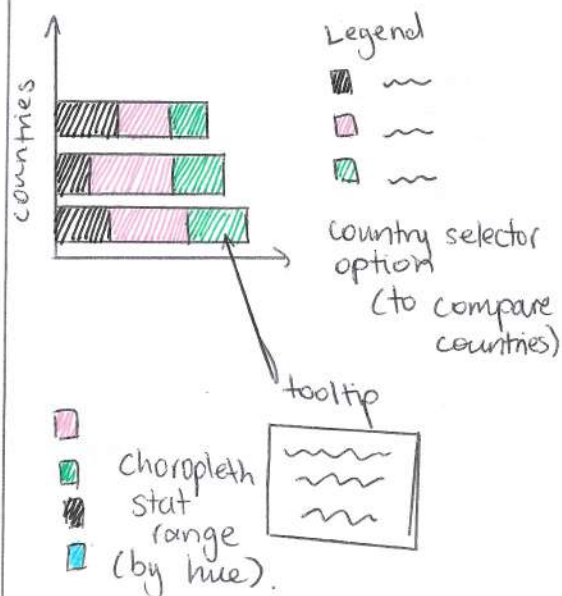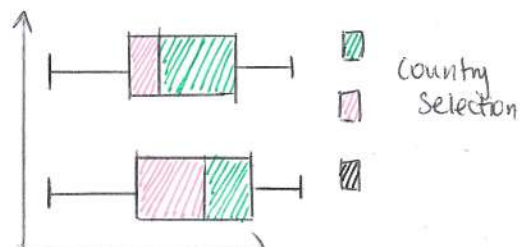
FOCUS

Info / charts are split into 2 distinct sections,
1st being domestic stats / data about Australia
• 2nd section about how Aus compares to the
rest of the world (global per capita basis).

country comparison
stats
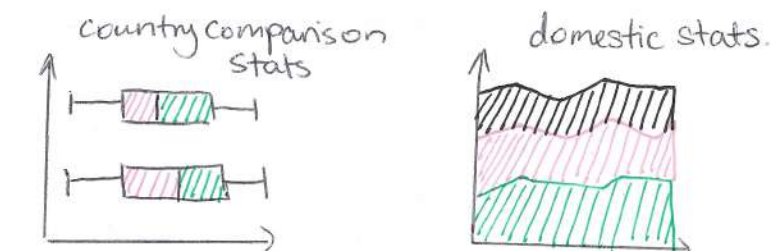
domestic stats.

Ordering: should global or domestic statistics
be placed first.

DISCUSSIONS

• Is the overall visualisation
cohesive?

• Does it flow well
in a narrative sense.

• What does the trend say
about Australia compared
to the rest of the world

• Positive / negative portrayal

subsequent writing needs
to equally reflect this
sentiment + urgency.

LAYOUT

TITLE

Usage Statistics

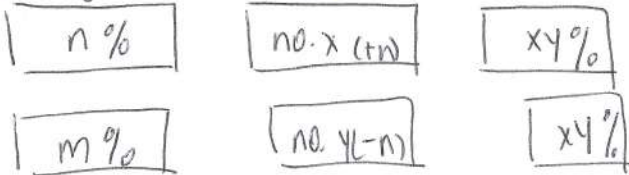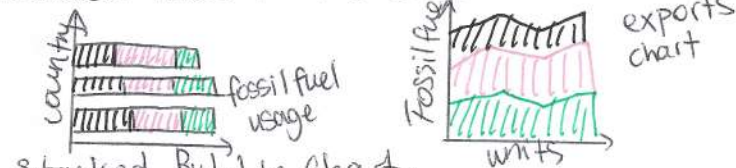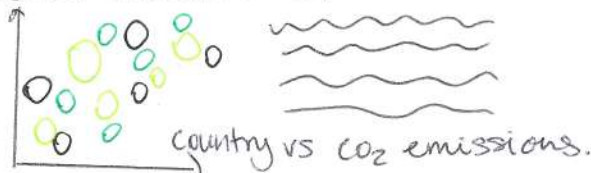| n % | no. x (tn) | xy % |
| m % | no. y(-n) | xy % |

Stacked Area + Stacked bar

country — fossil fuel usage

fossil fuel — exports chart

units

Stacked Bubble chart.

country vs CO_2 emissions.

Energy usage per capita

OPERATION

- Scaled back with selectors to make visual more cohesive

Simple non-adjustable legend
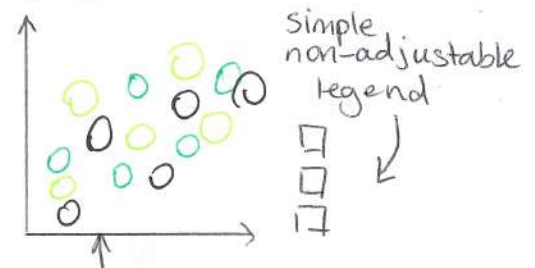
colours can be made to correspond with continent for further comparison.

choropleth legend becomes a bar (saturation/luminance).
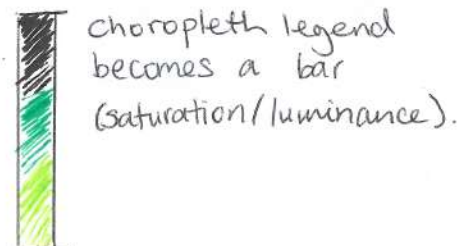
FOCUS

- Layout has been switched around so domestic statistics come before global stats.

- Exploring background colours to clearly define sections.

- Domestic statistics (e.g. usage statistics) also includes exports to show Australia's overall impact globally.

DISCUSSIONS

a) Are the visuals the best choice for the statistics they are trying to convey?

b) Are the graphs + themes visually ~~and~~ appealing without impacting getting the point across?

c) Are there too many / too little graphs? Is it balanced?

LAYOUT

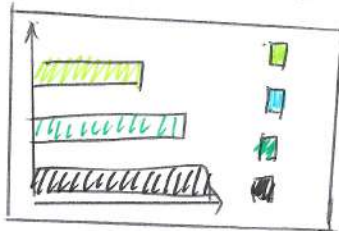# TITLE

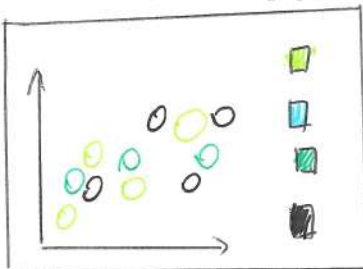Summary Stats (renewables)

| XYZ | | XYZ |

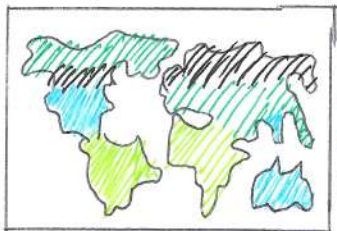| XYZ | | XYZ |

Domestic resources/ renewable energy generation.

Australia renewable energy resources

Global renewables (comparison by country).

Choropleth (world renewable usage % by country).

References/ Data Sources

-
-
-

OPERATION

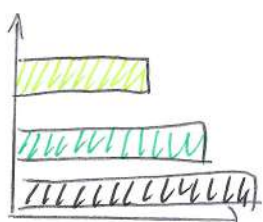- Possible button implemented to switch between renewable vs fossil fuel statistics?
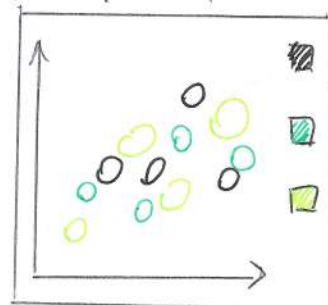
Graphs are displayed in web containers

Choropleth luminance scale.

FOCUS

- Instead of fossil fuel usage, this idea aims to solely look at Australia's renewable energy capabilities and also to compare it on a global scale.

Graphs are changed to display renewable resources (usage %) by country.

- Stylistic: Avoid colour double ups in the same graph.

DISCUSSIONS

a) Is there enough data on this topic to create a selection of meaningful visuals?

b) Does a focus on renewable energy opportunities instead better convey their importance compared to focussing on the negatives of fossil fuel usage?

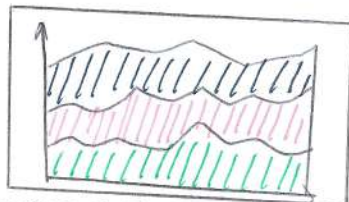c) Are all marks and channels being used optimally in this design?
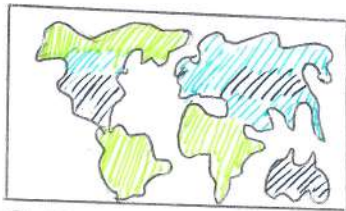
LAYOUT

TITLE
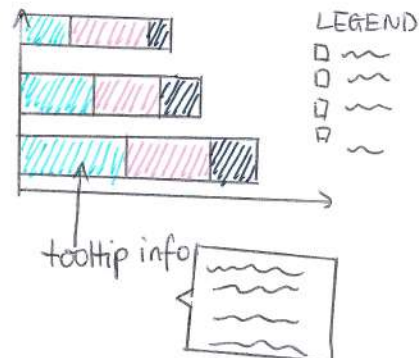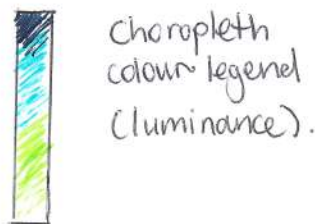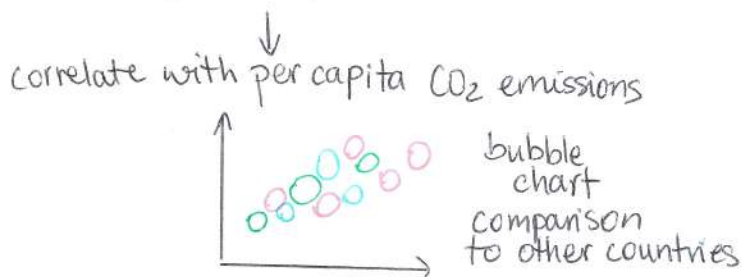
Brief summary ~~~~~~~~~~
~~~~~~~~~~~~~~

Introduction 🟩
~~~~~~~~~~~~~~~~~~~~~~~
~~~~~~~~~~~~~~~~~~~~~~~

Summary Statistics 🟩

XYZ PJ	no.5 (+6%)	XYZ
XYZ PJ	no.10 (-1%)	XYZ

Stacked Area 🟩

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~~~~~~~~~~~~~~~~~~~~~~

Choropleth 🟩

~~~~~~~~~~~~~~~~~~~~~~

References 🟩
~~~~~~~~~~~~~~~~~~~~~~
~~~~~~~~~~~~~~~~~~~~~~

TITLE: Final Design Sheet

AUTHOR: Alicia Bai

DATE: 30/09/24

SHEET: 5

TASK: Final Implementation Design

OPERATION

LEGEND

tooltip info

🟩 Title colour/text colour

Choropleth colour legend (luminance).

Reference section (blue)
1. ~~~~~~~~~~
2. ~~~~~~~~~~
3. ~~~~~~~~~~

hyperlinks
↓
hover changes colour + click to go to site.

FOCUS

- Main focus on Australia's energy consumption reliant on fossil fuels, along with export information

  ↓

  correlate with per capita CO_2 emissions

  bubble chart comparison to other countries

- 1st half focuses on Australia's statistics, while 2nd half with choropleth focuses on per capita comparison against other countries.

DETAIL

- Data from csv files for charts (area, stacked bar, bubble chart etc).

- Json files for choropleth map

- Implementation time: 2 weeks

- Application: IDE - VScode

  Languages:
  → Javascript
  → CSS
  → HTML

  VegaLite for chart creation/ generation