

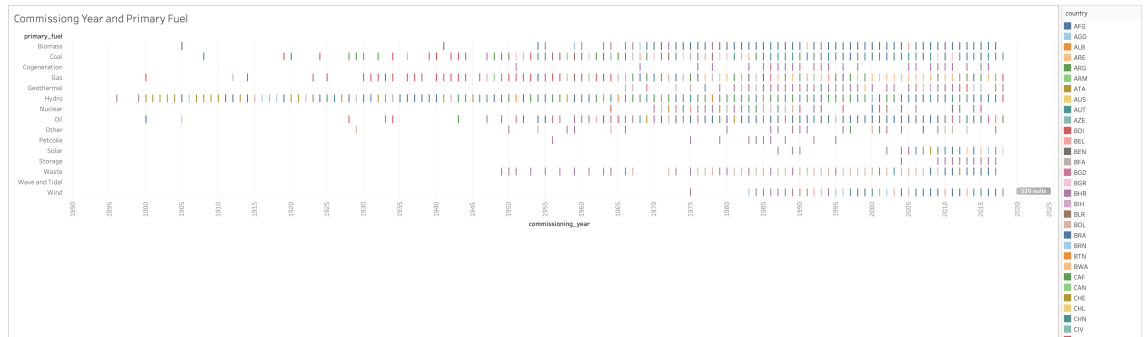
# CSCM37 coursework 1

Andrew Gray (445348)

25/02/2020

## Part 1, design 1

### Description



**Visual Design Type:** Gantt

**Name of Tool:** Tableau

**Country:** All Countries

**Year:** 1896 - 2018

**Visual Mappings:** • mapping 1: ???

• mapping 2: ???

**Unique Observation:** The oldest powerplant was commissioned in the USA in 1896 and its main fuel type was hydro. The second commissioned powerplant was also in the USA and again this was hydro which was commissioned in the 1899. Then in 1900 3 power plants were commissioned. These were Brazil - -, -.

**Data Preparation:** There was no modifications made to this dataset.

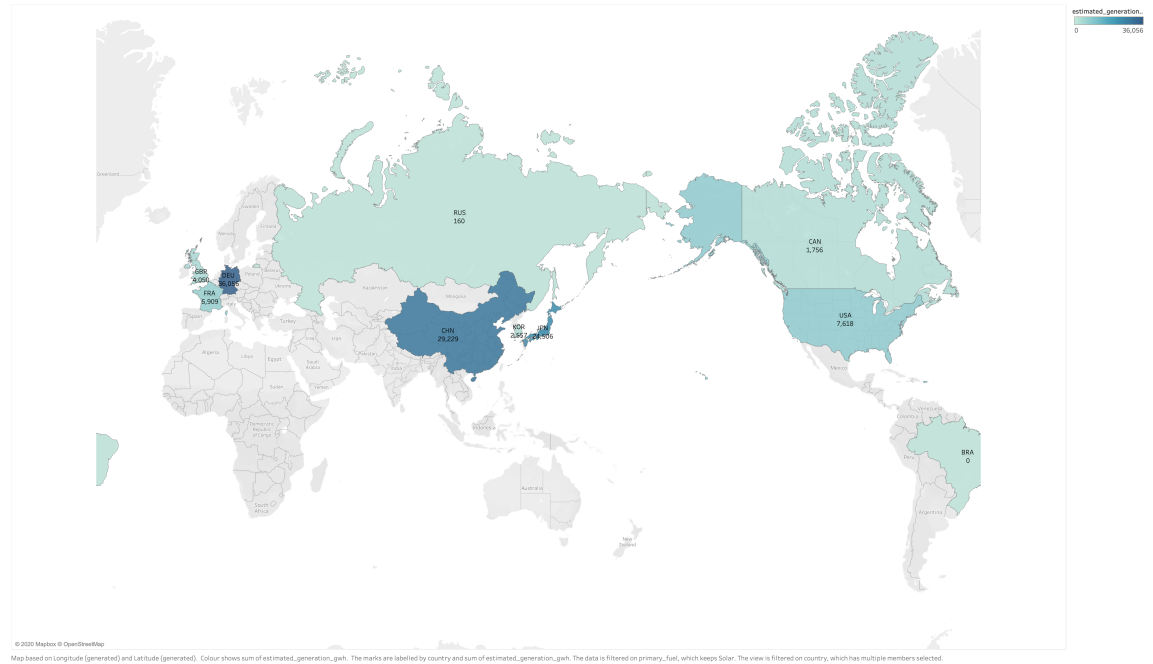
Figure 1: Design 1

Figure 2: Design 2

## Part 1, design 2

### Description

Estimated Solar Generation - Top 10



**Visual Design Type:** Map

**Name of Tool:** Tableau

**Country:** France, Germany, Great Britain, Russia, China, Japan, South Korea, USA, Canada, Brazil.

**Year:** 2018

**Visual Mappings:** • **mapping 1:** X and Y axis use the longitude and latitude values, this produces the map.

- **mapping 2:** Two filters have been applied, primary fuel, which is set to solar and country, which just shows the top 10 based on the sum of the estimated generation of energy. Country is used to label the visualisation as well as the text. Colour is used to give a scale of the values, with dark being the biggest and a lighter colour being the smallest.

**Unique Observation:** Germany is estimated to have the highest amount of

Figure 3: Design 3

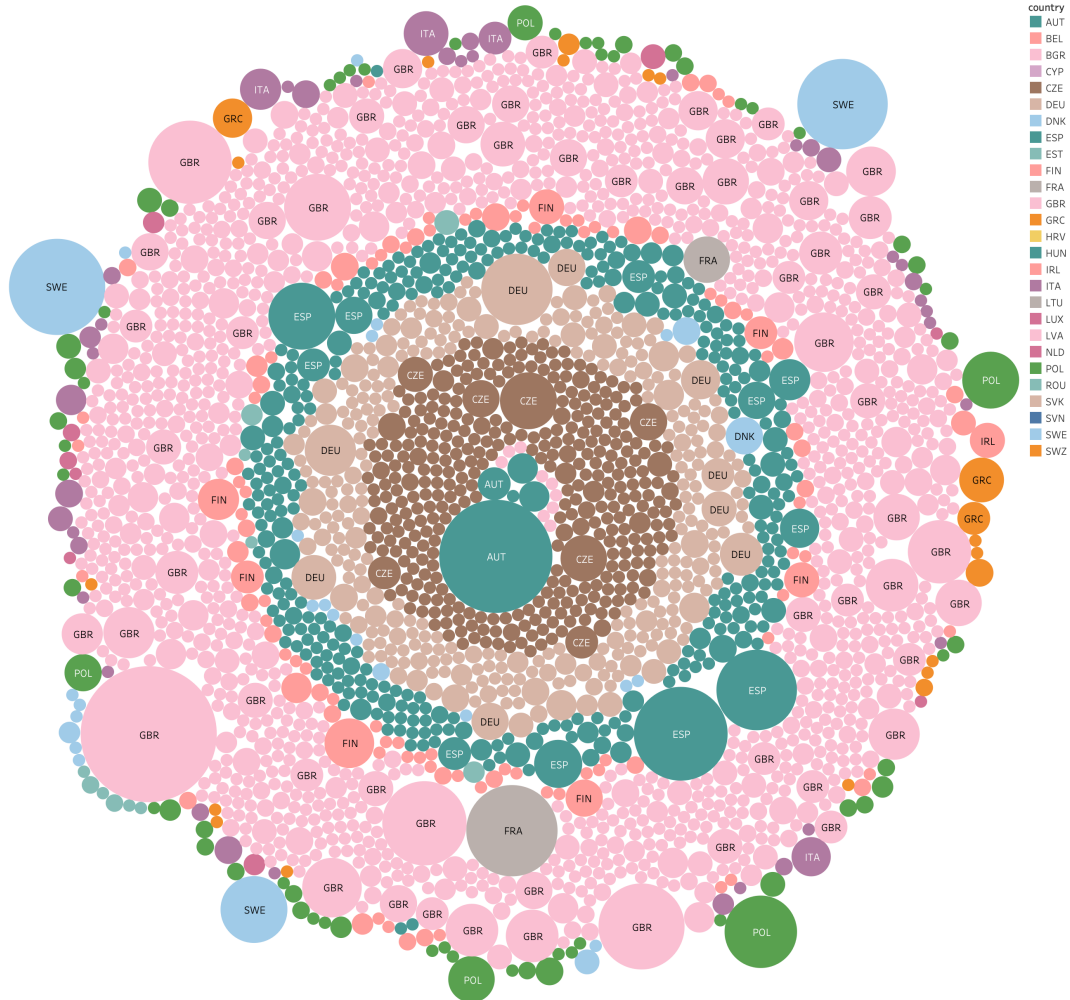
solar energy created in 2018, at a value of 36,056. China is the second biggest estimation of solar power generated.

Weirdly enough, most counties around the equator are not in the top 10 of solar power energy generated. You would think that this would be an effective source to tap into.

**Data Preparation:** None.

## Part 1, design 3

EU Countries and Power Plan Owners



### Description

**Visual Design Type:** Packed Bubbles

**Name of Tool:** Tableau

**Country:** EU members including the UK. Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Germany, Denmark, Estonia, Spain, Finland, France, United Kingdom, Greece, Croatia, Hungary, Ireland, Italy, Lithuania, Luxembourg, Latvia, Malta, Netherlands, Poland, Portugal, Romania,

Figure 4: Design 4

Sweden, Slovenia, Slovakia.

**Year:** 1896 - 2018

**Visual Mappings:**

- **mapping 1:** The count of the owner was used to generate the size of the bubbles.

- **mapping 2:** The owner was also used as a detail as well as the sum of the number of records on the visualisation. Country was used for the colour coding and also used for the tooltip.

**Unique Observation:** All of France’s power plants are owned by two companies, EDF and GDF-Suez. While the Great Britton has the most amount of different owners for their power plants.

**Data Preparation:** No alterations.

## Part 1, design 4

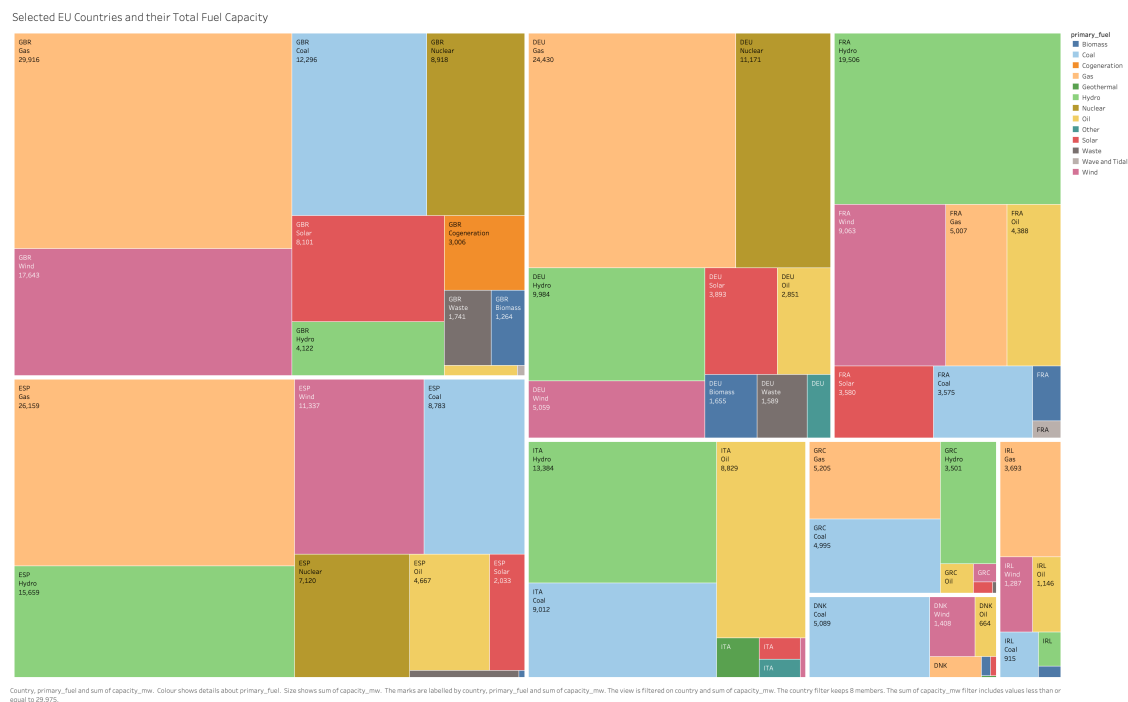


Figure 5: Design 5

### Description

**Visual Design Type:** Treemap

**Name of Tool:** Tableau

**Country:** Great Brittan, Spain, Germany, Italy, France, Greece, Denmark, Ireland.

**Year:** 2018

**Visual Mappings:**    • mapping 1: ???  
                              • mapping 2: ???

**Unique Observation:** The UK has the biggest capacity within the selected EU states. Its biggest capacity is for gas energy, with wind being the second biggest capacity in the UK.

**Data Preparation:** No alterations.

## Part 1, design 5

Number of Commissioned Powerplants in the USA and their Primary Fuel.

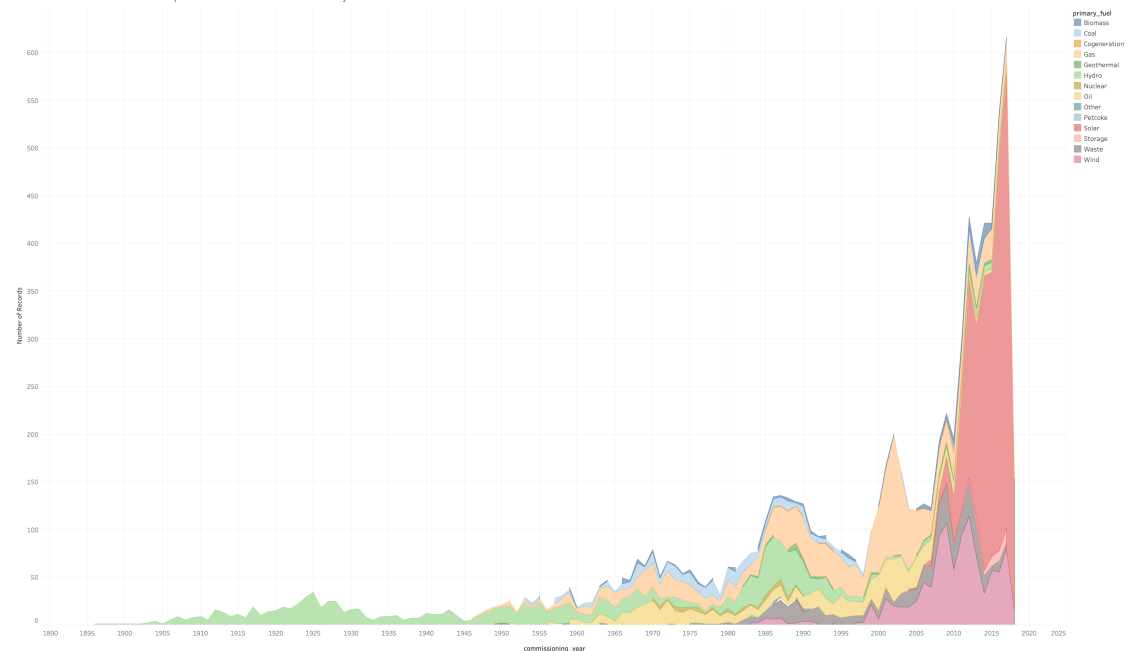


Figure 6: Treemap 1

Figure 7: Treemap 2

### Description

**Visual Design Type:** Area Charts Continuous.

**Name of Tool:** Tableau

**Country:** USA

**Year:** 1890 - 2018

**Visual Mappings:** • **mapping 1:** ???

• **mapping 2:** ???

**Unique Observation:** ???

**Data Preparation:** No alterations.

## Part 2, Treemap 1

- **Name of Tool:** The tool that was used to generate the treemap
- **Country:** Name of country(s) data shown
- **Year:** the year(s) or time-span of data shown
- **Data Preparation:** A helpful description of how you prepared the data
- **Color:** what is color mapped to?
- **Hierarchy:** What is the data hierarchy contained in the treemap?
- What leaf node size is mapped to?
- How are the leaf nodes laid out or positioned?
- What are internal nodes mapped to?
- What is internal node size mapped to?
- Which treemap node layout algorithm is used?

## Part 2, Treemap 2

- **Name of Tool:** The tool that was used to generate the treemap
- **Country:** Name of country(s) data shown
- **Year:** the year(s) or time-span of data shown
- **Data Preparation:** A helpful description of how you prepared the data
- **Color:** what is color mapped to?
- **Hierarchy:** What is the data hierarchy contained in the treemap?
- What leaf node size is mapped to?
- How are the leaf nodes laid out or positioned?
- What are internal nodes mapped to?

- What is internal node size mapped to?
- Which treemap node layout algorithm is used?

## **Part 3**



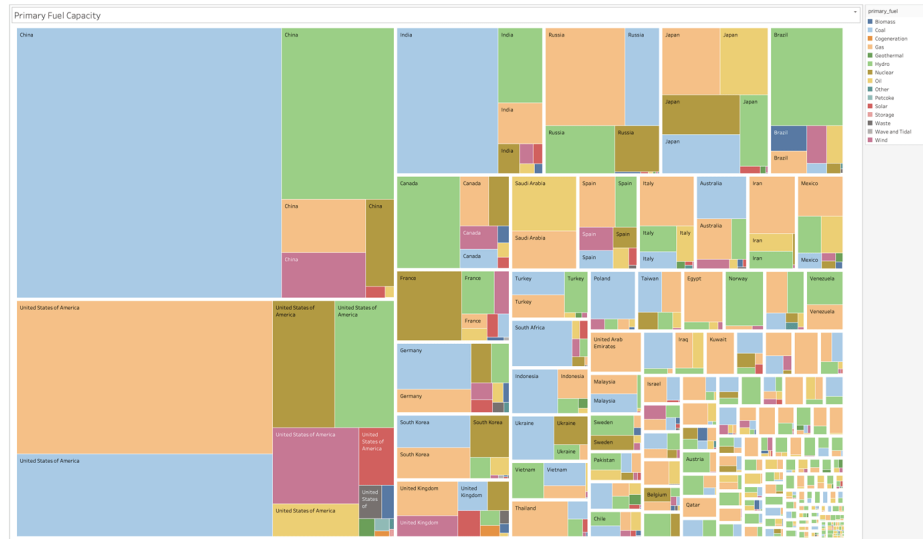
# Tree Map of Primary Fuel Capacity

Visual Design



AndyGray87

2d



Hello, the VisGuides community.

I am, as part of an assignment, trying to visualise data to try and gain potential insights from it. The dataset that I am using is: <http://datasets.wri.org/dataset/globalpowerplantdatabase> .

I have created a treemap, using Tabular, that tries to show the total capacity of all the countries, within the datasets, different power plants by their primary fuel. The dataset has not modified in any way for this visualisation. The fields used are capacity\_mw to find the sum; country\_long to provide the text overview; primary\_fuel to provide the colour coding. However, there are a few things that I would like to get some advice on please.

1. Is this graph clear in what it is representing?
  - 1b) Does it show a clear hierarchy within the treemap visualisation?
2. Are there any changes you would suggest to make this a more effective visualisation? i.e. changing colour schemes, or using a different visualisation method to display the data.

Thank you for any help or advice.

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DataBrock

9

1d

Hello, good start for an effective visualisation!

To answer your first question, the colour for each of the fuel types can be linked to the tooltip provided within the display so it should be intuitive for most users to understand the relation in the treemap between fuel type and colour.

It is also easy to understand that each country is ranked on their total capacity compared to all others, which is then broken down on a per country basis as to how their power is being generated. A problem