A screenshot of a computer screen

AI-generated content may be incorrect.

* **Visual Design Type:** Treemap
* **Name of Tool:** Python, Plotly
* **Diet Groups**: Veggie, Meat, Meat50, Meat100, Fish, Vegan
* **Variables:** Gender and Age are variables shown, but the treemap shows the average greenhouse gas emissions by each group which is represented as relative to the size of the boxes.
* **Visual Mappings:**   
  -Hierarchy: The hierarchy of the treemap is: diet group -> sex -> age group.   
  -Colour: A scale of red, yellow, and green is used to represent the average global warming potential (kg CO2e) of each group, with green being a smaller amount and red being the larger amounts.   
  -Shape: each box represents the average greenhouse gas emissions for each diet group, sex, and age group.  
  -Size: The size of the boxes represents the number of participants polled within each group.   
  -Position: The position of the boxes is determined by the number of participants polled, starting with the largest on the left to the smallest on the right.
* **Unique Observation:** The visualisation shows that the vegan diet group has the least amount of global warming potential. Vegan women between the age group of twenty to twenty-nine have the lowest global warming potential of the entire study even with one of the most median amounts of people surveyed, even though the vegan diet group has the smallest sample size. Participants who consumed one hundred grams of meat a day have the largest amount of global warming potential as with, in contrast to the vegan diet group, males aged twenty to twenty-nine having the highest amount of global warming potential within the entire dataset. The amount of people sampled for each group can be seen within the size of the squares with the amount of global warming potential being represented through the colour of the squares. From the treemap, a conclusion can be made that people aged between twenty and twenty-nine have the largest effect on global warming through their diet choices.
* **Data Preparation:** The modifications made to the dataset before data visualisation was calculating a total global warming potential figure using a combination of the carbon dioxide means; the nitrous oxide means; and the methane means. Calculating the potential relative to the carbon dioxide contribution allows for a grander representation of the total impact produced by the diet groups allowing for a most astute analysis of any unusual findings. The figures used to determine the global warming potential relative to carbon dioxide are: one for the carbon dioxide means; twenty-seven for the methane means; and two hundred and seventy-three for the nitrous oxide means. These values were determined by the Intergovernmental Panel on Climate Change (IPCC) in the IPCC Sixth Assessment Report and are multiplied by the means to produce a global warming potential number which can be added together to create a total number used in comparisons.

**URL** to **screen-capture demo**:

https://www.youtube.com/watch?v=\_QQWn071xqM&ab\_channel=WillSephton

**URL to source code:**

https://github.com/willsephton/researchmethodsCW2.git