**Homework**  
To deliver next **Monday 18th at 23:59 the latest.**

Deliverable: One project report per group in Jupyter Notebook format. *Structure it accordingly so both a policy maker and a data analyst can read it.*

Get the data here: <https://springernature.figshare.com/collections/The_Carbon_Catalogue_Carbon_footprints_of_866_commercial_products_from_8_industry_sectors_and_5_continents/5408100>   
Context and description of the data: <https://www.nature.com/articles/s41597-022-01178-9>   
  
  
**Scenario**

You are working as sustainability data analysts for EcoFuture Analytics, a consulting firm that advises companies on their carbon footprint strategies. Your client, Global Trade Alliance, is developing policies to reduce the environmental impact of the products they distribute globally. Using the PCF-Database, your task is to analyze the data and report significant differences of carbon intensity (CI) of products across sectors and regions or countries and value chain stages. Consider the following guide, but you are free to proceed as you consider most appropriate.

1.

Are there significant differences in average carbon intensity (CI) among sectors?

Which sectors differ significantly in their average CI?

Are there any sectors with overlapping CI ranges that make it difficult to distinguish their environmental performance?

What could be reasons of these differences if any?

2.

Are there significant differences in average carbon intensity (CI) across countries represented in the dataset?

Which countries differ significantly in their average CI?

What could be the reason of these differences if any?

*\*\*Here is up to you if you decide to compare all the countries or grouping according to some criteria.*

3.

Are there significant differences in CI contributions among the three value chain portions (upstream, direct operations, downstream) within sectors?

4.

Which value chain portion contributes the most to CI variability across sectors?

In other words: Determine which of the three value chain portions (upstream, operations, downstream) drives the largest differences in CI between sectors.