Milestone 2

Goal

We want to offer a simple way to understand the challenges of climate change, especially regarding Co2 emissions. We want the user to have a good general understanding of this topic after reading our data story.

Overview of the website

We will follow a top--down approach, where the user first learns about the main metrics and terms that we are using. The user will then have a global overview by countries and sectors of Co2 emissions. Finally, he/she will dive deeper into each sector (energy, industrial, agriculture and transportation).

Lecture needed: Do and Dont in viz, Colors, Designing viz

***Tools:*** fullpage.js to have a clean layout

Core visualizations

- Global Overview

For the global overview, the user can discover which sectors contribute the most to Co2 emissions, and which countries. Moreover, when clicking on a country, the sectors split, and the total emission bar will be updated to show data for this country. The user can thus have insights about his/her country's emissions.
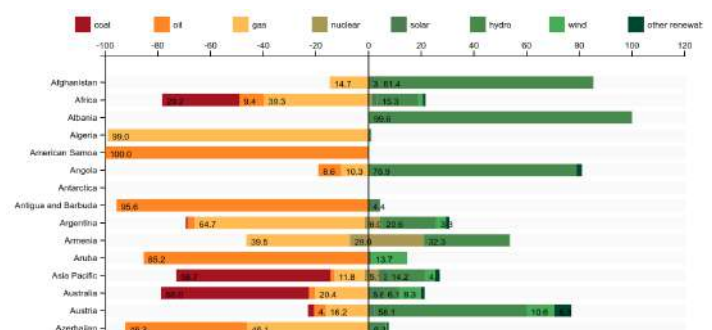

Lectures needed: Maps, Designing viz

Tools: D3.js
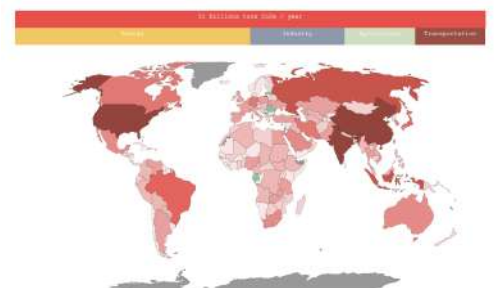
- Electricity and Heat Sector

For this part, we decided to show the production of energy for each country using a

diverging stacked bar chart. On the right, we will have the clean energies, not producing Co2 emissions and on the left, the ones emitting greenhouse gases. The user can thus see at what stage each country is regarding its transition toward clean energy.

Lectures needed: Tabular data

**Tools:** D3.js

- Industrial Sector

For this sector, we will show the evolution of emissions linked to the manufacturing of various materials, using a stream graph.

It is important to know that, because of the demographic transition in many countries, we will need to build cities from scratch in the next decades.

The problem is that there is no green alternative to produce cement or steel for example. It is crucial to be aware of this issue to find innovative solutions.

Lectures needed: Tabular data

Tools: D3.js
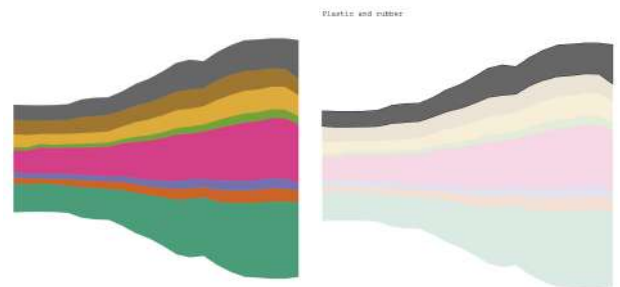
- Agriculture Sector

Most of the emissions for this sector comes from the production of food. We would like to show the user the emissions of Co2 needed to produce 1kg of various types of food. We will use a bubble plot for this part, and the size of the bubble will be proportional to the emissions. The user will then have additional information on hovering.

**Lectures needed:** Tabular data (bubble plots)

Tools: D3.js

- Transportation Sector

The emissions linked to transportation are not well known. People tend to overestimate the emissions of planes and ships. We want to make a little quiz, using a tree map chart with draggable icons. The user will have to guess which area corresponds to which type of transportation. When done, the user will be shown the solution.

Lectures needed: Graph

Tools: D3.js
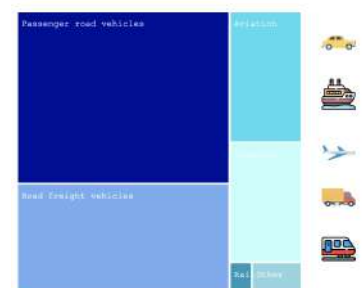
Extra ideas

We would like to offer a last interactive part, where the user can choose lifestyle options (Eating meat every day, Eating vegetarian, Traveling by plane...). Once done, the user will have an estimation of its Co2 emissions per year, and have comparisons with other types of lifestyles.

Functional Project Prototype

Link to prototype here, and the corresponding repository. We encountered struggles with GitHub Pages to host our prototype. We did not fix all the layout problems, as we will change it for the final version. Also, some functionalities haven't been implemented yet.