4. CO2 FOOTPRINT ANALYSIS

GitHub repository

Analysis of global CO2 footprints and quality of life to identify well-performing countries

PROJECT BRIEF

Background

With the climate crisis accelerating, the pressure for countries to live up to their emissions commitments is increasing. Are there any countries that could serve as an example for the way forward, or that have at least improved?

Key questions

- Are there any societies that currently live with (or close to) what we counsider a sustainable CO2 footprint per capita and also have a good quality of life?
- Are there countries that have managed to decrease their CO2 footprint per capita while increasing the quality of life of their citizens?

OVERVIEW

Dataset

- Openly accessible datasets of CO2 emissions, Human Development Report data, and World Happiness Report data

Tools used

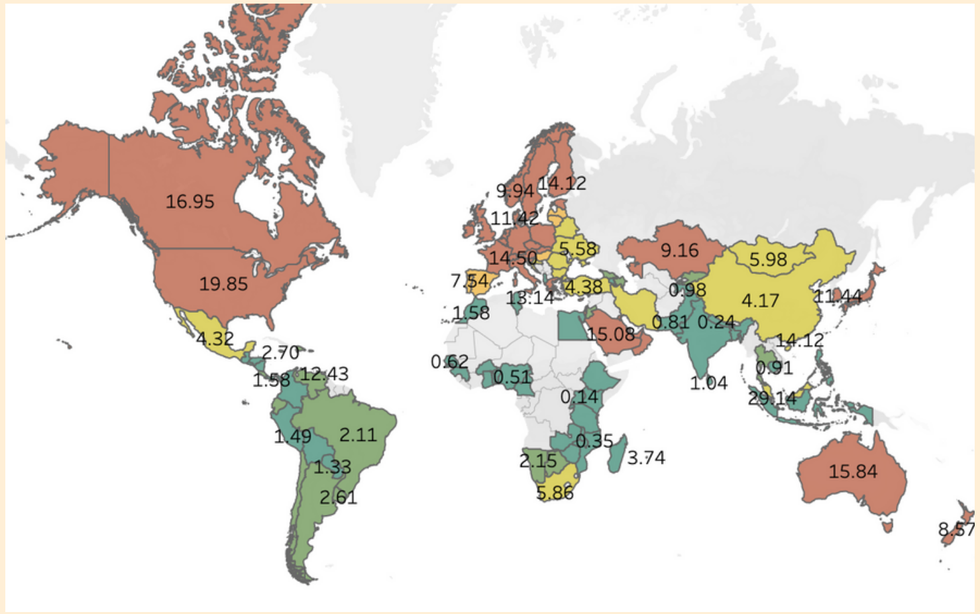
- Excel
- Python (pandas, seaborn)
- Tableau

Skills shown

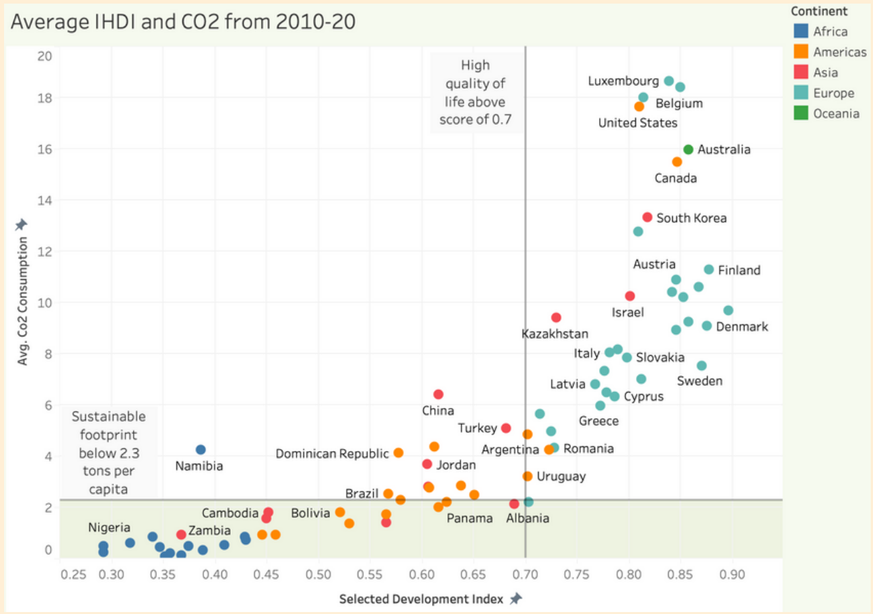
- Data wrangling
- Data merging
- Data aggregation
- Descriptive analysis
- Visualizing data

STATE OF THE WORLD

Average yearly emissions per capita (1990-2020)



Relationship between emissions and development



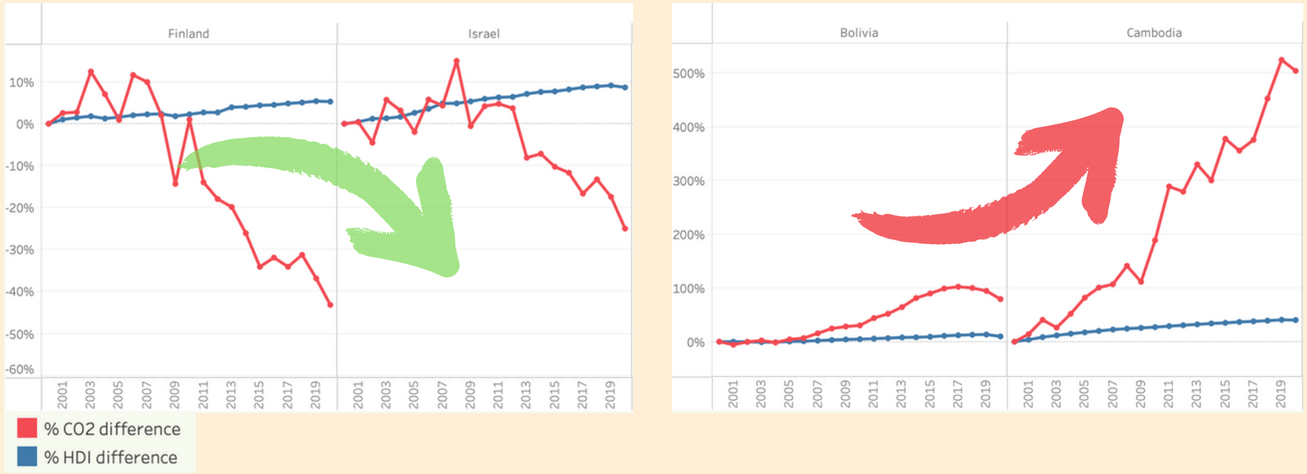
- Looking at the consumption-based CO2 footprint per capita and the inequality adjusted human development score (HDI), the outsized emissions footprints of the countries in the 'Global North' becomes apparent. As does the correlation between footprint and human development score.
- The desired thresholds for sustainable emissions levels are 2.3 tons per capita and year and a human development score of 0.7 or above.

ANALYSIS RESULTS

Countries closest to target thresholds (2010-20)

Albania is the only country in the dataset that falls within the desired thresholds. However, its happiness score of is quite low. The other countries that come closest to our target metrics and have significantly higher happiness scores (Uruguay, Argentina and Chile) are all located in South America.

Examples of countries with increasing and decreasing emissions



Many countries of the 'Global North' have managed to decrease emissions somewhat while increasing development, while most in the 'South' increased emissions with development

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RESULTS AND RECOMMENDATIONS

Only very few countries have managed to reach close to sustainable emissions levels while ensuring high levels of human development and happiness for their populations.

Some countries, mostly in the 'Global North', have managed to reduce their carbon footprints in recent decades while increasing human development. However, these are predominantly the historically worst polluters with a persistently outsized footprint.

Meanwhile, the majority of countries in the 'Global South' have increased their CO2 emissions while improving their human development. Despite this trend, these countries have historically emitted far less than most of the 'Global North'.

THANK YOU

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LinkedIn | Tableau | GitHub

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