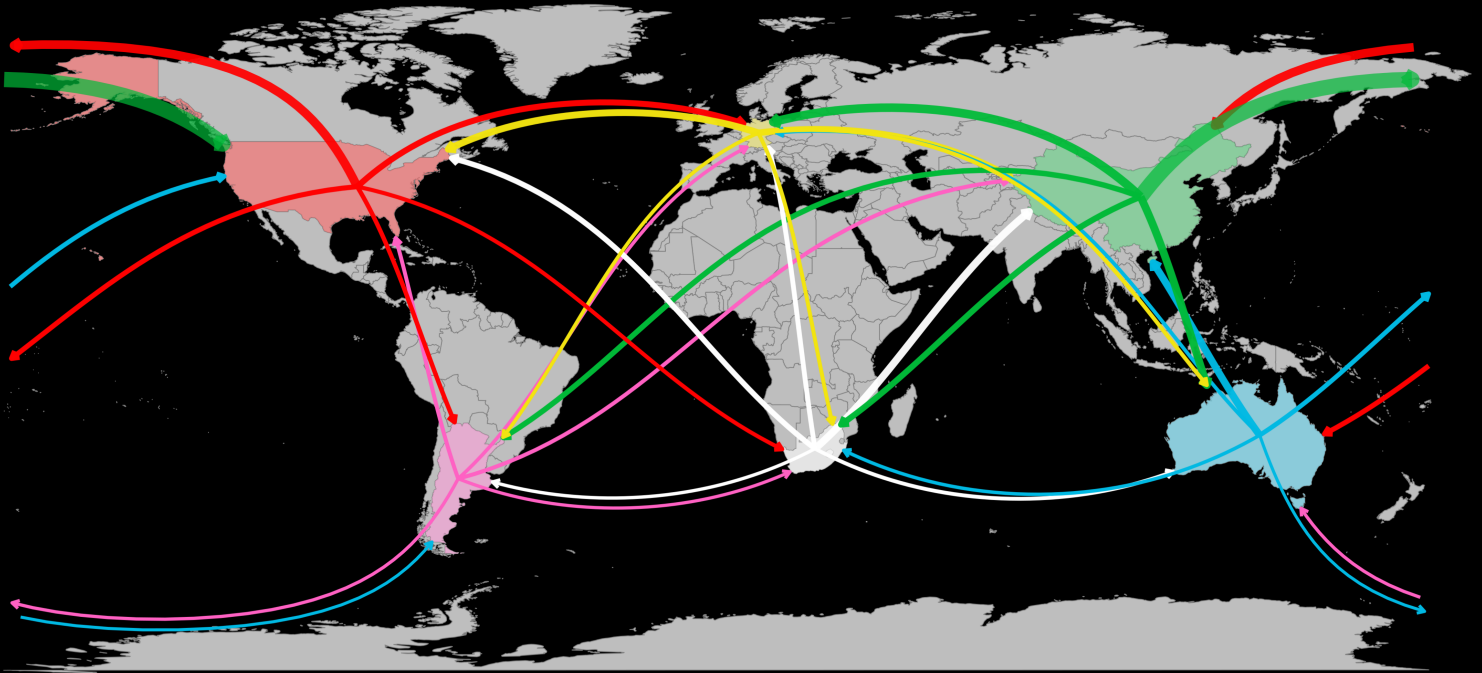


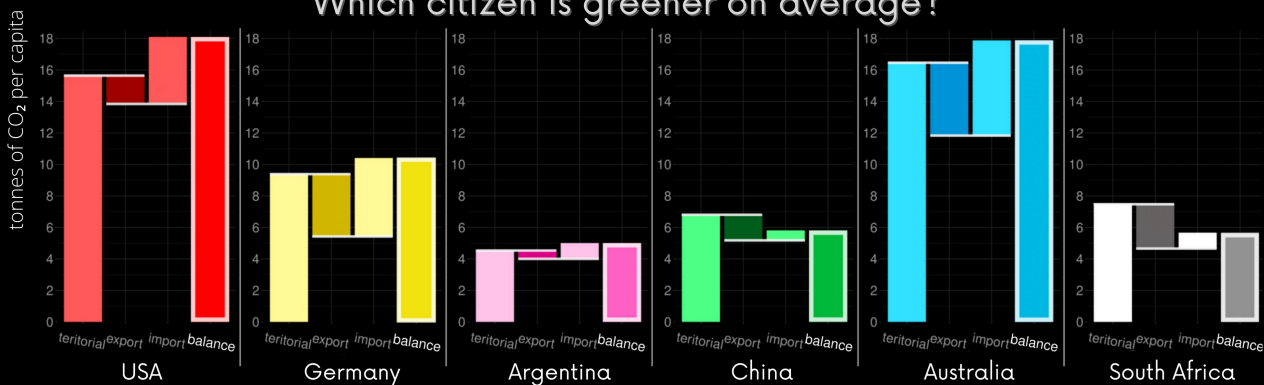
The hidden emissions

CO₂ in production and trade



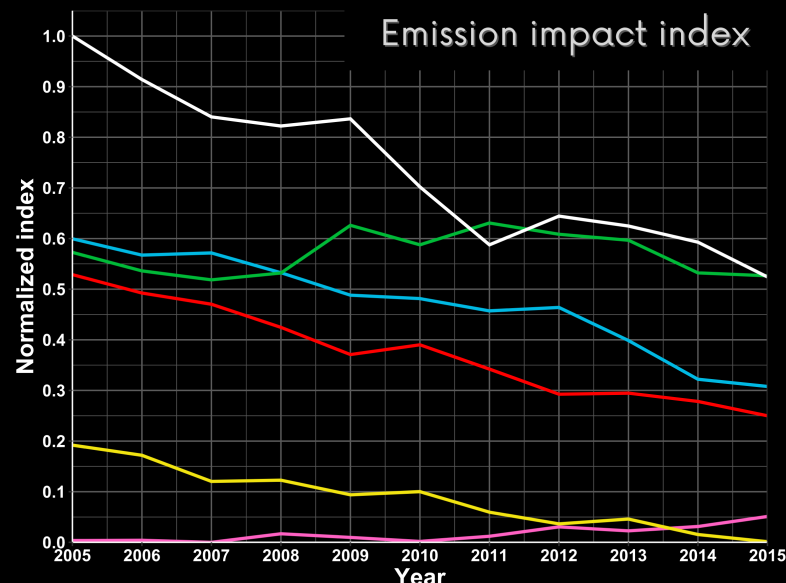
Arrows coming out of a country have the same color as the country and they represent export from it to all others. The width of the arrow represents the amount of CO₂ exported in 2015. From this chart we can clearly see that some countries, like China, export much more than they import, while other countries, like Australia, do the opposite. Those exports and imports are usually omitted when calculating countries' emissions. This leads to significant changes in total emissions.

Which citizen is greener on average?



The other factor that usually is not taken into account is the number of people living in the country. Although the map would imply that China is the biggest polluter in the world, it does not necessarily reflect the whole truth. The chart above presents carbon dioxide values per capita in 2015. From the per capita perspective there seems to be a discrepancy between what general public reckons and what the numbers say. As one can observe, it would appear that USA CO₂ demand surpasses the Chinese by a whopping 10 tonnes disparity.

Emission impact index



Previously mentioned data depicts the current situation but it does not take into consideration the standard of living. Our custom index aims to correct this by including GDP as a measure of a country's wealth.

The chart on the left represent the value of our custom index in the years 2005 - 2015. The index is calculated by dividing the CO₂ balance of a given country by its GDP. The index was then normalized for improved readability using the following formula:

$$I_{normalized} = \frac{I - I_{min}}{I_{max} - I_{min}} \quad \text{where } I_{min} = 0.235, I_{max} = 0.668$$

The index represents how impactful are the emissions of citizens of a given country. This is important, as the citizens of a wealthier and more developed country are capable of purchasing more goods, while at the same time, well developed countries often introduce a plethora of different regulations which aim to decrease CO₂ pollution. This is clearly visible in the case of Germany.

Additionally the chart shows that, were the residents of China as wealthy as Germans, they would produce much more CO₂ per capita. To summarize, China produces vastly more CO₂ for each 1\$ of income.