



CO₂ Emissions by Country

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Introduction

In this analysis, we explore global CO² emissions data, focusing on regional trends and their impact on both local and international scales.

Using SQL for data extraction and cleaning, and Power BI for visualization, we analyze emissions patterns over time, with a particular focus on Portugal's role in the global context.

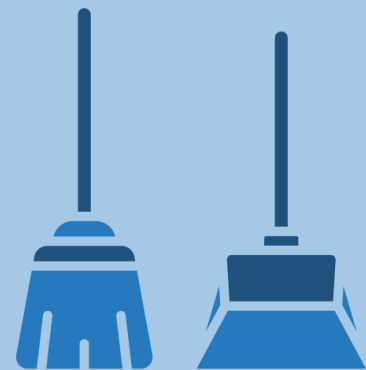


Research Methodology

Collecting Data



Data Cleaning with
SQL



Data Visualization with
Power BI



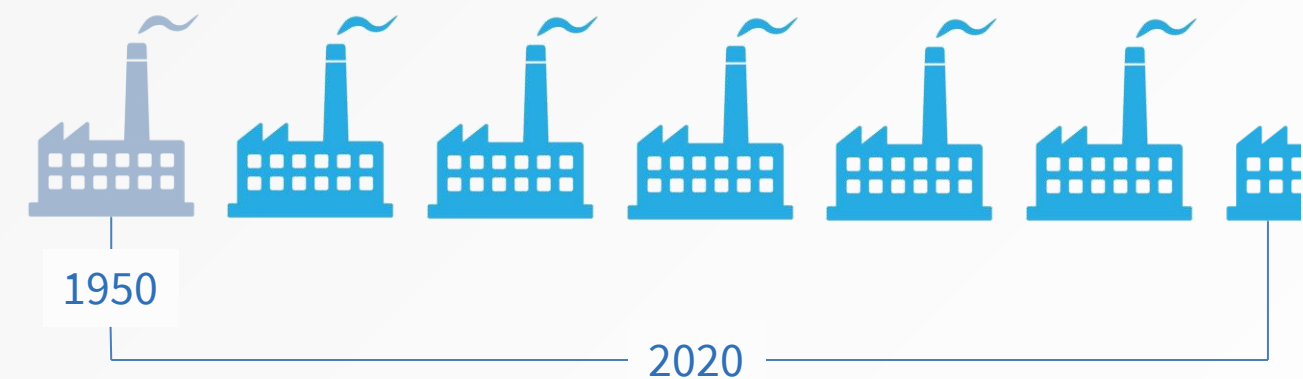
Presenting



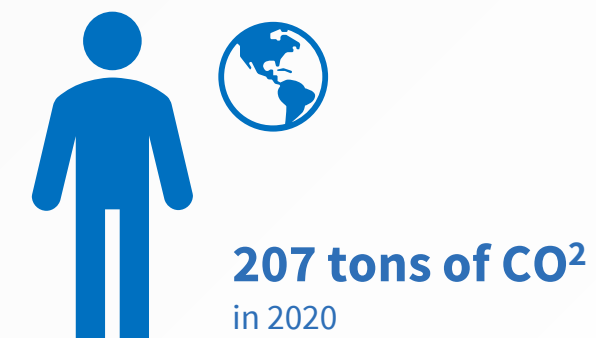
Results & Findings

According to the data available, in 2020, a total of **1.65 trillion tons of CO²** were emitted all over the world.

This is more than a 6,5 times increase from 1950.

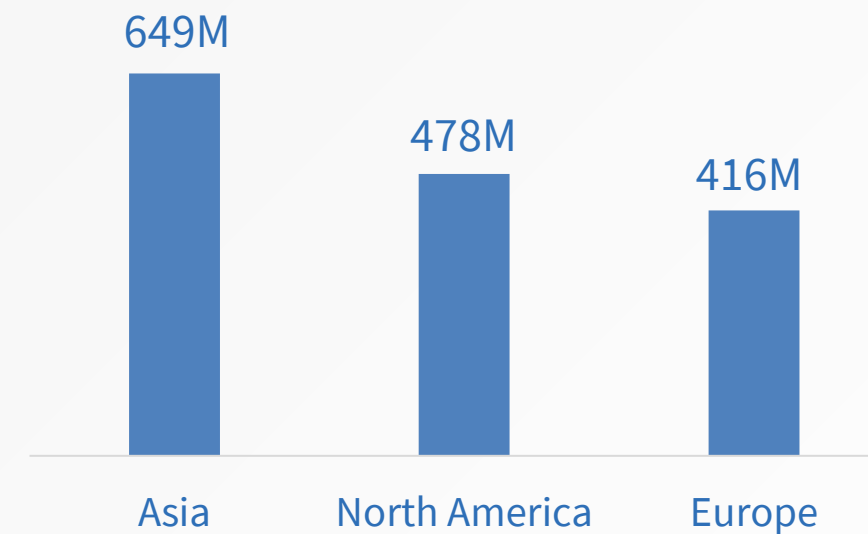


Dividing by the number of inhabitants, each person emitted in 2020, on average, **207 tons of CO²**.



Continents

As of 2020, this is the **top 3 of continents** that emitted more tons CO²:



Dividing by the **number of inhabitants** places North America first, followed by Europe:

North America



796 tons of CO²
in 2020

Europe



692 tons of CO²
in 2020

Oceania



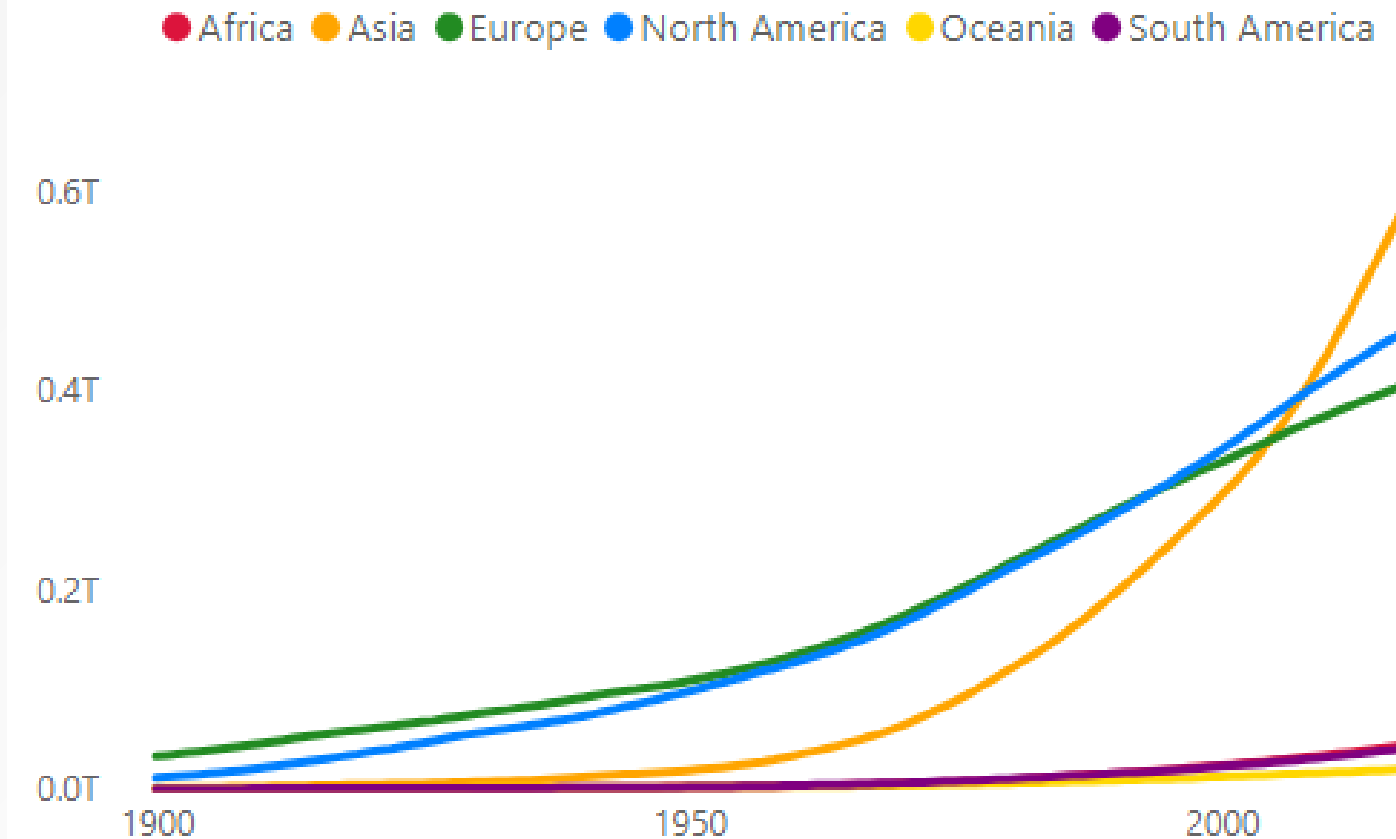
469 tons of CO²
in 2020

World trends over time

CO² emissions have dramatically **increased** worldwide over time.

Europe and North America were the leading emitters until 2005, when Asia became the largest contributor to global CO² emissions.

Tons of CO² emissions evolution by year



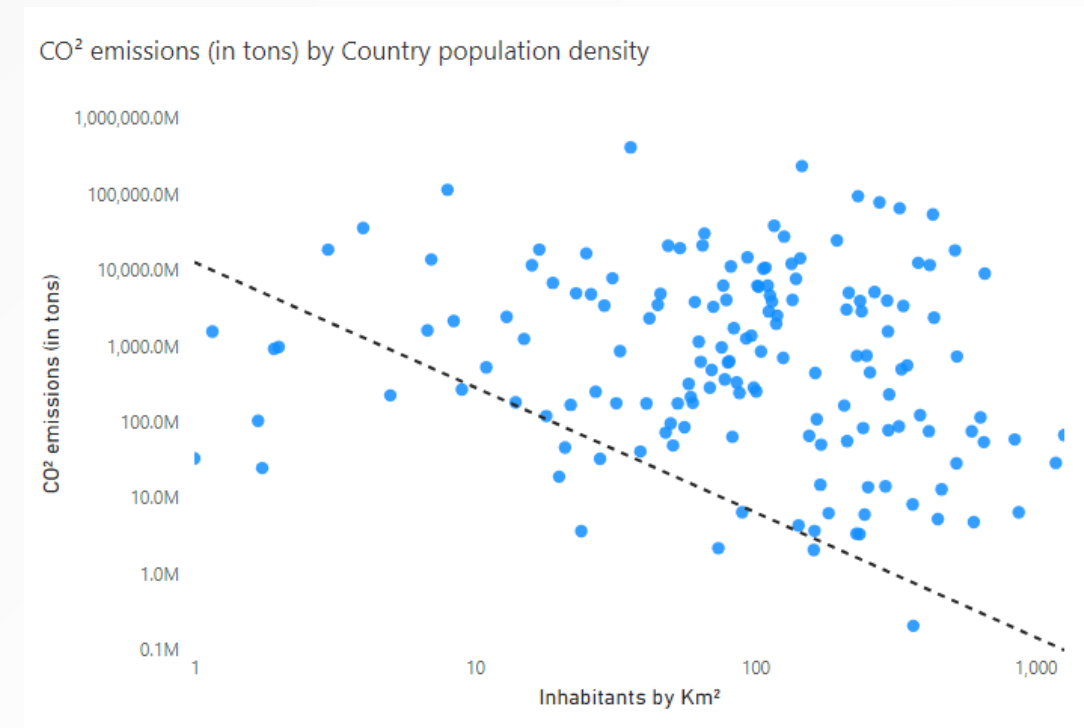
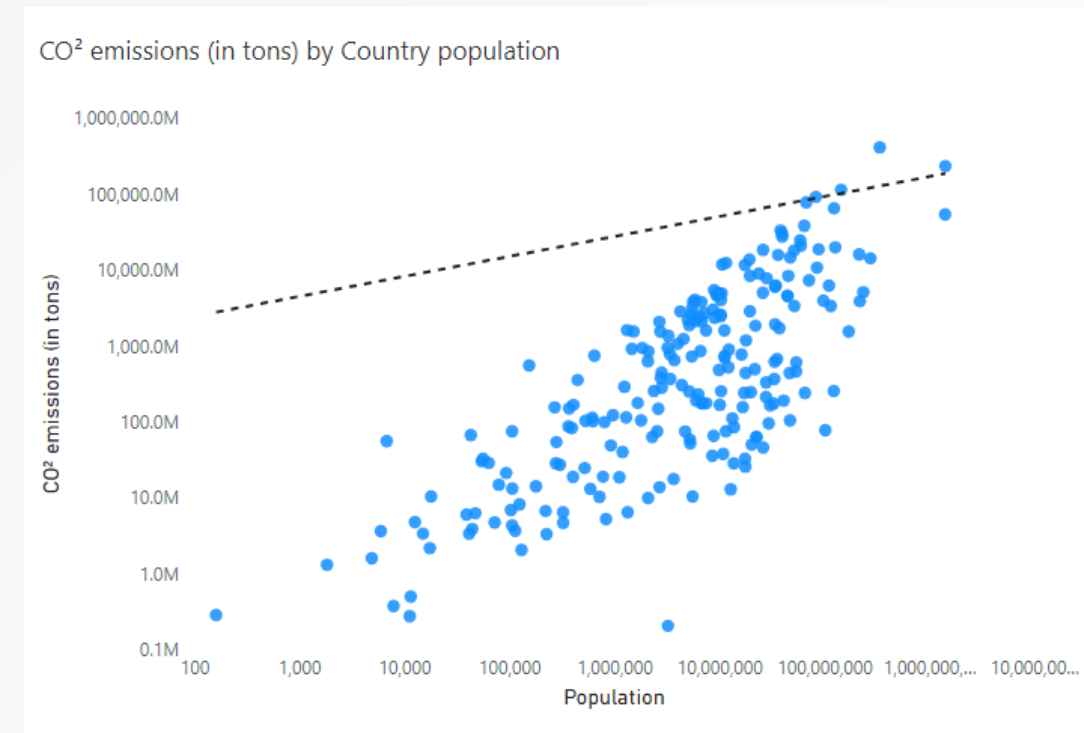
World trends in 2020

We can see a slight positive **relationship between CO² emissions and population** for each country.

This means that there is a tendency in emissions increasing when population increases.

As for **population density** (inhabitants/Km²) there is a clear negative tendency.

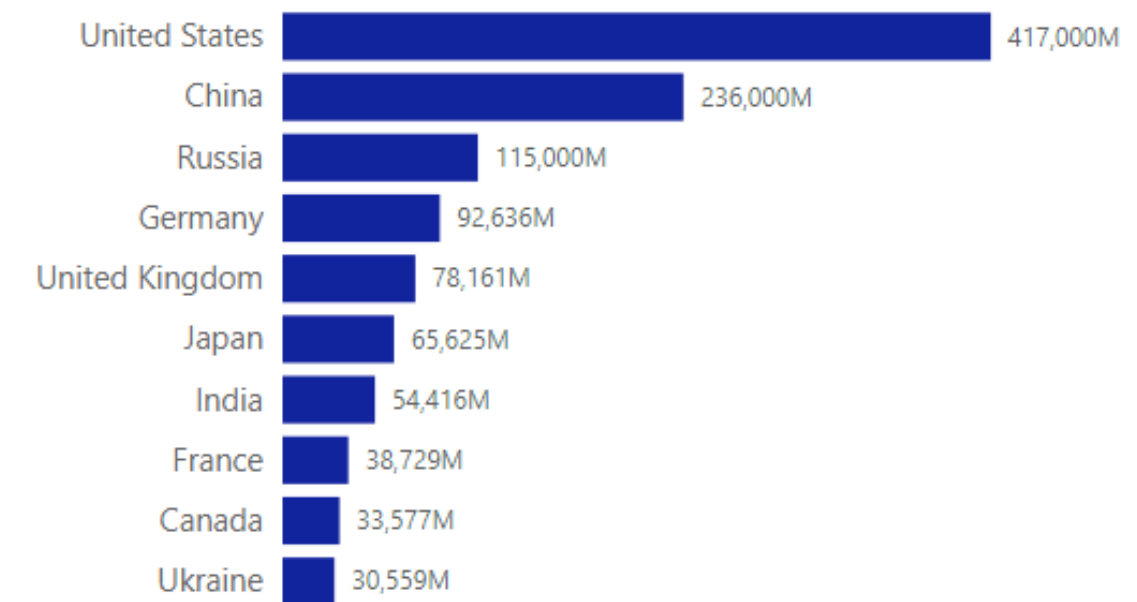
This means that when population density increases, emissions tend to decrease.



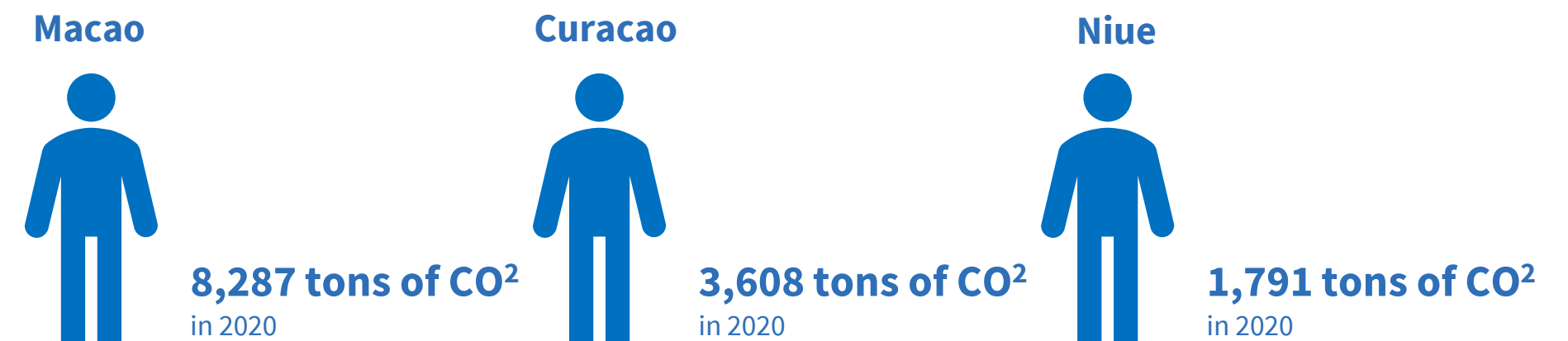
Countries

In 2020, Overall, the **leading country** in emissions is the United States, followed by China and Russia:

Top 10 CO² emissions by Country (in tons)



On the other hand, when looking at the average emissions **per inhabitant**:



And what about Portugal?

Portugal's total emissions in 2020 amounted to 2.61 billion tons, representing approximately 0.0016% of global emissions and 0.0063% of Europe's emissions.



In 2020, the average Portuguese emitted 255 tons of CO₂ — only 37% of the European average (693 tons) but 23% more than the global average per person.

Portugal



255 tons of CO₂
in 2020

Conclusion

This analysis provides a detailed overview of global CO² emissions, with a particular focus on Portugal in comparison to Europe and the rest of the world.

The findings highlight that, while Portugal's per capita emissions are lower than the European average, they still surpass the global average. This underscores the need for continued efforts toward carbon reduction at both national and regional levels.