**UNIVERSITY OF HERTFORDSHIRE**

**APPLIED DATA SCIENCE 1**

# ASSIGNMENT 2

# STATISTICS AND TRENDS BY

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## TITLE:

Greenhouse Gases effects on climate change.

## Abstract:

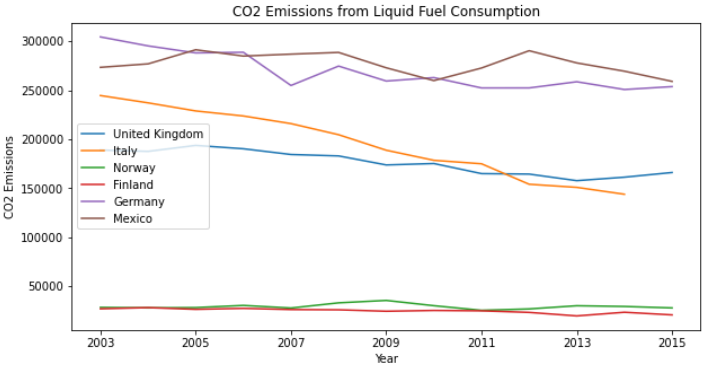
The report describes the co2 emission and other parameter which are affecting the climate change is examined.

## GitHub Repository link:

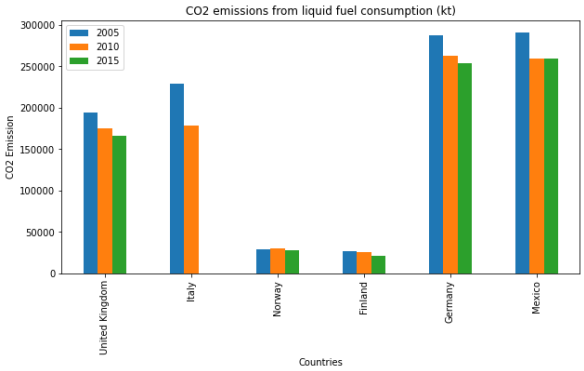
https://github.com/shashank02468/ADS-Assignment-2.git

## Introduction

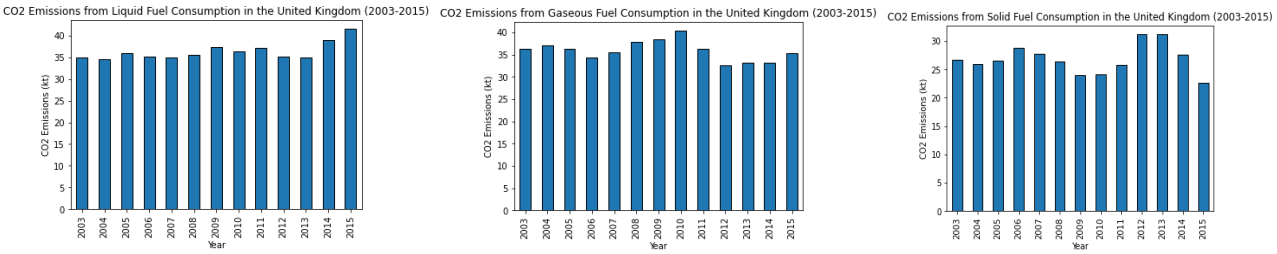
This report provides a concise and thorough exploration of CO2 emissions across European countries over various time spans. The visualizations offer nuanced insights, effectively depicting noteworthy changes and trends in emissions. Through succinct graphics, this analysis delivers a clear and informative representation of the environmental landscape, illustrating dynamic patterns observed in CO2 emissions across diverse European regions and years.




The depicted line chart delineates the dynamics of CO2 emissions from liquid fuel consumption across the years 2003 to 2015 in key countries, including the UK, Italy, Norway, Finland, Germany, and Mexico. Noteworthy observations reveal that Norway and Finland consistently maintain lower CO2 emissions in contrast to other nations, whereas Mexico and Germany exhibit higher levels. Despite the overall lower emissions, Italy stands out for its gradual decrease in CO2 emissions from 2003 to 2015. This nuanced analysis provides a comprehensive understanding of emission trends, underscoring distinct variations among the selected countries and emphasizing Italy's unique trajectory in reducing CO2 emissions during the specified period.

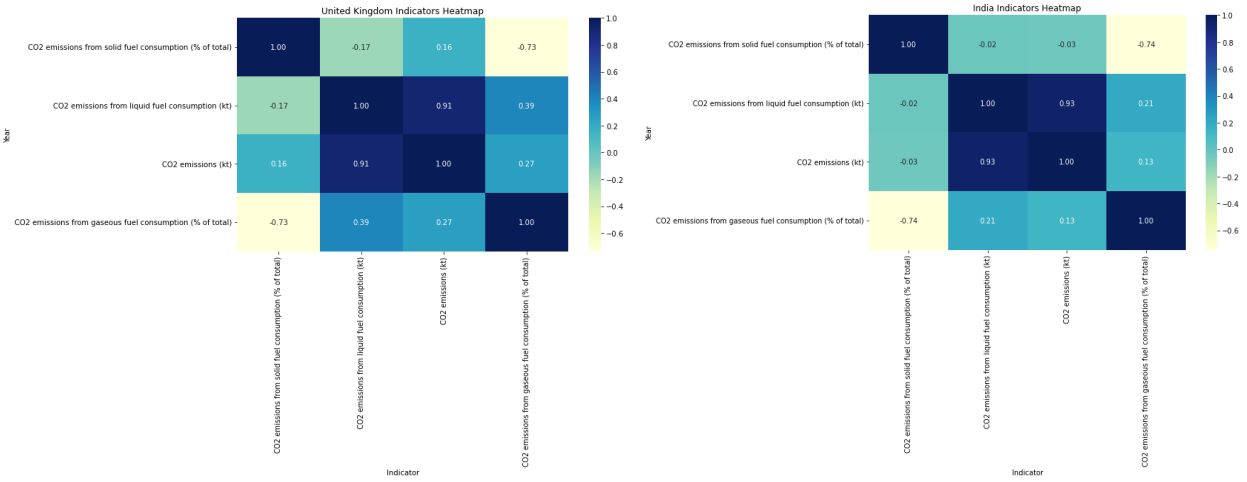



The presented bar graph illustrates notable shifts in CO2 emissions from liquid fuel between 2005 and 2015. A discernible trend emerges, indicating an overall reduction in emissions across the mentioned European countries during this period. However, it is evident that countries such as Norway and Finland consistently maintain significantly lower CO2 emissions compared to their counterparts. This nuanced observation underscores the substantial variance in emission levels among the highlighted European nations, accentuating the commendable environmental practices in Norway and Finland in contrast to the remaining countries featured in the graph.




The histogram illustrates the distribution of CO2 emissions in the United Kingdom across different fuel sources—liquid, solid, and gaseous—over the years 2003 to 2015. Notably, the data reveals a consistent pattern where CO2 emissions remain relatively similar across various fuel categories, indicating a balanced contribution from each source.

In 2015, a discernible shift is observed as CO2 emissions from liquid fuel consumption notably surpass those from other sources. Particularly, emissions from solid fuel consumption remain comparatively low, accounting for less than 30% of the total emissions. While there is no pronounced upward or downward trend in CO2 emissions over the years across fuel types, a slight increase in liquid fuel consumption-related emissions is evident in 2015 compared to preceding years. This nuanced analysis provides insights into the dynamic landscape of CO2 emissions in the United Kingdom, emphasizing both the consistency in overall emissions and the specific prominence of liquid fuel-related emissions in 2015.




The generated heatmap provides a correlation analysis of CO2 emissions in the United Kingdom and India specifically examining the relationships between emissions from solid, liquid, and gaseous fuels. This visualization offers a comprehensive insight into the interconnections among these different emission sources, shedding light on the intricate patterns and dependencies within the UK's & India's carbon output landscape. By exploring correlations, the heatmap enhances our understanding of how emissions from distinct fuel types coalesce, contributing to a more detailed and nuanced perspective on the environmental impact of diverse fuel sources in the United Kingdom and India.