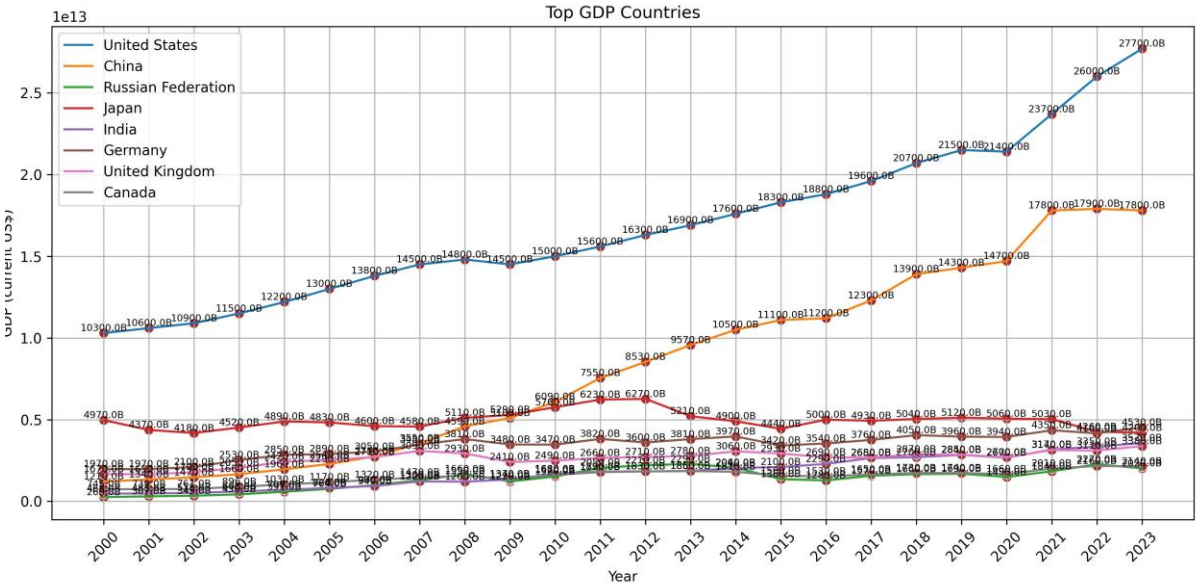
Climate Impact vs. Economic Expansion: Evidence from World Bank Data

All Countries of the world are engaged in a dangerous game of competition for development and better life. No Country is paying attention to the climate change that is taking place in the game. To develop, all countries are building various factories through which harmful substances are being added to the nature. Countries with the higher GDPs emit the most, CO2, CH4, N2 and other harmful gas. It changed according to time. That means there are relationship between climate change and development.

'Cristina Albu' and 'Ruxandra Laura Bosceanu' published a journal on Development and climate change. They showed how development and climate change are intertwined. They surveyed on twenty seven Europe countries and showed that when GDP goes up, CO2 and other gases emissions go up.

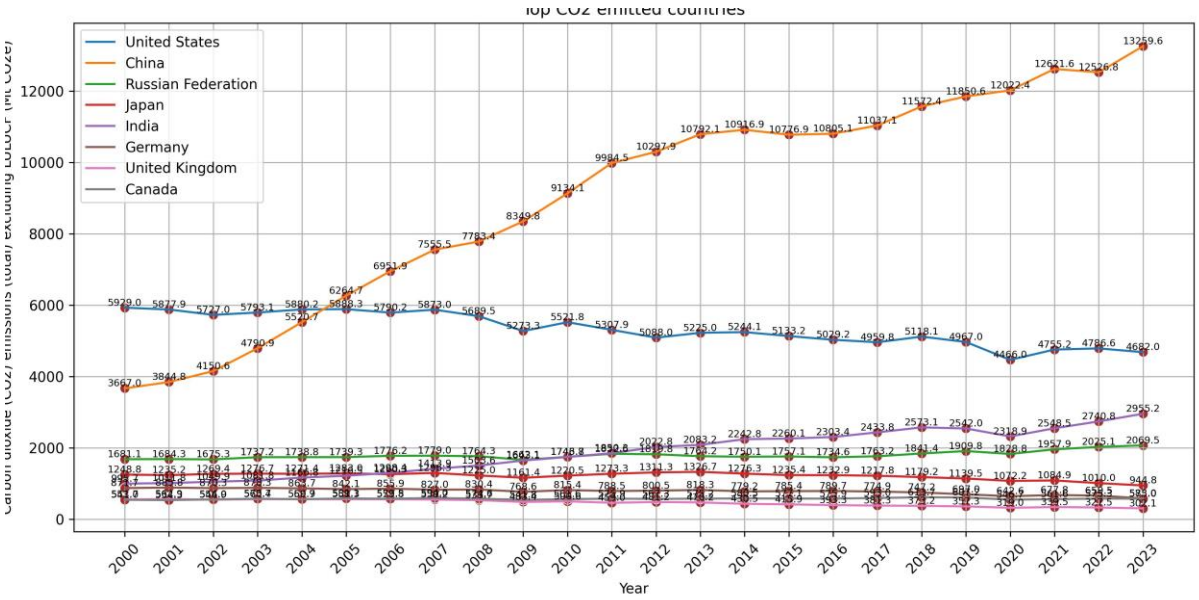
The developed countries is the largest contributor to CO2 emissions. In addition to CO2, The amount of all gases that cause the greenhouse effect is increasing for the development of this developed countries. I used World Bank open Dataset to analyse the relationship between development and greenhouse gases i.e. CO2, CH4. In this dataset, there are a few countries that are the forefront of GDP, including USA, China, Japan, Russia, India, and Germany. And the amount of gas they emit is much higher. Most the time they are at the top.

Fig 1: Top GDP Countries over time since 2000 to 2023.



This graph shows the countries with the highest GDP from 2000 to 2023. And it can be seen that USA and China are top of all. The GDP of United States and china has increased much more than other countries. And it seen that the amount of greenhouse gases emitted by these two countries is also the highest. United States GDP is growing at an average rate of 752.52B, While China's is growing at an average rate of 721.30B. And Russia, India, japan, Germany's average GDP growth is 76.52B, 134.86, 33.47, 111.304 respectively. Below is a list of the countries with the highest CO2 emissions. This will give you an idea of the role each country plays in greenhouse gas emissions.

Fig2: Top CO2 emissions Countries



Countries that were in the first place in GDP also topped the list CO2 emissions. China is an exception in this regard, with its emissions exceedingly high and increasing significantly over time, averaging 4.17. While other countries have seen growth, it hasn't been as exponential as china. The exception is the United States, Which has been steadily declining since 2005. That's good news for the environment. In this regard, the have taken many steps which have brought benefits to them. Other countries should also learn from them. I am visualizing more graphs of US.

Fig 3: GDP of United States over time.

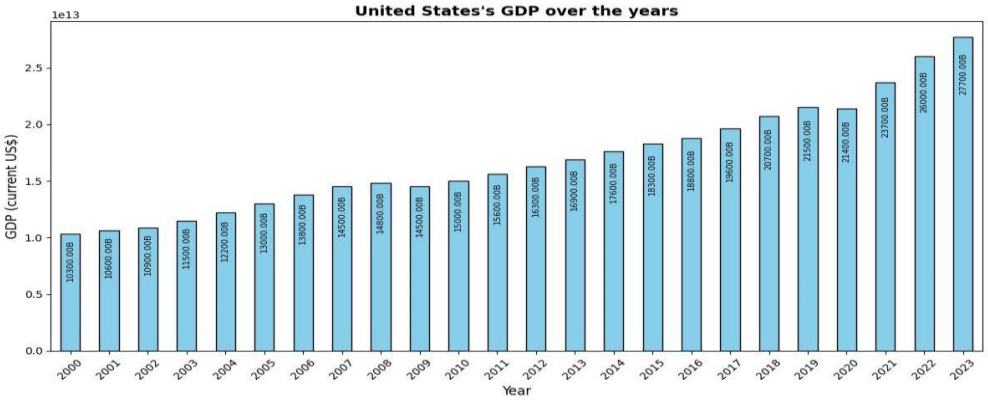


Fig4: CO2 emissions over time.

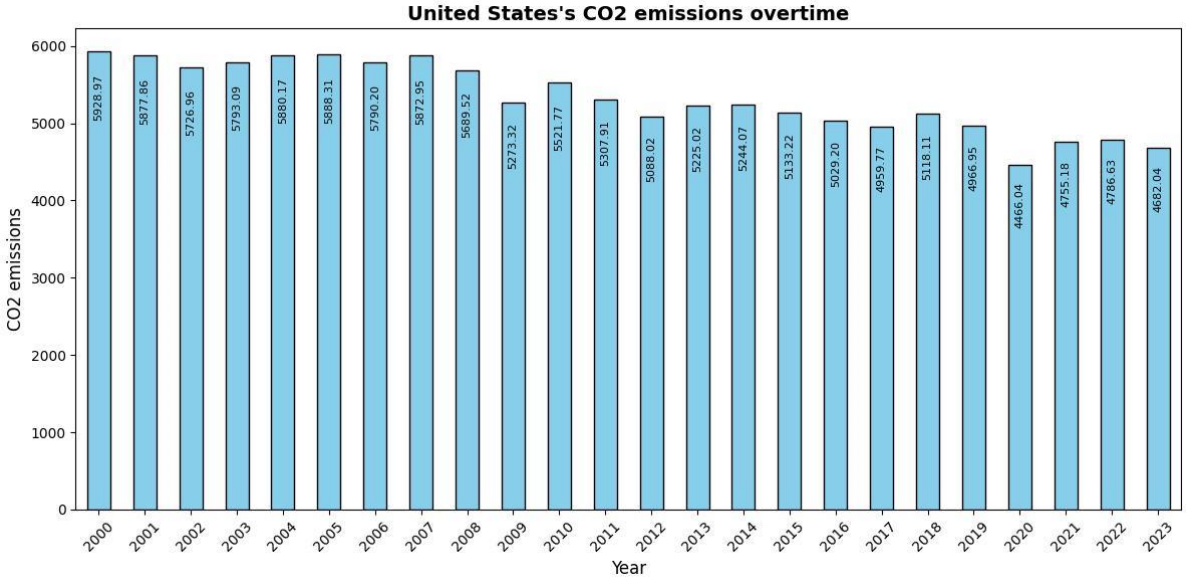
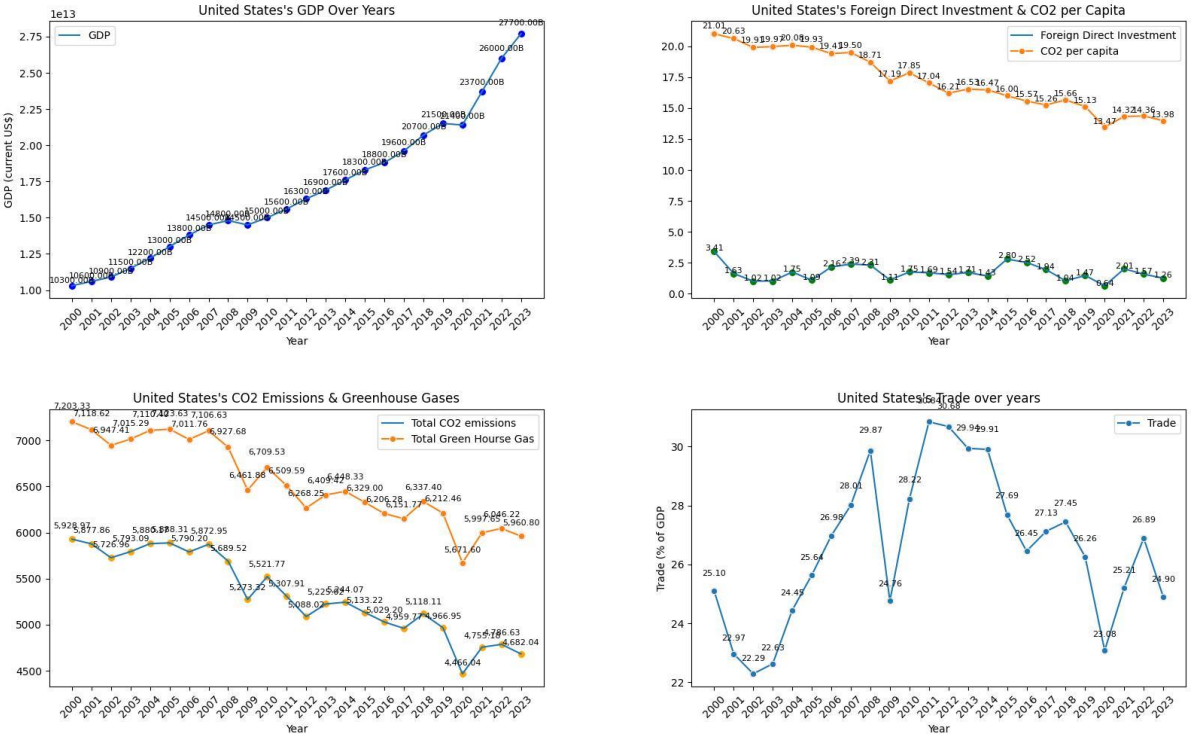


Fig 5: Different Plots of United States.



When the amount of import and export of U.S. increased, it is seen that the amount of CO2 is also decreased. In this case, it is understood that there is a relationship between the import and export of a country and the greenhouse gas which has been shown in a very acceptable way in the case of U.S.