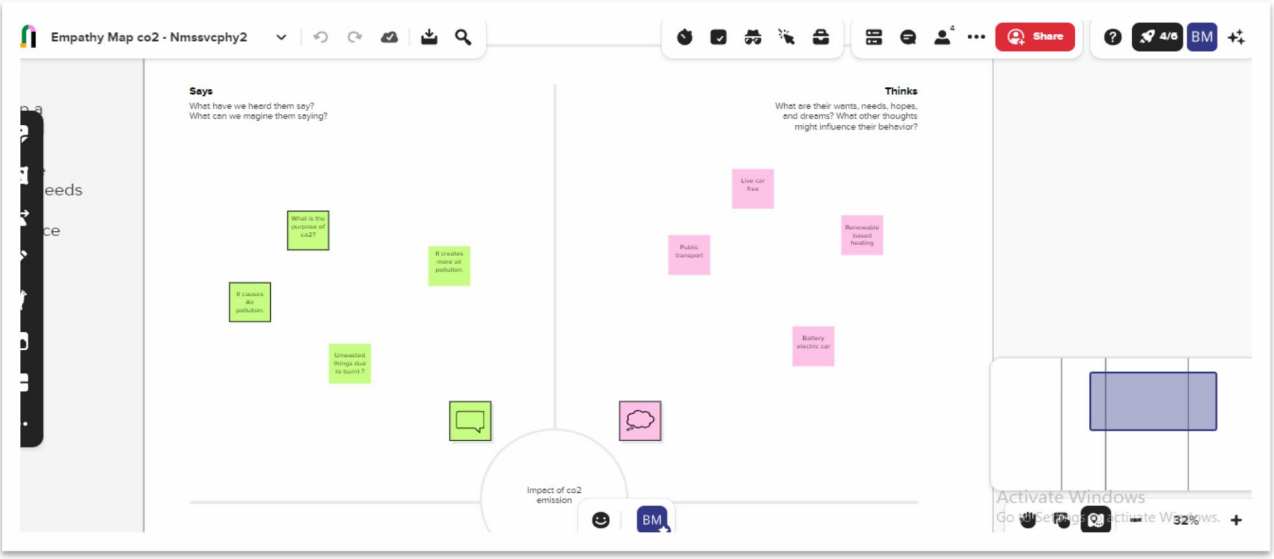
PROJECT REPORT

Unearthing The Environmental Impact Of Human Activity: A Global CO2 Emission Analysis

Project Description:

Global warming is one of the biggest challenges currently being faced by the human race, although correlation is not causation, a likely cause of global warming is due to increased atmospheric carbon dioxide from human activities. **CO2 Emission** refers to the Carbon Dioxide emitted throughout the world. For this analysis we will be focusing on CO2 Emissions and its effect on the world we live in as well as some key factors and stats that may play a role in the emission of CO2 globally. Fossil fuel use is the primary source of CO2. The data throws light onto how much fossil fuels are burnt, per year per nation, which amounts to an increase in CO2 every year. This will help researchers and environment experts to predict global warming. So countries should set a goal to decrease this amount yearly . Analysing Global Co2 Emission across countries from 1975 to 2020. This dataset contains a record of Co2 Emission by each Country and Region of Earth, here we are going to analyse and visualise Country wise, Region wise and Overall Co2 Emission on Earth.

PROBLEM DEFINITION & DESIGN THINKING :



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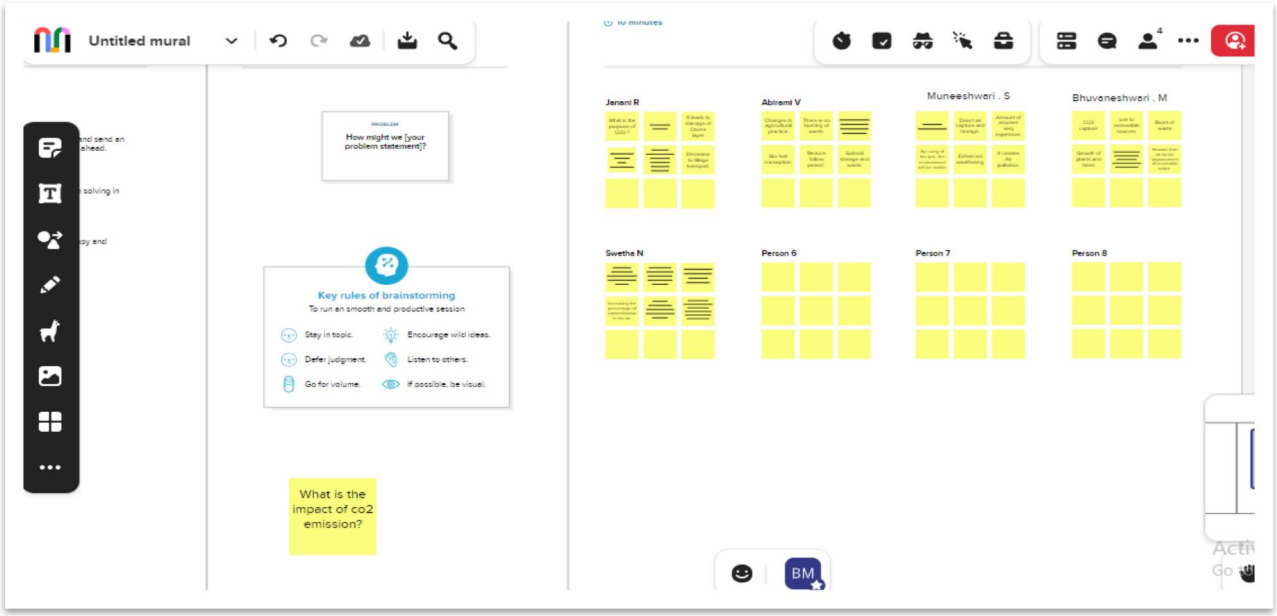
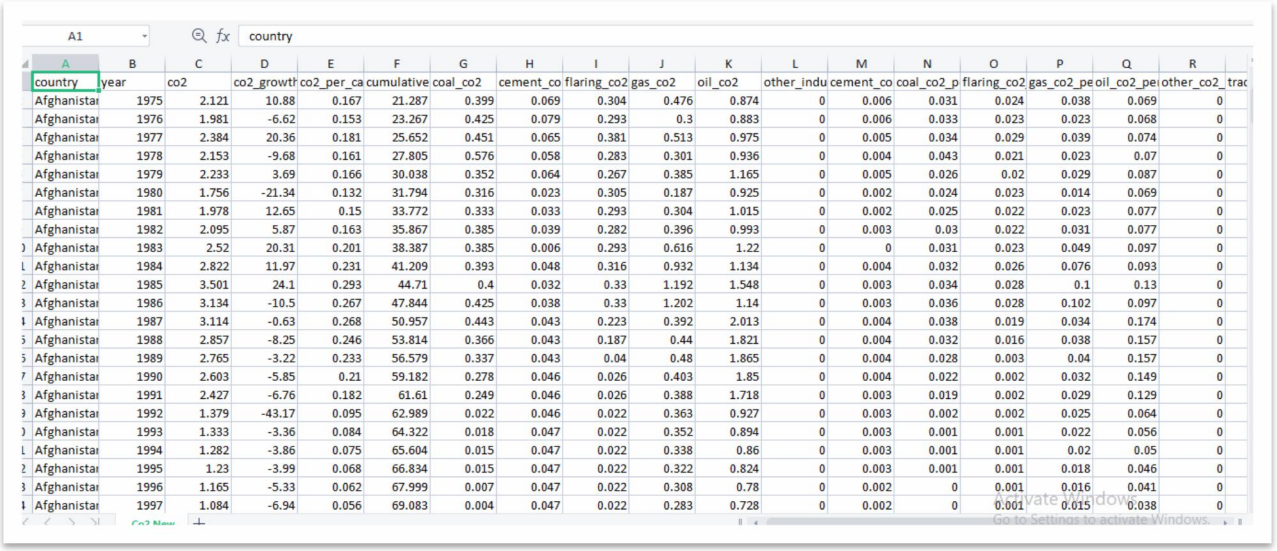


RESULT :



A1 | country

country	year	co2	co2_growth	co2_per_ca	cumulative	coal_co2	cement_co	flaring_co2	gas_co2	oil_co2	other_indu	cement_co	coal_co2_p	flaring_co2	gas_co2_pe	oil_co2_pe	other_co2_	trac
Afghanistar	1975	2.121	10.88	0.167	21.287	0.399	0.069	0.304	0.476	0.874	0	0.006	0.031	0.024	0.038	0.069	0	
Afghanistar	1976	1.981	-6.62	0.153	23.267	0.425	0.079	0.293	0.3	0.883	0	0.006	0.033	0.023	0.023	0.068	0	
Afghanistar	1977	2.384	20.36	0.181	25.652	0.451	0.065	0.381	0.513	0.975	0	0.005	0.034	0.029	0.039	0.074	0	
Afghanistar	1978	2.153	-9.68	0.161	27.805	0.576	0.058	0.283	0.301	0.936	0	0.004	0.043	0.021	0.023	0.07	0	
Afghanistar	1979	2.233	3.69	0.166	30.038	0.352	0.064	0.267	0.385	1.165	0	0.005	0.026	0.02	0.029	0.087	0	
Afghanistar	1980	1.756	-21.34	0.132	31.794	0.316	0.023	0.305	0.187	0.925	0	0.002	0.024	0.023	0.014	0.069	0	
Afghanistar	1981	1.978	12.65	0.15	33.772	0.333	0.033	0.293	0.304	1.015	0	0.002	0.025	0.022	0.023	0.077	0	
Afghanistar	1982	2.095	5.87	0.163	35.867	0.385	0.039	0.282	0.396	0.993	0	0.003	0.03	0.022	0.031	0.077	0	
Afghanistar	1983	2.52	20.31	0.201	38.387	0.385	0.006	0.293	0.616	1.22	0	0	0.031	0.023	0.049	0.097	0	
Afghanistar	1984	2.822	11.97	0.231	41.209	0.393	0.048	0.316	0.932	1.134	0	0.004	0.032	0.026	0.076	0.093	0	
Afghanistar	1985	3.501	24.1	0.293	44.71	0.4	0.032	0.33	1.192	1.548	0	0.003	0.034	0.028	0.1	0.13	0	
Afghanistar	1986	3.134	-10.5	0.267	47.844	0.425	0.038	0.33	1.202	1.14	0	0.003	0.036	0.028	0.102	0.097	0	
Afghanistar	1987	3.114	-0.63	0.268	50.957	0.443	0.043	0.223	0.392	2.013	0	0.004	0.038	0.019	0.034	0.174	0	
Afghanistar	1988	2.857	-8.25	0.246	53.814	0.366	0.043	0.187	0.44	1.821	0	0.004	0.032	0.016	0.038	0.157	0	
Afghanistar	1989	2.765	-3.22	0.233	56.579	0.337	0.043	0.04	0.48	1.865	0	0.004	0.028	0.003	0.04	0.157	0	
Afghanistar	1990	2.603	-5.85	0.21	59.182	0.278	0.046	0.026	0.403	1.85	0	0.004	0.022	0.002	0.032	0.149	0	
Afghanistar	1991	2.427	-6.76	0.182	61.61	0.249	0.046	0.026	0.388	1.718	0	0.003	0.019	0.002	0.029	0.129	0	
Afghanistar	1992	1.379	-43.17	0.095	62.989	0.022	0.046	0.022	0.363	0.927	0	0.003	0.002	0.002	0.025	0.064	0	
Afghanistar	1993	1.333	-3.36	0.084	64.322	0.018	0.047	0.022	0.352	0.894	0	0.003	0.001	0.001	0.022	0.056	0	
Afghanistar	1994	1.282	-3.86	0.075	65.604	0.015	0.047	0.022	0.338	0.86	0	0.003	0.001	0.001	0.02	0.05	0	
Afghanistar	1995	1.23	-3.99	0.068	66.834	0.015	0.047	0.022	0.322	0.824	0	0.003	0.001	0.001	0.018	0.046	0	
Afghanistar	1996	1.165	-5.33	0.062	67.999	0.007	0.047	0.022	0.308	0.78	0	0.002	0	0.001	0.016	0.041	0	
Afghanistar	1997	1.084	-6.94	0.056	69.083	0.004	0.047	0.022	0.283	0.728	0	0.002	0	0.001	0.015	0.038	0	

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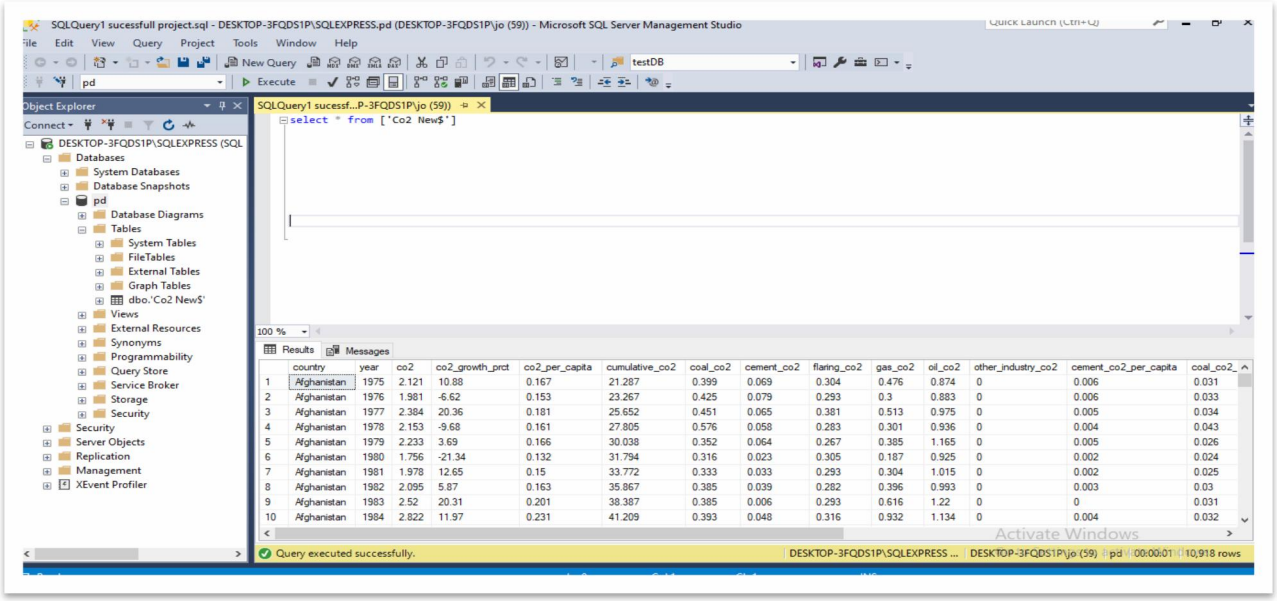

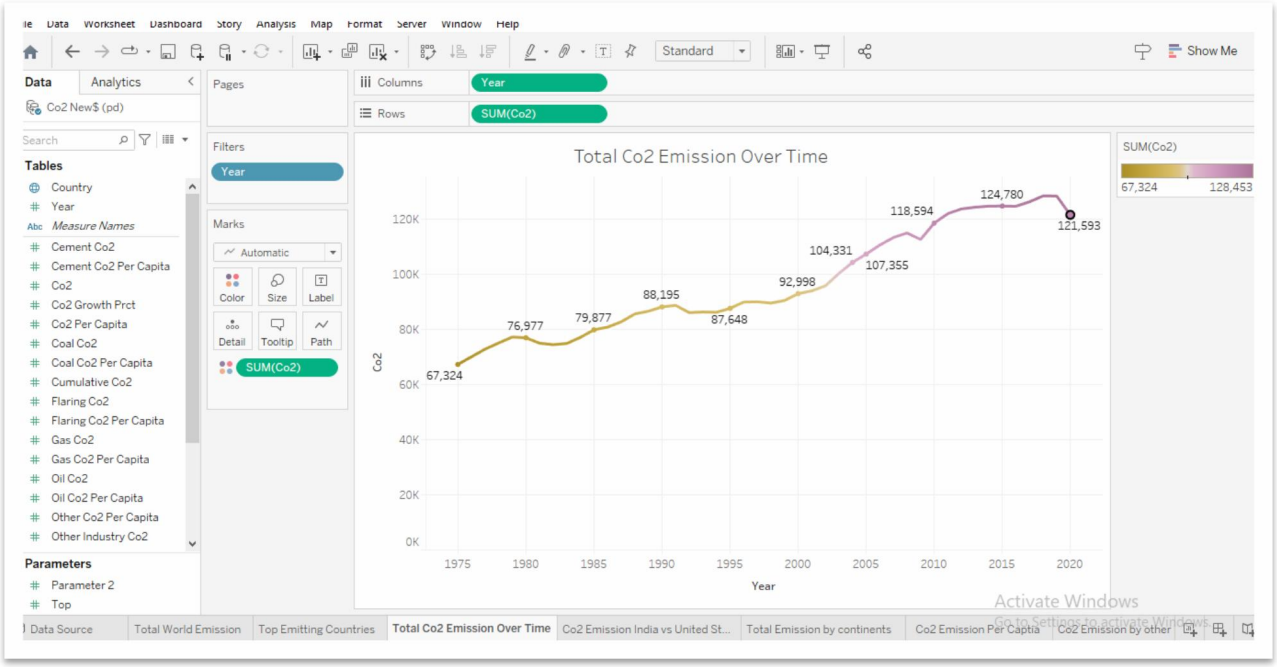

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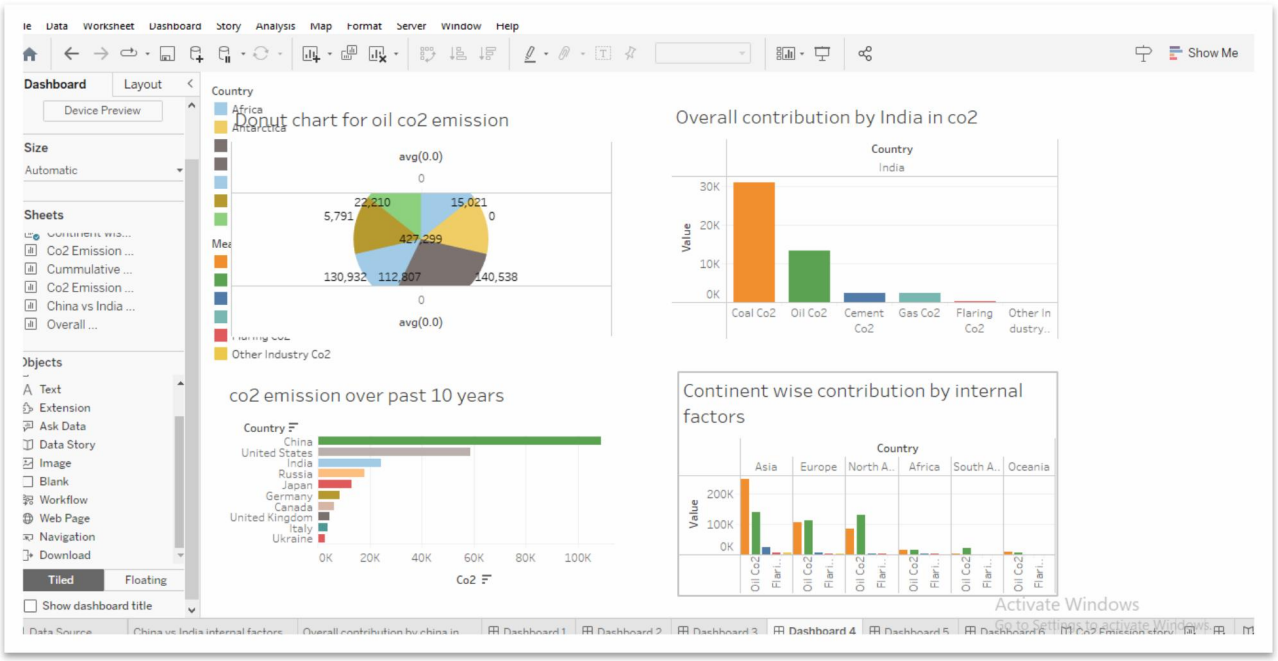

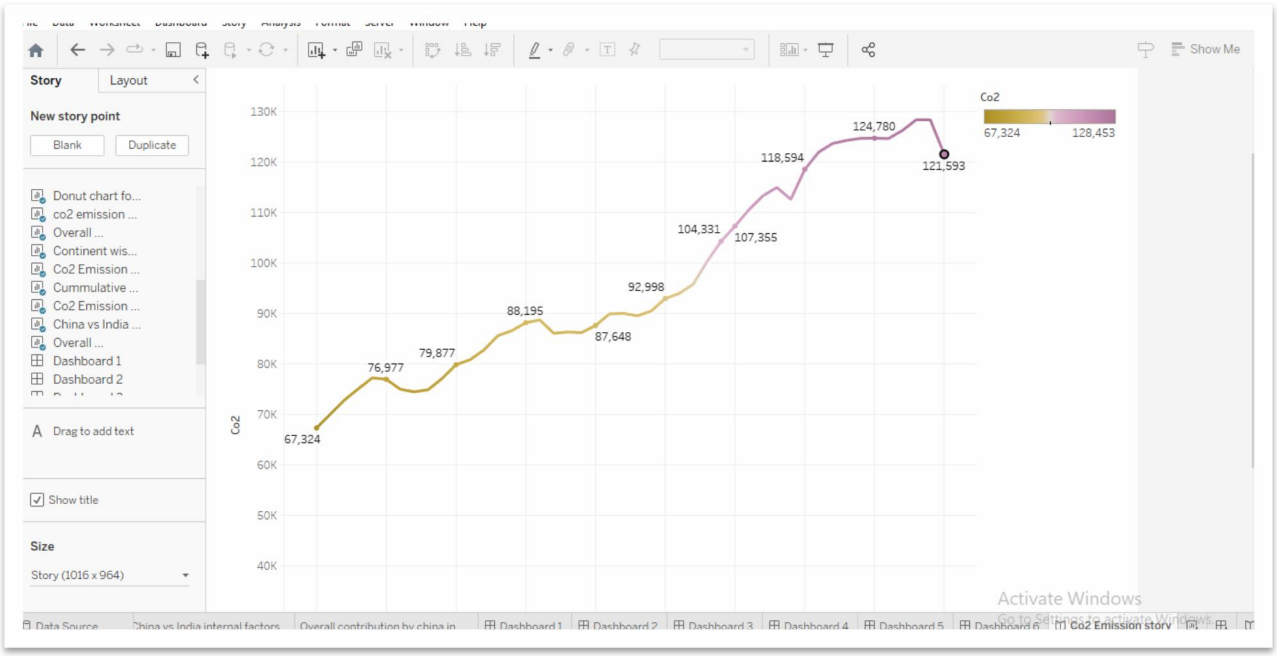

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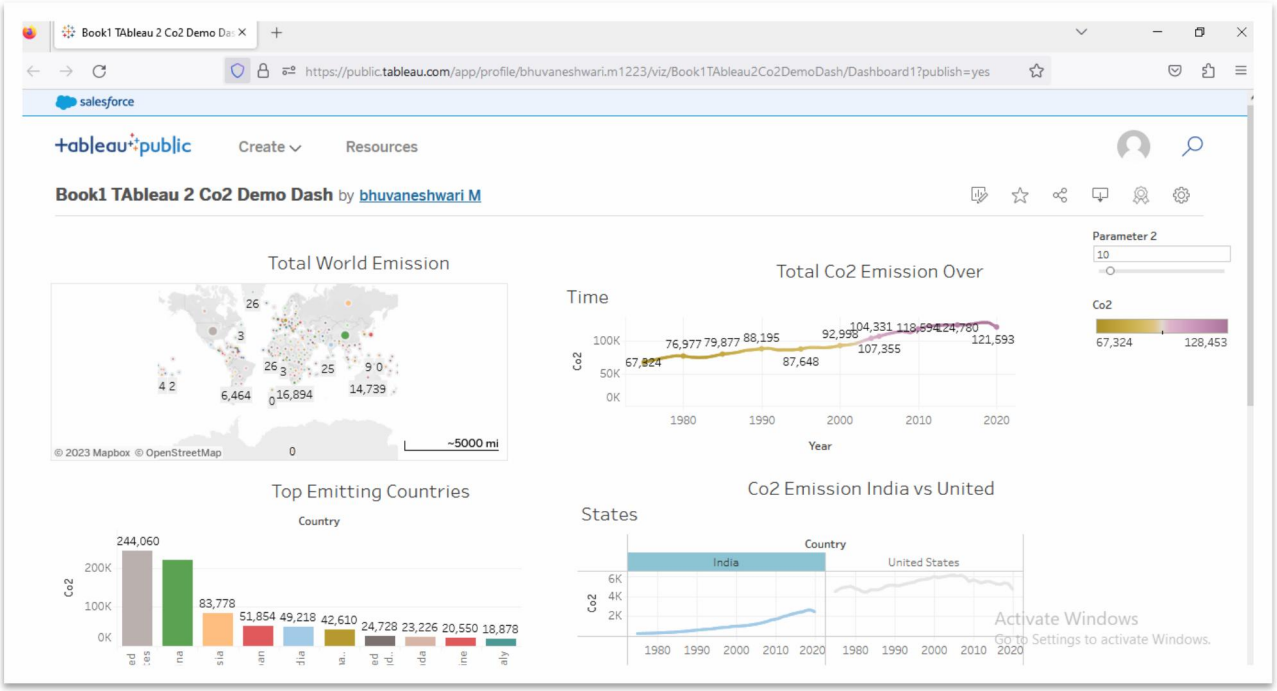

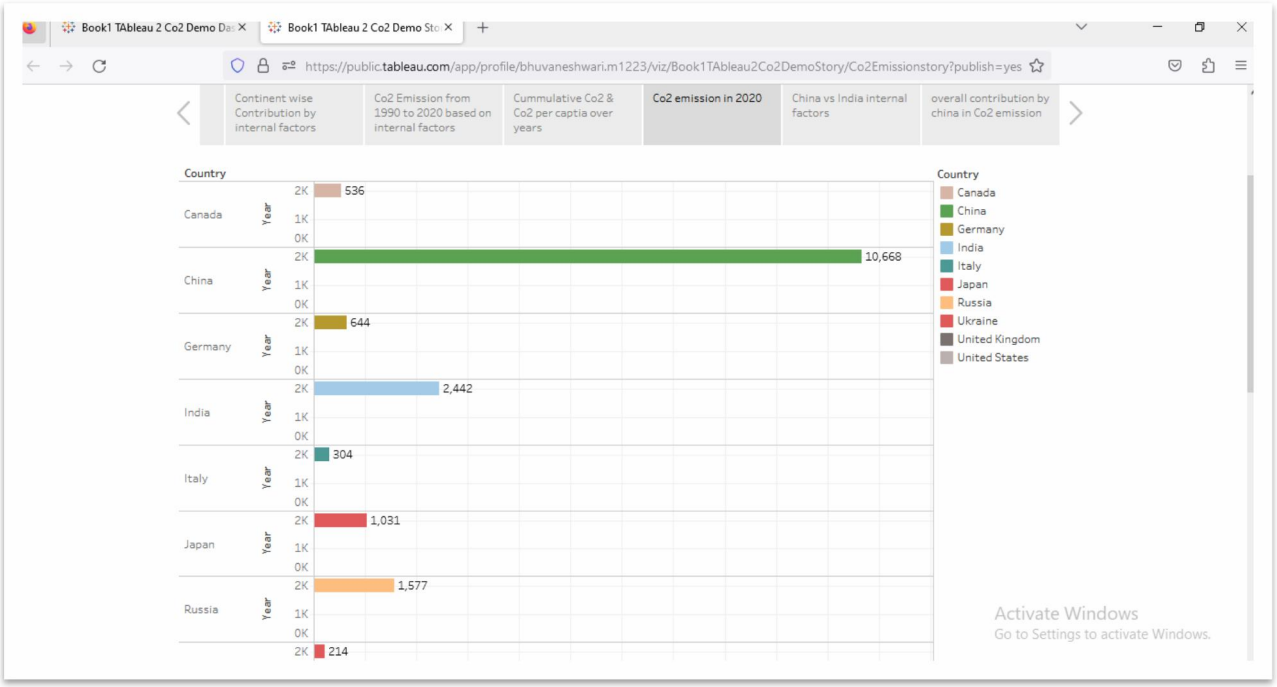

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ADVANTAGES :

Carbon capture and storage is one of the most efficient methods of extracting carbon emissions permanently from the environment.

The numerous advantages of CCS include economic, social, and environmental, and a massive impact on a global and local scale.

Carbon capture can increase the power generated with carbon dioxide-based steam cycles. In this process, carbon dioxide is pressured through a supercritical fluid, which could transfer heat more effectively and require less energy to compress steam.

Carbon dioxide captured with carbon capture can also be utilized in the manufacturing of polymers and chemicals such as polyurethanes.

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DISADVANTAGES:

The methods and CCS technologies that are necessary for carbon capture have some cost implications attached to them. Therefore, it can be very costly for power plants to generate electricity through fossil fuels. There are several concerns with respect to the safety of the storage of carbon dioxide in huge volumes at a single location due to the possibility of leakages, which can lead to environmental contamination if not handled correctly.

The possibility of leakages could also be a result of natural disasters such as earthquakes or can be a result of human-induced incidents such as damage as a result of wars that can damage underground storage reservoirs.

Many critics have questioned the cost efficiency of basalt formation storage. For this option, 25 tons of water will be required for each ton of carbon dioxide to be buried. There is a possibility that volcanic rock microbes can also digest the carbonates and hence produce methane gas which can be another problem.

APPLICATION:

Carbon dioxide is used as a refrigerant, in fire extinguishers, for inflating life rafts and life jackets, blasting coal, foaming rubber and plastics, promoting the growth of plants in greenhouses, immobilizing animals before slaughter, and in carbonated beverages.

CONCLUSION:

"The rising level of atmospheric CO_2 could be the one global natural resource that is progressively increasing food production and total biological output, in a world of otherwise diminishing natural resources of land, water, energy, minerals, and fertilizer.

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FUTURE SCOPE:

The transit to energy sources that generate minimal or no greenhouse gases must be made. However, we should address the ever-increasing carbon emission industries.

Sequestered carbon can become a vital instrument of global climate strategy if the carbon capture sectors continue to innovate and expand. Carbon capture technologies should be developed and scaled up to make them commercially feasible.

APPENDIX:

Tableau publish dashboard :

https://public.tableau.com/app/profile/bhuvaneshwari.m1223/viz/Book1TAbleau2Co2DemoDash/Dashboard1?publish=yes

Tableau publish story :

https://public.tableau.com/app/profile/bhuvaneshwari.m1223/viz/Book1TAbleau2Co2DemoStory/Co2Emissionstory?publish=yes

Project demonstration :

https://drive.google.com/file/d/1pQykzHEOWRD1shnBtTrVWmWX4Llx58x-/view?usp=drivesdk