



Final Year Project Showcase Batch 2020 Year 2024

Department: Mechanical Engineering Programme: <u>Mechanical Engineering</u>	
1	Project Title Techno-Economic Analysis of an Advanced Carbon Capture Device for Climate Mitigation in Pakistan.
2	Project Idea The main idea of the project is to setup a data monitoring system to track the carbon concentration levels around Karachi by placing data measurement devices throughout the city. From the recorded data, carbon concentration hotspots can be determined.
3	Process The project initiates with the designing of a data logging mechanism for CO ₂ concentration levels. Using these concentration levels, a techno-economic analysis is done determining the appropriate methods of CO ₂ capture and their economic feasibility.
4	Outcome Geographical heatmaps to determine the carbon concentration hotspots in Karachi.
5	Evidence (Theoretical Basis) The aim of the project is to detect carbon concentration hotspots around the city of Karachi and present appropriate methods.
6	Impact on Sustainability of Urban Regions or SDG-11 "Sustainable Cities and Communities" The project contributes to SDG 11 by locating and addressing carbon emission sources around the city of Karachi.
7	Competitive Advantage or Unique Selling Proposition (Cost Reduction, Process improvement, Attainment of any SDG (Sustainable Development Goal), increase of market share or capturing new market or having superior performance over a competitor. In summary, any striking aspect of the project that compels the industry to invest in FYP or purchase it. Some detailed description is required in terms of how, why when what. You can select one or more from the following dropdown and delete the rest of them). Please keep relevant options, delete the rest of them, and correct the sequence
a	Environmental Aspect (e.g. carbon reduction, energy-efficient, etc.) The project focuses on discovering emission hotspots around Karachi and discussing technologies for carbon capture.
8	Target Market (Industries, Groups, Individuals, Families, Students, etc) Please provide some detail about the end-user of the product, process, or service Government bodies, industries, and companies focusing on regulating carbon emission.

9	Team Members (Names along with email address)	Nomaan Akhtar (nomaan.akhtar2@gmail.com) Saqib shams (saqibshams200204@gmail.com) Muhammad Umair Naeem (umairnaeem139@gmail.com) Muhammad Ali Karim (alikarimptcl@gmail.com)
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Pictures (If any)



Average Co2 Concentration by Location

