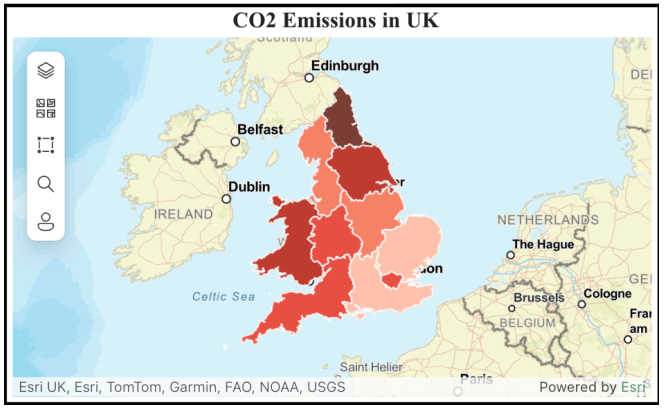
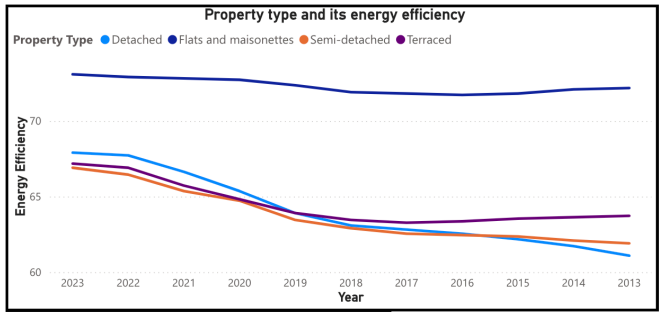
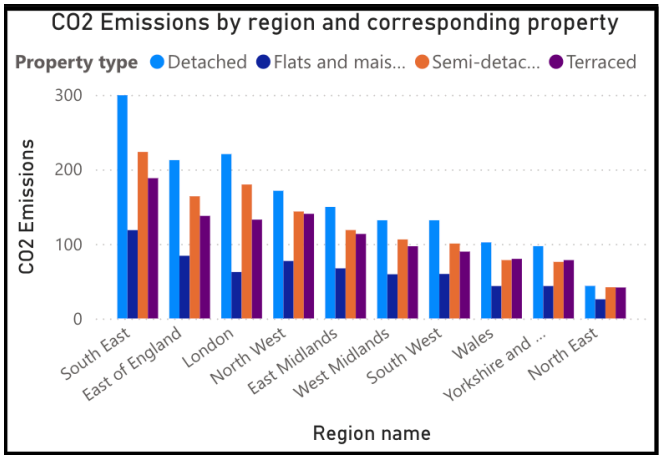
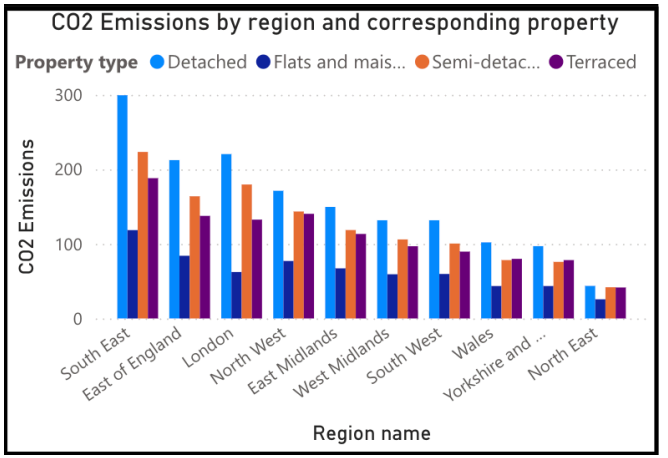
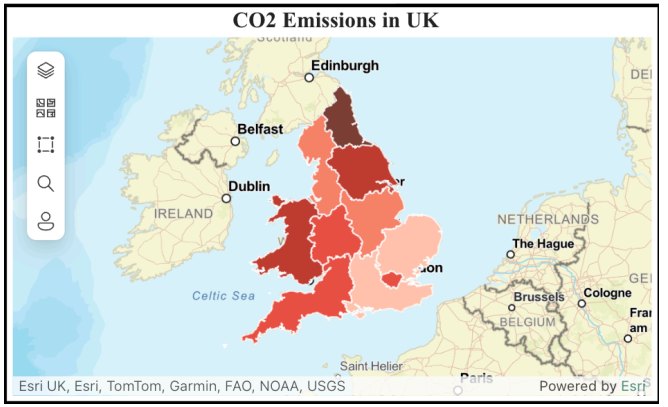
Coursework Description Sheet

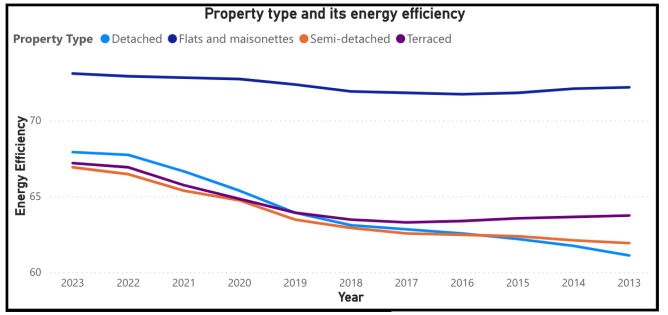
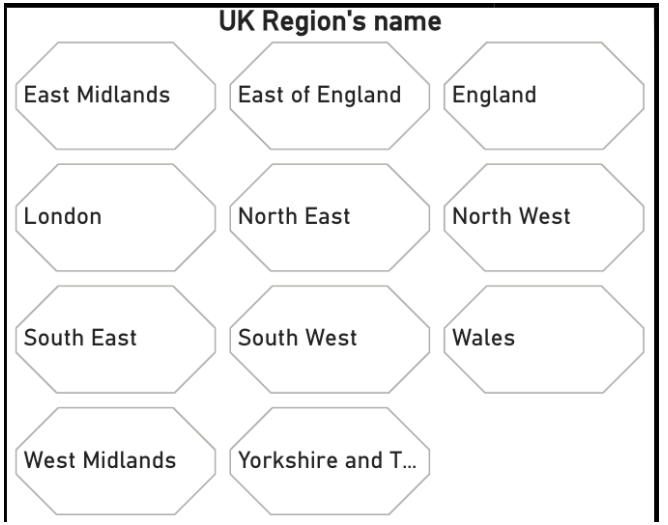
Name: **Mohmadzakir Chotaliya**

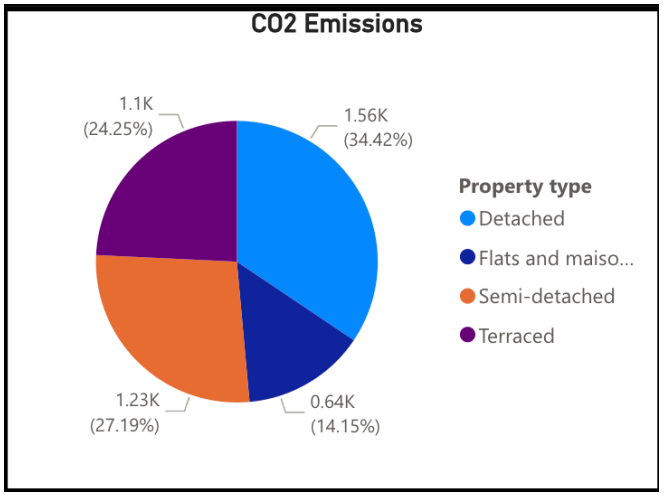
Student ID: *240572857*

Question	Description	Figure
Fit to Task/User needs		
Location task - How does the visualisation allow users to access the spread of carbon dioxide emission across the UK based on the property type?	To show the spread of carbon dioxide emissions across the UK by property type, I created an interactive map in Power BI. This map uses color gradients or bubble sizes to represent emission levels across regions, making it easy for users to spot high-emission areas. Alongside, a bar chart breaks down emissions by property types (such as residential or commercial), allowing quick comparisons between categories. This combination of spatial and categorical visualization provides a clear and comprehensive view, helping users easily identify both high-emission regions and impactful property types.	
Time task - How does the visualization allow user to understand the evolution of energy efficiency based on the property type, and location?	The visualization makes it easy for users to track how energy efficiency has changed over time across different property types and locations. A line chart shows the trends, so users can see if efficiency levels are improving or declining year by year for each property type (like residential or commercial). A map uses color gradients to display efficiency scores across different regions, letting users quickly spot areas with higher or lower efficiency. By using a time slider, users can select specific years to see how efficiency varies across locations and property types at different points in time. This setup combines both time and place, helping users see how energy efficiency has evolved overall.	

Multi-dimentional data task - How does the visualization allow user to identify correlation amongst at least three of the following parameters: property type, tenure, location, energy efficiency, and carbon dioxide emission?	The visualization uses a scatter plot with color-coded points to help users identify correlations among **property type, tenure, location, energy efficiency,** and **carbon dioxide emissions**. Each point represents a unique property, with colors indicating property types (e.g., residential, commercial) and different marker sizes or intensities reflecting CO_2 emissions. Users can filter by **tenure** and **location** to see if, for example, certain regions or ownership structures have higher emissions or lower energy efficiency. This multi-dimensional view highlights patterns across the selected parameters, helping users easily spot correlations and potential drivers of energy efficiency and emissions.	
Visualisation Principles		

Use of colour - How does the use of colour in this dashboard enhance the readability and effectiveness of the data presentation?	The dashboard uses color thoughtfully to make the data clear and easy to understand. Each property type, like residential or commercial, has its own color, so users can instantly tell them apart. Darker shades show higher emissions, making it simple to spot high-emission areas right away. By keeping these colors consistent across all charts, users can easily connect related data points, helping them quickly see insights about emissions, property types, and energy efficiency across regions.	 

Use of graphic design principles -How does the application of graphic design principles enhance the clarity and effectiveness of the data presentation in this dashboard?	The dashboard uses simple graphic design principles to make the data clear and easy to follow. Consistent colors and fonts give it a cohesive feel, so users can easily focus on the information without distractions. Important data, like high-emission areas or key trends, is highlighted through visual hierarchy, helping users know where to look first. Good spacing and alignment keep everything organized, making the dashboard feel clean and uncluttered. Altogether, these design choices make it easy for users to understand and explore the data smoothly.	
Use of interaction - How does the use of interactive design elements improve the user's ability to explore and interpret data on this dashboard?	Interactive features like filters, tooltips, and a time slider make the dashboard easy and engaging to use. Filters allow users to narrow down data to specific property types or regions, while tooltips give extra details when they hover over data points, providing insights without crowding the visuals. The time slider lets users see how things change over time, making it simple to spot trends. Altogether, these interactive elements let users explore the data in a way that feels natural and helps them find the insights they need quickly.	

Use of text and legend - How do the use of text and legends contribute to the clarity and user comprehension of the data presented in this dashboard?	Text and legends make the dashboard easier to understand by clearly explaining what each part shows. Titles and labels guide users through the charts, while legends define colors and symbols, like which colors represent property types or different emission levels. This setup helps users instantly grasp what they're looking at, making it simple to interpret the data without getting lost.	

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