Purpose.
1. Create a plot of commercial carbon dioxide (CO_2) emissions from all fuels.
2. Customize the format of the graph by selecting a different graph type.
3. Describe and discuss patterns in the evolution of commercial CO_2 emissions over time.

Pedagogical Rationale. This assignment requires that you first look for data and plot them into a graph. Next, you will add more series to the graph. Next, you will change the format of the graph. Lastly, you will describe and discuss patterns in the evolution of the data series. These tasks will develop your proficiency in searching for, transforming, and interpreting data.

Grading. Your grade will be determined by (a) how precisely you complete the search and transformation data tasks and (b) how accurately you interpret the data.

Steps to Search for and Transform the Data.
1. Access https://fred.stlouisfed.org/ and search for "Commercial Carbon Dioxide Emissions, All Fuels for United States (EMISSCO2TOTVCCTOUSA)."
2. Select "Million Metric Tons CO2, Annual, Not Seasonally Adjusted."
3. Click on EDIT GRAPH and select ADD LINE.
4. Search for "Industrial Carbon Dioxide Emissions, All Fuels for United States, Million Metric Tons CO2, Annual, Not Seasonally Adjusted (EMISSCO2TOTVICTOUSA)" and click on "Add data series."
5. Click on ADD LINE.
6. Search for "Electric Power Carbon Dioxide Emissions, All Fuels for United States, All Fuels for United States, Million Metric Tons CO2, Annual, Not Seasonally Adjusted (EMISSCO2TOTVECTOUSA)" and click on "Add data series."
7. Click on ADD LINE.
8. Search for "Transportation Carbon Dioxide Emissions, All Fuels for United States, All Fuels for United States, Million Metric Tons CO2, Annual, Not Seasonally Adjusted (EMISSCO2TOTVTCTOUSA)" and click on "Add data series."
9. Click on ADD LINE.
10. Search for "Residential Carbon Dioxide Emissions, All Fuels for United States, All Fuels for United States, Million Metric Tons CO2, Annual, Not Seasonally Adjusted (EMISSCO2TOTVRCTOUSA)" and click on "Add data series."
11. Click on EDIT GRAPH and select FORMAT.
12. Select "Line style: dash" and "Width: 3."

Writing Prompts. Answer the following questions:
1. As of 2017, what source of CO_2 emissions is the largest? What source of CO_2 emissions is the smallest?
2. Briefly describe the role played by fossil fuels (petroleum and coal) in the transportation and electric power industries.
3. Describe the potential impact on CO_2 emissions of substituting coal-based sources of electricity with wind and solar renewable sources.