Project Objective

The objective of this project is to create an algorithm that calculates the carbon footprint of a city using both the economic input-output (EIO) and process analysis (PA) life cycle analysis (LCA), with the necessary inputs required. This not only creates a reusable calculator to quickly calculate the carbon footprint of a city, but also, it allows for comparisons between EIO-LCA and PA-LCA. Ideally, the program should be able to automatically search for input data needed online, but in the case where it is unavailable, the user should also be able to manually input the data.

First, in the research phase, the current standards for measuring carbon footprints must be assessed, along with the causes of a carbon footprint. Next, the algorithm will create and then implemented into a Python script, allowing for quick and easy comparisons between regions. The city of Seattle and New York will be used as two examples. Finally, everything will be finalized and compiled into a physical infographic and a conclusion summarizing the whole project will be written. During the sustainability fair, the infographic, reports and a Jupyter notebook will be displayed.