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. The final goal would be to turn this into a community effort, where the database of carbon footprint data for cities would be created.

First, basic research into the topic of environmental science must be conducted, better understanding the concept of carbon footprints, greenhouse gases and the methodologies used for measuring carbon footprints. After the initial research, more detailed and specific information has to be researched on, such as the standard procedures that governments use to calculate the carbon footprints of cities, and even more detail behind the process of calculating carbon footprints. In addition, current carbon footprint calculators should also be studied, to better learn the steps behind creating a carbon footprint calculator. All necessary research should be also written into reports for a clear documentation of project progress.