# **Co2 Emission Analysis using Employee Commute**

**1. Introduction**

* **Project Overview:**

Carbon, in its most basic form, is an element. In fact, it’s the most common element for life on Earth! From the air we breathe to the crops we grow, and the chemical makeup of our own bodies, carbon is literally the basis for life.

When we talk about carbon emissions, we’re focusing specifically on carbon dioxide or CO2. Naturally, CO2 releases into the atmosphere in a ton of ways. The largest source of natural carbon emissions is the exchange of carbon dioxide between the oceans and the atmosphere. Animals and plants also emit CO2 through the process of respiration (breathe in oxygen, breathe out CO2). And when these plants and animals decompose, organisms within the soil respire to produce energy and emit more CO2 into the atmosphere.

* **Scope:**
  1. This project aims at working on a mocked dataset to identify the key parameters producing the Co2 Emissions.
  2. Analysis will be done on the extent to which these parameters cause the Carbon Emissions.
  3. Power BI and Looker dashboards will be created based on the data to effectively represent the data.
  4. Insights and Recommendations will be gathered.
* **Objectives:** Provide Insights and Recommendations to address the Sustainability issues related to Carbon Emissions.

**2. System Overview**

* **Architecture:**
  + Dataset Creation using Python and Excel sheet formulas.
  + Load data into Cloud Storage.
  + Create job using Dataflow to load data as table into BigQuery
  + Connect Power BI to BigQuery to get Insights
  + Second approach also is tried to get Insights using Looker Studio
* **Technologies:**
  + Google Cloud Storage
  + Dataflow
  + BigQuery
  + Power BI
  + Looker Studio

**3. Solution:**

* **Plots and Dashboard:**

Power BI and Looker Studio reports to be generated

* **Insights and Recommendations:**

To be documented based on the Dashboard