# Air Quality Index Dashboard

## Description

The Air Quality Index (AQI) Dashboard provides a comprehensive overview of air quality across various cities. It allows users to analyze pollution levels and trends over time, focusing on key air quality indicators.

## Key Performance Indicators (KPIs)

* Average CO: Represents the average concentration of carbon monoxide (CO).
* Average NO: Indicates the average concentration of nitrogen oxides (NO).
* Average SO2: Shows the average concentration of sulfur dioxide (SO2).
* Average PM2.5: Represents the average concentration of particulate matter smaller than 2.5 micrometers (PM2.5).

## Visualizations

1. Line Chart - Average AQI by Year: Displays the trend of average AQI levels over the years, highlighting changes in air quality over time.
2. Bar Chart - Top 5 Polluted Cities: Lists the top 5 cities with the highest pollution levels, providing insight into areas that may require urgent attention.
3. Bar Chart - Least Polluted Cities: Showcases the least polluted cities, displaying only 5 cities to emphasize areas with better air quality.

## Slicers

* City Name Slicer: Allows users to filter the dashboard based on selected cities, enabling a focused analysis on specific locations.

## Data Source

The dataset used includes air quality records from various cities, covering:  
- Concentrations of pollutants (CO, NO, SO2, PM2.5)  
- Yearly AQI values  
- City names  
  
The data enables users to assess air quality trends and identify polluted areas.

## Requirements

* Power BI Desktop (Version May 2024 or later recommended).
* No additional dependencies.

## Usage Instructions

1. Opening the File: Download and open the Power BI dashboard file using Power BI Desktop.
2. Interacting with the Dashboard:  
   - Use the city name, year, pollutant, and region slicers to filter the data based on specific needs.  
   - Hover over the charts for detailed tooltips and additional information.
3. Customization: You can customize filters and visualizations to explore specific air quality metrics.

## Insights

* The line chart shows how air quality has changed over the years, revealing trends and fluctuations.
* The bar charts provide quick comparisons of the most and least polluted cities, aiding in identifying areas for improvement.

## Future Enhancements

* Incorporating real-time data updates to reflect the current air quality levels.
* Adding more KPIs to cover other pollutants and health impact metrics.