Yadgreen – Weather and Pollution Analysis Case Study

# 1. Introduction

This project analyzes weather and air pollution data to uncover patterns using an interactive Power BI dashboard.

# 2. Dataset Overview

The dataset contains hourly weather data from 2017 with fields like air\_pollution\_index, humidity, wind\_speed, dew\_point, visibility\_in\_miles, and more.

# 3. Dashboard Features

The dashboard uses slicers for Date and Weather Type, drill-down features, and various visuals like line, bar, heatmap, scatter, and area charts.

# 4. Key Insights

- Pollution peaks around 2–4 and ~9 miles of visibility.  
- High humidity aligns with low wind speed during clear/cloudy weather.  
- Dew point patterns indicate frequent stagnant-air scenarios.

# 5. Recommendations

- Implement pollution alerts during peak hours.  
- Monitor closely when visibility is low (2–4 miles).  
- Use dew point and weather type for air quality forecasting.

# 6. Technical & Visual Optimization

DAX formulas were optimized, drill-downs added, and visuals refined for better performance using Power BI’s Performance Analyzer.

# 7. Conclusion

The dashboard provides actionable environmental insights for stakeholders to plan mitigation strategies effectively.