

Electric Vehicle Analysis Dashboard Report

1. Introduction

This report provides a comprehensive analysis of electric vehicle (EV) data using Power BI. The dashboard visualizes the growth and composition of electric vehicles across different models, years, and types (BEV and PHEV), along with electric range statistics and CAFV eligibility distribution.

2. Dataset Overview

The dataset used includes details about electric vehicles such as Make, Model, Model Year, Electric Vehicle Type, Electric Range, State, and CAFV Eligibility.

3. Key Performance Indicators (KPIs)

The primary KPIs presented in the dashboard are:

- Total Number of Electric Vehicles
- Average Electric Range (km)
- Number and Percentage of BEV and PHEV Vehicles
- Number of CAFV Eligible Vehicles



Figure 1: KPI Cards showing Total Vehicles, Avg. Range, BEV and PHEV counts.

4. Visualizations

Several visualizations are used to analyze the EV data:

4.1 Vehicle Type Distribution

The distribution between BEV and PHEV vehicles is shown in a donut chart.

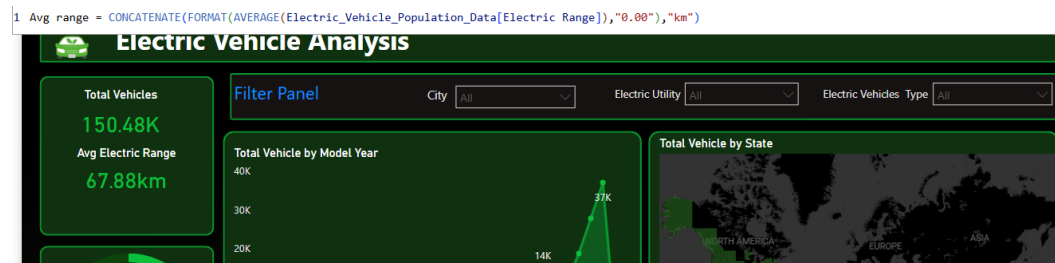


Figure 2: BEV vs PHEV Vehicle Distribution.

4.2 Top Makes

The chart below highlights the top vehicle manufacturers, with Tesla leading.

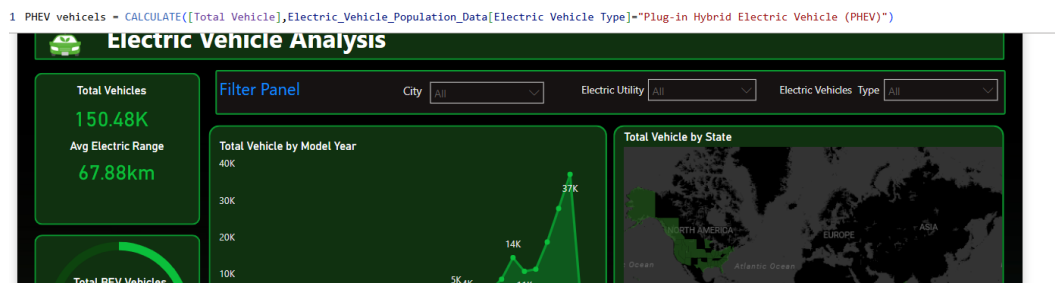


Figure 3: Top Makes by Total Electric Vehicles.

5. DAX Measures Used

The following DAX measures were used in Power BI:

Total Vehicle = COUNTROWS(Electric_Vehicle_Population_Data)

Avg Range = CONCATENATE(FORMAT(AVERAGE(Electric_Vehicle_Population_Data[Electric Range]), "0.00"), "km")

BEV Vehicles = CALCULATE([Total Vehicle], Electric_Vehicle_Population_Data[Electric Vehicle Type] = "Battery Electric Vehicle (BEV)")

PHEV Vehicles = CALCULATE([Total Vehicle], Electric_Vehicle_Population_Data[Electric Vehicle Type] = "Plug-in Hybrid Electric Vehicle (PHEV)")

% BEV = DIVIDE([BEV Vehicles], [Total Vehicle], 0)

% PHEV = DIVIDE([PHEV Vehicles], [Total Vehicle], 0)

CAFV Eligible = CALCULATE([Total Vehicle], Electric_Vehicle_Population_Data[CAFV Eligibility] = "Clean Alternative Fuel Vehicle (CAFV)")

6. Conclusion

The Power BI dashboard offers insights into the distribution, adoption trends, and technological spread of electric vehicles. The analysis indicates strong adoption of BEVs, significant contribution from Tesla, and improving electric ranges over recent years.