

## **PROBLEM STATEMENT**

### **KPI'S Requirement**

#### **1.Total Vehicles:**

- Understand the overall landscape of electric vehicles, encompassing both BEVs and PHEVs, to assess the market's size and growth.

#### **2. Average Electric Range:**

- Determine the average electric range of the electric vehicles in the dataset to gauge the technological advancements and efficiency of the EVs.

#### **3. Total BEV Vehicles and % of Total BEV Vehicles:**

- Identify and analyze the total number of Battery Electric Vehicles (BEVs) in the dataset.
- Calculate the percentage of BEVs relative to the total number of electric vehicles, providing insights into the dominance of fully electric models.

#### **4. Total PHEV Vehicles and % of Total PHEV Vehicles:**

- Identify and analyze the total number of Plug-in Hybrid Electric Vehicles (PHEVs) in the dataset.
- Calculate the percentage of PHEVs relative to the total number of electric vehicles, offering insights into the market share of plug-in hybrid models.

### **Charts Requirement**

#### **1. Total Vehicles by Model Year (From 2010 Onwards):**

1. Visualization: Line/ Area Chart
2. Description: This chart will illustrate the distribution of electric vehicles over the years, starting from 2010, providing insights into the growth pattern and adoption trends.

#### **2. Total Vehicles by State:**

1. Visualization: Map Chart
2. Description: This chart will showcase the geographical distribution of electric vehicles across different states, allowing for the identification of regions with higher adoption rates.

#### **3. Top 10 Total Vehicles by Make:**

1. Visualization: Bar Chart

2. Description: Highlight the top 10 electric vehicle manufacturers based on the total number of vehicles, providing insights into the market dominance of specific brands.

#### **4. Total Vehicles by CAFV Eligibility:**

1. Visualization: Pie Chart or Donut Chart
2. Description: Illustrate the proportion of electric vehicles that are eligible for Clean Alternative Fuel Vehicle (CAFEV) incentives, aiding in understanding the impact of incentives on vehicle adoption.

#### **5. Top 10 Total Vehicles by Model:**

1. Visualization: Tree map
2. Description: Highlight the top 10 electric vehicle models based on the total number of vehicles, offering insights into consumer preferences and popular models in the market.