**Electric Vehicle Analysis**

**Problem Statement:**

**KPI 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 (CAFV) 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.