INFORMATION VISUALIZATION

STATISTICS OF ELCTRIC VEHICLES IN INDIA

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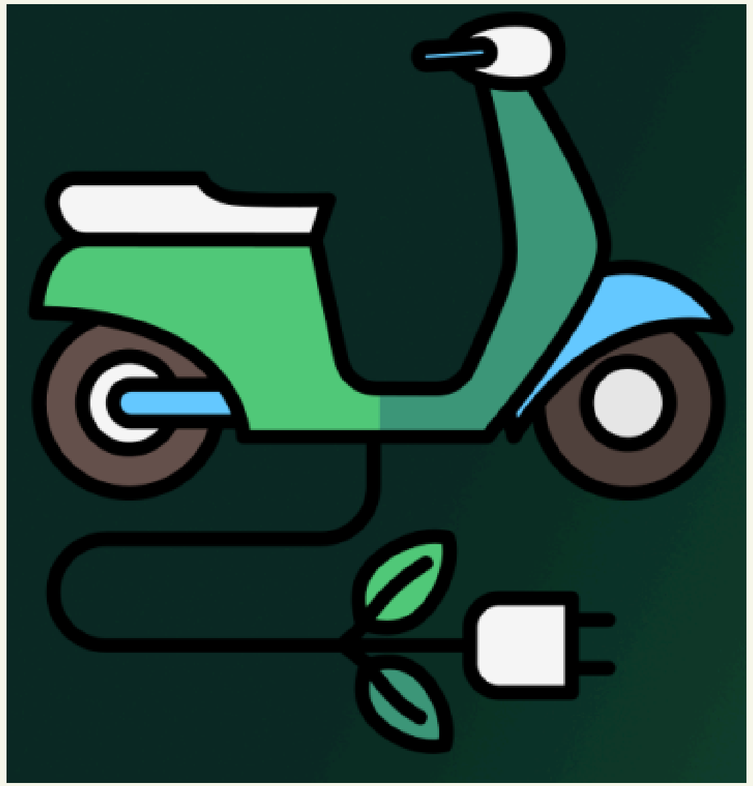
INTRODUCTION

Electric vehicle (EV) consumption in India varies significantly across states due to factors such as infrastructure, government policies, economic conditions, and public awareness. Some states have emerged as leaders in EV adoption due to proactive measures such as subsidies, lower registration fees, and improved charging infrastructure.



PROJECT OVERVIEW

WE WILL FOCUS ON THE USAGE OF ELECTRIC VEHICLES SPEICIFICALLY IN INDIA IN THE YEAR 2022 2023 2024 AND WILL COMPARE THEM STATE WISE. WE WILL USE POWER BI FOR THIS

ELECTRIC VEHICLES

ELECTRIC VEHICLES (EVS) ARE VEHICLES THAT ARE POWERED ENTIRELY OR PARTIALLY BY ELECTRICITY RATHER THAN CONVENTIONAL INTERNAL COMBUSTION ENGINES (ICES) THAT RUN ON GASOLINE OR DIESEL. EVS USE ELECTRIC MOTORS AND BATTERIES TO PROPEL THE VEHICLE.

BATTERY ELECTRIC VEHICLES (BEVS):
THESE ARE FULLY ELECTRIC VEHICLES THAT RUN EXCLUSIVELY ON ELECTRICITY. THEY HAVE NO INTERNAL COMBUSTION ENGINE AND ARE POWERED BY RECHARGEABLE BATTERIES. EXAMPLES INCLUDE TESLA MODEL 3, NISSAN LEAF, AND TATA NEXON EV.

PLUG-IN HYBRID ELECTRIC VEHICLES (PHEVS):
THESE VEHICLES HAVE BOTH AN ELECTRIC MOTOR AND AN INTERNAL COMBUSTION ENGINE. THEY CAN RUN ON ELECTRIC POWER FOR A CERTAIN DISTANCE BUT SWITCH TO THE COMBUSTION ENGINE ONCE THE BATTERY IS DEPLETED. EXAMPLES INCLUDE THE TOYOTA PRIUS PLUG-IN AND HYUNDAI IONIQ PHEV

HYBRID ELECTRIC VEHICLES (HEVS):
HEVS COMBINE AN ELECTRIC MOTOR WITH A CONVENTIONAL ENGINE BUT CANNOT BE CHARGED EXTERNALLY. INSTEAD, THEY GENERATE ELECTRICITY THROUGH REGENERATIVE BRAKING AND THE COMBUSTION ENGINE. THESE VEHICLES MAINLY USE THE ELECTRIC MOTOR AT LOW SPEEDS AND THE COMBUSTION ENGINE AT HIGHER SPEEDS

IMPORTANCE

1. ENVIRONMENTAL BENEFITS: REDUCTION IN GREENHOUSE GAS EMISSIONS: EVS PRODUCE ZERO TAILPIPE EMISSIONS WHEN RUNNING ON ELECTRICITY, WHICH REDUCES THE AMOUNT OF HARMFUL GREENHOUSE GASES LIKE CO_2, A MAJOR CONTRIBUTOR TO CLIMATE CHANGE. EVEN WHEN CONSIDERING ELECTRICITY GENERATION, EVS ARE STILL GENERALLY MORE ECO-FRIENDLY COMPARED TO TRADITIONAL VEHICLES.

2. ENERGY EFFICIENCY: HIGHER EFFICIENCY: ELECTRIC MOTORS ARE MORE EFFICIENT THAN INTERNAL COMBUSTION ENGINES. THEY CONVERT A HIGHER PERCENTAGE OF ENERGY FROM THE POWER SOURCE INTO MOTION, MEANING LESS ENERGY IS WASTED.

3. ENERGY INDEPENDENCE: REDUCED RELIANCE ON FOSSIL FUELS: BY SHIFTING TO ELECTRIC VEHICLES, COUNTRIES CAN REDUCE THEIR RELIANCE ON IMPORTED OIL, INCREASING ENERGY SECURITY AND PROTECTING THEMSELVES FROM

4. TECHNOLOGICAL ADVANCEMENTS: INNOVATION IN BATTERY TECHNOLOGY: THE RISE OF EVS IS DRIVING RESEARCH AND DEVELOPMENT IN BATTERY TECHNOLOGY, LEADING TO ADVANCES IN ENERGY STORAGE, WHICH CAN BENEFIT OTHER SECTORS SUCH AS RENEWABLE ENERGY AND CONSUMER ELECTRONICS.

5. REDUCED NOISE POLLUTION: QUIETER TRANSPORTATION: EVS ARE MUCH QUIETER THAN CONVENTIONAL VEHICLES, ESPECIALLY IN URBAN AREAS. THIS HELPS REDUCE NOISE POLLUTION, CREATING QUIETER AND MORE PLEASANT CITIES.

Electric Vehicle

2022 | 2023 | 2024

Total Vehicle sold
57M

Electric Vehicle Sold
2M

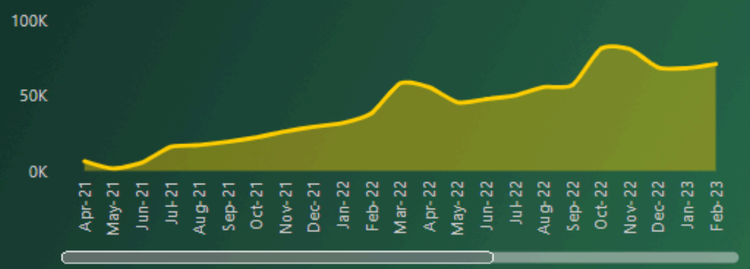
Penetration Rate
3.61%

CAGR_MAKER_EV_%
93.9%

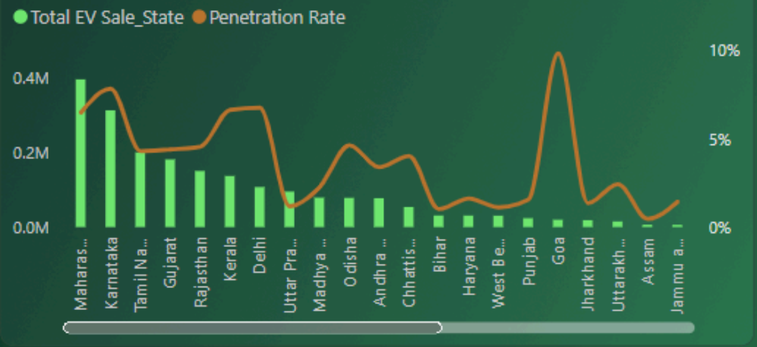
state
All

Year, Quarter and Month by Sales

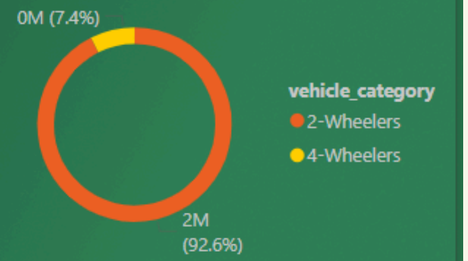
Y | Q | M

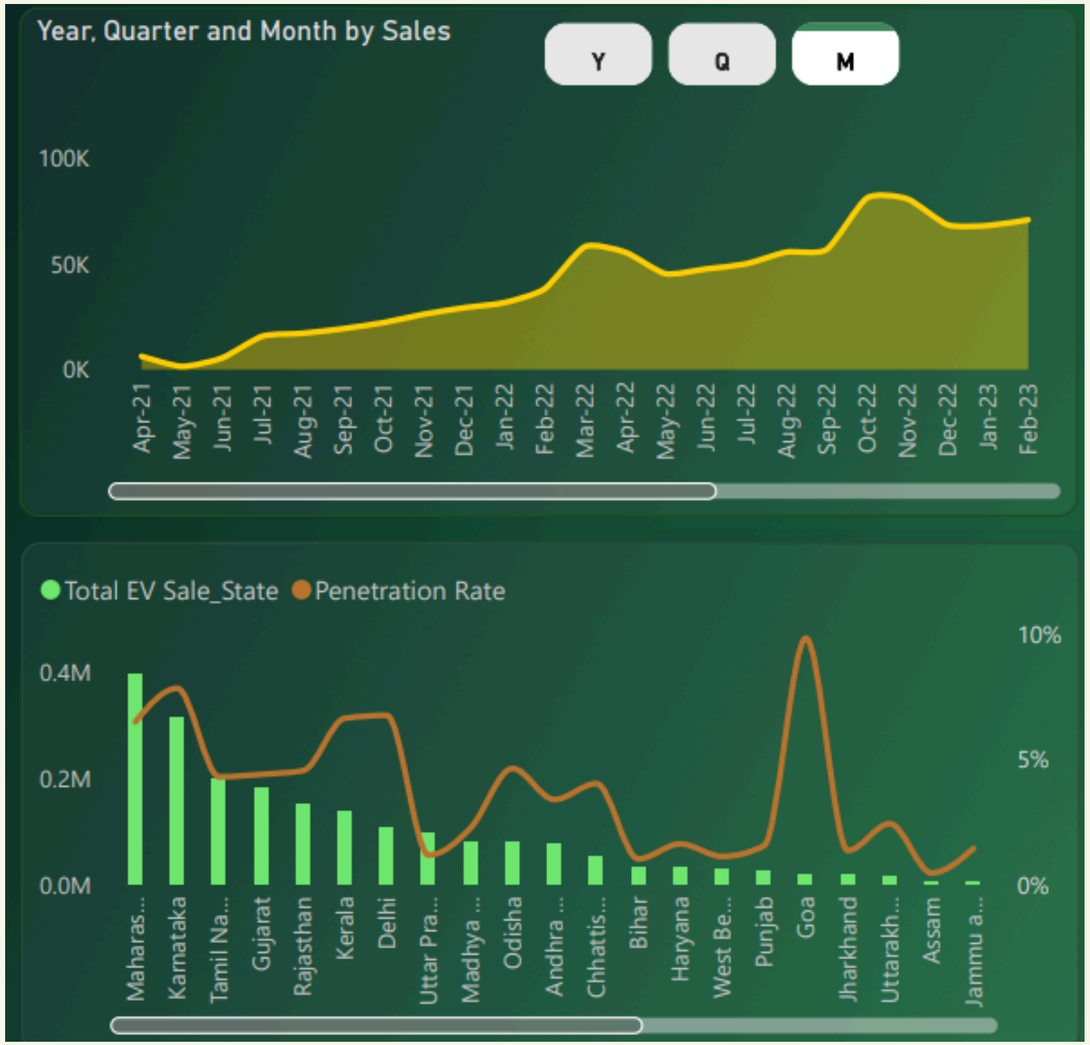


State by Sales

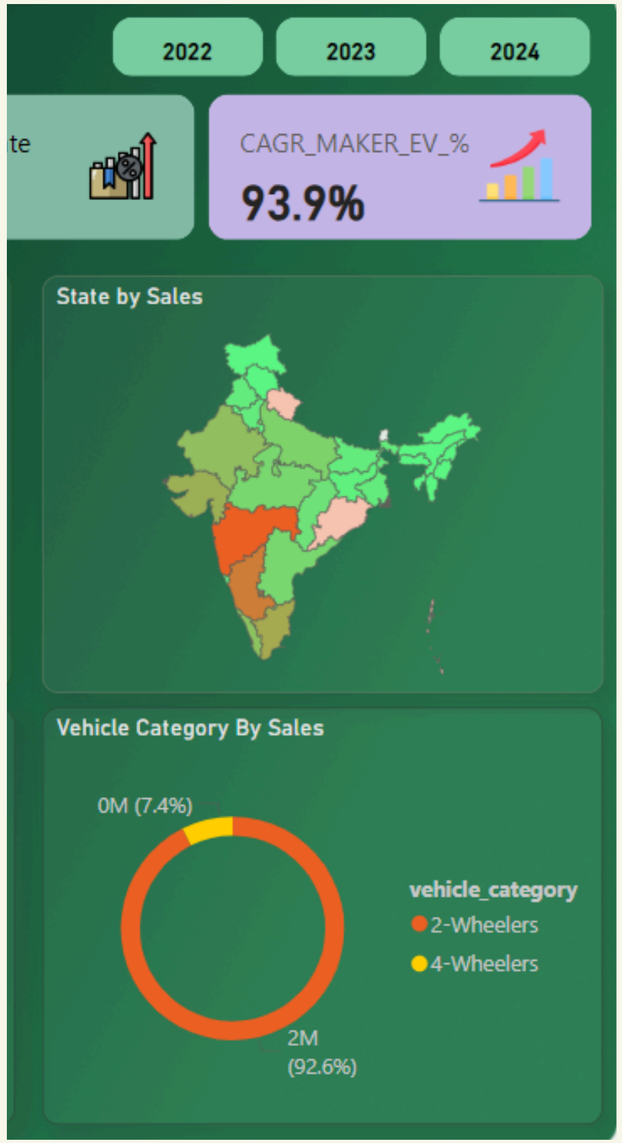


Vehicle Category By Sales

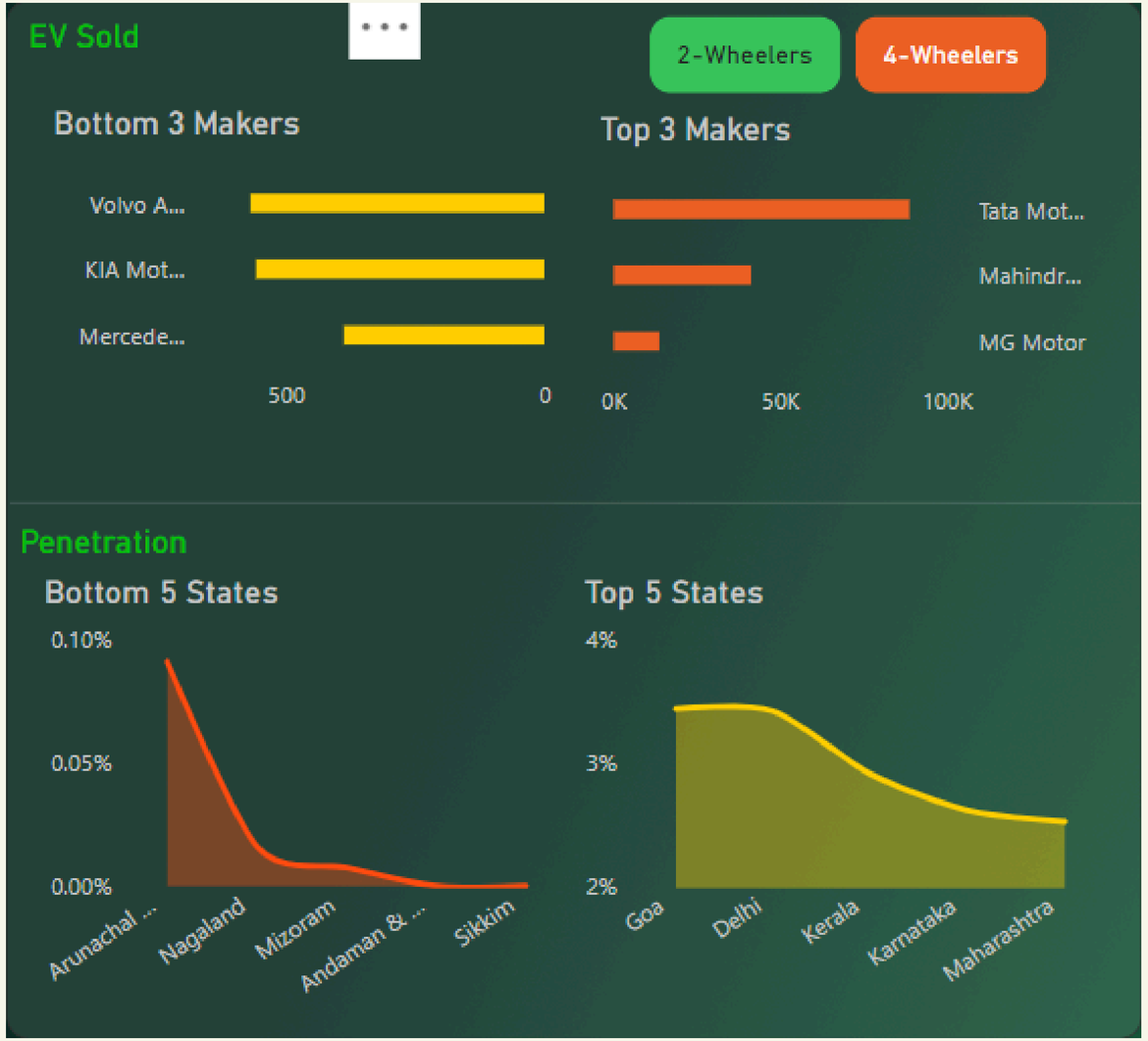




HERE THERE IS A COMPARISON OF SALES BY YEARLY,QUATERLY AND MONTLY BASIS FOLLOWED BY THE TOTAL EV SALES AND THE PENETRATION RATE



HERE WE HAVE THE YEAR WISE DISTRIBUTION OPTION FOLLOWED BY A MAP OF INDIA WHERE YOU CAN CLICK ON ANY STATE AND IT WILL TELL YOU ALL ABOUT IT FOLLOWED BY THE VEHICLE CATEGORY LIKE 2 AND 4 WHEELERS



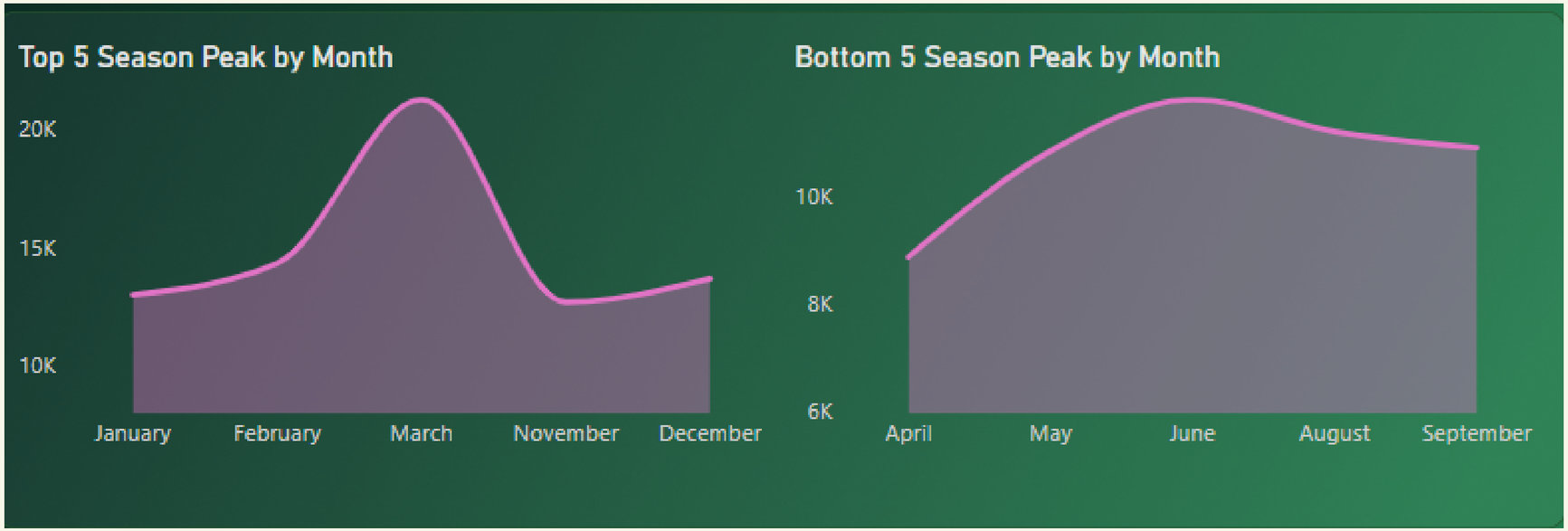
HERE WE HAVE THE BOTTOM 3 MAKERS AND THE TOP 3 COMPANY MAKING EVS FOLLOWED BY THE SALES OF TOP 5 AND BOTTOM 5 STATES

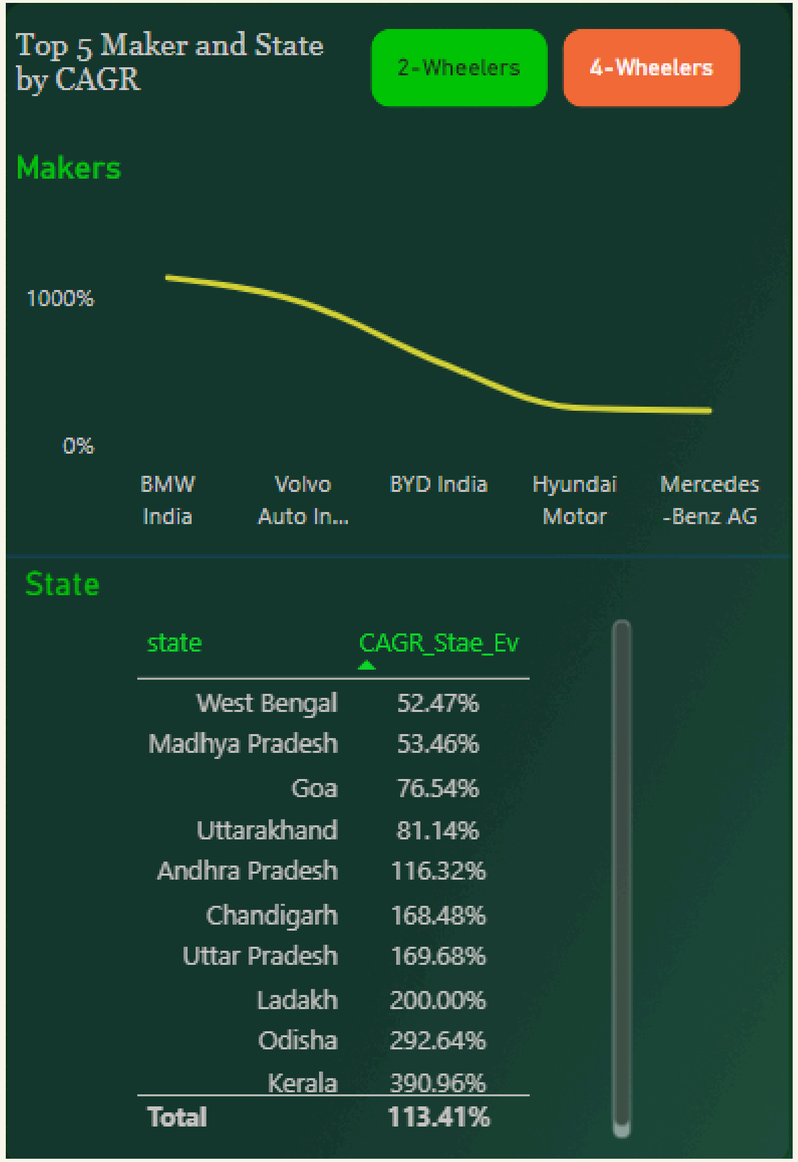
Delhi vs Karnataka Penetration Rate 2024

state	Total EV Sale_State	Penetration Rate
Delhi	18134	3.42%
Karnataka	20666	2.61%
Total	38800	2.94%

HERE WE HAVE THE TOP 5 EV MAKERS SPECIAFICALLY 4 WHEELERS AND THEN WE CAN COMPARE ANY 2 STATES HERE WE HAVE TAKEN DELHI VS KARNATAKA

HERE IS THE COMPARISON OF HOW MANY EVS ARE BEEN SOLD IN EACH MONTH GIVING THE TOP 5 AND BOTTOM 5





HERE WE HAVE THE TOP 5 MAKERS BY CAGR STATE WISE AND COMPANY WISE WITH 2 OPTIONS ONE IS 2 WHEELERS AND OTHER ONE IS 4 WHEELERS

PRIMARY REASONS FOR CUSTOMERS CHOOSING EVS IN 2023 AND 2024

1. COST SAVINGS: EVS OFFER LOWER RUNNING COSTS DUE TO REDUCED FUEL AND MAINTENANCE EXPENSES. THE COST OF ELECTRICITY IS GENERALLY LOWER THAN PETROL OR DIESEL, AND EVS HAVE FEWER MOVING PARTS, REDUCING MAINTENANCE NEEDS.
2. ENVIRONMENTAL CONCERNS: INCREASING AWARENESS OF CLIMATE CHANGE AND AIR POLLUTION DRIVES CUSTOMERS TO CHOOSE EVS, AS THEY PRODUCE ZERO TAILPIPE EMISSIONS AND CONTRIBUTE TO REDUCING URBAN AIR POLLUTION.
3. GOVERNMENT INCENTIVES: GOVERNMENT SCHEMES, SUCH AS THE FASTER ADOPTION AND MANUFACTURING OF HYBRID AND ELECTRIC VEHICLES (FAME) II SCHEME, PROVIDE SUBSIDIES AND INCENTIVES FOR EV PURCHASES, MAKING THEM MORE AFFORDABLE AND ATTRACTIVE.

TOP 3 STATES THAT HAVE PROVIDED SUBSTANTIAL SUBSIDIES IN INDIA

DELHI: OFFERS SIGNIFICANT INCENTIVES UNDER THE DELHI ELECTRIC VEHICLE POLICY, INCLUDING SUBSIDIES AND REDUCED REGISTRATION FEES.

MAHARASHTRA: PROVIDES SUBSTANTIAL SUBSIDIES FOR BOTH 2-WHEELERS AND 4-WHEELERS UNDER THE MAHARASHTRA ELECTRIC VEHICLE POLICY.

TAMIL NADU: INCLUDES INCENTIVES AS PART OF ITS TAMIL NADU ELECTRIC VEHICLE POLICY TO PROMOTE EV ADOPTION.

TOP 5 STATES WITH THE HIGHEST EV ADOPTION RATES

DELHI: A DENSE NETWORK OF CHARGING STATIONS SUPPORTS HIGH EV SALES.

MAHARASHTRA: INVESTMENTS IN CHARGING INFRASTRUCTURE HAVE DRIVEN SIGNIFICANT EV PENETRATION.

TAMIL NADU: EXPANDED CHARGING FACILITIES CORRELATE WITH RISING EV ADOPTION.

KARNATAKA: A GROWING NUMBER OF CHARGING STATIONS CONTRIBUTES TO INCREASING EV SALES.

GUJARAT: STRATEGIC DEVELOPMENT OF CHARGING INFRASTRUCTURE HAS ENHANCED EV MARKET PENETRATION.

DELHI IN 2023

CONCLUSION

ELECTRIC VEHICLES (EVS) ARE PIVOTAL IN SHAPING A SUSTAINABLE FUTURE, OFFERING SIGNIFICANT ENVIRONMENTAL, ECONOMIC, AND TECHNOLOGICAL BENEFITS. THEY HELP REDUCE GREENHOUSE GAS EMISSIONS, IMPROVE AIR QUALITY, AND CONTRIBUTE TO ENERGY INDEPENDENCE BY DECREASING RELIANCE ON FOSSIL FUELS. WITH ADVANCEMENTS IN BATTERY TECHNOLOGY AND RENEWABLE ENERGY INTEGRATION, EVS PRESENT A MORE ENERGY-EFFICIENT AND COST-EFFECTIVE ALTERNATIVE TO CONVENTIONAL VEHICLES. GOVERNMENTS AND INDUSTRIES ARE INCREASINGLY RECOGNIZING THE IMPORTANCE OF EVS, IMPLEMENTING POLICIES AND INNOVATIONS THAT SUPPORT THEIR ADOPTION. AS THE WORLD STRIVES TO MEET GLOBAL CLIMATE GOALS, ELECTRIC VEHICLES PLAY A CRITICAL ROLE IN CREATING A CLEANER, QUIETER, AND MORE SUSTAINABLE TRANSPORTATION SYSTEM.

THANK YOU SO MUCH