EKPC ELECTRIC VEHICLE FORECAST

Data Sources

The following data sources were used by GDS to develop the final EV forecast:

- EKPC member load and customer forecasts
- Energy Information Administration Annual Energy Outlook 2023
- US Census Bureau
- US Bureau of Transportation Statistics
- Automaker Target EV & ICE (internal combustion engine) vehicles by 2025/2030/2035/2040 – base and high case
- UC Davis Institute of Transportation Studies (ITS)
- U.S. DOE - Alternative Fuel Data Center (AFDC)
- Argonee National Lab
- EVadoption.com
- Studies from The Brattle Group
- Studies from Deloitte
- Edison Electric Institute (EEI)

EV Stock

The EV stock is a projection of number of electric vehicles that will be owned in each member service territory over time. GDS developed this element of the forecast using information from each member's load forecast (number of customers), the US Census, the EIA Annual Energy Outlook 2023, and the Bureau of Transportation Statistics. GDS first determines the total number of vehicles owned by residential customers for each EKPC member and then estimates EV adoption for new vehicles and replacement of existing vehicles. The overall trend in EV adoption and assumptions about vehicle useful lives are assumed consistent between EKPC's members whereas number of vehicles per household and customer growth are specific to each member.

EV Energy Sales

Determination of total energy sales from EV is based on the EV stock forecast and analysis of the potential electrical consumption for those vehicles over time. EIA data on the share of passenger cars and light duty vehicles (LDV) (pickup trucks, minivans, and SUVs) is used to differentiate the stock. GDS then estimated from its in-house databases estimates for typical miles driven per year and annual energy consumption per mile driven for charging, with both assumptions differentiated by passenger cars and LDV. The product of stock, miles driven, and kWh per mile results in cumulative EV energy sales for each member.