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City of Glendale
CEC 2017 IEPR – Demand Forecast

4. Demand Forecast Methods and Models

Demand Forecast Methodology

The City of Glendale Demand Forecast is developed based on the methodology used by the consultant hired by Glendale Water and Power to assist the City in the preparation of the 2015 Integrated Resource Plan covering the 20-year planning period from 2015 to 2035. The forecasting approach took into consideration the historical relationship between demand growth, weather and economic variables, as well as energy efficiency and electric vehicle usage.

The forecast shows growth as a result of customer additions and EVs. However, energy efficiency penetration offsets any load gains.   The compound annual growth rate with demand side management (DSM), and energy efficiency) is estimated to be -.25%.
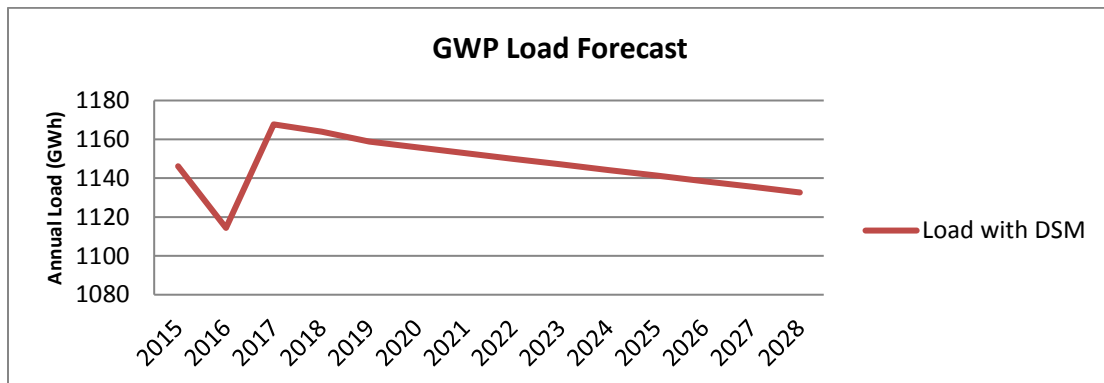
The forecast process included the following major steps:

- Perform a historical econometric analysis of key weather and economic drivers;
- Develop the base load forecast driven by normal weather, projections for economic variables, and known customer additions;
- Make adjustments for energy efficiency, demand side management, and plug-in electric vehicle penetration.

Data Input and Assumptions:

- Hourly temperature data from 1997-present for the Burbank airport weather station was used to come up with a monthly weather normalized load forecast
- Hourly load data for GWP service territory from 1999-present was used for this analysis.

- Year 2016 load shape is used to come up with hourly load forecast.   Peak Demand is calculated by taking the maximum of the hourly load forecasts.
- Monthly energy (MWh) and customer count by class (Residential, Commercial and Industrial) data set for the time period 2003-present. This data was used to determine the energy use per customer data by class (MWh/customer).   Extrapolated the trends in customer count for each of the classes.
- Historical economic data from "Bureau of Economic Analysis (BEA)". The personal income forecast for LA metropolitan area was obtained from Moody's Analytics for the full study period. This data is a quarterly forecast of personal income in current dollars.
- Loss estimates forecast is based on historical average.

6. UNCOMMITTED DEMAND-SIDE PROGRAM METHODOLOGY

GWP's Public Benefit Charge Program office uses the CEC AB 2021 information developed with SCPPA, NCPA, and Rocky Mountain for forecasting EE and DSM effects. The E3 software tool projects Demand and Energy Savings Targets based upon the various programs in place and new programs to be implemented. Additional discussion regarding Glendale's Energy Efficiency programs can be found in the annual SB 1037 report provided each year to the CEC.

Glendale's Solar program details can be found in the SB 1 annual report to the CEC that is due on July 1 each year.