

- **New State Water Use Efficiency Requirements:** The Conservation Plan accounts for existing requirements set by SB X7-7 and sets up the City to comply with SB 606 and AB 1668 as described in Section 2. SB 606 and AB 1668 water use efficiency standards and compliance are not fully developed at this time and will be reviewed in the 2024 UWMP Supplement and 2025 UWMP.

3.2. Demand Projection Envelope Variables

Multiple demand projections were developed (**Figure 4**) by adjusting the key variables described in the previous section. These projections were combined to form a demand envelope (**Figure 5**) for portfolio evaluation:

- **Population (Residential Growth) Projections:** Assumes population growth at a 30% higher rate than current regional growth projections
- **Employment (Commercial, Industrial, and Institutional) Projections:** Assumes employment projections are 20% higher and 20% lower than the baseline projection
- **Lower Drought Rebound:** Assume a rebound to 80% of pre-drought demand rather than the baseline assumption of 90% of pre-drought demand
- **Climate Change:** Applies changes in temperature and precipitation from Cal Adapt², which is based on analysis in California’s Fourth Climate Change Assessment. Estimates were for the grid overlaying the City of Santa Barbara and based on specific years (2020-2050), an average of 10 climate models, and representative concentration pathways (RCP) 8.5, which assumes “business as usual.” Under this scenario, emissions continue to rise strongly through 2050 and plateau around 2100. This results in a projected maximum temperature increase from 70.1 degrees F (historical average) to 72.8 degrees F in 2050 and an increase in precipitation from average historical of 17.3 inches per year to 19.1 inches per year.
- **Upper Bound Projection:** Combines Higher Residential Growth combined with Higher Job Growth
- **Lower Bound Projection:** Slower Drought Rebound, slower drought rebound (10-year recovery period instead of the baseline 7-year recovery period) combined with Slower Job Growth

Population (residential growth) projections have minimal impact on demand in 2050, employment (commercial, industrial, and institutional) projections have moderate impact, and drought rebound assumptions have a large impact. The low impact from population growth assumptions is because most new residents are assumed to be housed in multi-family units or accessory dwelling units, which have a relatively low per capita water use. Employment projections have a moderate impact (roughly 6% change to baseline) since they translate to increased commercial and industrial activity, such as at hotels and restaurants, and its associated water use. The variable with the largest demand projection impact (roughly 13% decrease) is the water use of existing customers and the extent to which their use increases as the area emerges from recent drought conditions as a result of the strong conservation messaging from media, peers, and others subsides. The assumption represents a difference of roughly 1,700 AFY by 2030 and 1,900 AFY by 2050. Note that a slower rebound would result in a slightly lower demand in the near-term but has little impact in the long-term.

² <https://cal-adapt.org/tools/annual-averages/>

