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Energy Demand Scenarios

High Demand
- Higher econ/demo, climate change, and EVs
- Lower rates and self-generation

Low Demand
- Lower econ/demo and EVs
- Higher rates and self-generation
- No climate change

Mid Demand
- Assumptions between our high and low demand cases
Electricity Planning Areas

- Pacific Gas & Electric (PG&E)
- Southern California Edison (SCE)
- San Diego Gas & Electric (SDG&E)
- Northern California Non-California ISO (NCNC)
  - Sacramento Metropolitan Utility District (SMUD)
- Los Angeles Department of Water and Power (LADWP)
- Burbank/Glendale (BUGL)
- Imperial Irrigation District (IID)
- Valley Electric Association (VEA)
## Statewide Economic Drivers

- Projections provided by Moody’s Analytics
- Population and Household projections are the same as in CEDU 2018
- Overall, manufacturing output and personal income decline relative to previous forecast

### Average Annual Growth 2019 - 2030

<table>
<thead>
<tr>
<th>Driver</th>
<th>Mid CEDU 2018</th>
<th>Mid</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>0.79%</td>
<td>0.79%</td>
<td>0.79%</td>
<td>0.79%</td>
</tr>
<tr>
<td>Households</td>
<td>0.90%</td>
<td>0.88%</td>
<td>1.20%</td>
<td>0.90%</td>
</tr>
<tr>
<td>Personal Income</td>
<td>2.47%</td>
<td>2.54%</td>
<td>2.57%</td>
<td>2.28%</td>
</tr>
<tr>
<td>Manufacturing Output</td>
<td>2.11%</td>
<td>2.42%</td>
<td>2.20%</td>
<td>1.76%</td>
</tr>
<tr>
<td>Commercial Employment</td>
<td>0.44%</td>
<td>0.44%</td>
<td>0.49%</td>
<td>0.37%</td>
</tr>
</tbody>
</table>
Statewide Committed Efficiency Savings

2019 EE Program Savings
- IOUs: 15,000 GWh
- POUs: 4,500 GWH

C&S Savings
- Additional residential, commercial, agriculture, and industrial standards also included in CED 2019
• Weather impacts on residential and commercial heating/cooling
• High case is warmer relative to mid case
• Scenarios developed by Scripps Institution of Oceanography
Statewide Light-duty EV Consumption

- ~15,000 GWh by 2030
- Equates to over 3.5 million LDEVs
- More vehicles allocated to residential sector
- Residential VMT lower relative to commercial/gov’t leads to lower energy impact
Statewide PV Energy Impacts

- AAPV now included in baseline forecast
- +5,000 GWh compared to CEDU 2018
Statewide Baseline Consumption

Average Annual Growth, 2019-2030

<table>
<thead>
<tr>
<th>Mid Case Forecast</th>
<th>Residential</th>
<th>Commercial</th>
<th>Industrial</th>
<th>Mining</th>
<th>Agriculture</th>
<th>TCU</th>
</tr>
</thead>
<tbody>
<tr>
<td>CED 2019 Prelim</td>
<td>2.14%</td>
<td>1.38%</td>
<td>0.06%</td>
<td>-0.80%</td>
<td>0.72%</td>
<td>0.41%</td>
</tr>
<tr>
<td>CEDU 2018</td>
<td>2.37%</td>
<td>1.26%</td>
<td>0.20%</td>
<td>-0.14%</td>
<td>0.70%</td>
<td>0.51%</td>
</tr>
</tbody>
</table>
Statewide Baseline Consumption

- 5% lower than CEDU 2018
- Lower 2018 actual
- Additional committed savings
- Slower growth in residential and industrial/mining sectors
Baseline Consumption Per Capita

- Mid case population same as CEDU 2018
- Lower baseline consumption reduces per capita estimates
Residential and commercial sector account for 70% of consumption.

LDEVs consumption grows faster than respective sectors.
Statewide Baseline Sales

- Lower 2018 actual
- Increase in BTM PV capacity
- Declining sales in industrial/mining sector
- Slower growth in residential sector
Statewide Baseline Sales

- PV generation reduces residential and commercial sales
- Faster growth in commercial sector PV slows commercial sales
Statewide Baseline
Noncoincident Peak

- Slower growth peak demand driven by lower sales demand
- IOU peak shift impacts add 4,200 MW of demand over traditional peak hours
Statewide Natural Gas Consumption

- Same models and drivers as with electricity
- QFER 2016 historical adjustment
- 2019 T24 standards lower consumption compared to CED 2017
- Includes climate change in Mid/High