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CED 2019 Preliminary Forecast

Summary of Statewide Results

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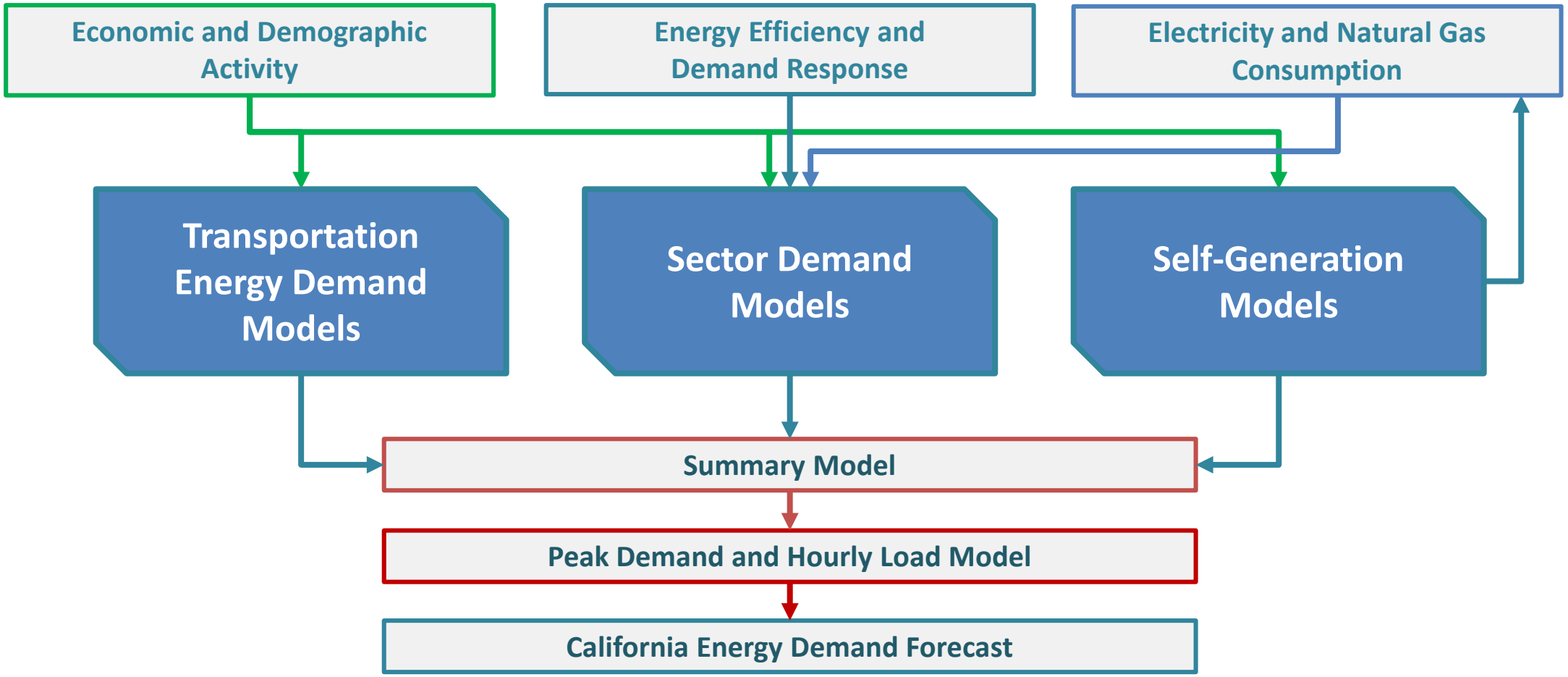
California Energy Commission

California Energy Demand Model System



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)

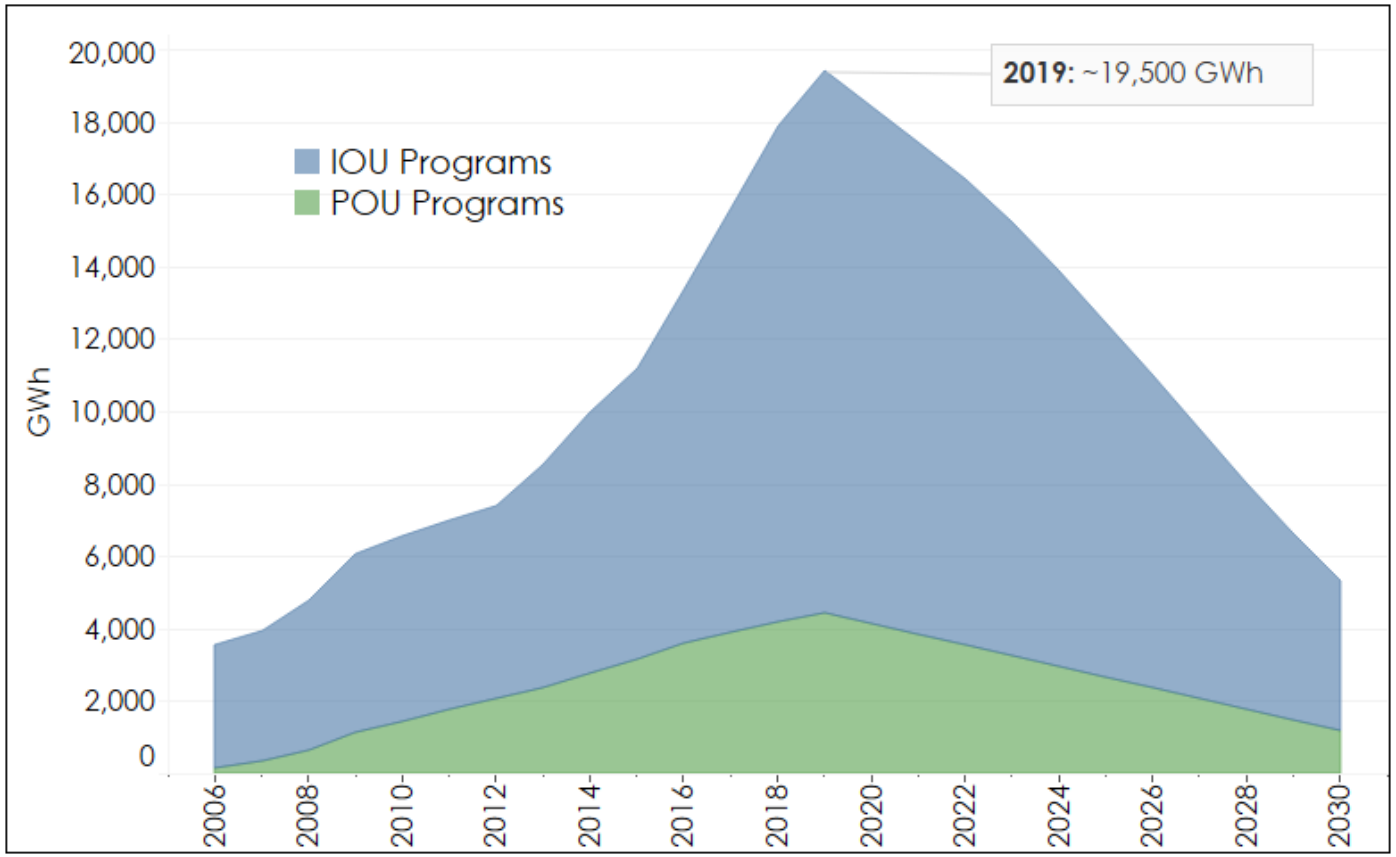
Statewide Economic Drivers

- 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

Driver	Mid	Mid CEDU 2018	High	Low
Population	0.79%	0.79%	0.79%	0.79%
Households	0.90%	0.88%	1.20%	0.90%
Personal Income	2.47%	2.54%	2.57%	2.28%
Manufacturing Output	2.11%	2.42%	2.20%	1.76%
Commercial Employment	0.44%	0.44%	0.49%	0.37%

Statewide Committed Efficiency Savings



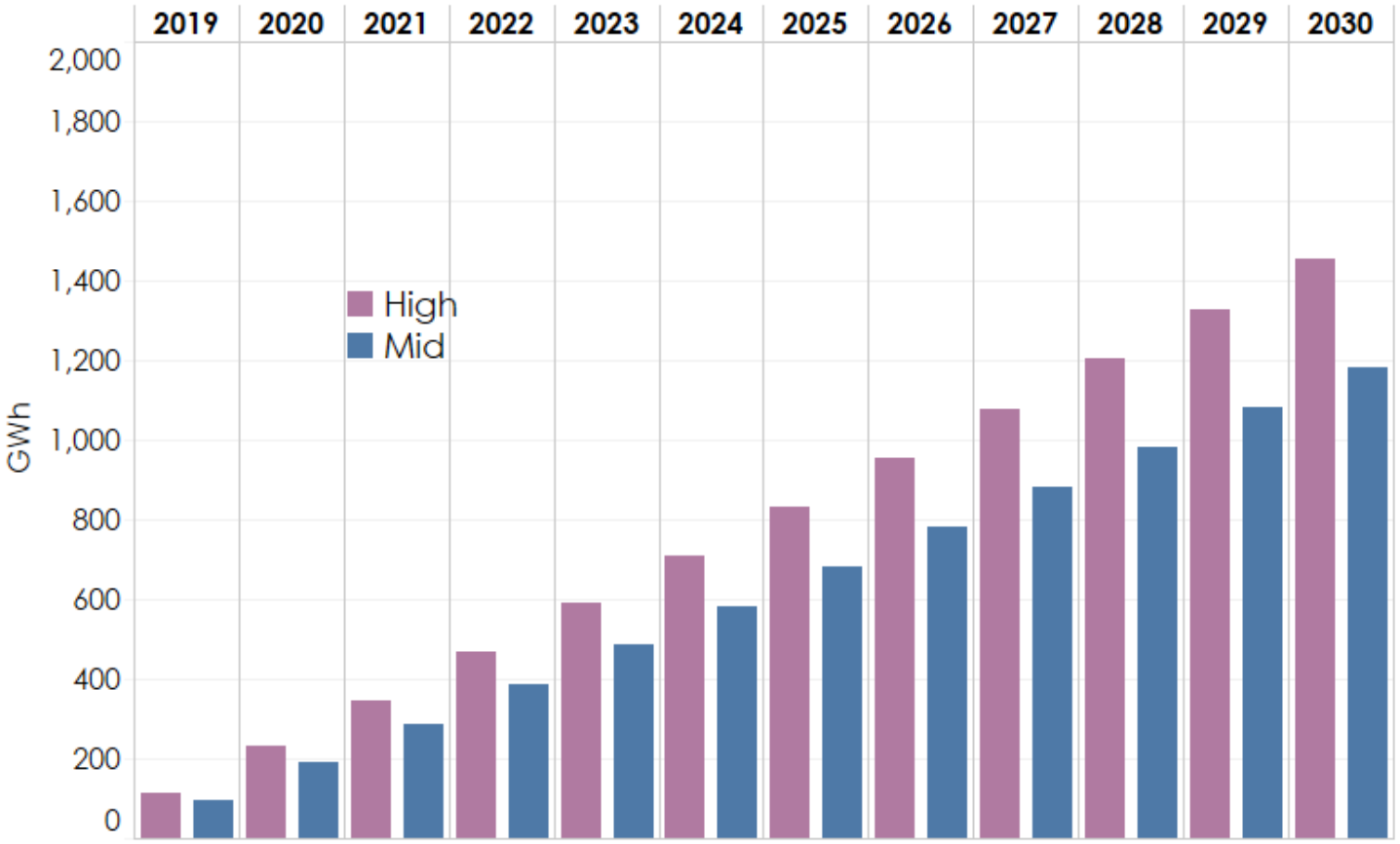
2019 EE Program Savings

- IOUs: 15,000 GWh
- POUs: 4,500 GWH

C&S Savings

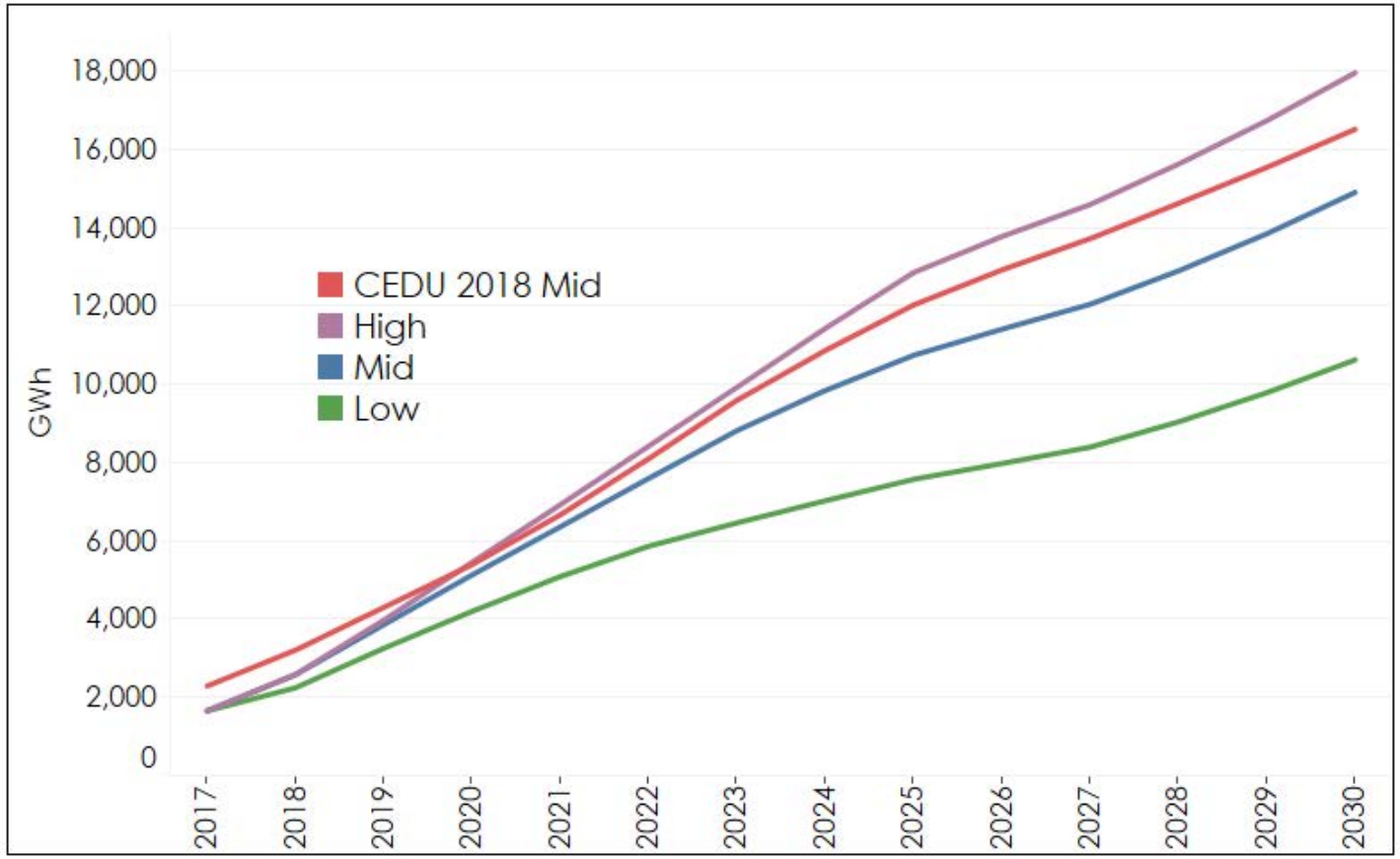
- Additional residential, commercial, agriculture, and industrial standards also included in CED 2019

Statewide Climate Change Impacts



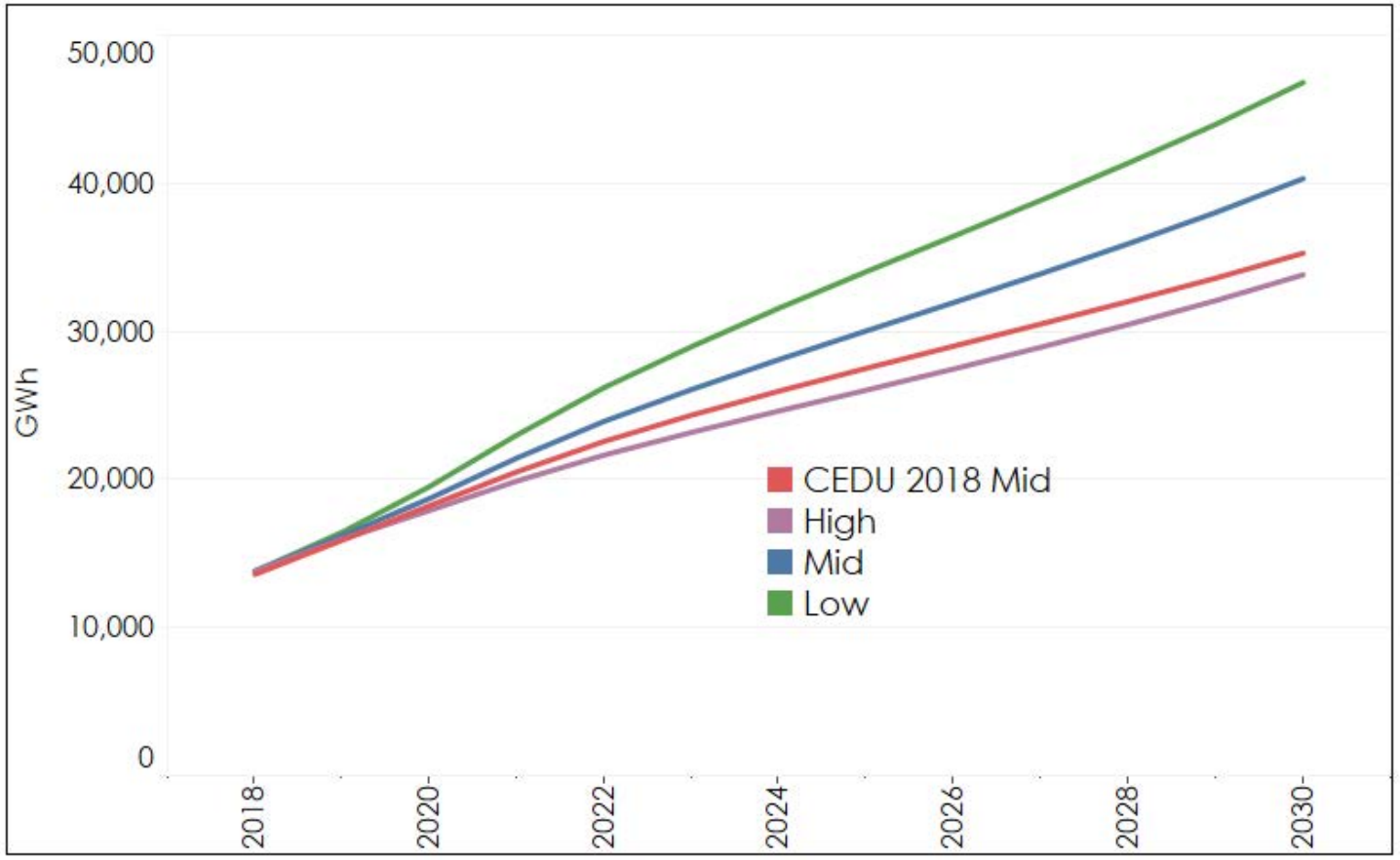
- Weather impacts on residential and commercial heating/cooling
- High case is warmer relative to mid case
- Scenarios developed by Scripps Institution of Oceanography

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



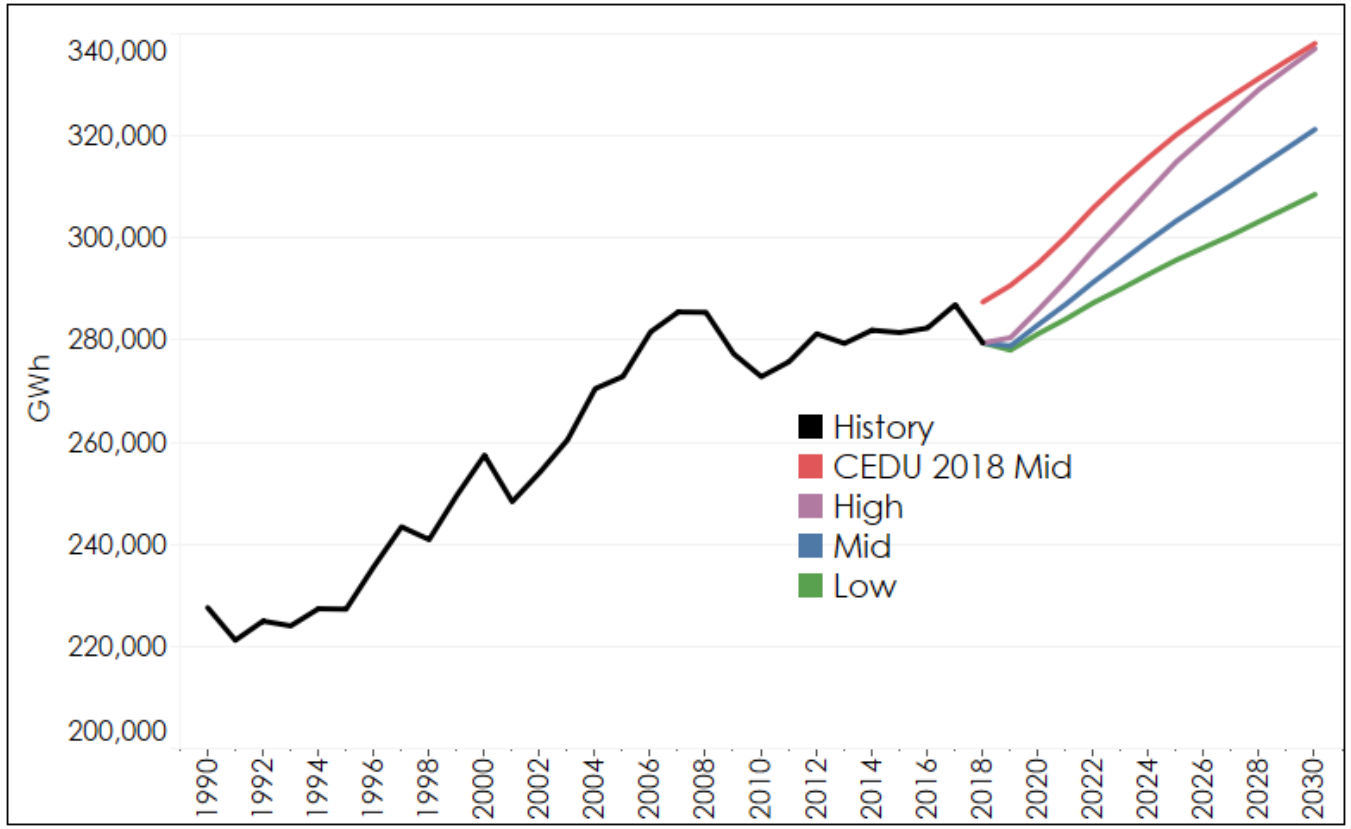
- AAPV now included in baseline forecast
- +5,000 GWh compared to CEDU 2018

Statewide Baseline Consumption

Average Annual Growth, 2019-2030

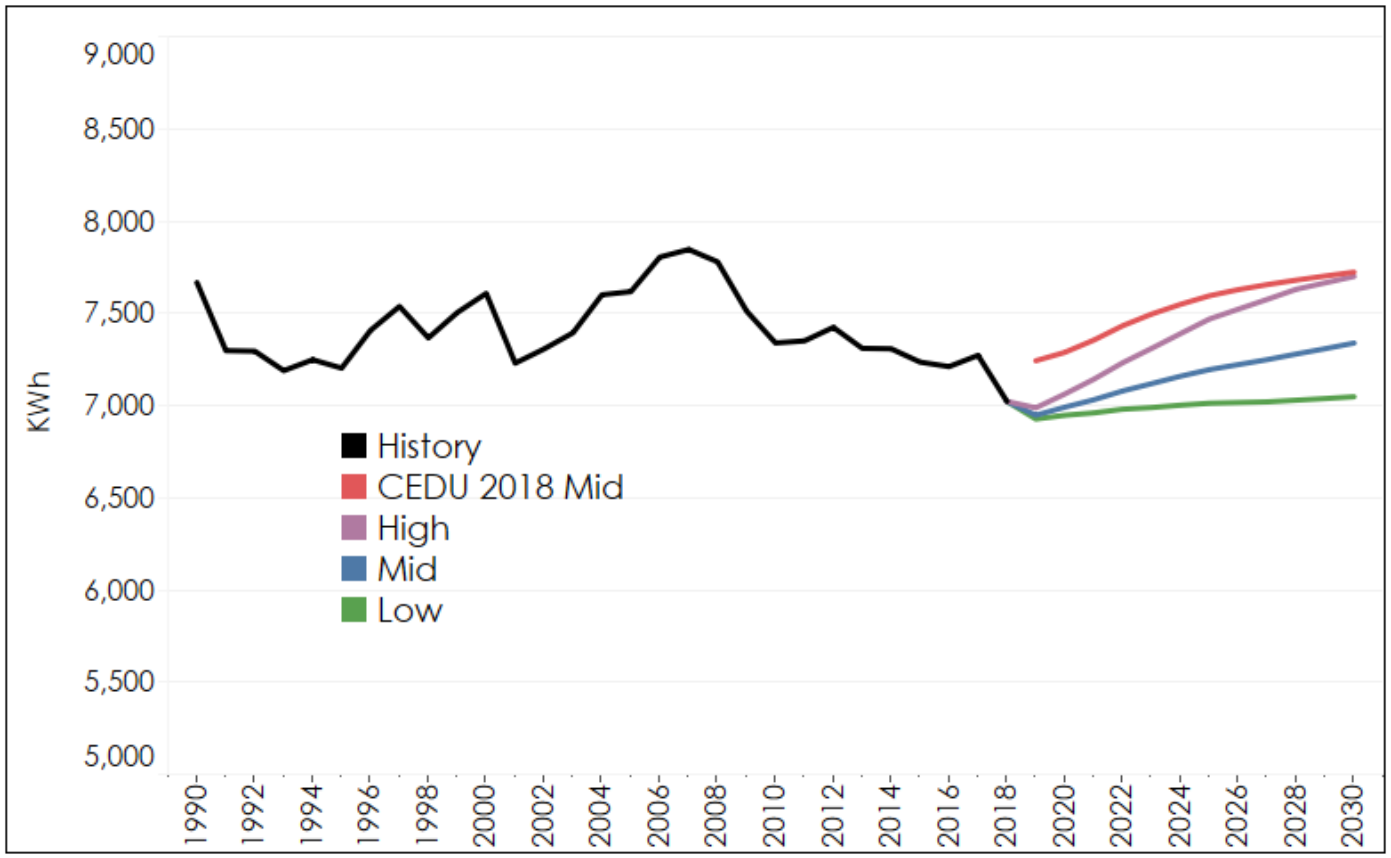
Mid Case Forecast	Residential	Commercial	Industrial	Mining	Agriculture	TCU
CED 2019 Prelim	2.14%	1.38%	0.06%	-0.80%	0.72%	0.41%
CEDU 2018	2.37%	1.26%	0.20%	-0.14%	0.70%	0.51%

Statewide Baseline Consumption



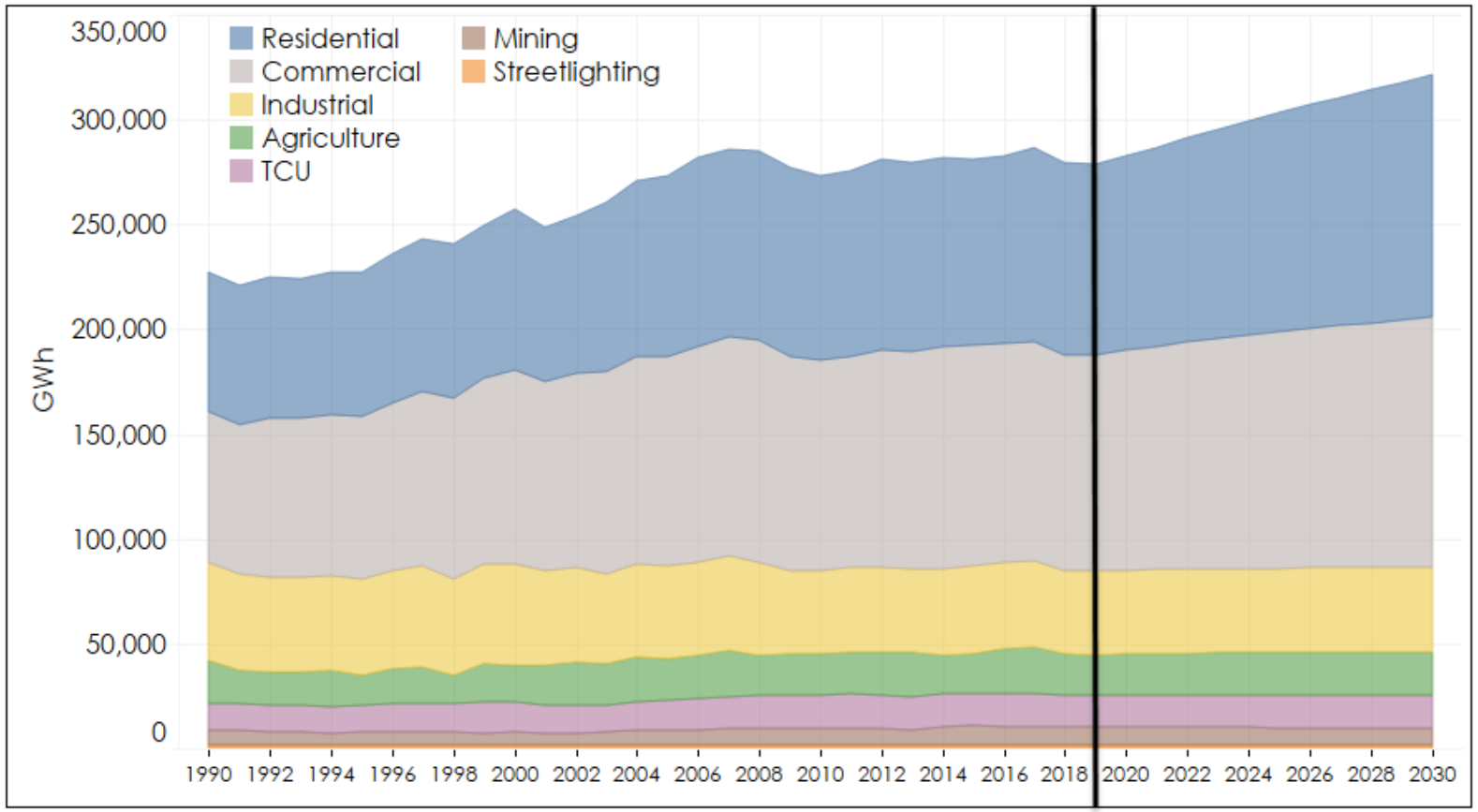
- 5% lower than CEDU 2018
- Lower 2018 actual
- Additional committed savings
- Slower growth in residential and industrial/mining sectors

Baseline Consumption Per Capita



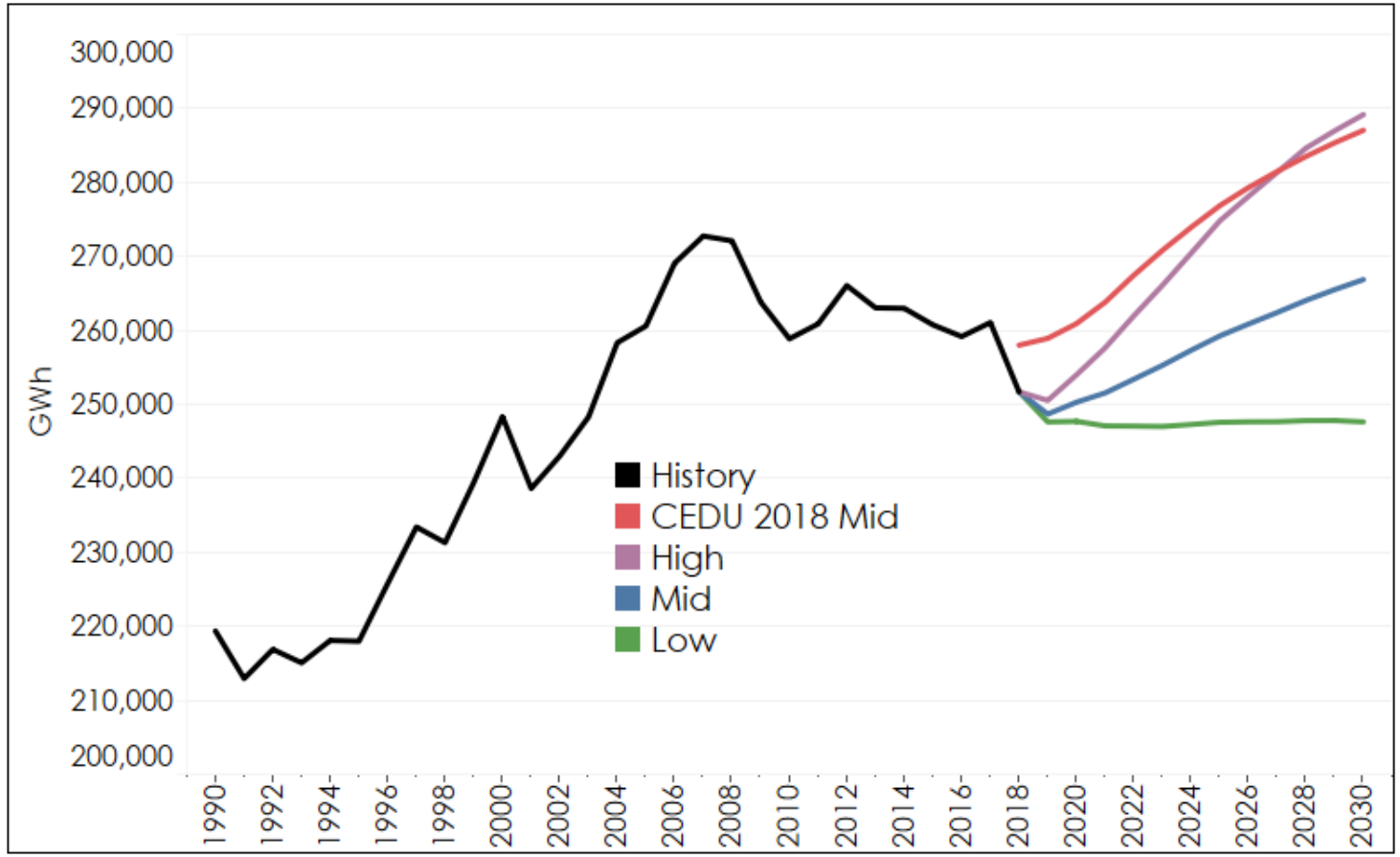
- Mid case population same as CEDU 2018
- Lower baseline consumption reduces per capita estimates

Statewide Baseline Consumption



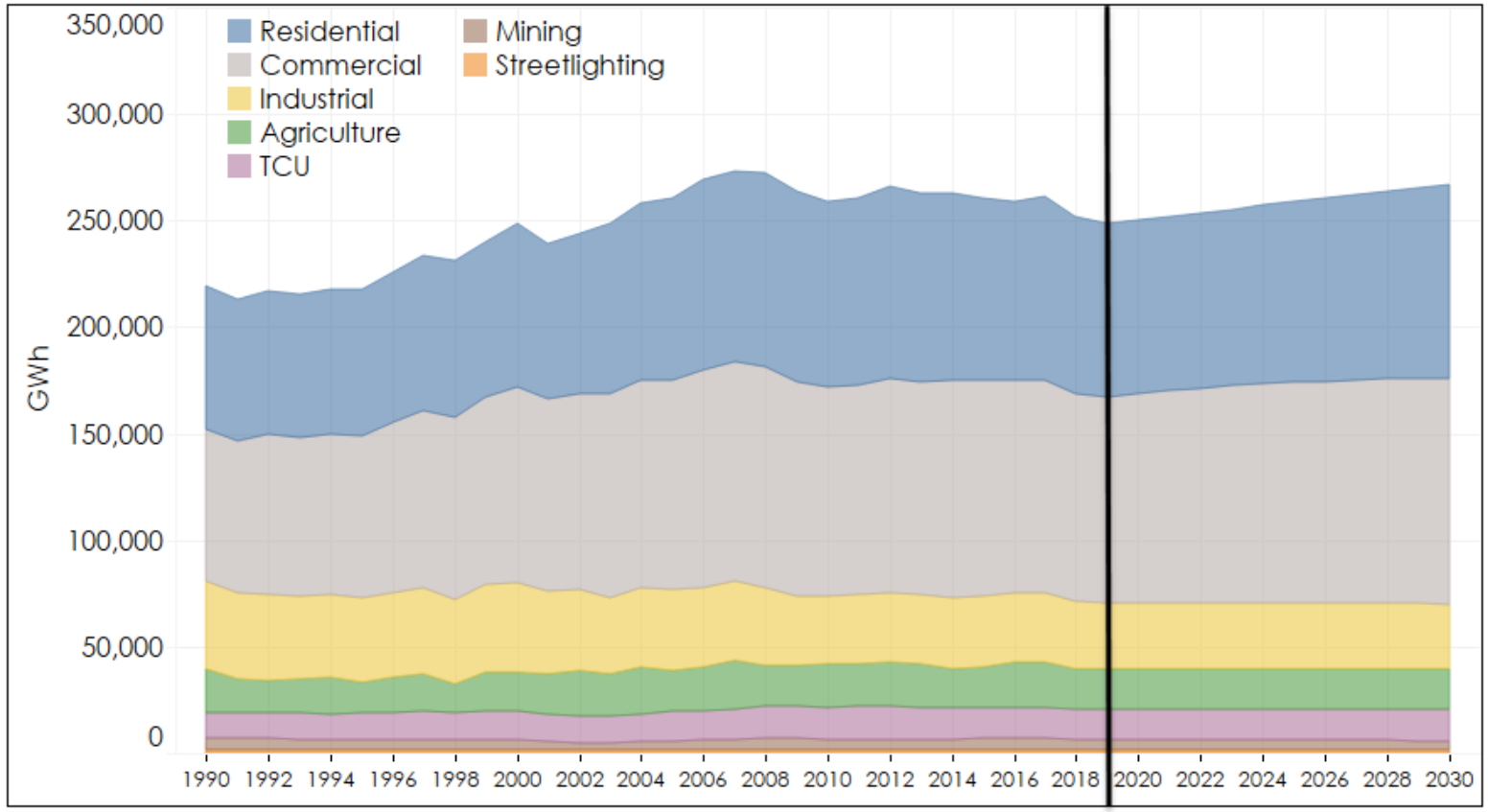
- Residential and commercial sector account for 70% of consumption
- LDEVs consumption grows faster than respective sectors

Statewide Baseline Sales



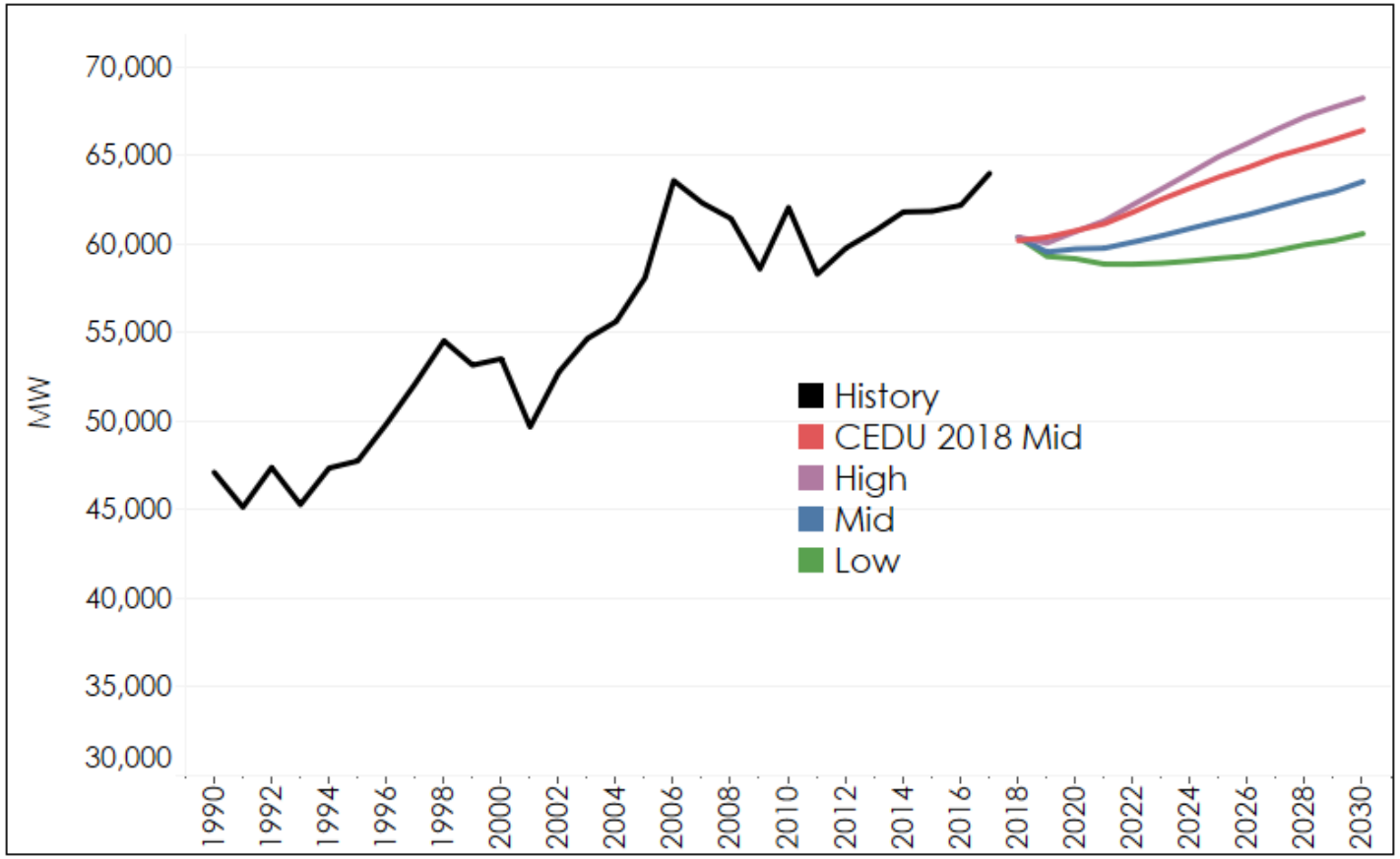
- Lower 2018 actual
- Increase in BTM PV capacity
- Declining sales in industrial/mining sector
- Slower growth in residential sector

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

Questions/Comments?

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