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CEDU 2020: Consumption and Sales Forecast Results

Cary Garcia, Demand Analysis Office

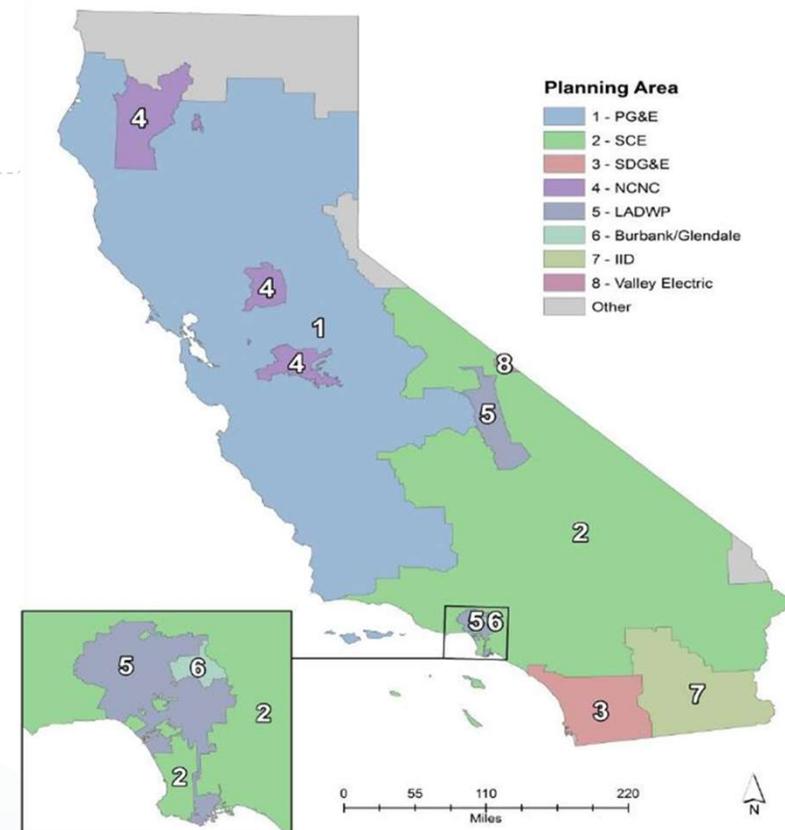
December 3, 2020



Update Process

Goal: Update previously adopted forecast for economic and demographic changes between full forecast cycles

- Compare econometric model results using the current and previous vintages of input data
- Re-estimate self-generation and transportation electrification models
- Committed savings, AAEE, and climate change remain the same as in CED 2019





Demand Scenario Assumptions

High Energy Demand

- High econ/demo growth, high EV adoption, high climate change impacts
- Low electricity rates; low self-gen adoption

Low Energy Demand

- Low econ/demo growth; low EV adoption; no climate change impacts
- High electricity rates; high self-gen adoption

Mid Energy Demand

- Base case with assumptions between high and low scenarios
- Mid self-generation and EV adoption
- Includes expected climate change impacts



Moody's Outlook - June vs. Oct/Nov 2020

- **Key differences compared to June outlook:**
 - 2020 commercial and manufacturing employment impacts were more severe compared to June
 - Personal income and GSP outlook is somewhat more optimistic
- **“Extraordinary uncertainty”**
 - Moody's Oct/Nov baseline outlook assumes additional federal stimulus in Q1 2021
 - Outlooks did not expect a significant second wave of the virus and anticipates a vaccine by Spring 2021



Forecast Input Summary

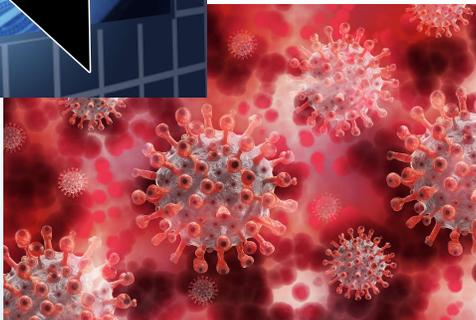


▪ Demographic – DOF June 2020

- Population and household growth were lowered
- Inland areas continue to see more growth compared to coastal/urban

▪ Economic – Moody's June 2020

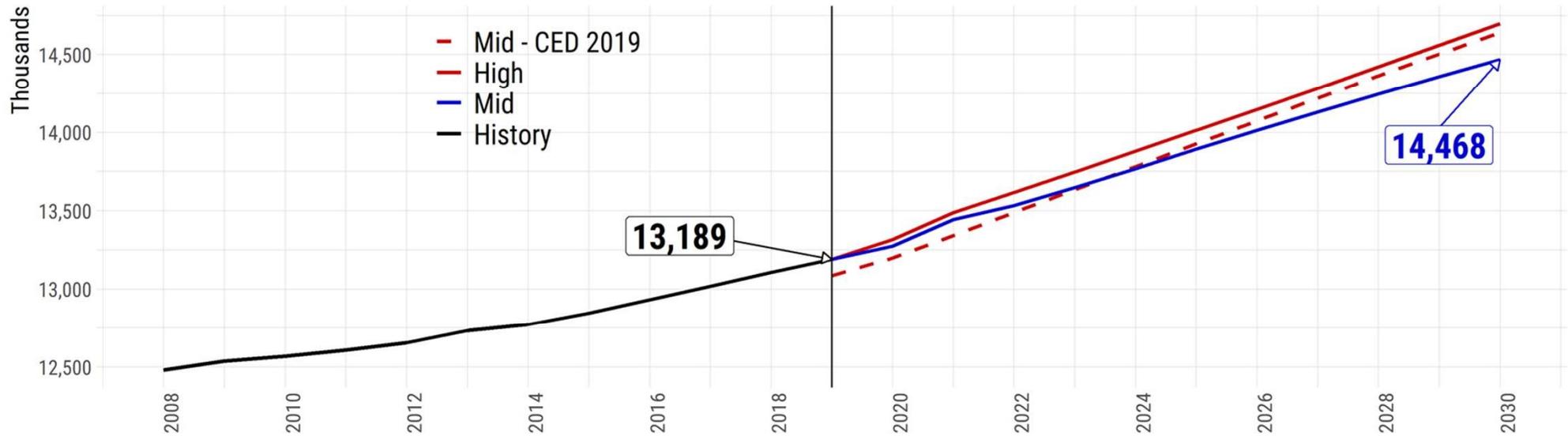
- Employment, income, and output outlooks all reduced due to COVID-19
- Decline for 2020 with recovery beginning mid 2021
- Recovery continues through 2024





Statewide Households

- Modest decrease in growth, now at 0.9% annually
- Reaches 14+ million by 2030; 140k less than CED 2019

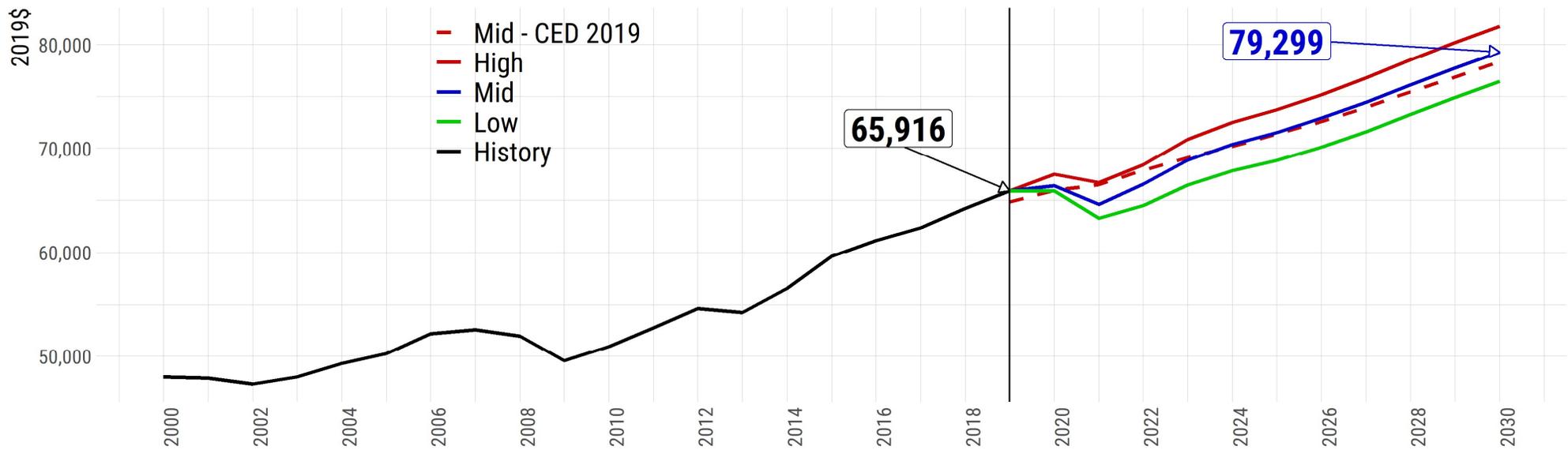


Source: CA Department of Finance, June 2020
High scenario developed by DAO staff



Personal Income

- -2.7% decline in 2020
- 2.3% average growth 2021-2030

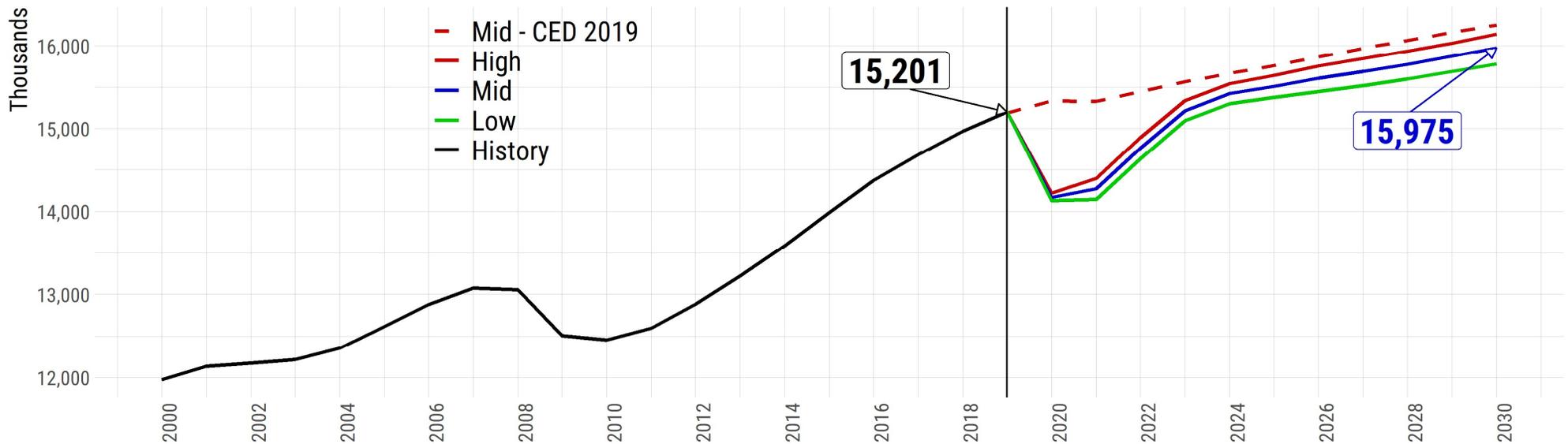


Source: Moody's Analytics, June 2020



Commercial Employment

- -7% decrease in 2020; 12% total unemployment rate
- Recovery of ~2% annually through 2023
- 2% below previous mid case forecast by 2030



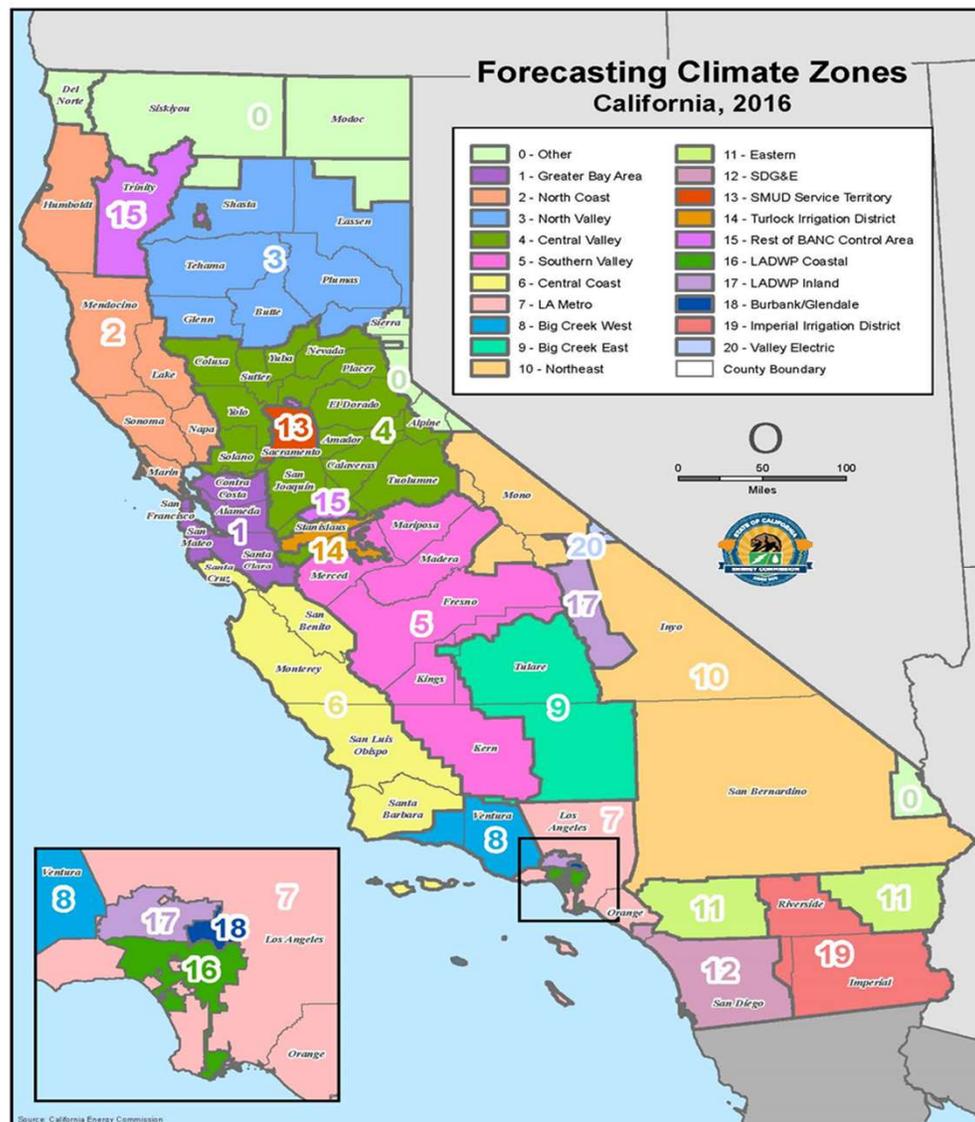
Source: Moody's Analytics, June 2020



Statewide Summary

Mid Case

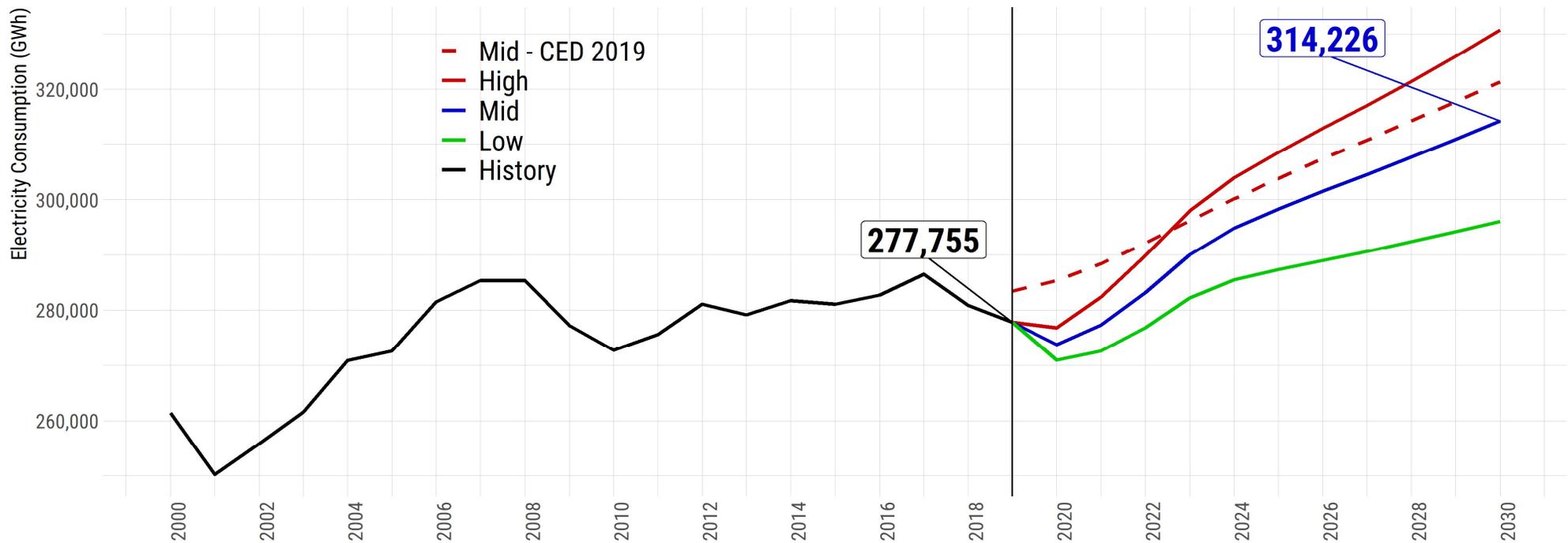
- Consumption down 2% in 2030
- Sales down 2% in 2030
- EVs contribute nearly 14,000 GWh by 2030
- ~54,500 GWh of self generation by 2030 (41,200 GWh as PV)





Statewide Consumption

- 2020-2024 growth averages 2%
- 2025-2030 growth averages 1%
- Average annual growth of 1.4% from 2020-2030 compared to 1.2% in CED 2019

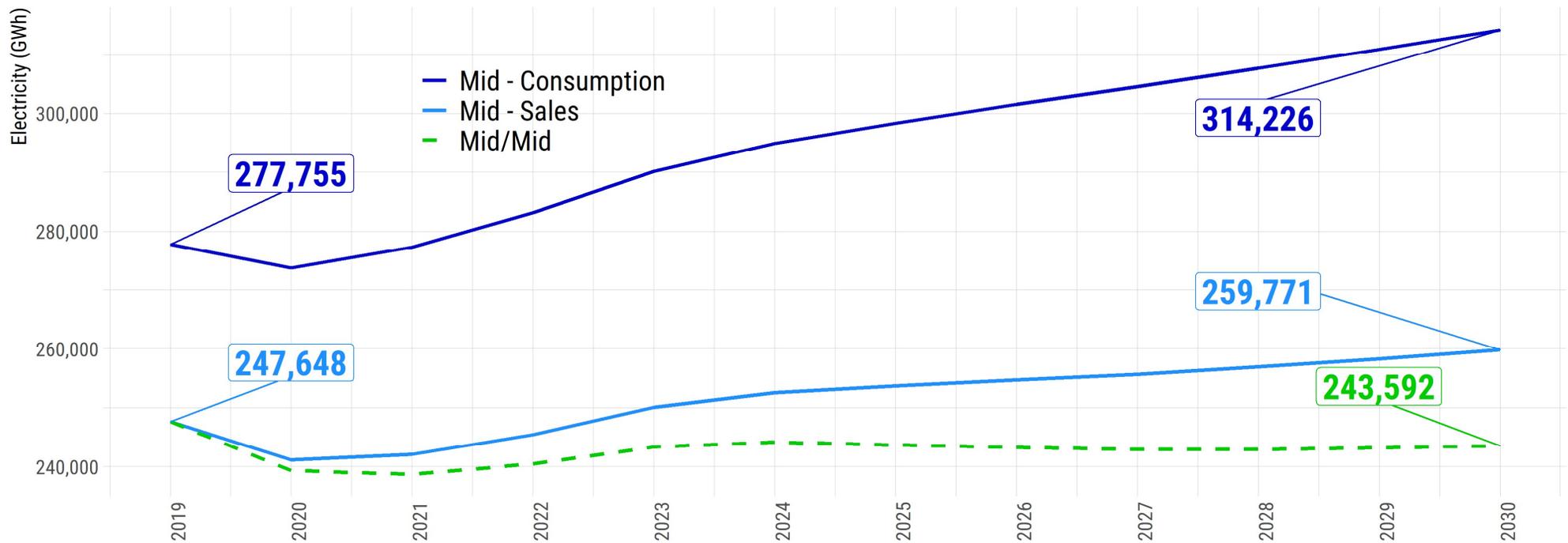


Source: CEC Demand Analysis Office, Dec. 2020



Statewide Sales

- Mid case sales grow at 0.7% annually from 2020-2030; 0.2% in Mid-Mid
- ~16,200 GWh of AEE in 2030



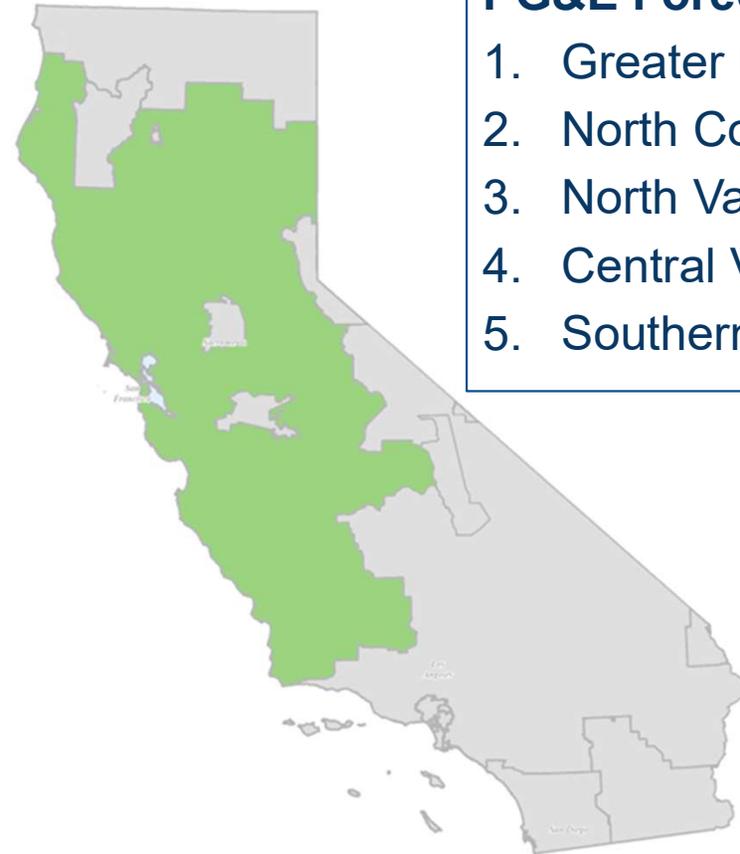
Source: CEC Demand Analysis Office, Dec. 2020



PG&E Planning Area Summary

Mid Case

- Consumption nearly the same in 2030
- Sales down 1% in 2030
- EVs contribute 5,850 GWh by 2030
- 25,800 GWh of self generation by 2030 (18,900 GWh as PV)



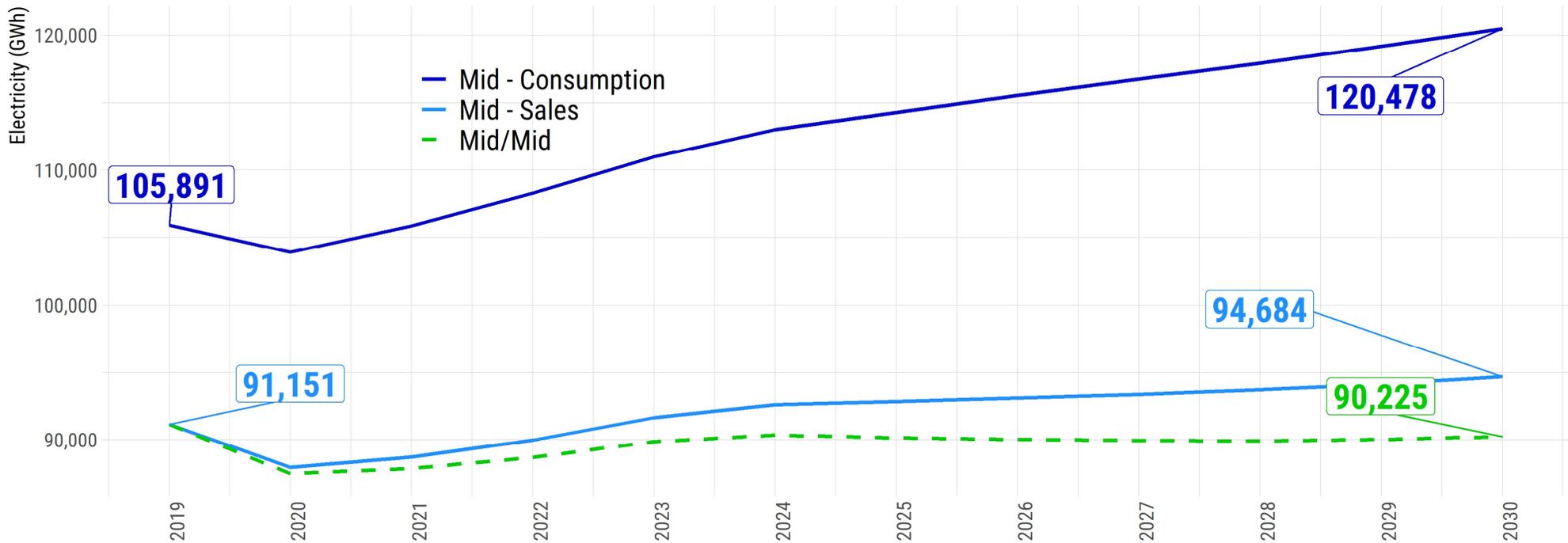
PG&E Forecast Zones

1. Greater Bay Area
2. North Coast
3. North Valley
4. Central Valley
5. Southern Valley



PG&E Planning Area Sales

- Mid case sales grow at 0.7% annually from 2020-2030; 0.3% in Mid-Mid
- ~4,500 GWh of AAEE in 2030



Source: CEC Demand Analysis Office, Dec. 2020



SCE Planning Area Summary

Mid Case

- Consumption down 4% in 2030
- Sales down 5% in 2030
- EVs contribute 4,647 GWh by 2030
- ~18,600 GWh of self generation by 2030 (14,100 GWh as PV)



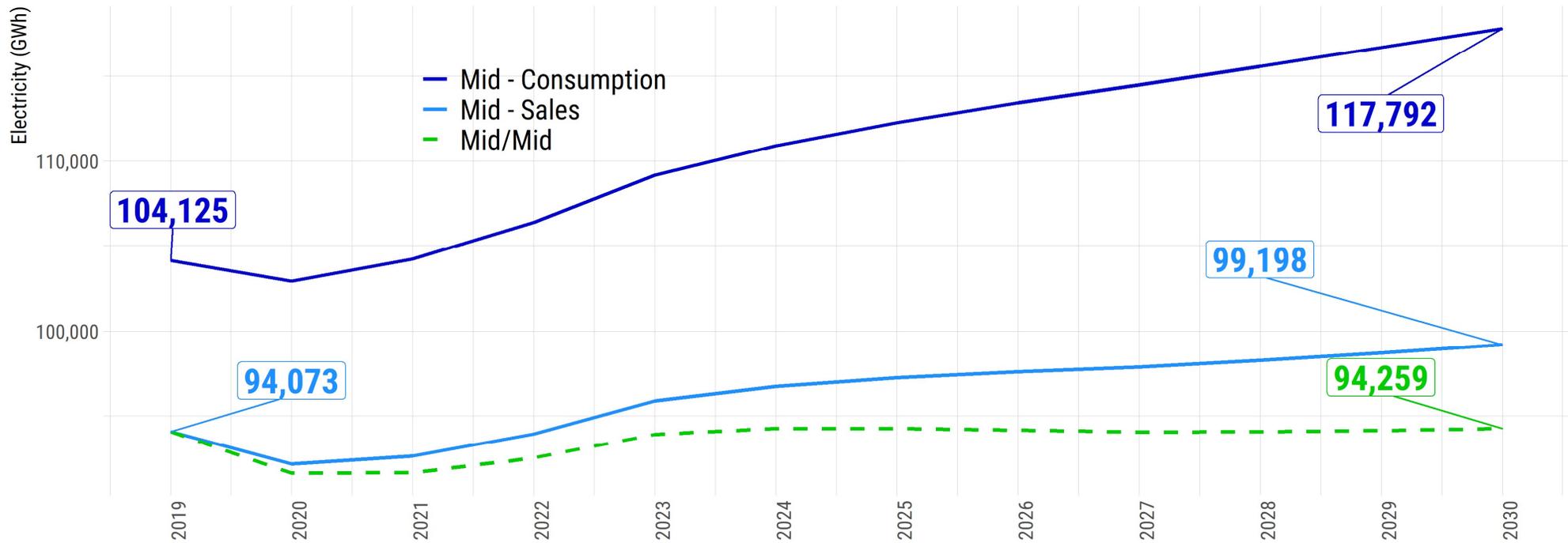
SCE Forecast Zones

7. LA Metro
8. Big Creek West
9. Big Creek East
10. North East
11. Eastern



SCE Planning Area Sales

- Mid case sales grow at 0.7% annually from 2020-2030; 0.3% in Mid-Mid
- ~4,900 GWh of AAEE in 2030



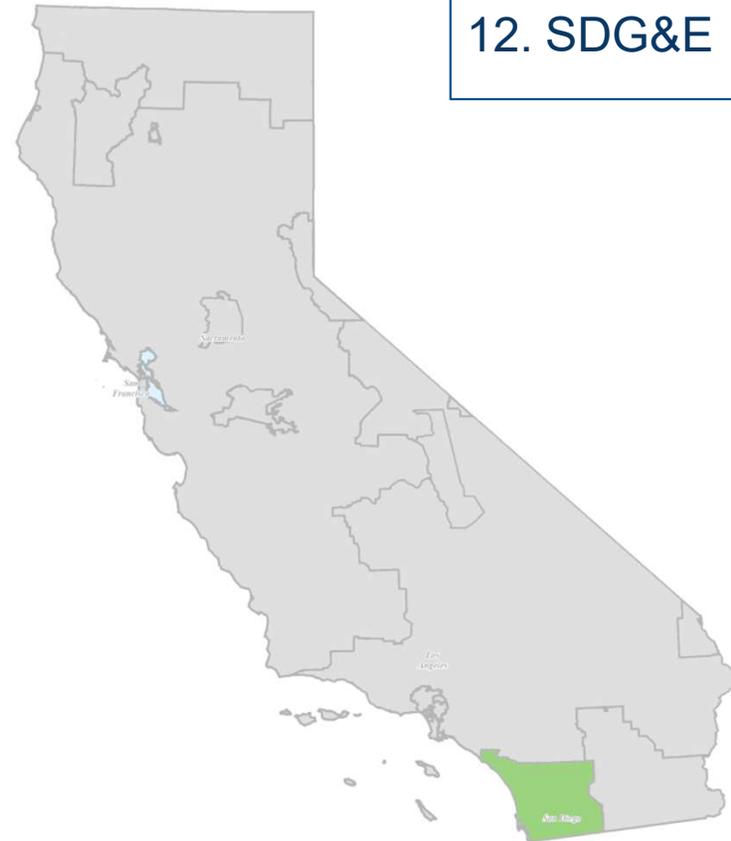
Source: CEC Demand Analysis Office, Dec. 2020



SDG&E Planning Area Summary

Mid Case

- Consumption down 4% in 2030
- Sales down 6% in 2030
- 1,344 GWh contributed EVs by 2030
- 5,200 GWh of self generation by 2030 (4,570 GWh as PV)

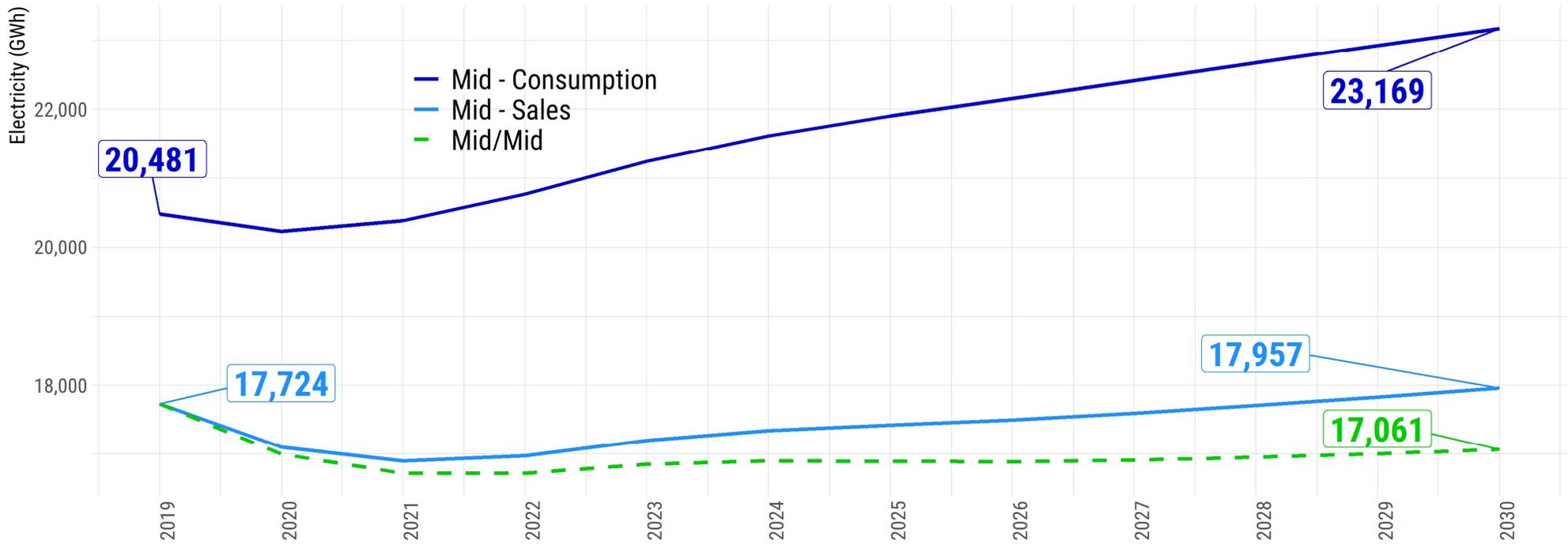


SDGE Forecast Zone
12. SDG&E



SDG&E Planning Area Sales

- Mid case sales grow at 0.5% annually from 2020-2030; no growth in Mid-Mid
- ~900 GWh of AAEE in 2030



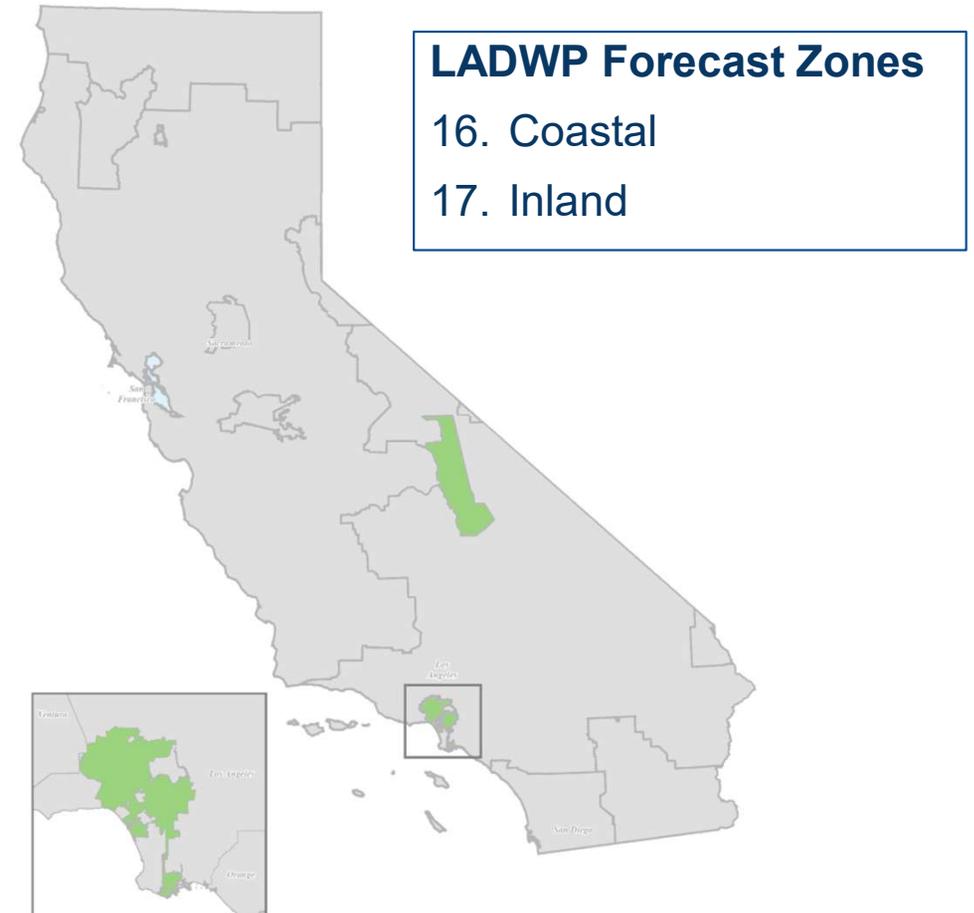
Source: CEC Demand Analysis Office, Dec. 2020



LADWP Planning Area Summary

Mid Case

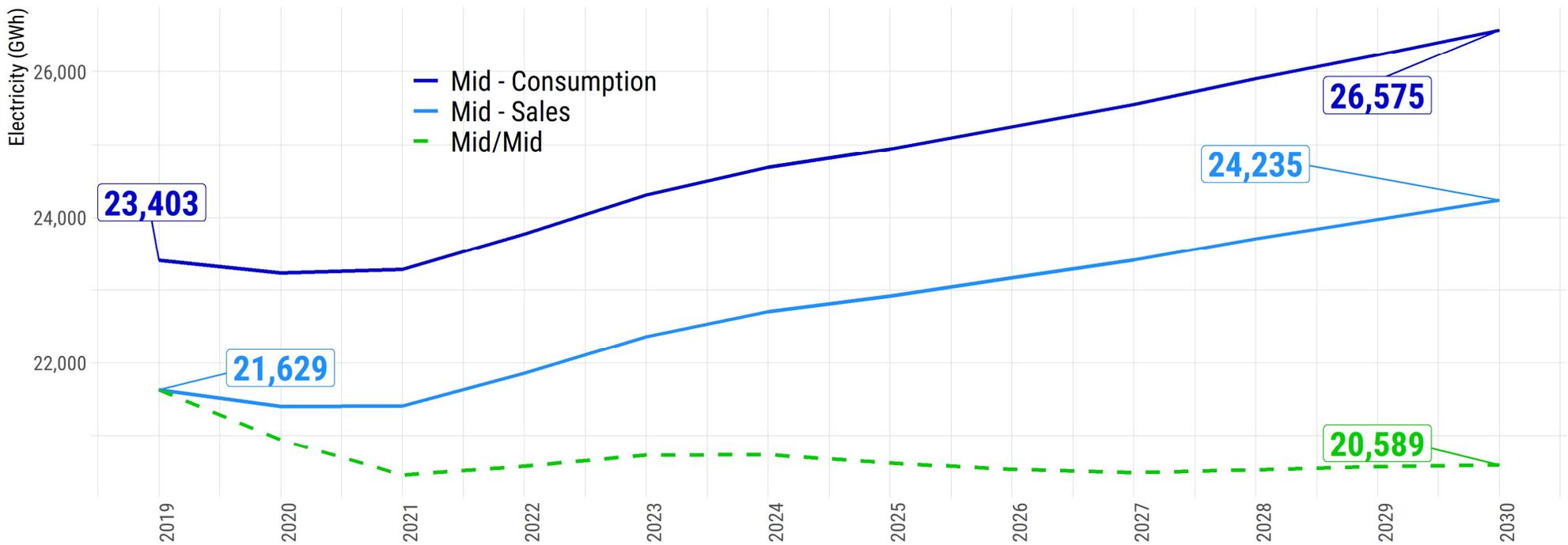
- Consumption up by 0.5% in 2030
- Sales up by 2% in 2030
- 1,408 GWh contributed by EVs by 2030
- 2,350 GWh of self generation by 2030 (50% from PV)





LADWP Planning Area Sales

- Sales growth at 1.3% annually, 2020-2030; -0.2% in Mid-Mid
- ~3,600 GWh of AEEE



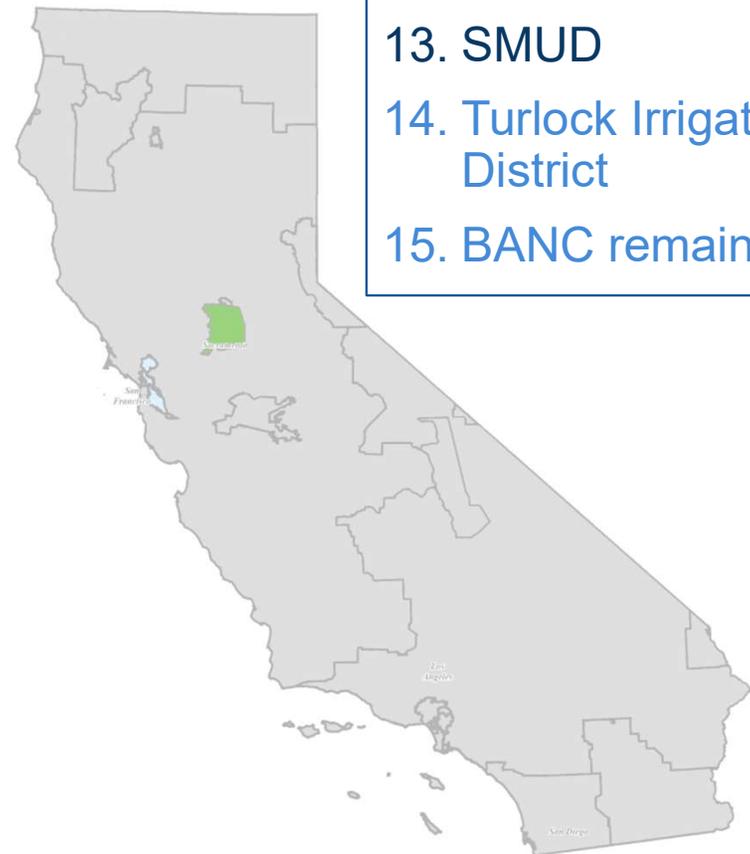
Source: CEC Demand Analysis Office, Dec. 2020



SMUD Service Territory Summary

Mid Case

- Consumption down 5% in 2030
- Sales down 6% in 2030
- 371 GWh from EVs by 2030
- 1,244 GWh of self generation by 2030 (96% as PV)



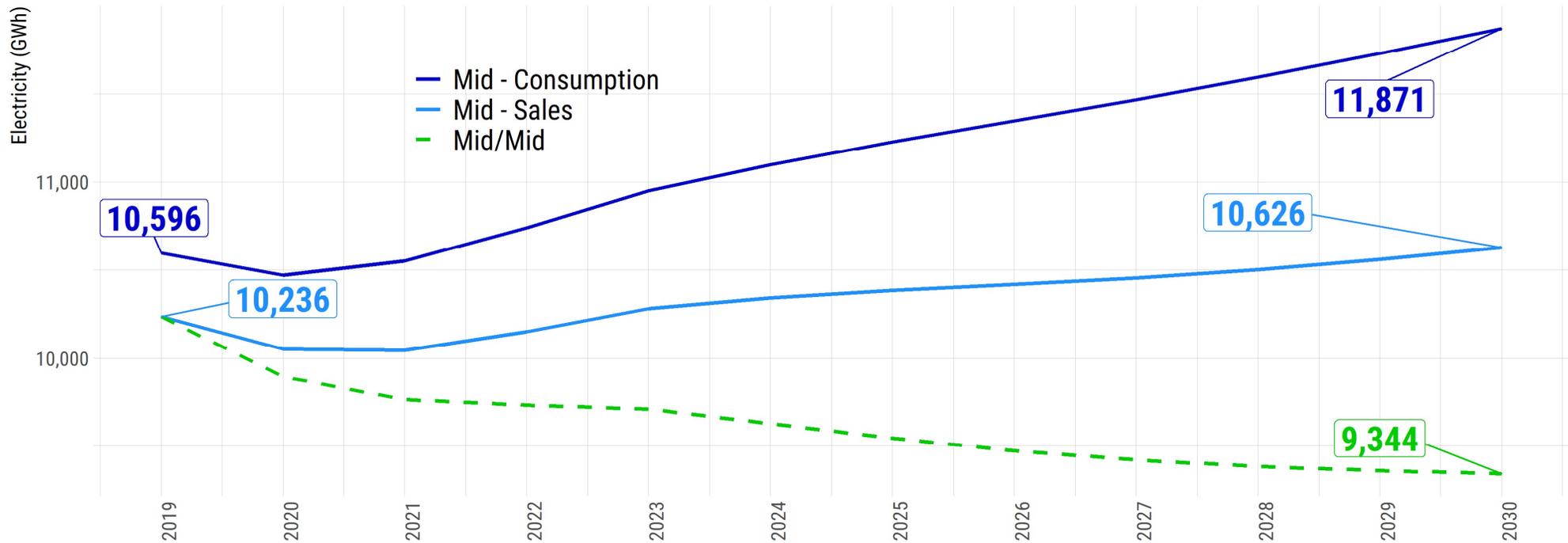
NCNC Forecast Zones

- 13. SMUD
- 14. Turlock Irrigation District
- 15. BANC remainder



SMUD Service Territory Sales

- Sales growth at 0.6% annually, 2020-2030; -0.6% in Mid-Mid
- ~1,300 GWh of AAEE



Source: CEC Demand Analysis Office, Dec. 2020



Questions

