
# 2025 IEPR Forecast - Updated Results

DAWG Meeting

January 5, 2026

# 2025 IEPR Forecast Framework

| | Planning Forecast | Local Reliability |
|---|---|---|
| Economic, Demographic, and Price Scenarios | Baseline | Baseline |
| Known Loads | Excluded | Depends on Use Case |
| BTM PV and Storage | Mid | Low |
| Data Centers | Mid | High |
| Additional Achievable Energy Efficiency Scenario | Scenario 3 | Scenario 2 |
| Additional Achievable Fuel Substitution Scenario | Scenario 2 | Scenario 3 |
| Additional Achievable Transportation Electrification Scenario | Scenario 2 | Scenario 3 |

# Updates since December Workshop

Focus for Today

- Data Centers
- Known Loads

Other updates

- Correction to commercial sector model
- AAEE
- AAFS

# Data Centers

# Methodology Review

Methodological framework is the same as the preliminary draft:

1. Request application data from utilities
2. Apply assumptions to account for:
   - Utilization Factor (67%): Requested capacity vs max demand
   - Confidence Level: Probability of project completion
   - Ramping: Years to reach full capacity
3. Use existing AMI data to create 8,760 load factor profile

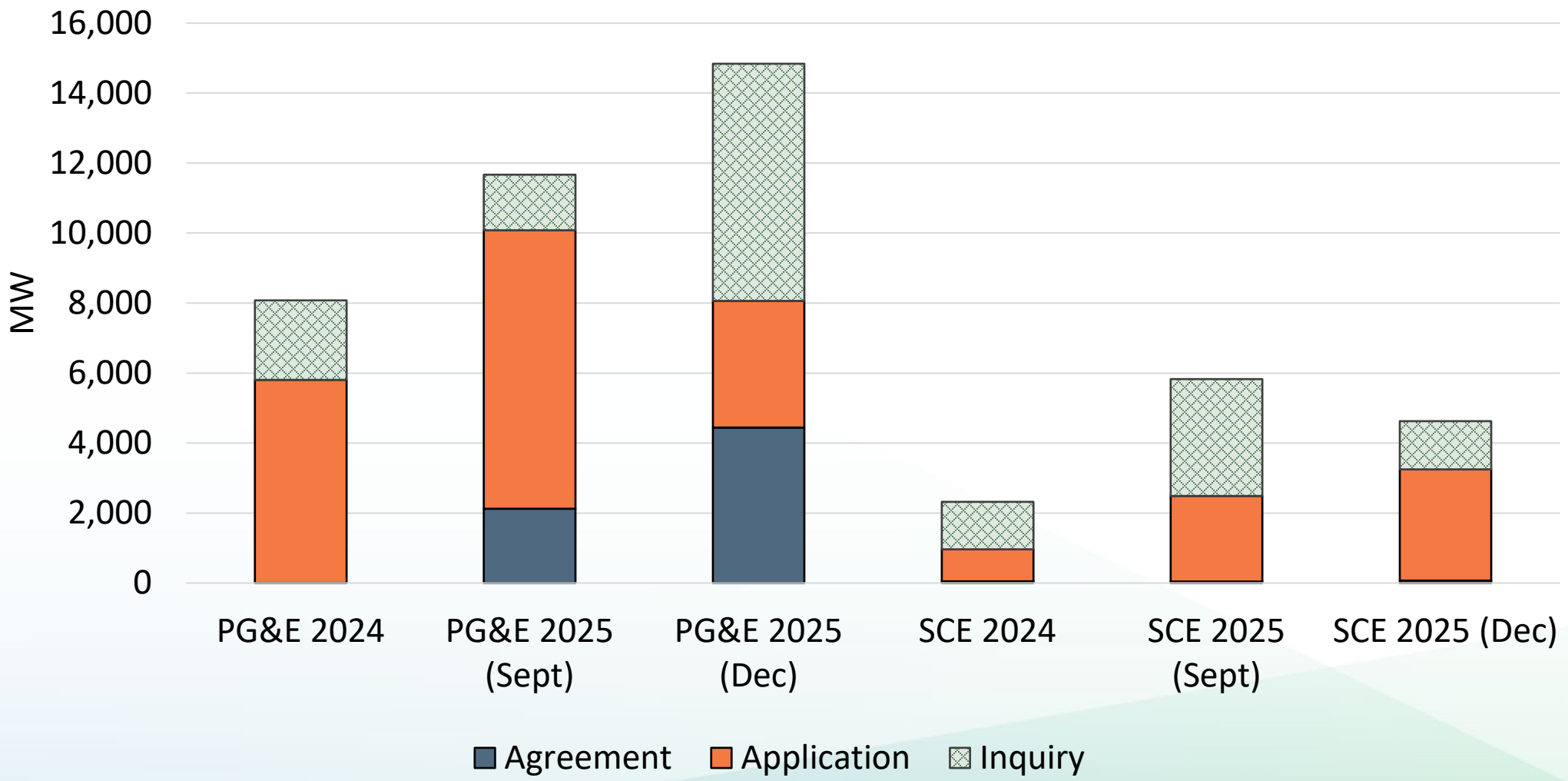
# Ramping Assumptions

| | 2024 IEPR | 2025 IEPR Mid | 2025 IEPR High |
|---|---|---|---|
| Ramping | Year 0-5: 149%<br>Year 6+: 113% | Linear ramp over 7 years | According to application |

**Source:** CEC with data from SVP

- "CEC Ramping" for Mid scenario applied to:
  - Projects without ramping information
  - Projects > 40 MW with unrealistically large first year capacity (> 50% or above 100 MW in first year)
- For both Mid & High scenarios:
  - Group 2 and 3 project start dates shifted to 2028+

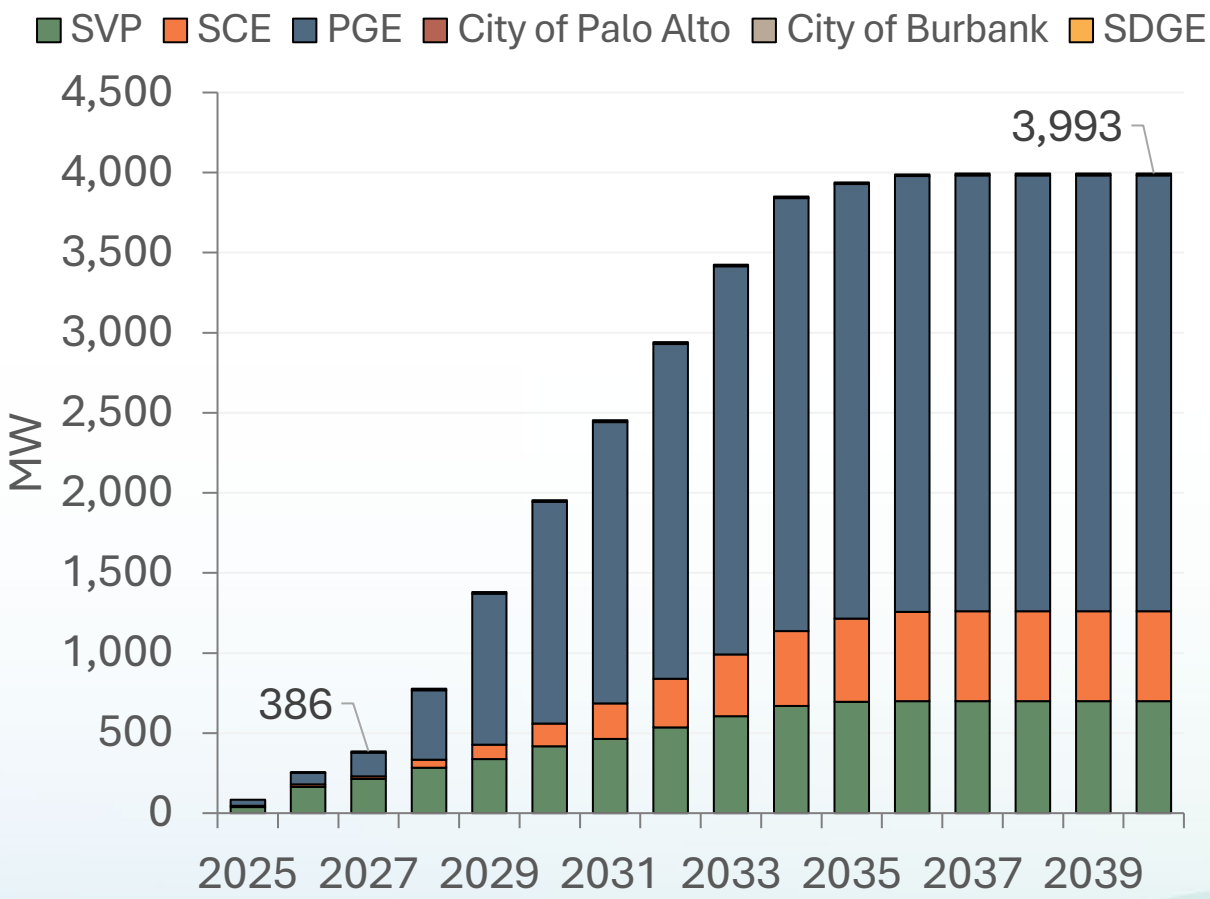
# PG&E and SCE Capacity Requests Update



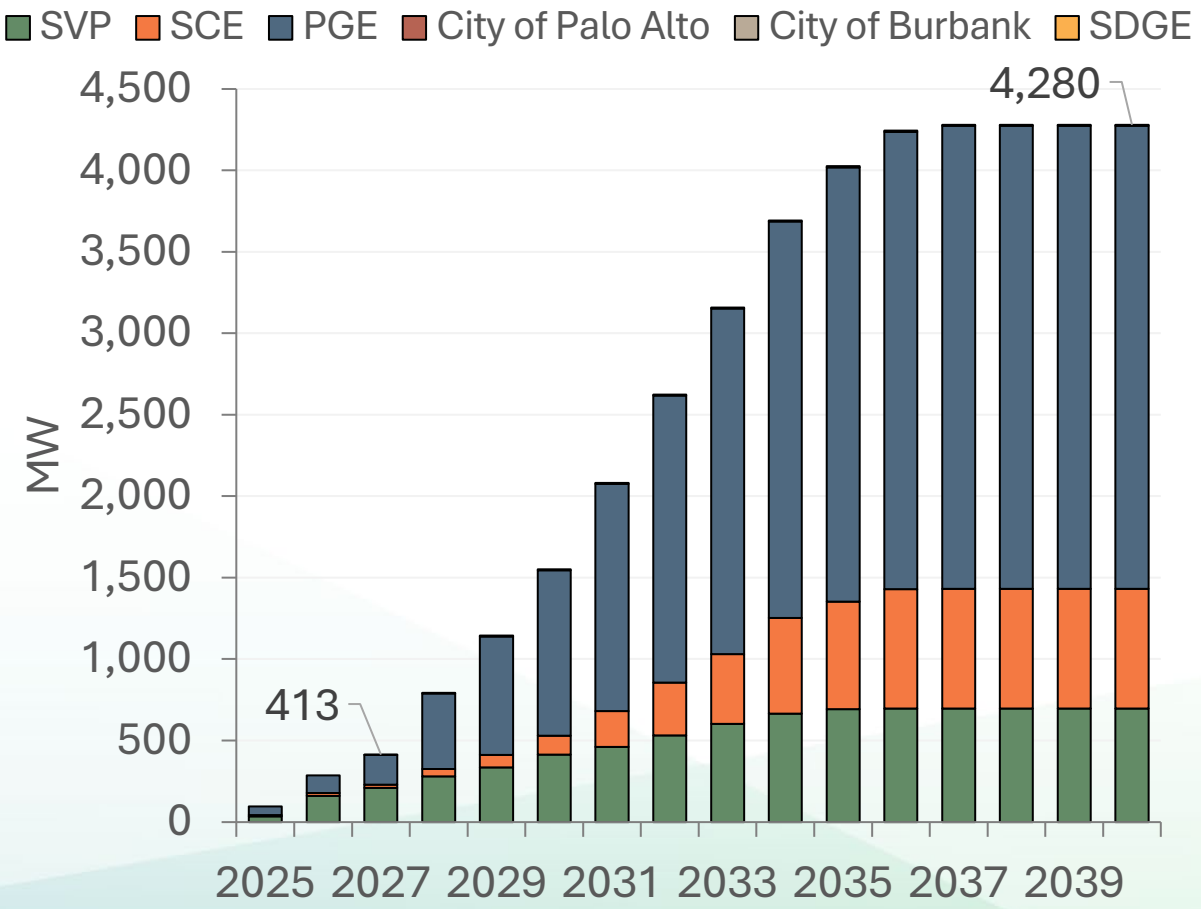

**Source:** CEC with data from PG&E and SCE

# Updated Mid Case Data Center Results

## 2025 IEPR Draft (Sept)



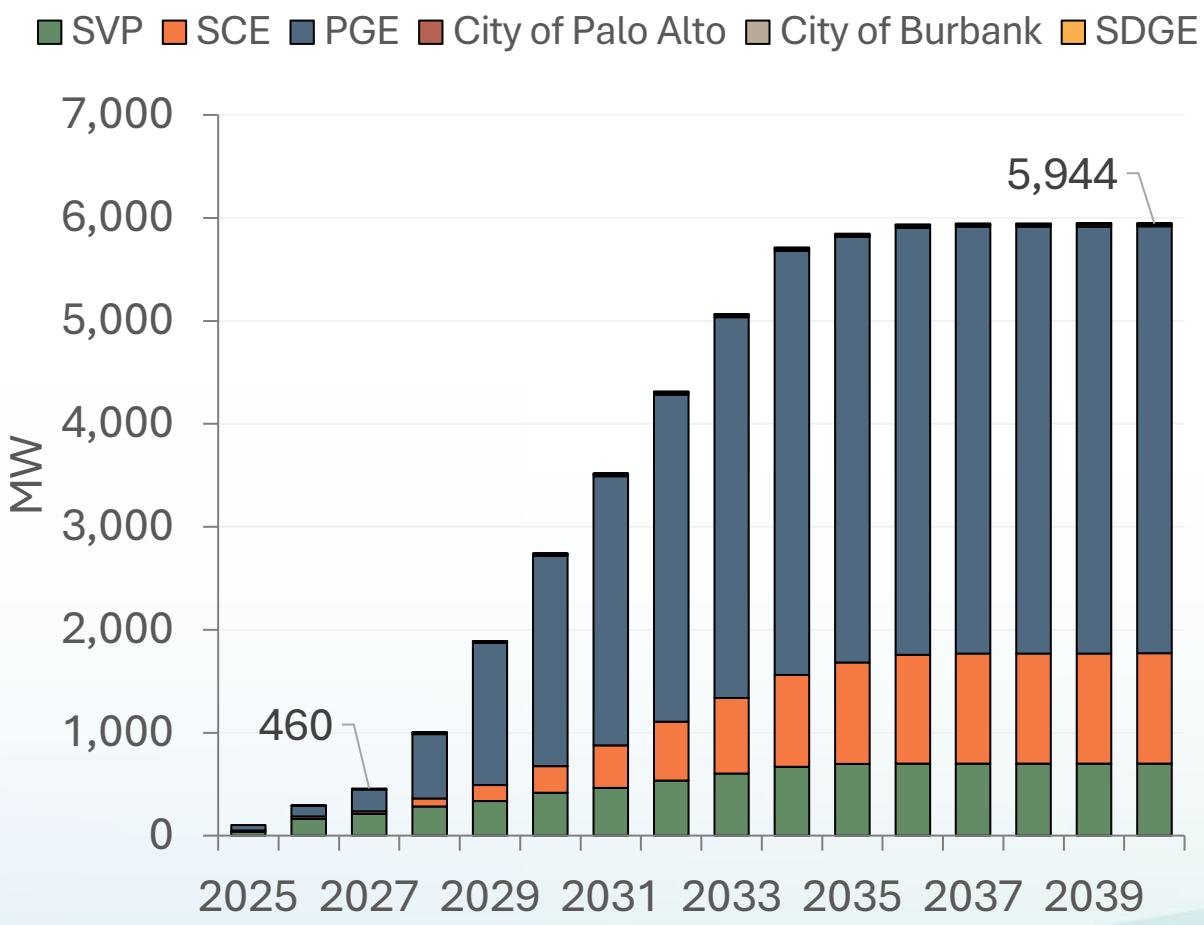

## 2025 IEPR Final (Dec)



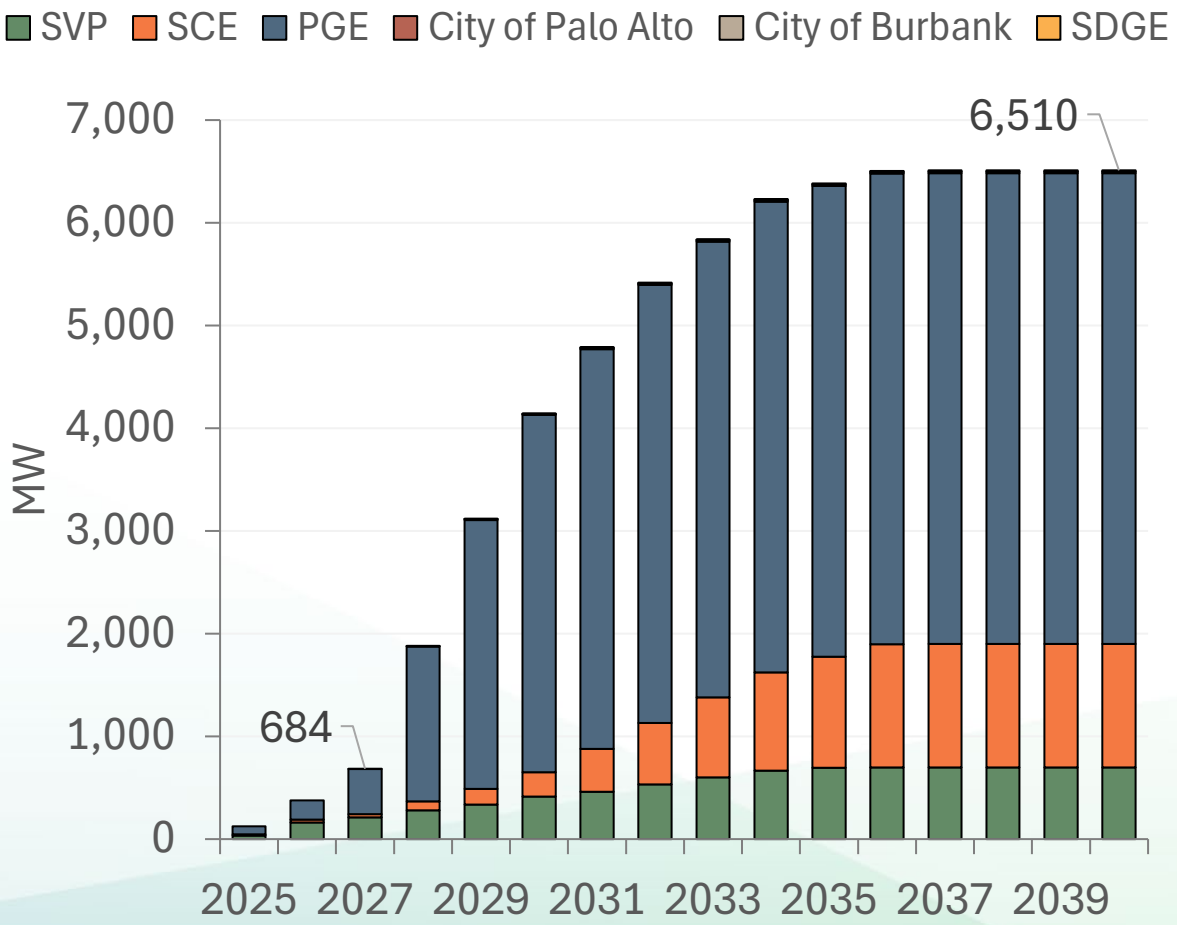

**Source:** CEC

# Updated High Case Data Center Results

## 2025 IEPR Draft (Sept)




## 2025 IEPR Final (Dec)




**Source:** CEC

# Known Loads

# Known Load Assumptions

| Assumption | Draft Projections | Revisions for Final Forecast |
|---|---|---|
| Cancellation Rates | Based on August 2025 Grid Needs Assessments filing with CPUC | No change |
| Energization Date | Date provided in May dataset | • PG&E: use updated dates from dataset provided to CEC in Dec<br>• SCE: use updated dates from dataset provided to CEC in Dec<br>• SDG&E: use updated dates from Aug filing |
| Ramp Rate | Ramp over a year | • PG&E: Ramp over 3 years<br>• SCE: no change<br>• SDG&E: no change |
| Utilization Factor | • PG&E: Calculated by analyzing AMI data for completed Known Loads projects<br>• SCE: use adjustment provided by SCE<br>• SDG&E: apply adjustment provided by SCE | • PG&E: use adjustment provided<br>• SCE: no change<br>• SDG&E: remove adjustment |

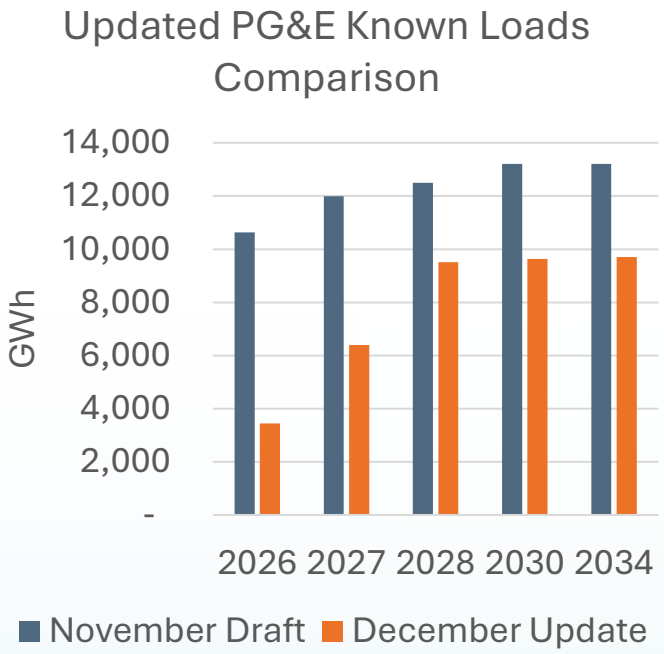
# Updates for PG&E Known Loads

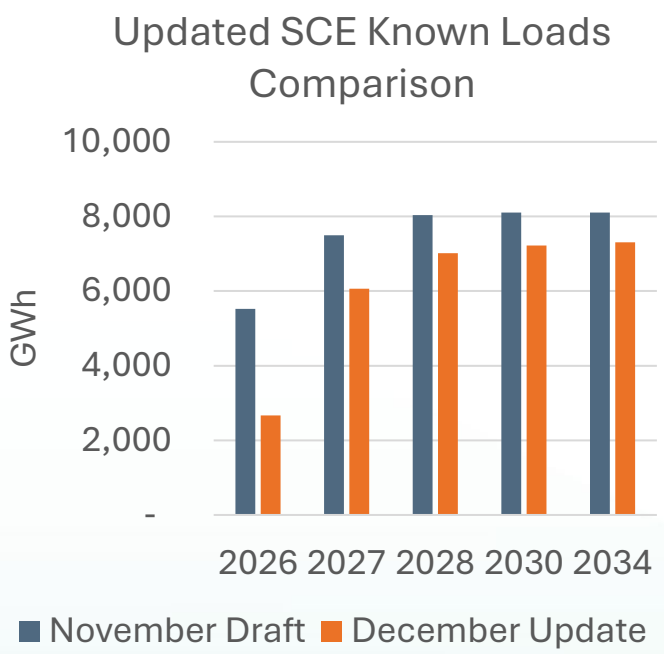
- Removed ~1,500 MW of double-counted data centers
- Projects < 50 kW are discounted by 50%
- Updated energization dates based on data received from PG&E in December
- Project load ramps over a 36-month period

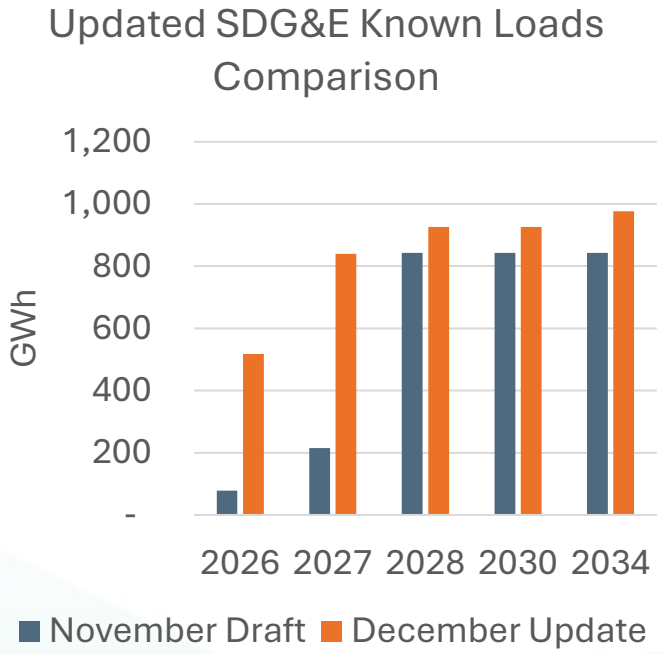
# Updates for SCE and SDG&E Known Loads

- Energization dates updated for both utilities
- Similar to SCE, now using SDG&E's reported capacity to estimate load impacts rather than applying a utilization factor
  - Based on feedback received from SDG&E Distribution Planning staff
  - Increases estimated load impacts
  - Addressed issue with parsing of date fields for determining in-service date

# Comparison of Known Loads Annual Impacts: November vs December Update



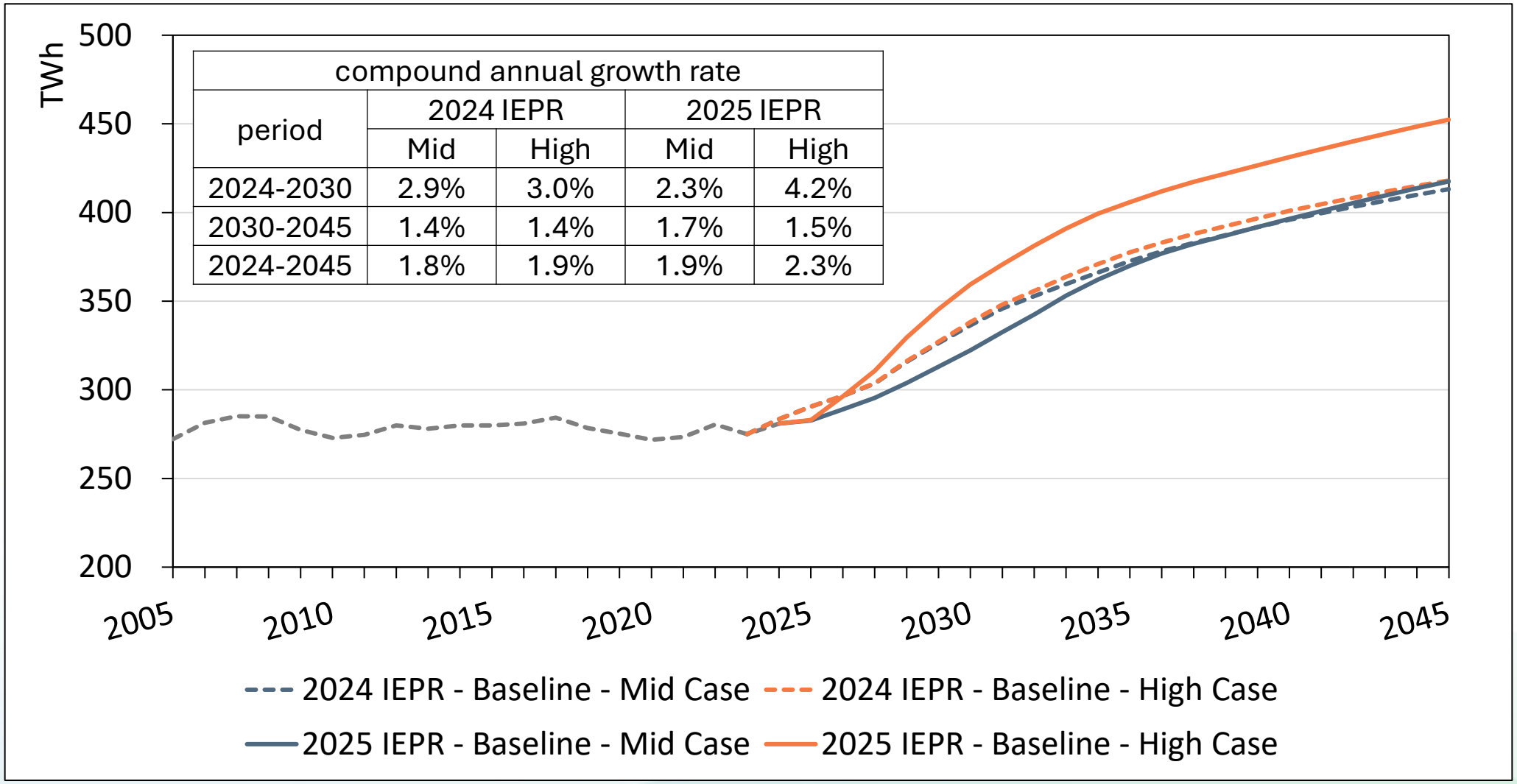



# Next Steps

- As part of 2026 IEPR Forecast Update:
  - Continue to monitor energization dates of uncompleted projects listed in Known Loads dataset
  - Continue analysis of meter data to refine estimates of utilization factor
  - Continue collaboration with Itron to develop recommendations for a more geographically granular forecast
  - Assess potential interaction of Known Loads with other IEPR load modifier components

# Revised Annual Forecast

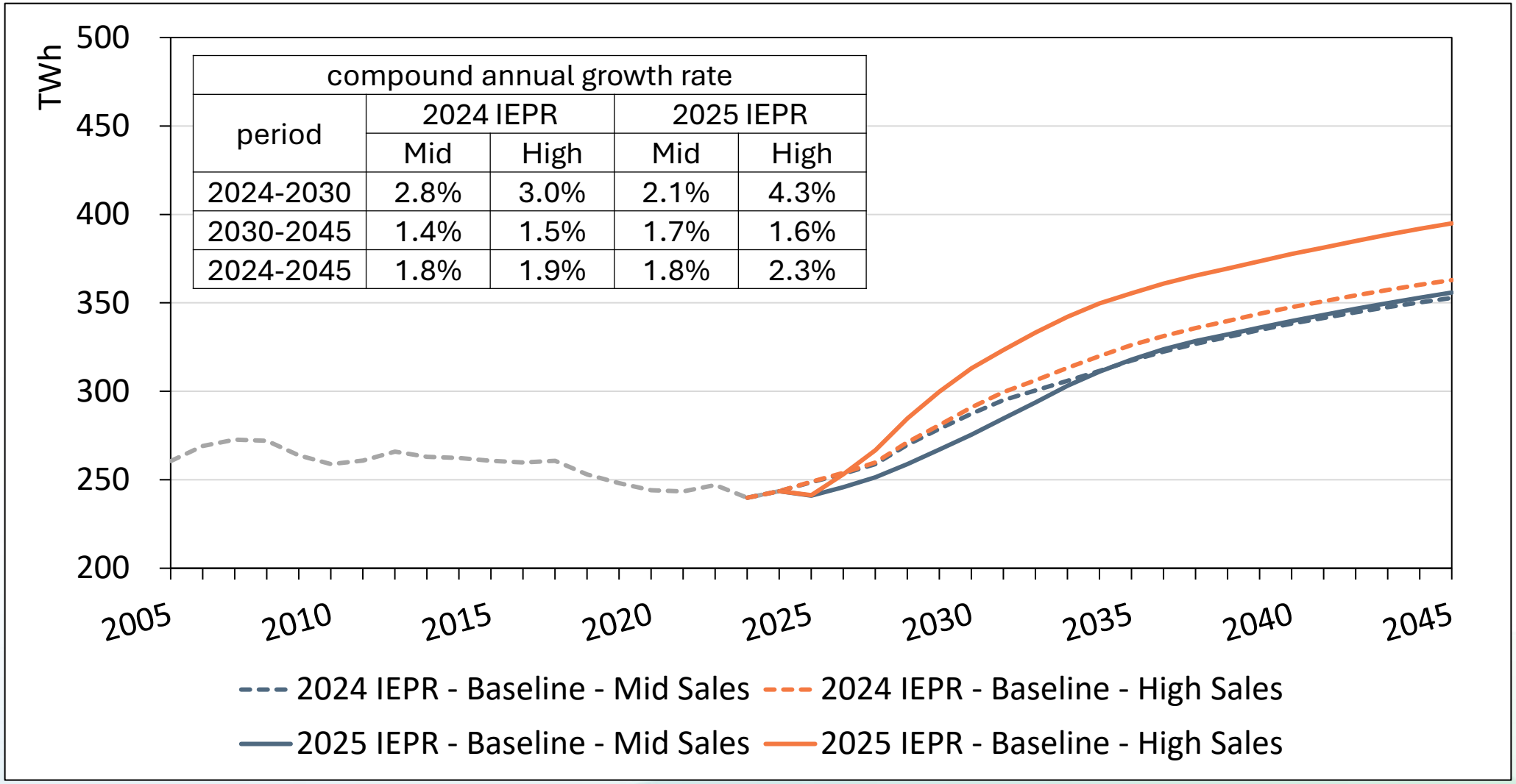
# Statewide Baseline Electricity Consumption




| compound annual growth rate | | | | |
|---|---|---|---|---|
| period | 2024 IEPR | | 2025 IEPR | |
| | Mid | High | Mid | High |
| 2024-2030 | 2.9% | 3.0% | 2.3% | 4.2% |
| 2030-2045 | 1.4% | 1.4% | 1.7% | 1.5% |
| 2024-2045 | 1.8% | 1.9% | 1.9% | 2.3% |

**Source:** CEC

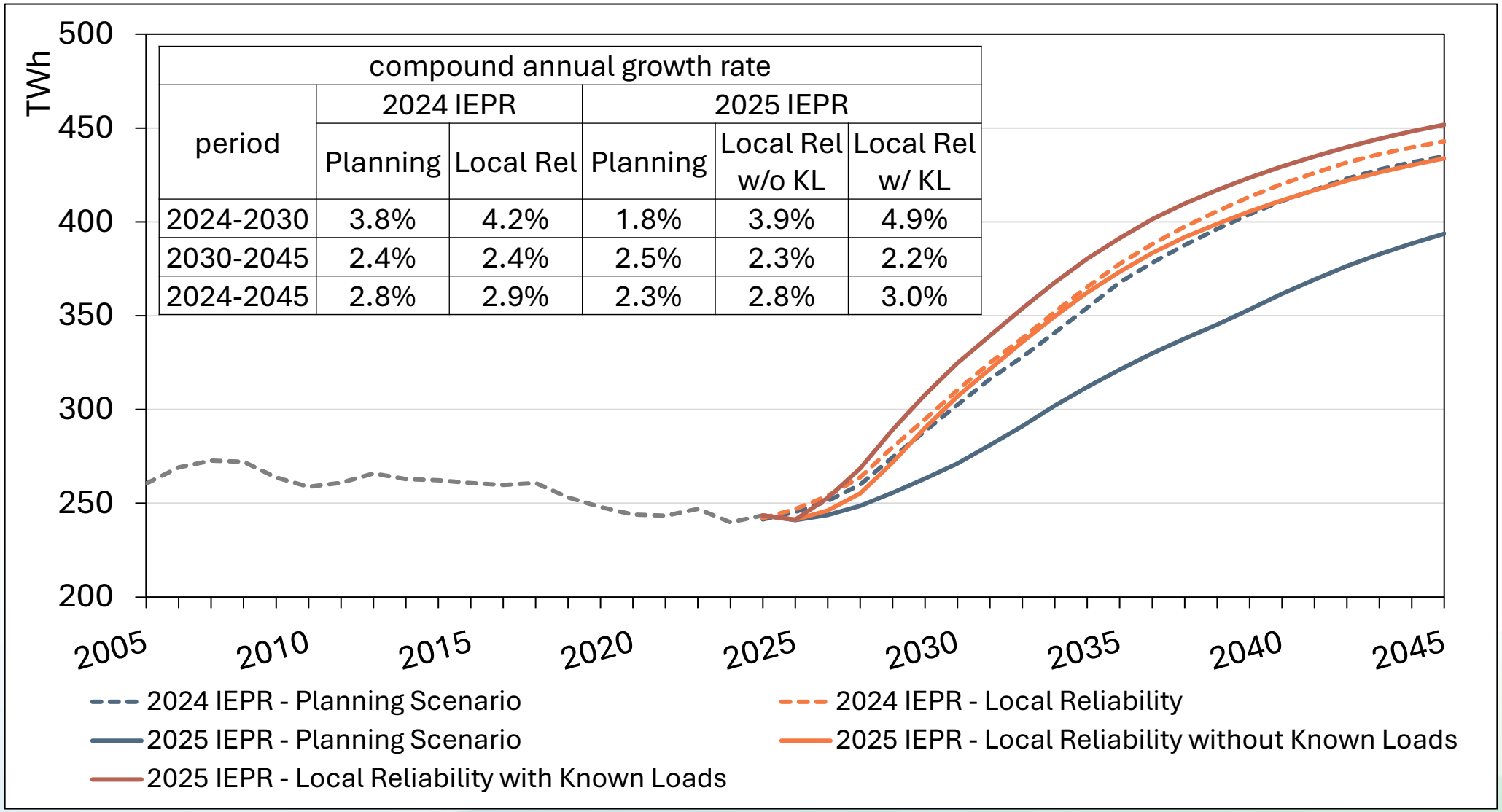
# Statewide Baseline Electricity Sales




| compound annual growth rate | | | | |
|---|---|---|---|---|
| period | 2024 IEPR | | 2025 IEPR | |
| | Mid | High | Mid | High |
| 2024-2030 | 2.8% | 3.0% | 2.1% | 4.3% |
| 2030-2045 | 1.4% | 1.5% | 1.7% | 1.6% |
| 2024-2045 | 1.8% | 1.9% | 1.8% | 2.3% |

**Source:** CEC

# Statewide Managed Electricity Sales

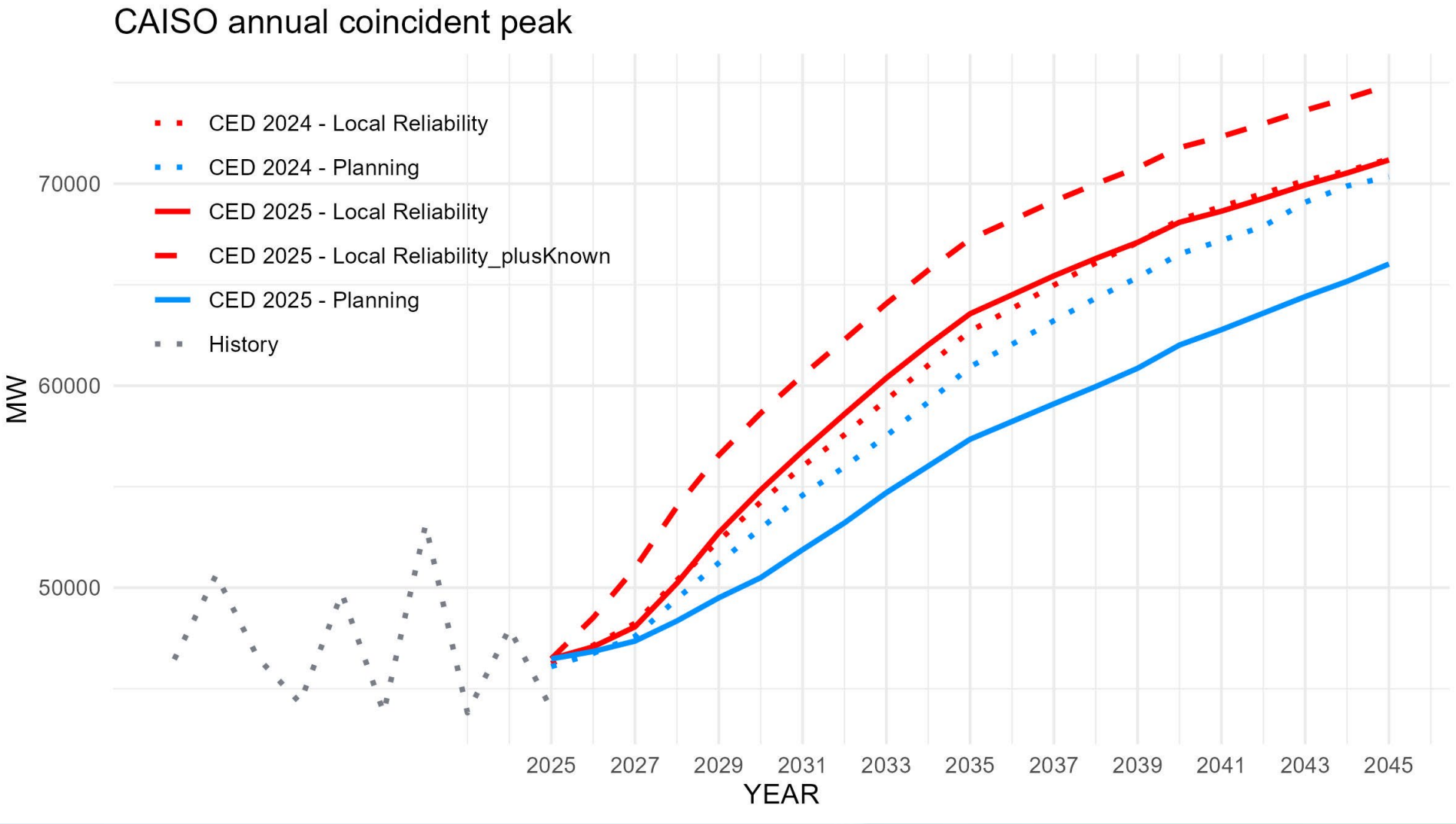



| compound annual growth rate | | | | | |
|---|---|---|---|---|---|
| period | 2024 IEPR | | 2025 IEPR | | |
| | Planning | Local Rel | Planning | Local Rel w/o KL | Local Rel w/ KL |
| 2024-2030 | 3.8% | 4.2% | 1.8% | 3.9% | 4.9% |
| 2030-2045 | 2.4% | 2.4% | 2.5% | 2.3% | 2.2% |
| 2024-2045 | 2.8% | 2.9% | 2.3% | 2.8% | 3.0% |

**Source:** CEC

# Revised Draft Peak Forecast

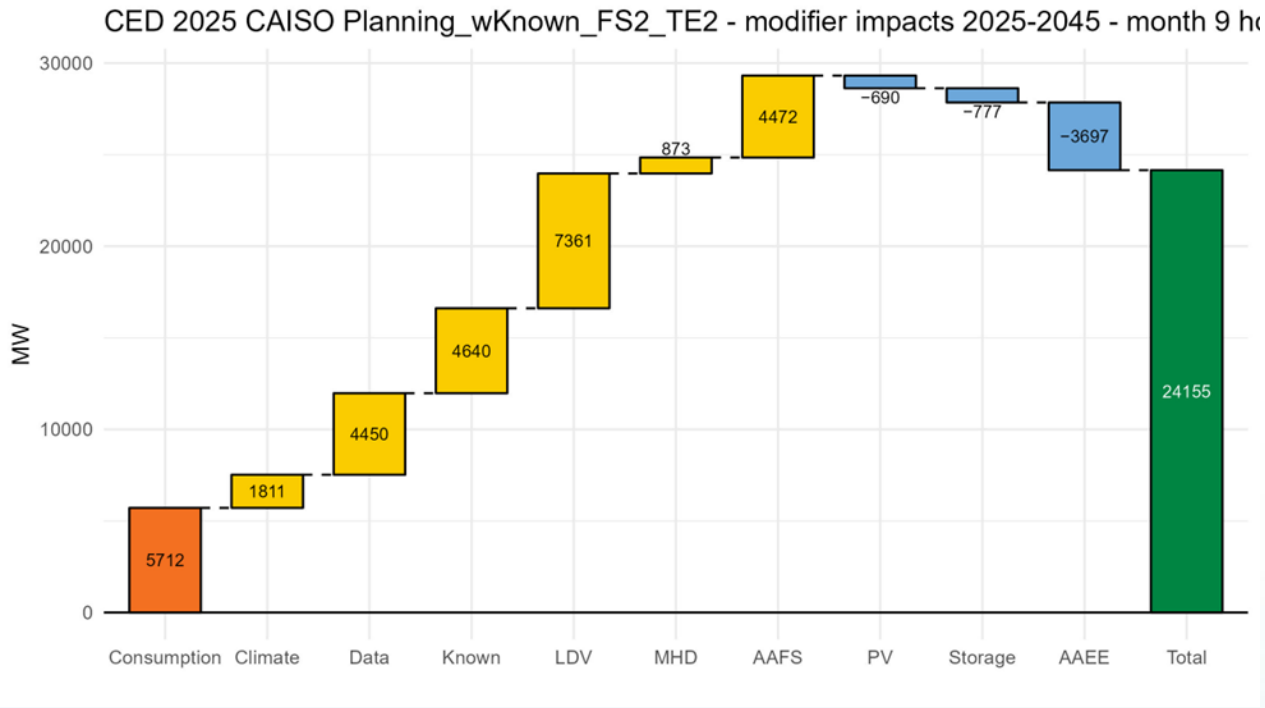
# Annual Peak Forecast - CAISO



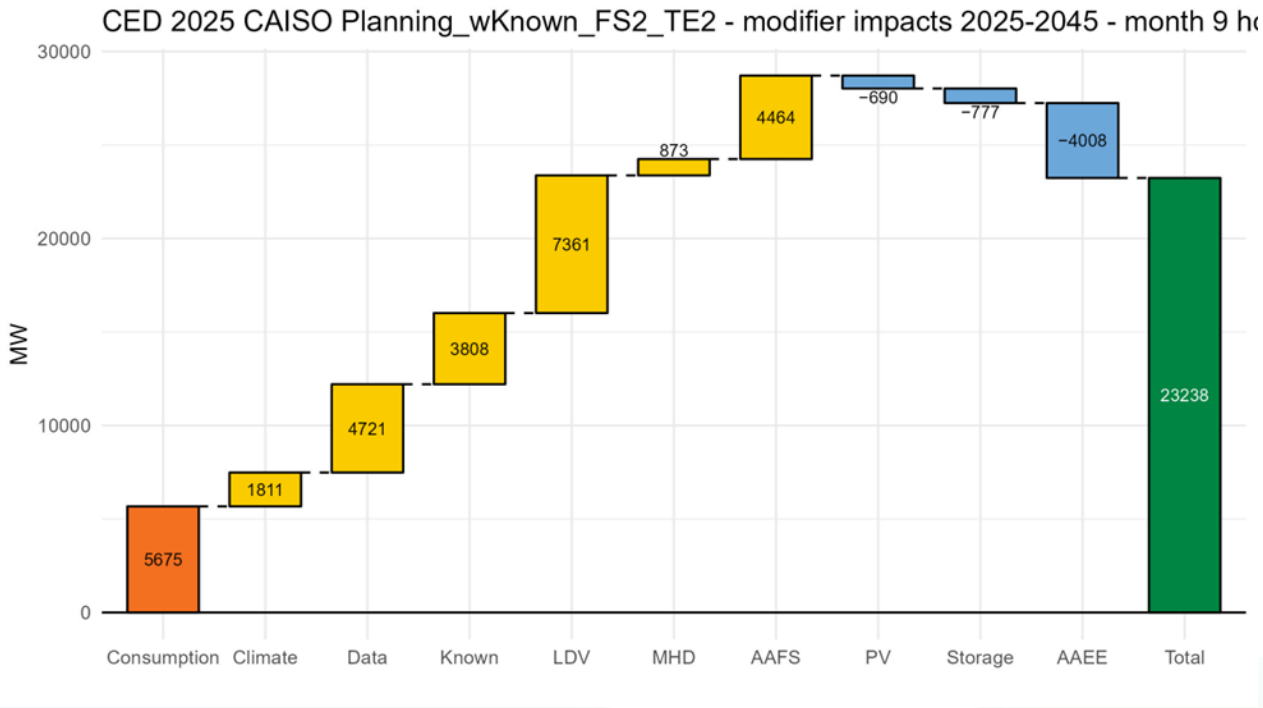

| Year | Planning no known | Local no known | Local w/known |
|---|---|---|---|
| 2025 | 46,479 | 46,481 | 46,481 |
| 2026 | 46,844 | 47,075 | 48,516 |
| 2027 | 47,360 | 48,067 | 50,972 |
| 2028 | 48,356 | 50,222 | 54,009 |
| 2029 | 49,501 | 52,729 | 56,562 |
| 2030 | 50,498 | 54,839 | 58,644 |
| 2031 | 51,882 | 56,766 | 60,516 |
| 2032 | 53,211 | 58,595 | 62,277 |
| 2033 | 54,704 | 60,383 | 64,069 |
| 2034 | 56,022 | 62,022 | 65,718 |
| 2035 | 57,350 | 63,564 | 67,260 |
| 2036 | 58,229 | 64,498 | 68,194 |
| 2037 | 59,103 | 65,440 | 69,136 |
| 2038 | 59,958 | 66,297 | 69,993 |
| 2039 | 60,866 | 67,096 | 70,792 |
| 2040 | 62,015 | 68,092 | 71,788 |
| 2041 | 62,774 | 68,641 | 72,337 |
| 2042 | 63,592 | 69,273 | 72,970 |
| 2043 | 64,414 | 69,940 | 73,636 |
| 2044 | 65,166 | 70,530 | 74,226 |
| 2045 | 66,026 | 71,176 | 74,872 |

# Updated Load Modifier Impacts

## Dec 17 Workshop




## Dec 29 Update

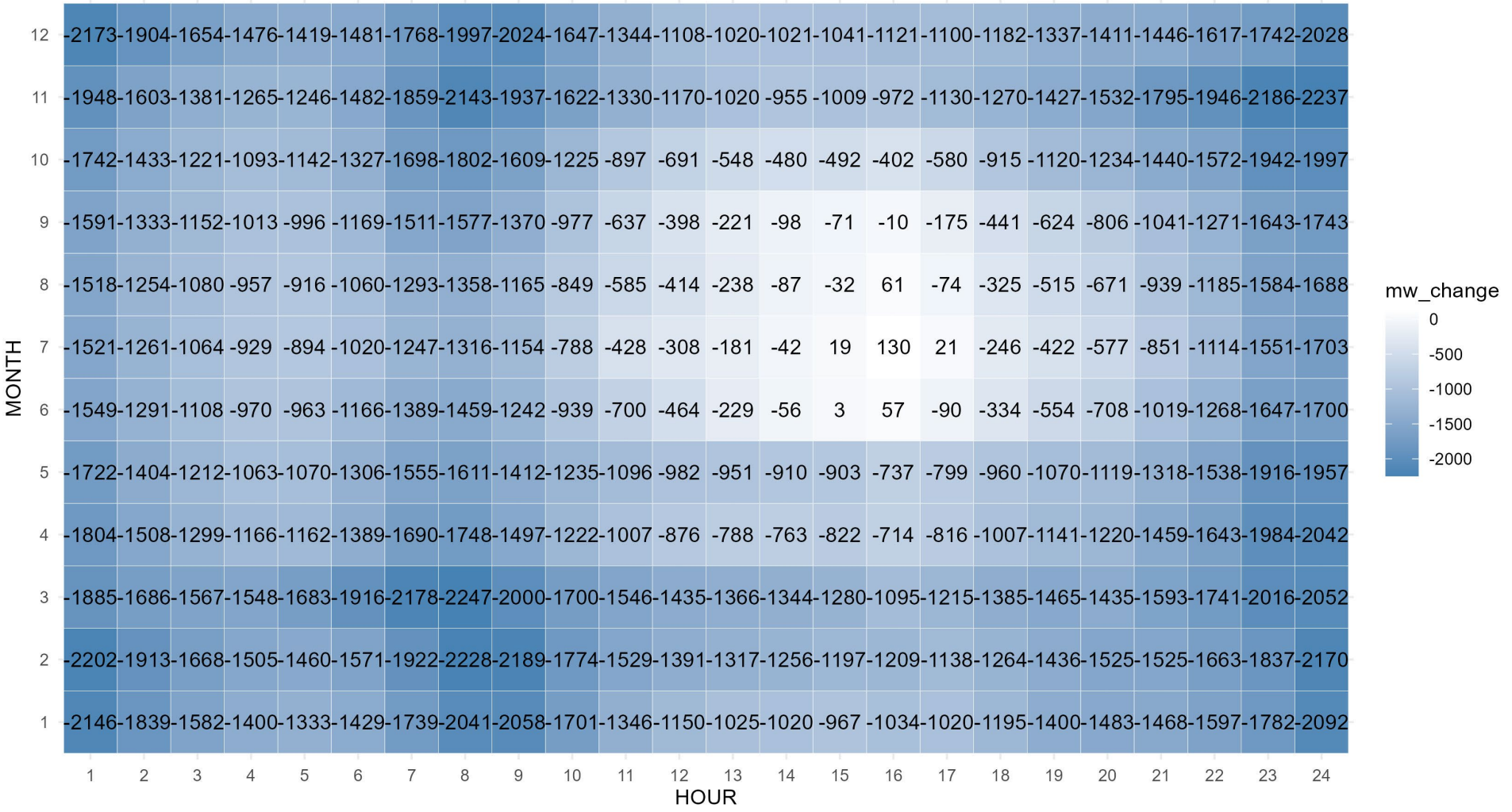



Updates:

- AAEE – **4,008 MW** peak impact, an **increase of 311 MW** over the Dec 17 draft
- Data Centers – **4,721 MW** peak impact, an **increase of 271 MW**
- Known Loads – **3,808 MW** peak impact, a **decrease of 832 MW**

# Change in Monthly Peak Day Loads

## CAISO – Monthly Peak Days, Year 2027




- Compares change in coincident peak-day loads between CED 2025 and CED 2024 Planning Forecasts
- Here, CED 2025 includes AATE2 and AAFS2
- Reduction in the baseline annual energy forecast is absorbed by lower-load hours

# Forecast Components by Use Case

# Known Load Data Considerations

- First year that CEC has used the known load data
- Lack of historical record
- Relying on assumptions informed by the IOUs' distribution planners
  - Supports original goal to narrow the gap between distribution and transmission planning
  - Consider it as a high case
- Future work:
  - Track trends to develop independent assumptions
  - Evaluate interaction of known loads with other forecast components

# Reliability Considerations

Reliability Considerations

- Reliability risks if known loads are not properly planned for:
  - Near-term: backlog of projects that exceed growth in the IEPR forecast
  - Mid-term:
    - Known loads and data center load could be higher than the Planning Forecast
    - Gap between transmission and distribution planning

# Joint Agency and CAISO Decision on Forecast Composition by Use Case

| | System/Flex Resource Adequacy | Local Capacity Studies | Transmission Local Studies | Integrated Resource Planning & Transmission Bulk System |
|---|---|---|---|---|
| **Forecast Composition** | 2025 IEPR Planning without Known Loads | 2025 IEPR Local Reliability without Known Loads | 2025 IEPR Local Reliability Forecast with Known Loads | 2024 IEPR Planning Forecast |

- Monitor known loads throughout 2026 for 2027 reliability
- CEC's summer reliability assessment will run scenarios with and without known loads

- CAISO typically uses the same scenario for both Local Capacity Studies and Transmission Local Studies
  - ➢ Running two versions is an exception for this year

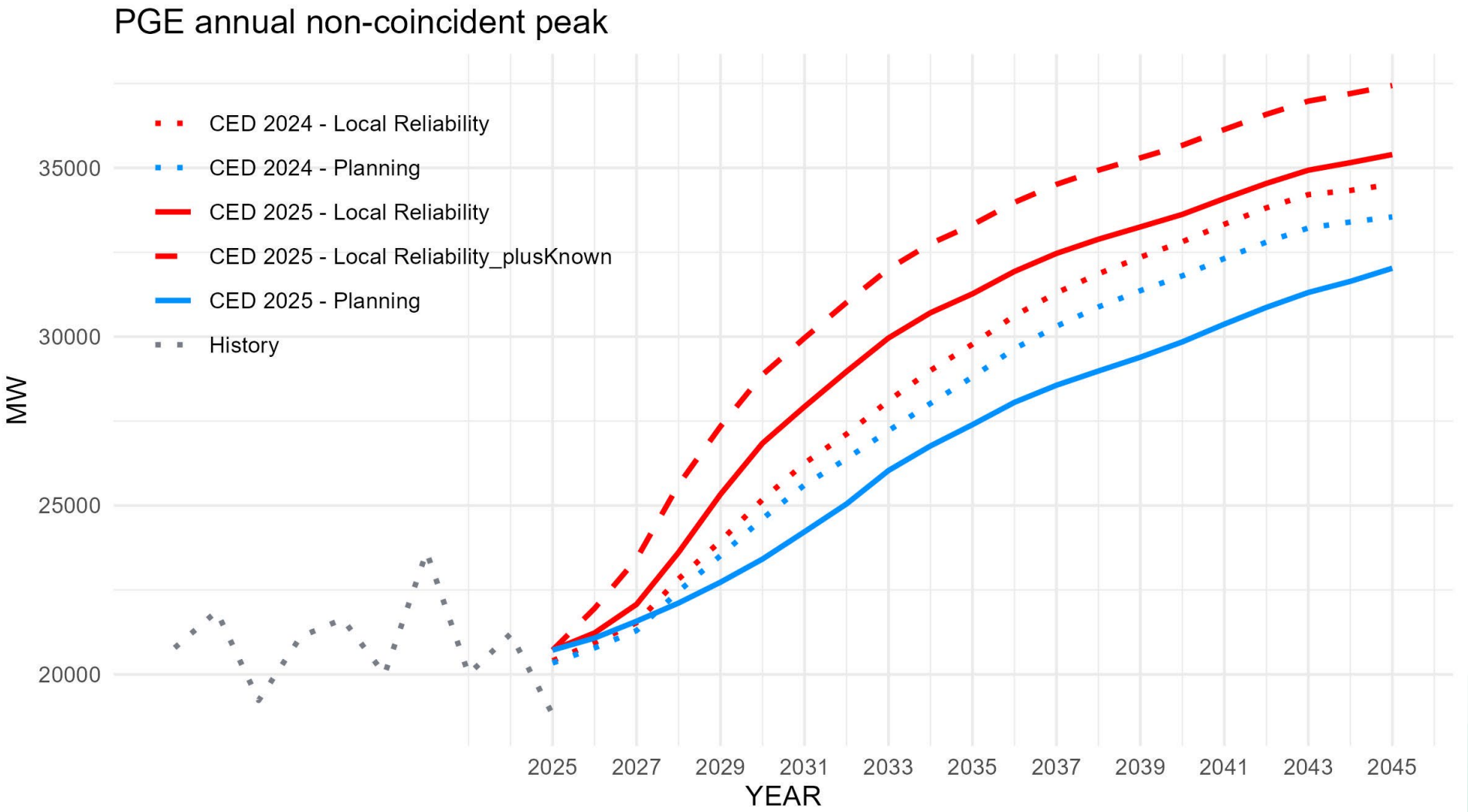
- Uncertainty with known loads, data centers
- Promote stability in resource and infrastructure planning currently underway

# 2025 IEPR Single Forecast Set Agreement

| | System/Flex Resource Adequacy | Local Capacity Studies | Transmission Local Studies | Integrated Resource Planning Transmission Bulk System |
|---|---|---|---|---|
| Economic, Demographic, and Price Scenarios | Baseline | Baseline | Baseline | 2024 IEPR Baseline |
| Known Loads | Excluded | Excluded | Included | N/A |
| BTM PV and Storage | Mid | Low | Low | 2024 IEPR Mid |
| Data Centers | Mid | High | High | 2024 IEPR Mid |
| AAEE | Scenario 3 | Scenario 2 | Scenario 2 | 2024 IEPR Scenario 3 |
| AAFS | Scenario 2 | Scenario 3 | Scenario 3 | 2024 IEPR Scenario 3 |
| AATE | Scenario 2 | Scenario 3 | Scenario 3 | 2024 IEPR Scenario 3 |
| 1-in-X Year Variant | 1-in-2 | 1-in-10 | 1-in-10 | IRP: 1-in-2<br>Transmission: 1-in-5 |

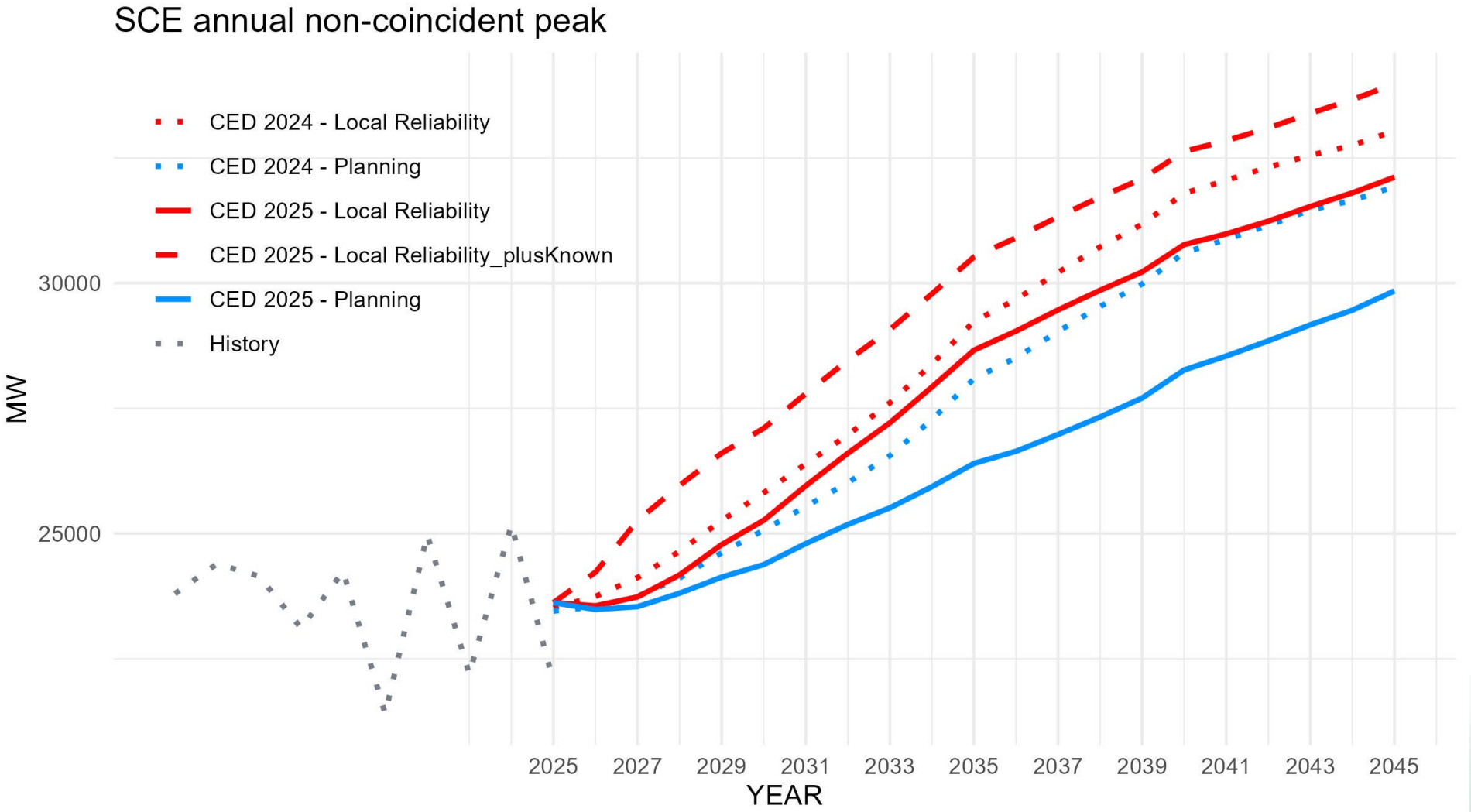
# Appendix

# Annual Peak Forecast - PGE



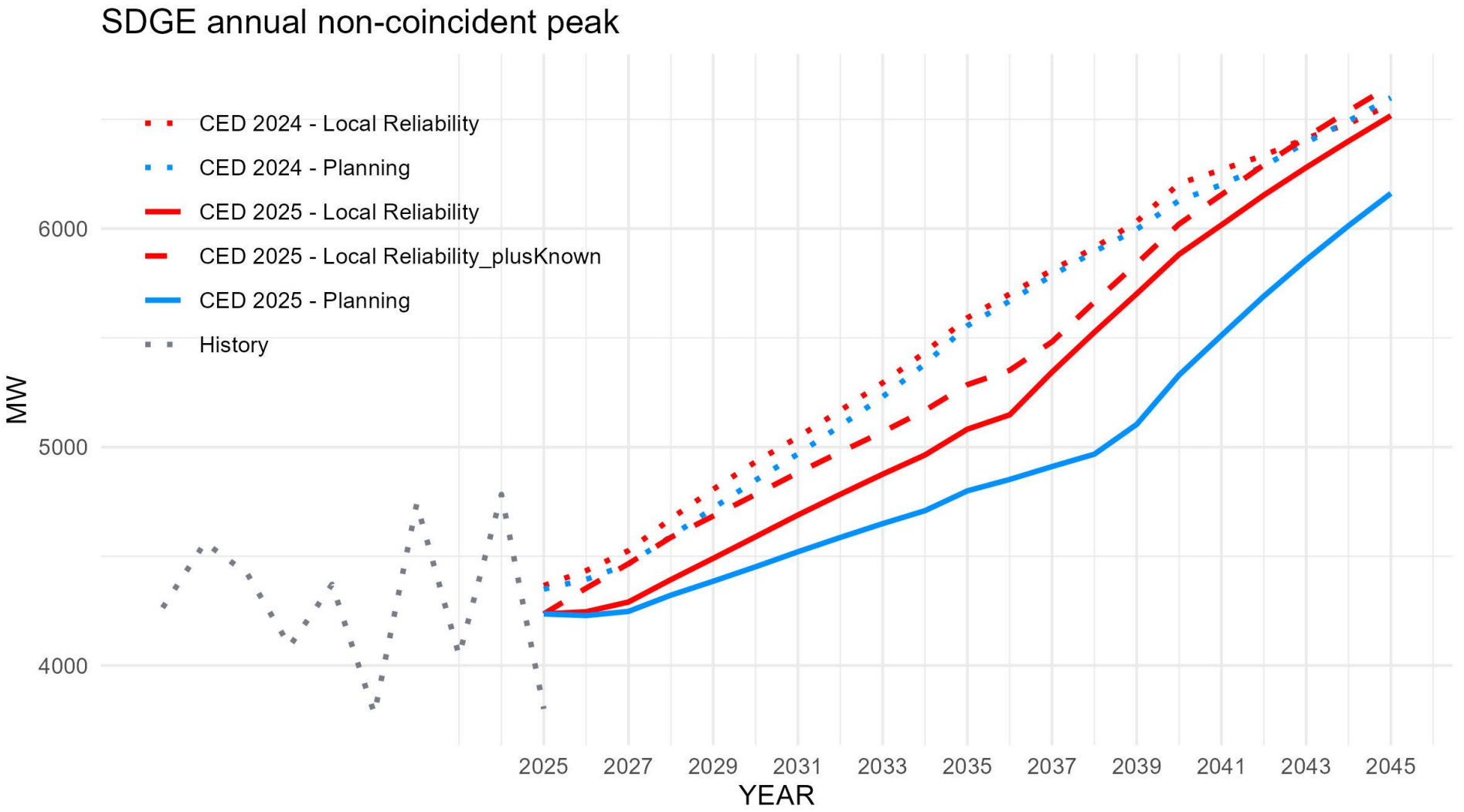

| Year | Planning | Local | |
|---|---|---|---|
| | no known | no known | w/known |
| 2025 | 20,718 | 20,718 | 20,718 |
| 2026 | 21,074 | 21,226 | 21,952 |
| 2027 | 21,574 | 22,073 | 23,419 |
| 2028 | 22,112 | 23,611 | 25,614 |
| 2029 | 22,729 | 25,332 | 27,343 |
| 2030 | 23,414 | 26,844 | 28,872 |
| 2031 | 24,223 | 27,925 | 29,960 |
| 2032 | 25,046 | 28,966 | 31,011 |
| 2033 | 26,035 | 29,960 | 32,005 |
| 2034 | 26,764 | 30,708 | 32,753 |
| 2035 | 27,394 | 31,269 | 33,314 |
| 2036 | 28,055 | 31,931 | 33,976 |
| 2037 | 28,561 | 32,464 | 34,510 |
| 2038 | 28,982 | 32,885 | 34,930 |
| 2039 | 29,392 | 33,250 | 35,296 |
| 2040 | 29,846 | 33,621 | 35,667 |
| 2041 | 30,372 | 34,090 | 36,135 |
| 2042 | 30,867 | 34,538 | 36,583 |
| 2043 | 31,309 | 34,930 | 36,975 |
| 2044 | 31,638 | 35,153 | 37,198 |
| 2045 | 32,027 | 35,393 | 37,438 |

# Annual Peak Forecast - SCE



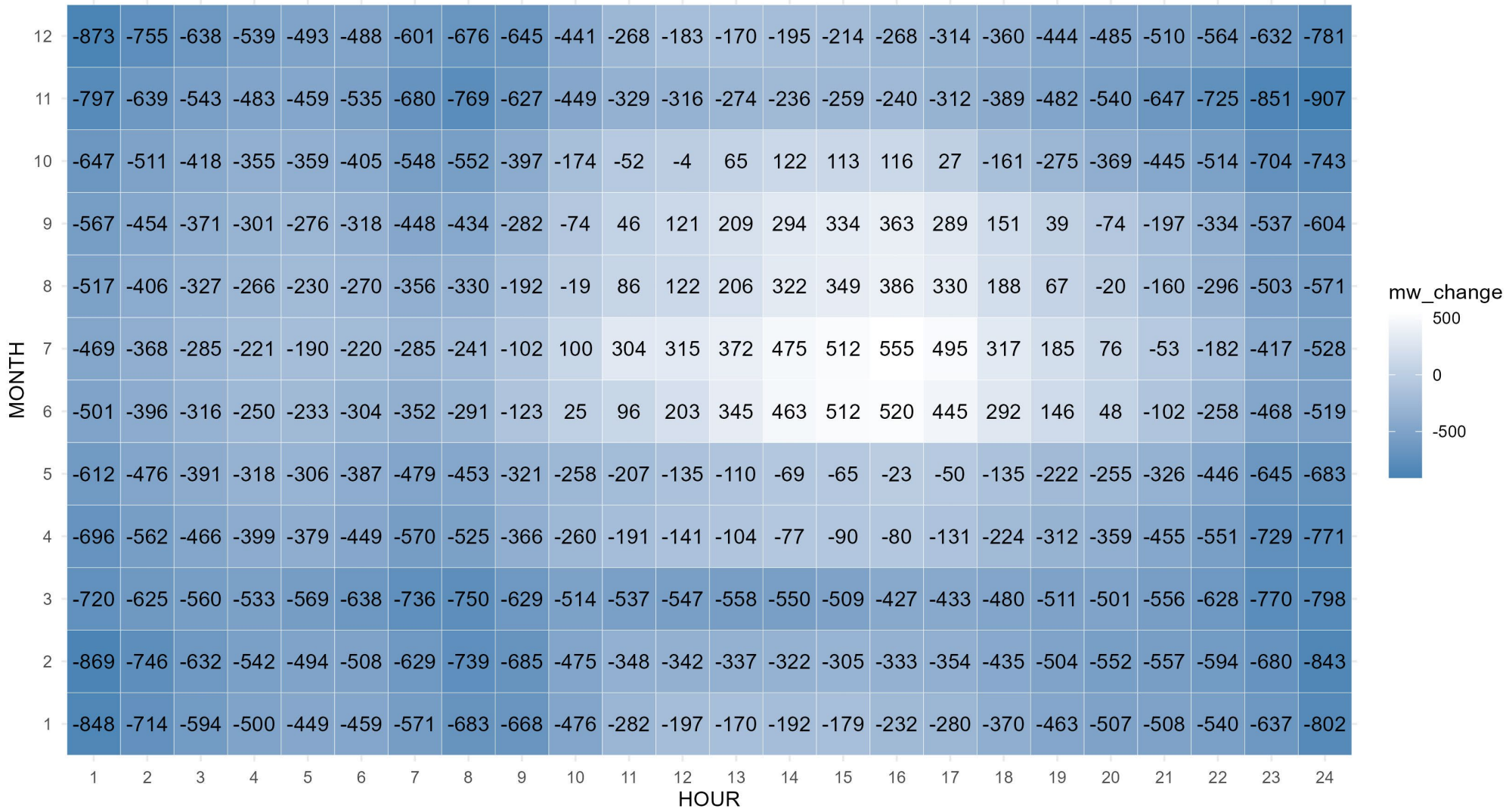

| Year | Planning no known | Local no known | Local w/known |
|---|---|---|---|
| 2025 | 23,617 | 23,617 | 23,617 |
| 2026 | 23,482 | 23,554 | 24,225 |
| 2027 | 23,537 | 23,732 | 25,256 |
| 2028 | 23,806 | 24,172 | 25,958 |
| 2029 | 24,126 | 24,775 | 26,603 |
| 2030 | 24,377 | 25,261 | 27,101 |
| 2031 | 24,796 | 25,951 | 27,791 |
| 2032 | 25,178 | 26,601 | 28,458 |
| 2033 | 25,511 | 27,209 | 29,070 |
| 2034 | 25,934 | 27,924 | 29,785 |
| 2035 | 26,398 | 28,661 | 30,522 |
| 2036 | 26,642 | 29,041 | 30,903 |
| 2037 | 26,976 | 29,464 | 31,326 |
| 2038 | 27,326 | 29,857 | 31,718 |
| 2039 | 27,705 | 30,223 | 32,085 |
| 2040 | 28,266 | 30,769 | 32,631 |
| 2041 | 28,543 | 30,983 | 32,844 |
| 2042 | 28,846 | 31,237 | 33,098 |
| 2043 | 29,167 | 31,531 | 33,392 |
| 2044 | 29,460 | 31,803 | 33,665 |
| 2045 | 29,845 | 32,116 | 33,977 |

# Annual Peak Forecast - SDGE

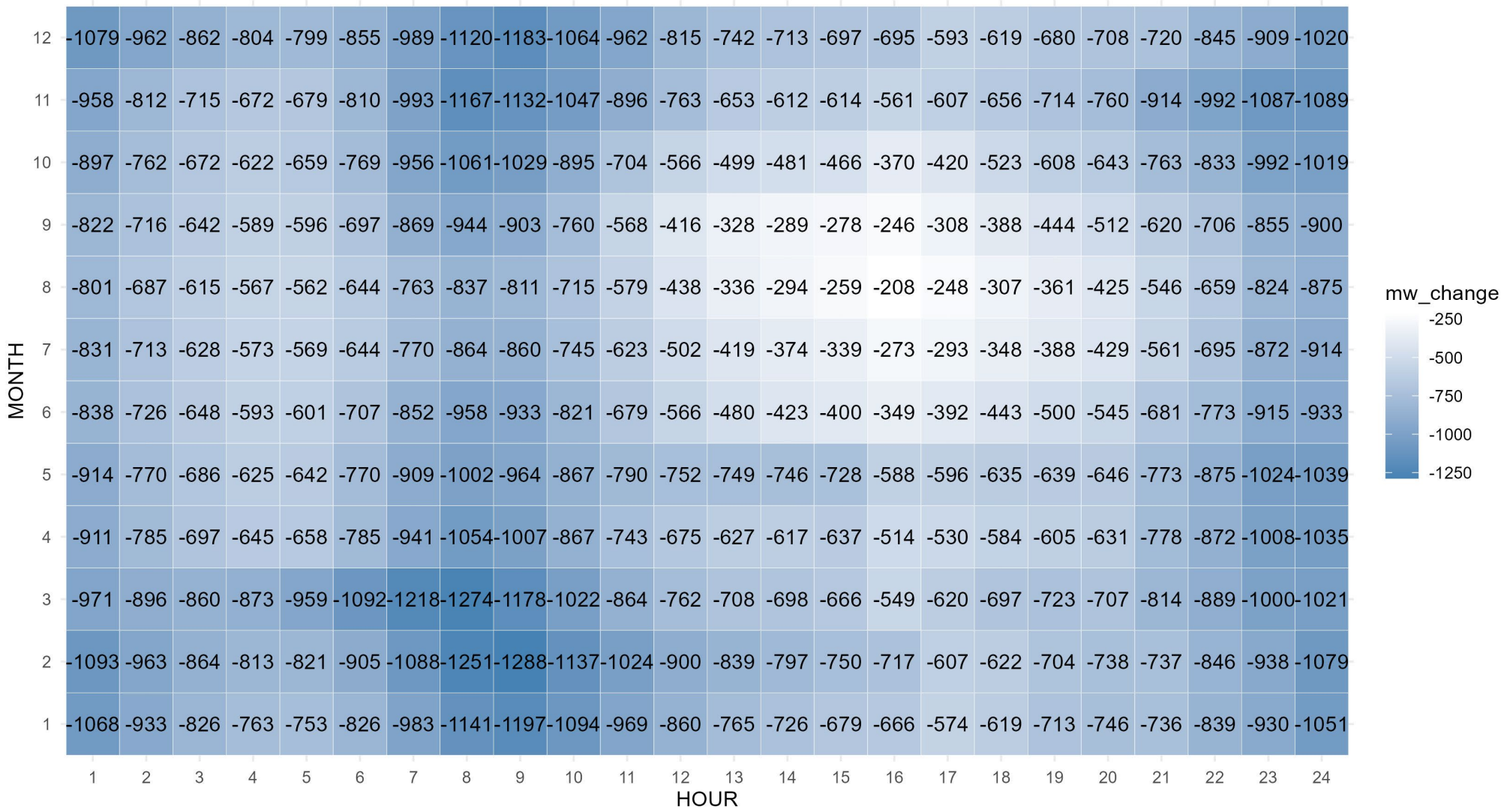



| Year | Planning no known | Local no known | Local w/known |
|---|---|---|---|
| 2025 | 4,236 | 4,236 | 4,236 |
| 2026 | 4,229 | 4,246 | 4,354 |
| 2027 | 4,248 | 4,291 | 4,466 |
| 2028 | 4,322 | 4,393 | 4,587 |
| 2029 | 4,386 | 4,490 | 4,684 |
| 2030 | 4,452 | 4,589 | 4,783 |
| 2031 | 4,520 | 4,689 | 4,882 |
| 2032 | 4,586 | 4,783 | 4,977 |
| 2033 | 4,649 | 4,876 | 5,069 |
| 2034 | 4,709 | 4,964 | 5,168 |
| 2035 | 4,799 | 5,081 | 5,285 |
| 2036 | 4,852 | 5,147 | 5,351 |
| 2037 | 4,911 | 5,343 | 5,482 |
| 2038 | 4,967 | 5,525 | 5,664 |
| 2039 | 5,104 | 5,702 | 5,840 |
| 2040 | 5,329 | 5,882 | 6,021 |
| 2041 | 5,511 | 6,017 | 6,155 |
| 2042 | 5,690 | 6,153 | 6,292 |
| 2043 | 5,856 | 6,279 | 6,418 |
| 2044 | 6,013 | 6,400 | 6,539 |
| 2045 | 6,161 | 6,517 | 6,655 |

# Change in Peak Days, 2027 – PGE Planning



# Change in Peak Days, 2027 – SCE Planning



# Change in Peak Days, 2027 – SDGE Planning