DOCKETED	
Docket Number:	25-IEPR-03
Project Title:	Electricity and Gas Demand Forecast
TN #:	264914
Document Title:	Presentation by Pacific Gas & Electric Company (PG&E)
Description:	Presentation by Pacific Gas & Electric Company (PG&E) during the July 16 DAWG Workshop
Filer:	Denise Costa
Organization:	PG&E
Submitter Role:	Energy Commission
Submission Date:	7/18/2025 4:50:57 PM
Docketed Date:	7/18/2025

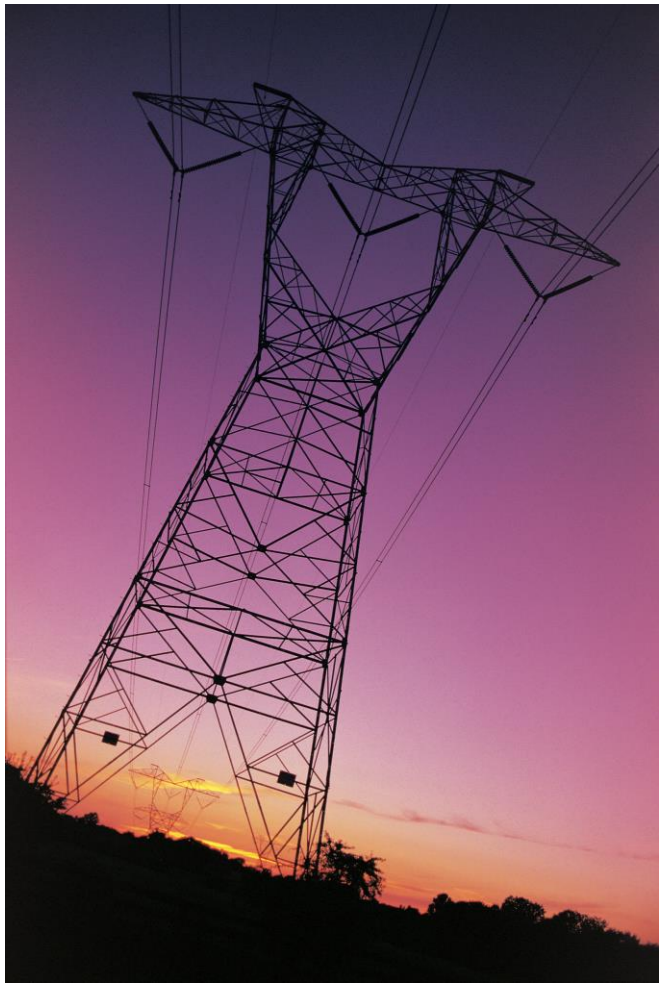
PG&E Data Center Forecasting

Jenny Conde

July 16, 2025

Agenda

1. Overview
   - PG&E Company Profile
2. Data Center Forecasting Methodology & Results
   - Annual
   - Seasonality
3. Upcoming Data Center Forecasting Work



Overview: PG&E Company Profile

About PG&E

We are focused on providing safe, reliable, clean and affordable natural gas and electricity to our customers.

Service Area

70,000

SQUARE MILES

Service area population

16 million

CALIFORNIANS

(That's 1 in 20 Americans!)

27,000

EMPLOYEES WHO LIVE AND WORK

in the communities we serve

PG&E's service territory is home to:

800,000

SOLAR ROOFTOPS

MORE THAN

700,000

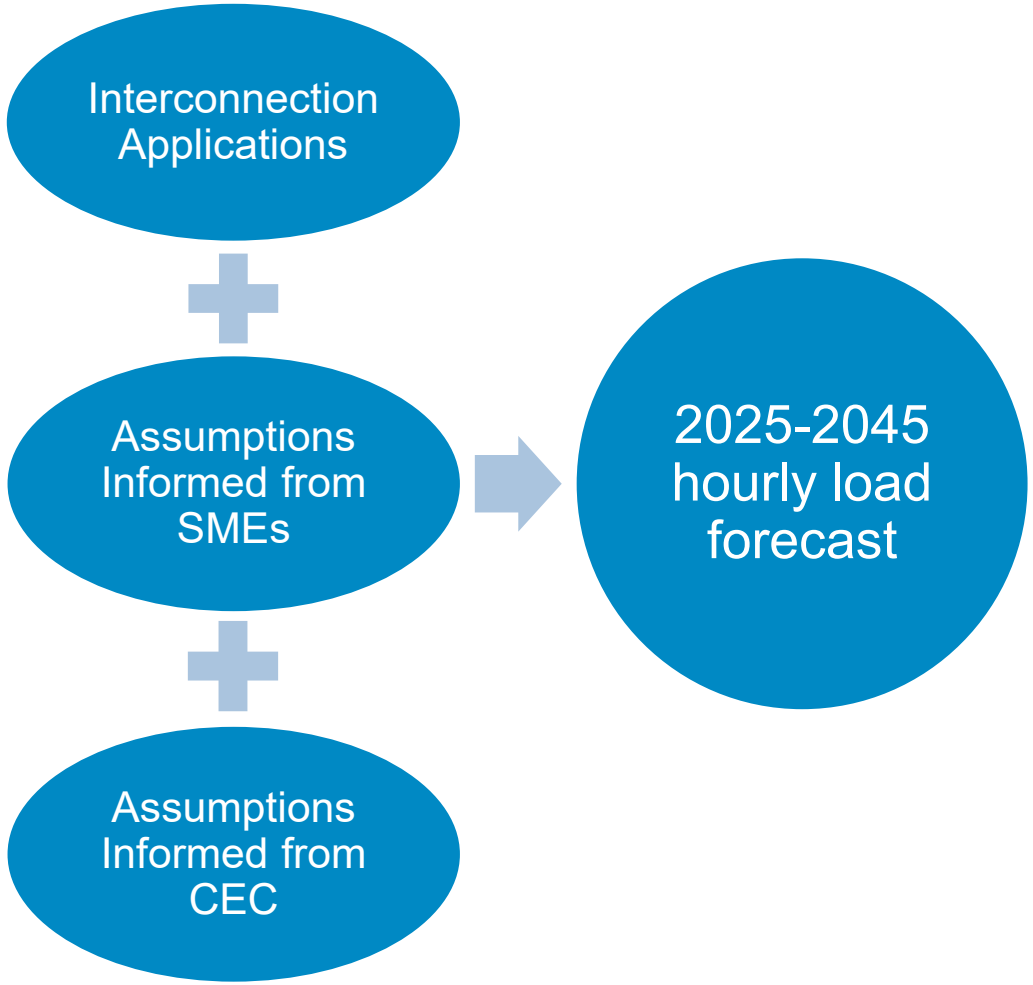
ELECTRIC VEHICLES

Information as of Q4, 2024

Data Center Forecasting Methodology & Results: Annual

Data Center Forecast Methodology

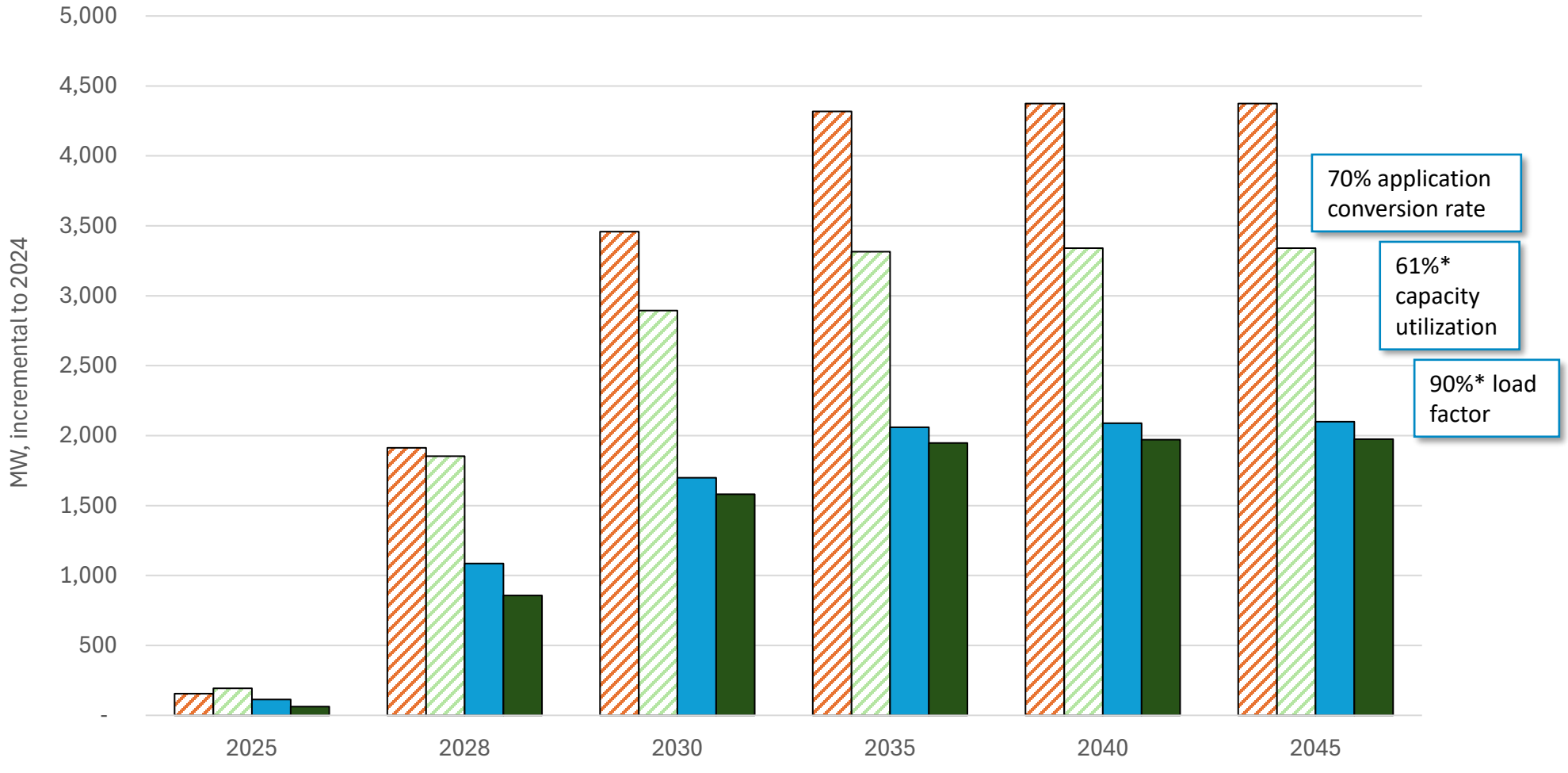
PG&E produced an hourly load forecast for data centers through 2045 using data and assumptions derived from data center interconnection applications, internal subject matter experts, and CEC analyses.



- Scope of Forecast: transmission and distribution-connected retail customers
  - Interconnection applications in the large load study process (cluster studies and otherwise)
  - 2025-2045 annual GWh, peak MW, and hourly load as well as load management potential
  - Assumes no material levels of on-site generation
- Collected load ramp schedule, location, and connection type from interconnection applications
- PG&E collaborated with the California Energy Commission (CEC) and internal subject matter experts (SMEs) to develop key forecast assumptions

Assumptions Derived from Internal SME Input	Assumptions Derived from CEC Analyses
Load Factor	Capacity Materialization
Hourly Shapes	Capacity Utilization

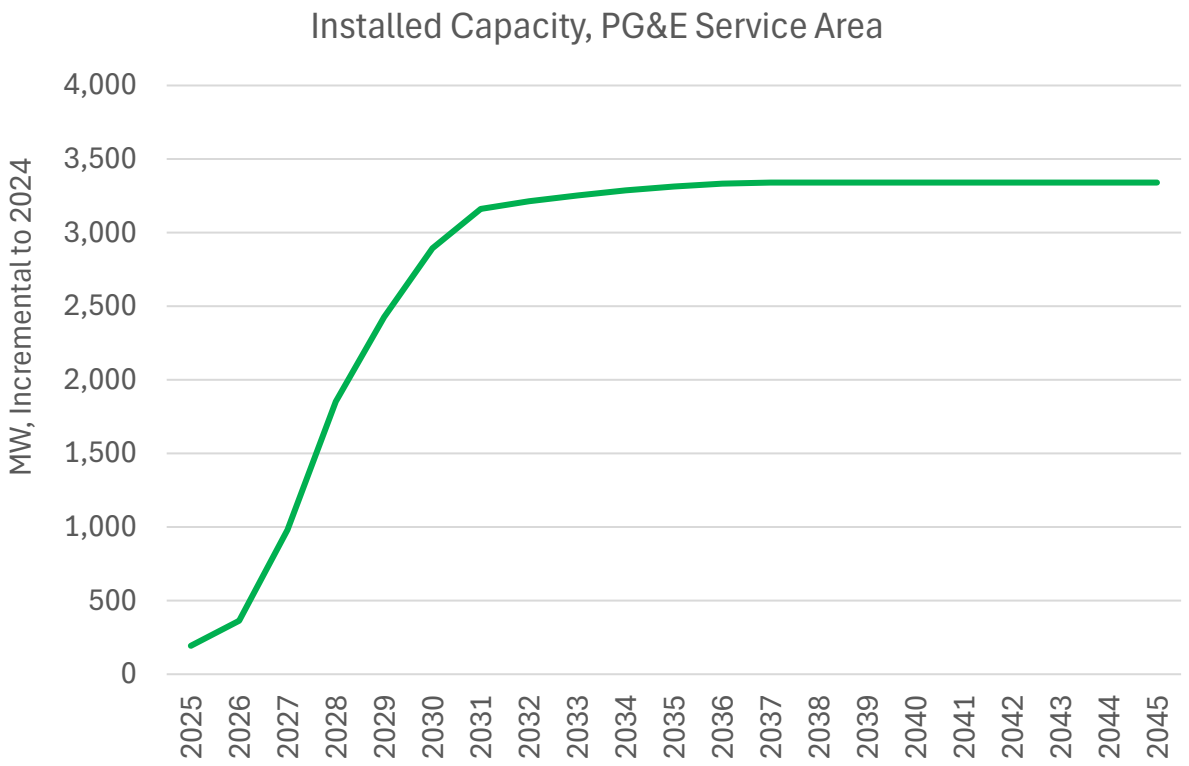
Data Center Forecast Methodology: Step-Down

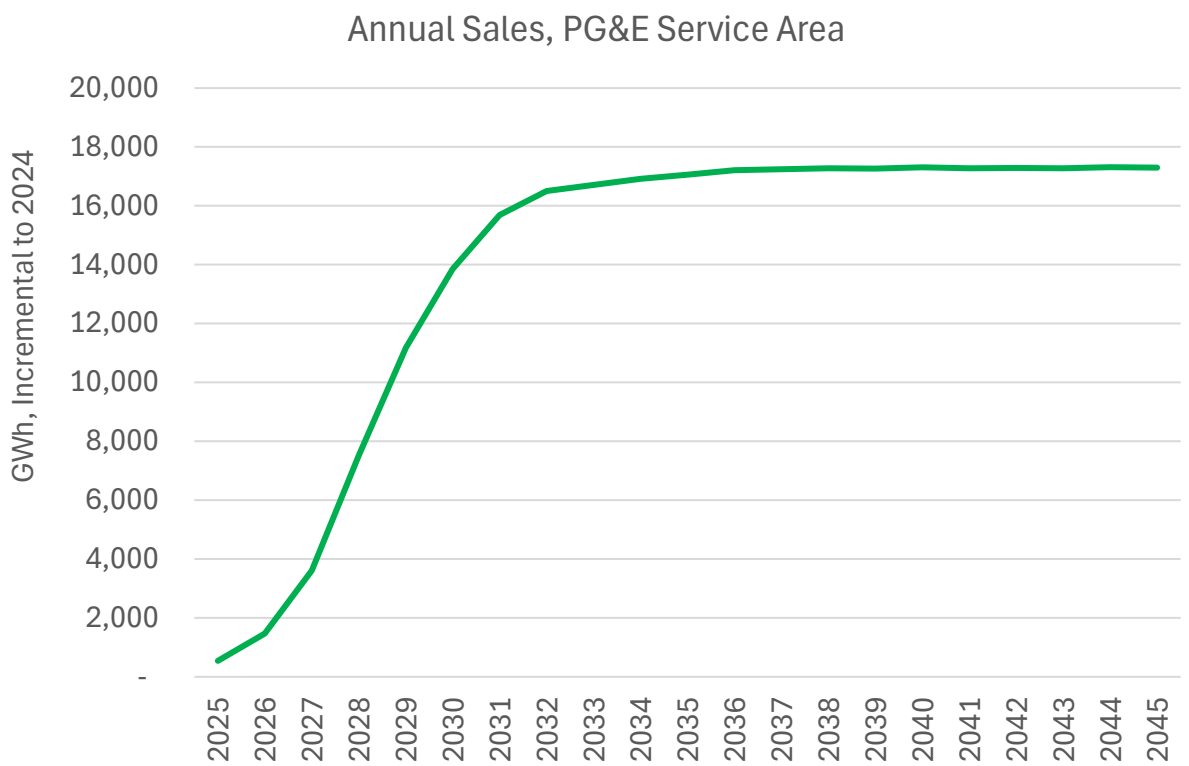


* Capacity utilization and load factor values change over time. The numbers presented here represent an average over the forecast horizon.

Data Center Forecast Results

PG&E forecasts 3 GW of data center capacity will come online by 2030, which translates to 14,000 GWh of incremental load. This aligns with the CEC 2024 IEPR Forecast.

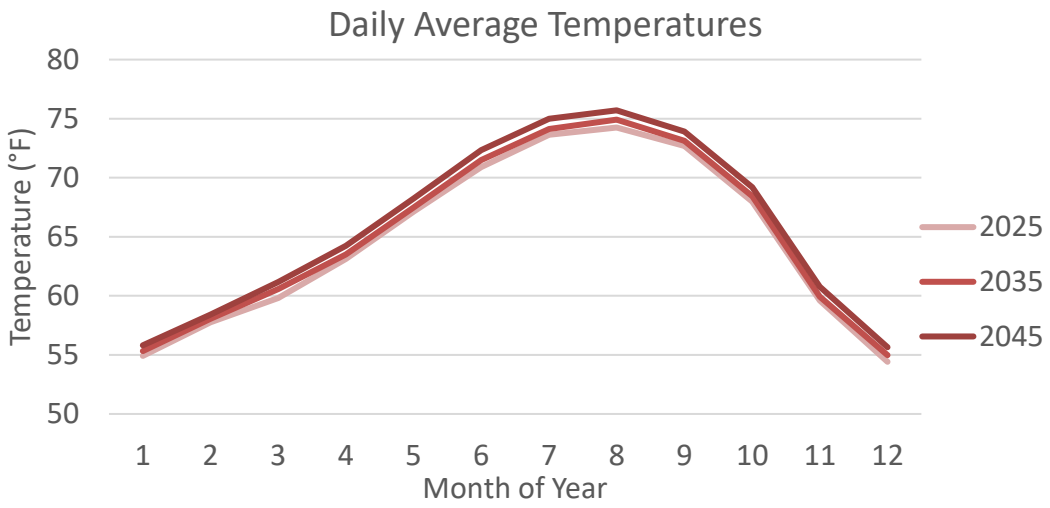


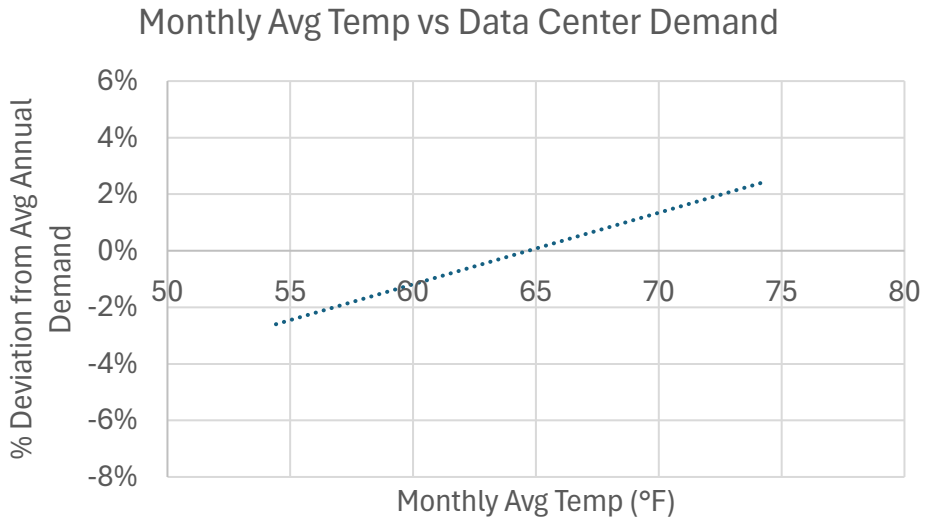


Data Center Forecasting Methodology & Results: Seasonality

Data Center Forecast Methodology: Seasonality

PG&E incorporated seasonality into the hourly data center forecast by modeling the relationship between historical cooling degree days and data center demand.

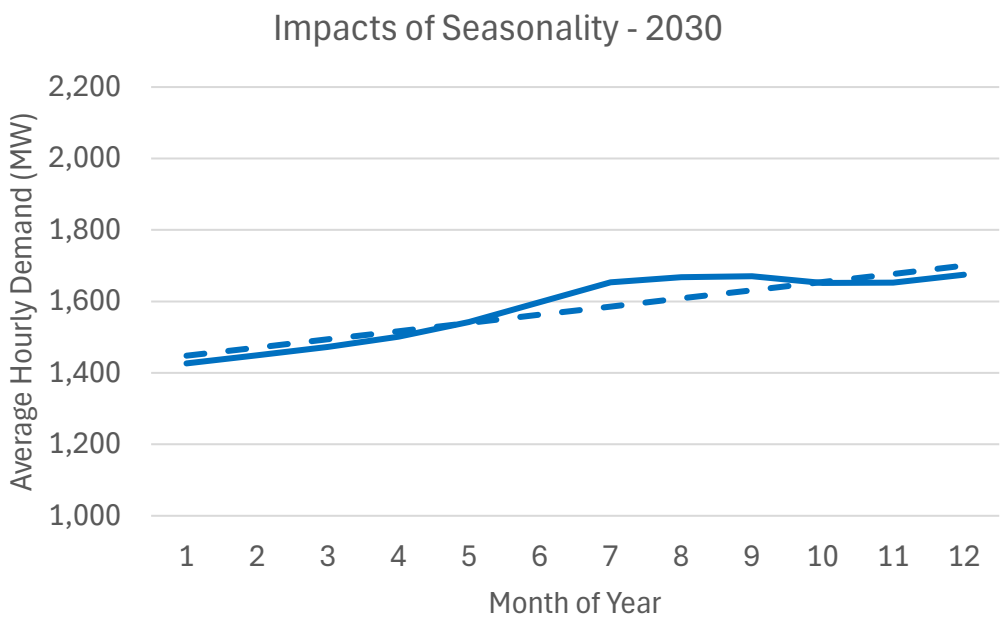


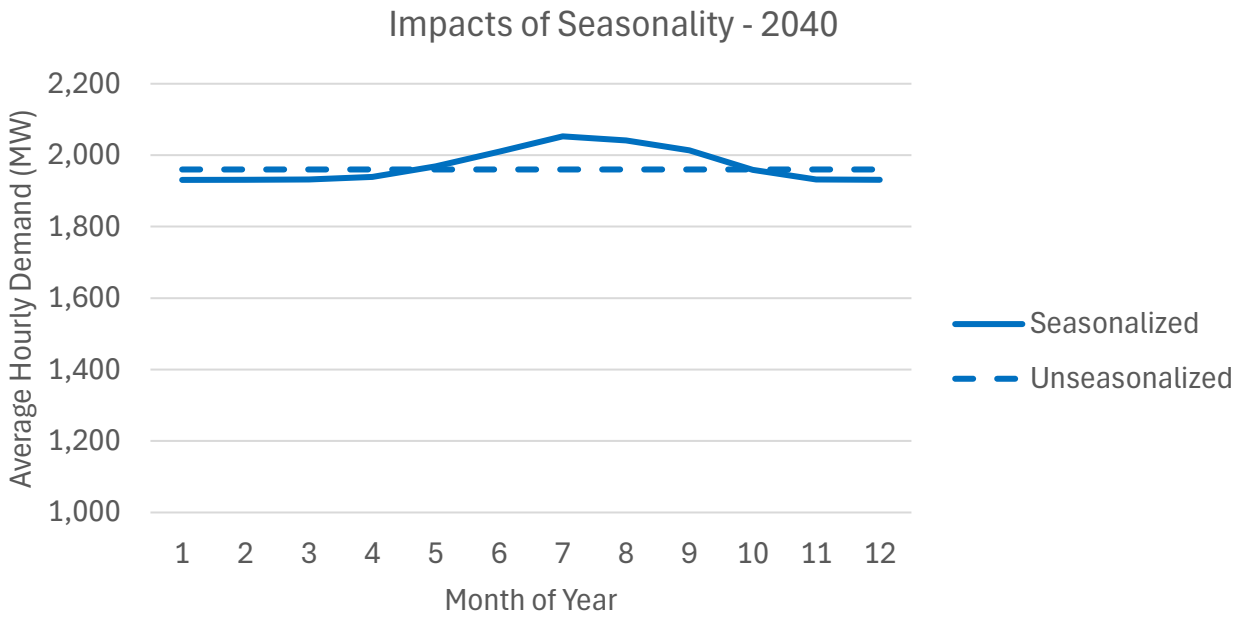


- Data center electricity demand depends largely on cooling loads
- Used cooling degree day data based on temperature forecasts as a proxy for cooling loads in data centers
- Ran regression to quantify relationship between historical data center monthly demand and cooling degree day data
- Applied regression coefficients to forecasted values for cooling degree days

Data Center Forecast Results: Seasonality

Demand is ~6% higher in July than in December after applying seasonality adjustments to data center demand.





- Higher cooling needs during summer result in above-average demand after seasonality adjustments applied
- On average, demand is ~6% higher in July than December, after removing the impact of load ramping from incremental capacity
- Seasonality impacts grow over time as climate change worsens and the number of cooling days increases

Upcoming Data Center Forecasting Work

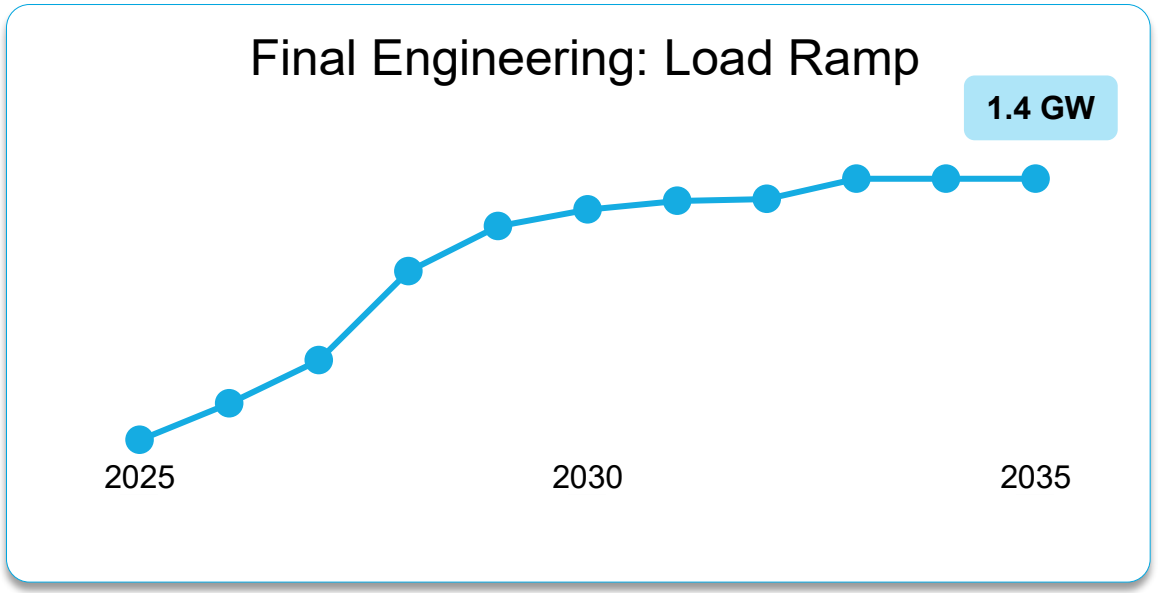
Current State of Data Centers

Data center capacity in the interconnection queue has increased substantially over the past six months, with continued customer interest in building data centers in PG&E's territory.

- Capacity in the data center application queue has increased from 4.4 GW to 12.8 GW* since PG&E developed it's Spring 2025 Data Center Forecast
- Recently received applications for 2025 Cluster Study

Data Center Pipeline

MWs	May 2025*
Total	**12,800**
Application & Preliminary Engineering • From application to selection of service option. Study fee required	11,350
Final Engineering • Begins after approval of preliminary engineering study (includes engineering, ordering long lead materials & permitting) • Payment commensurate with work performed	1,400
Construction • Ends with customer energization	50



*Source: PG&E Press Release (May 2025)

Looking Forward

PG&E will develop a new data center forecast in Q4 2025/Q1 2026.

- PG&E plans to update the data center forecast at least annually
  - PG&E will further study and propose forecast adjustments for data center load co-located with material on-site generation
  - PG&E will continue to evaluate load-shifting capabilities and strategies for data center customers
- For multiple forecast cycles, forecasts will likely be highly uncertain due to the nascency of the data center technology & markets and due to the complexity of data center projects.
- PG&E appreciates the productive collaboration with CEC and looks forward to continuing partnership.

Questions?

Jenny Conde (jennifer.conde@pge.com)