

AI Energy Impacts: *AI's Grid Impacts*

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Electric Utility Director

January 28, 2026



About Silicon Valley Power

Vertically Integrated Utility – Transmission, Generation, Distribution



129 years young
Established in 1896



**Department of the
City of Santa Clara**



Largest Municipal Utility
Retail Sales in CA



19.3 sq. Miles
Service Area



746 MW
Peak Demand



131,062 Residents
60,980 Electric Accounts



235 SVP Employees



58 Data Centers
Largest data center cluster on
West Coast

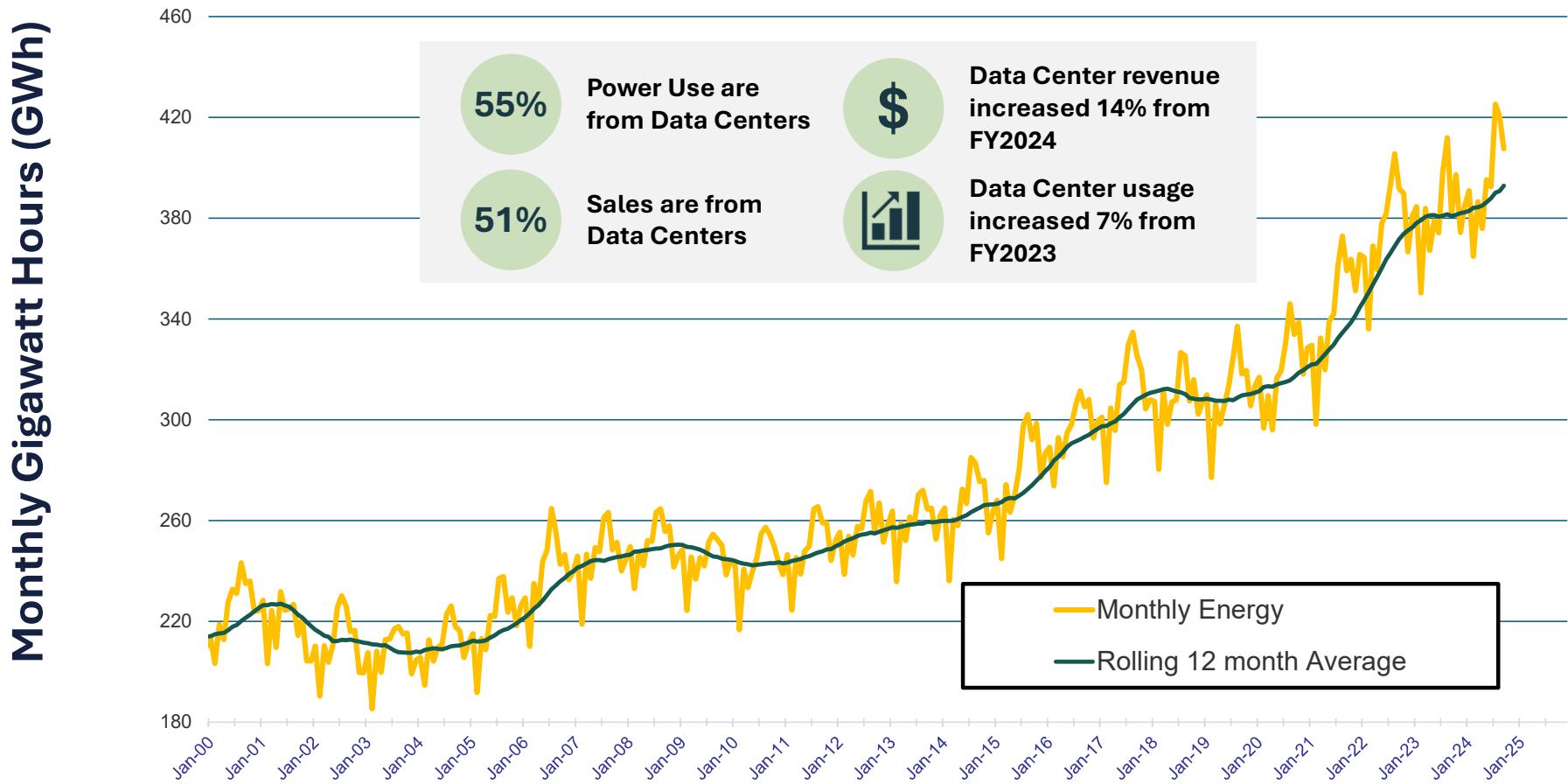




Data Center Cluster Map



SVP Historic Load Growth



Energy Density



| | City of Santa Clara | City of Palo Alto | City of San Jose |
|-----------------------------|-------------------------|----------------------|----------------------|
| Sq. Miles | 19.3 | 26 | 181 |
| Population | 131,062 | 66,010 | 970,000 |
| Peak Load | 714 MW | 170 MW | 1,236 MW |
| Energy Intensity | 36.9 MW / sq. mile * | 6.5 MW / sq. mile | 6.8 MW / sq. mile |

* Projected load growth to 1,300 MW increases energy density to 67 MW per square mile.

Transmission Expansion – South Bay

CAISO 2021/22 Transmission Planning Process

| | |
|-----------------|---|
| 6/01/20 | Started work on updated load 1,142 MW's |
| 11/3/20 | Started discussion with CEC |
| 12/17/20 | Started meeting with PG&E regarding additional projects |
| 1/25/21 | CEC adopts new SVP load forecast |
| 3/11/21 | SVP comments on draft Study Plan |
| 3/24/21 | SVP presents to CAISO board |
| 3/31/21 | Final Study Plan Posted |
| 8/3/21 | CAISO posts preliminary reliability study results |
| 9/15/21 | PG&E posts mitigation plans |
| 9/27/21 | Stakeholder meeting for comments on mitigation plans |
| 1/31/22 | Draft Transmission Plan posted |
| 3/23/22 | CAISO Approved Transmission Plan |
| 4/1/22 | Project Procurement Phase Starts |
| 3/7/23 | CAISO selected LS Power Grid High Voltage Direct Current Line from Newark 230kV to SVP's Northern Receiving Station |
| 11/12/24 | CAISO Board approves upgrade to transmission from 500MW to 1000 MW – |
| 2028 | Expected completion date |



Powering the South Bay

In Progress

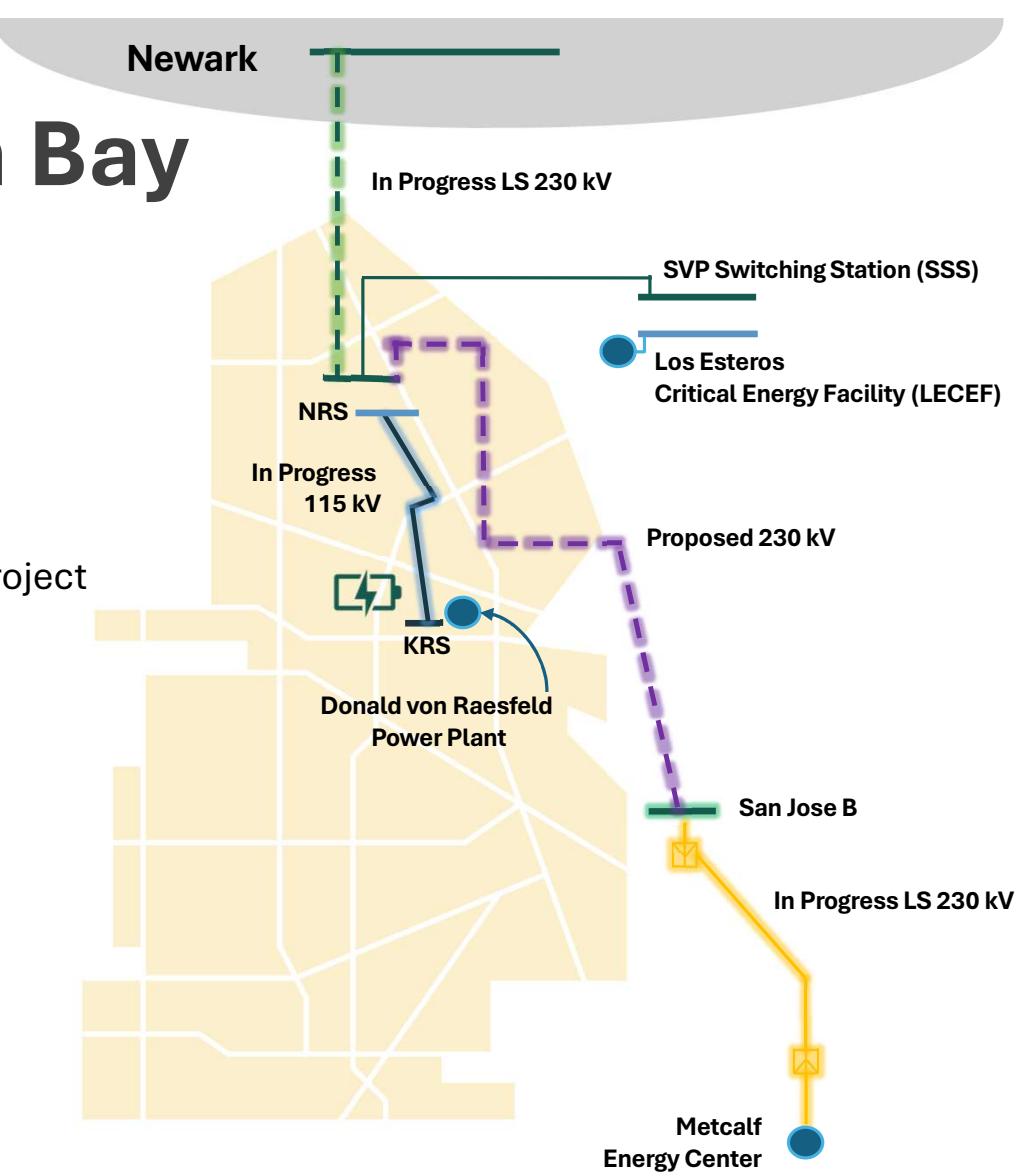
- LS 230 kV (Newark to NRS)
- LS 230 kV (Metcalf to San Jose B)
- 115 kV (NRS to KRS)
-  50MW/200MWh Battery Energy Storage Project

Proposed

- 230 kV (San Jose B to NRS)

Regional

-  Power Plant
-  Alameda County
-  City of Santa Clara



Laying the Groundwork

\$459 Million+ System Expansion Program

- Designed to double electric load capacity to meet current and future demand
- Current capacity: 700MW, projected to reach 1,300 MW in 5-10 years
- Growth driven by increasing demand from large industrial customers
- Demand stresses both SVP's local system and California's Bulk Electric Systems
 - Most new data centers request 50–99 MW
- Since 2021, SVP has communicated limited capacity by halting "Will Serve" letters, issuing system limitation notices, and conducting impact studies.



THANK YOU



Powering The Center of What's Possible

