# Planning Commission

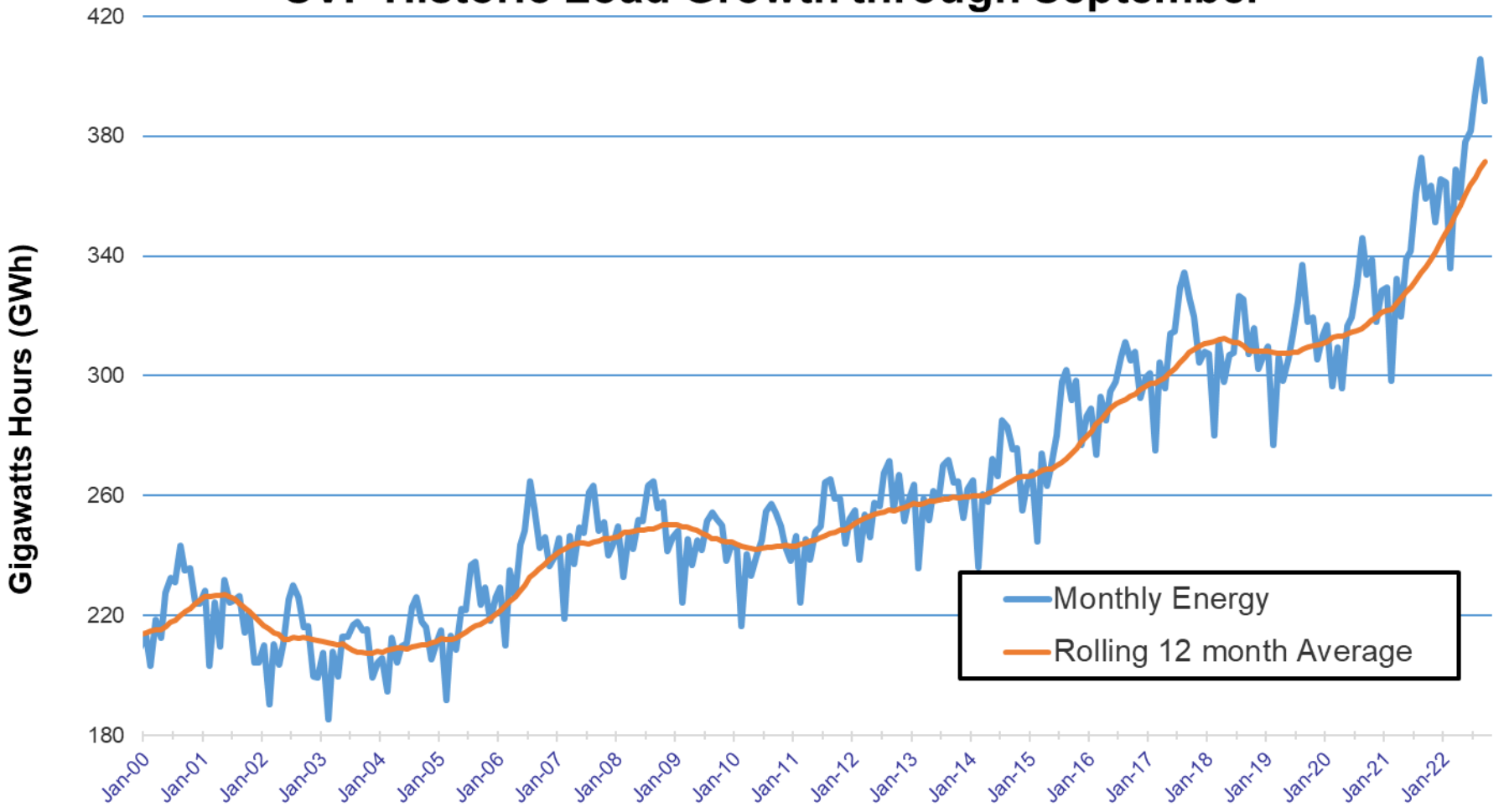
## Silicon Valley Power Update

**Kevin Kolnowski-Electric Utility Chief Operating Officer**

**Item #3**

**October 26, 2022**

# SVP Historic Load Growth through September



# SVP is Growing

- Load Growth is Happening – New Peak of 702 MW on September 6th – 8.3% higher than previous peak
- Two Multi-Phased Activities to Meet Growth (SVP and Transmission Projects)
- Many Completed Actions – South Loop Project, Approved Growth Plan, Approved New Load Development Fees, Approved Master Consultant Contracts, Approved Program Management Contract
- Work is Underway on SVP Projects ($300 million)
  - Project management firm developing schedules, scoping documents, procurement specifications and preliminary CEQA work for new projects.
  - Design consultant selection underway for Kifer Receiving Station, Scott Receiving Station, Northern Receiving Station Upgrade, New 115KV Transmission Line (NRS/KRS)
  - Battery Storage Project Continues – Supply chain issues causing significant impacts

# New Transmission Projects

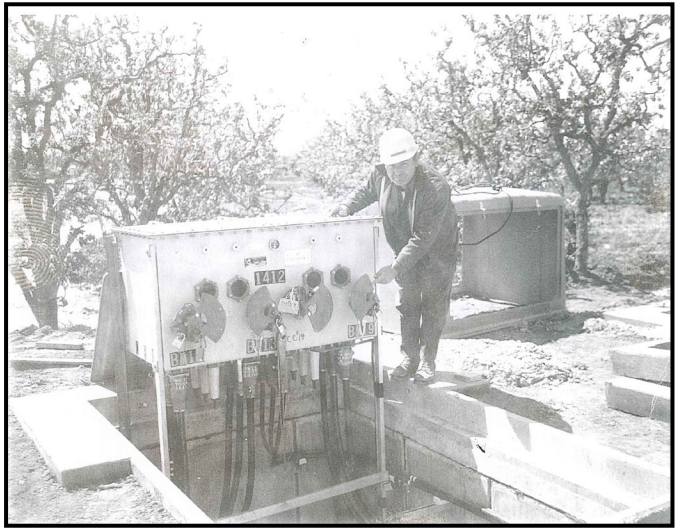
- Transmission oversight by the California Independent System Operator (CAISO)
- Plan Approved by CAISO March 24 – Includes projects that benefit SVP (estimated at $1.0 Billion)
  - Project 1 - High Voltage Direct Current Line from Newark 230kV to SVP's Northern Receiving Station
  - Project 2 - HVDC line from Metcalf Substation to San Jose B Substation.
- SVP's Priority is Project 1
  - Also requires additional work at NRS
  - CAISO Completion goal 2027/28
- Almost Double SVP load serving capability to 1,100 MW
- Many additional projects still want to be in Santa Clara (significantly over 1,100 MW)

# Local Project Highlights

- Serra Substation Project Completed
  - 2 new transformer banks, switchgear and control room
- Upcoming Pole Replacements for Upgrades Communication Equipment
- Improves ability to serve additional electrification load
- Many neighborhood upgrades (support electrification) – 1st quarter (25 transformers, 16 Pole Replacements, 77 Cross Arm Replacements, 7 Street lights, 16,274 ft overhead wires and 8,243 ft underground wires)
- As old pole mounted transformers are replaced, size is upgraded.
- Homestead Substation Rebuild is in design phase, will accomplish similar goals. Expected completion in 2027.

# Additional Future Growth

- Growth will need to be considered beyond current growth plan
- Future Council Policy Decisions on SVP Growth
  - 20-year plan (expect to bring to City Council in-2023)
- How much should SVP grow?
- Under current development environment SVP could triple maybe quadruple in capacity (2,000 plus MW system)?
  - What would it require to achieve this? More CAISO and large internal projects
  - Needs and Physical Constraints
- Future Council Discussion
- SVP continues to pursue carbon free resources to meet energy needs



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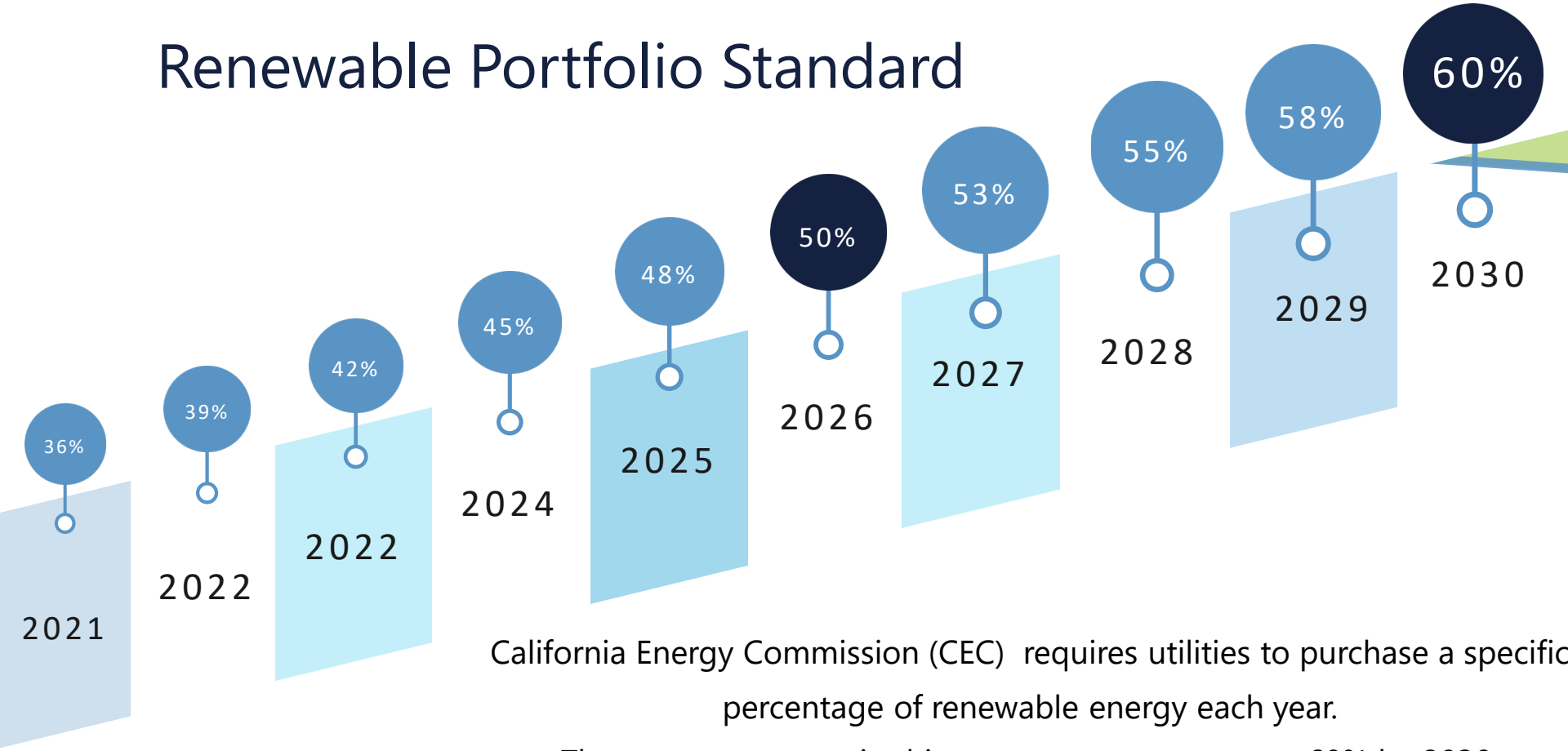
# Renewable Portfolio Standard




California Energy Commission (CEC) requires utilities to purchase a specific percentage of renewable energy each year.

The percentage required increases every year up to 60% by 2030.

"Renewable Energy" per CEC definition excludes large hydroelectric resources. Santa Clara CAP is targeting 100% Carbon Neutral by 2035

# SB9 and Electrification

- Residential load represents approximately 6-7% of SVP's total load.
- For Accessory Dwelling Units (ADU), SVP requires separate metering for the ADU.
- New buildings are required to be very energy efficient, and usage is low
- As opportunities present, SVP has been upgrading residential circuits and transformers to accommodate electrification transition

# Services and Electrification

- Solar Rooftop installations supported with 190 new applications in 2022
  - Of the190 - 53 have been installed
  - Adds to the over 1000 permitted Solar PV systems in Santa Clara
- Large Commercial Renewable Energy (LCRE) program being refined with over half dozen customers and expected to provide 24/7/365 Carbon Neutral power
- *Just Launched*: Electric Yard Care Equipment instant rebate off the purchase price available through Silicon Valley Power's online marketplace

# Ex. Electrification Residential Programs

- Midstream heat pump water heater incentive (paid to contractors to reduce initial cost)
  - Bonus rebate to income-qualified customers up to $500
- Smart Electric Panel Rebate
  - $2000 rebate
  - Bonus incentives up to an additional $2000 for income-qualified customers
- Induction Cooking Classes
  - Partnership with SCUSD to offer classes through Adult Education program
- Coming in early 2023:
  - Home electrification audit program
  - Home Electrification Guide (online resource)
  - Home Electrification Cost Estimator

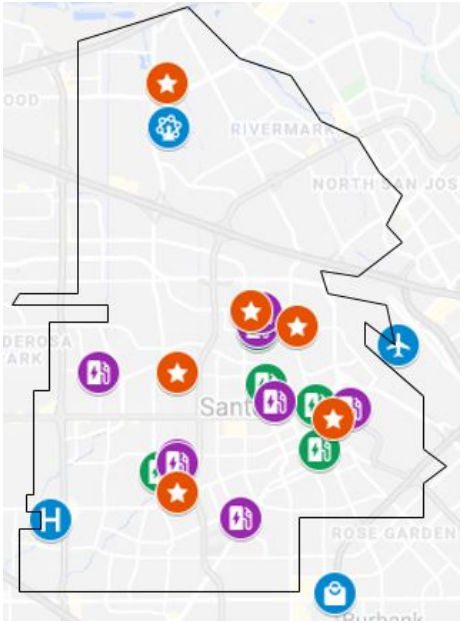
# Ex. Business Electrification Programs

- Rebates for Conversion to Heat Recovery Chillers
- Rebates for Conversion to Heat Pump Pool Heaters
- Heat Pump Air Conditioner Rebates
- Heat Pump Water Heater Rebates
- Customer Directed Electrification Rebates
  - Incentive to electrify equipment where no program currently exists
- Food Service Equipment Rebates
- Multifamily Boiler Electrification Pilot Program
- Commercial Kitchen Electrification Audits
- Online classes on building electrification topics

# Transportation Electrification

## Electric Vehicle Charger Installations

- Phase 1 -8 locations 38 ports – public L2
- Phase 2 - 8 locations 49 ports – public & fleet L2
- Phase 3 - focus on medium and heavy-duty vehicles, underserved public locations and City fleet



**Fleet Electrification** replaced old combustion vehicles with all-electric vehicles for Police, Fire, Public Works and other City depts.

- FY22 purchased **46 all-electric vehicles** + electric forklifts

# Transportation Electrification

**Electric Vehicle Charger Installations** delayed due to recently resolved equipment supply chain issues

- By end of 2022, **49** additional charging ports at **8 locations** supporting public and fleet charging. Includes Machado Park, Henry Schmidt Park, and Central Park Tennis Courts/Softball Field
- Received DC Fast Charging grant to support medium-heavy duty fleet

**Fleet Electrification** replaced old combustion vehicles with all-electric vehicles for Police, Fire, Public Works and other City depts.

- FY22 purchased **46 all-electric vehicles** + electric forklifts

**Customer Programs** launched EV Charging Technical Assistance program for multifamily properties, schools and businesses

# City of Santa Clara Fleet Electrification Plan

**Figure 1. Light Duty Replacements**

| Term | Short Term | | Medium Term | | | Long Term | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
| Vehicle Age & Class | 7+ year-old sedans and small SUVs | | 7+ year-old standard SUVs, trucks, vans and 4–6-year-old vehicles of all classes | | | up to 3-year-old vehicles of all classes | | Turnover of light-duty fleet completed. Consider replacement of 2021–2023 acquisitions. | | |
| Vehicle Count and Cumulative Percent | 42–43 (17%) | 42–43 (34%) | 39 (50%) | 39 (65%) | 39 (81%) | 23–24 (90%) | 23–24 (100%) | | | |


| CITY EV FLEET 2017-2022 | VEHICLE COUNT |
|---|---|
| **IN PREP** | **3** |
| BOLT | 3 |
| **IN SERVICE** | **12** |
| BOLT | 5 |
| KONA | 6 |
| LEAF S | 1 |
| **ON ORDER** | **36** |
| BOLT | 15 |
| F150 LIGHTNING | 13 |
| KONA | 8 |
| **Grand Total** | **51** |

# Questions?