



# Peninsula Advanced Energy Community (PAEC)

## Components of an Advanced Energy Community (AEC)

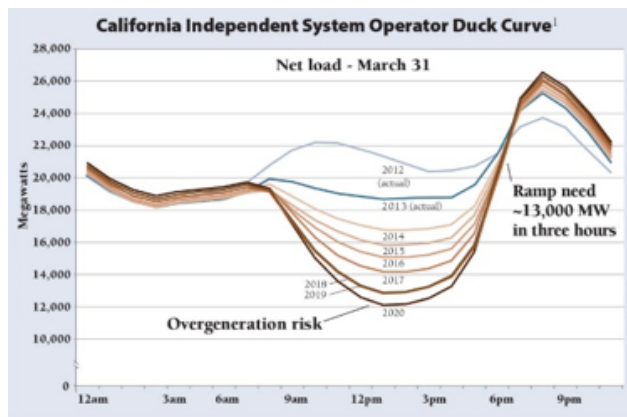
- Energy efficiency
- Renewable energy
- Energy storage
- Zero net energy (ZNE)
- Electric vehicle (EV) charging infrastructure



A rendering of the Atherton Civic Center in Atherton, CA — an AEC

## Benefits of an AEC

- Reduces** need for new energy transmission and distribution infrastructure
- Bridges** the electricity overgeneration gap via energy storage and demand response
- Promotes** grid reliability and resilience
- Saves** customers money on their energy bill
- Provides** clean local energy
- Creates** clean energy jobs
- Obviates** the expenses of new power plant construction
- Helps** mitigate climate change



## PAEC report highlights

### Challenges

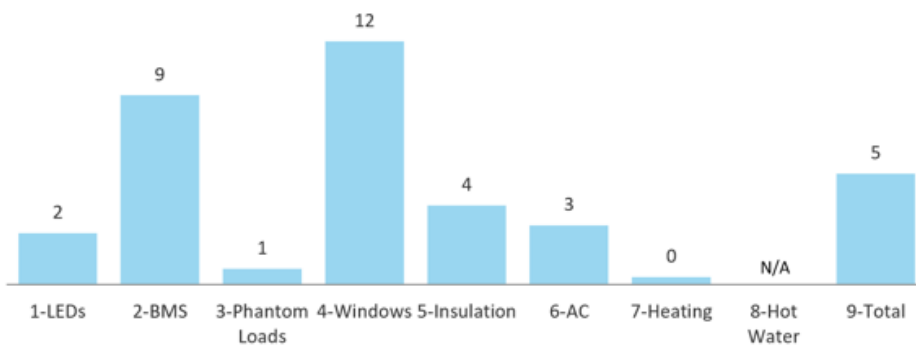
- Inconsistent municipal and utility permitting processes
- Insufficient financial instruments available to fund AEC investments
- Split incentives between building owners and tenants
- Tension between capital and operating expenses
- Initial costs favored over life cycle costs
- EV range anxiety and lack of fast chargers

### Recommendations

- Implement bundles of energy efficiency measures
- Facilitate energy efficiency retrofits for residential and commercial properties
- ZNE for all buildings
- Expand EV charging infrastructure with battery storage
- Develop EV-ready codes for multi-unit dwellings
- Continue subsidizing energy storage as the market brings prices down

### Tools and Solutions

- Streamlined permitting
- Model interconnection process checklist
- Model ordinances
- Green lease language
- Solar Siting Surveys



Energy efficiency ROI for office building (years)

## Projects with AEC components in the PAEC region



**Facebook:** Energy efficiency, solar PV, EV charging, energy storage, onsite black water treatment



**Kaiser Permanente:** Energy efficiency retrofits, solar PV power purchase agreement, EV charging



**City of Palo Alto:** Solar PV, solar covered parking garages, EV charging, energy storage



**Redwood City:** Solar Emergency Microgrid, solar PV, EV charging, energy storage



**Stanford University:** Energy efficiency, district-scale heat exchange system, solar PV, EV charging



**Oshman Family Jewish Community Center:** Energy efficiency, air-source heat pump, solar PV, EV charging