

Bridging the Gap to Simplify and Standardize Heat Pump Water Heater Permits

C/CAG RMCP Committee

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Background

BAY AREA AIR DISTRICT RULE 9-6



- Effective January 1, 2027
- Phase out gas water heaters <75k BTU/hr with NO_x emissions
- Only electric HPWHs meet the zero-NO_x standard
- Expected surge in HPWH permits across the Bay Area



THE CHALLENGE



- ~250k water heaters in San Mateo County, 800k pop.
- More requirements for fuel switching (Gas WH to HPWH)
- Inconsistent processes and large fee spread across jurisdictions
- Many water heating replacement projects go un-permitted



THIS PILOT



- Collaborative solution for San Mateo County and support before Rule 9-6
- Develop user-friendly, efficient strategies
- Focus: Single-family & multifamily retrofits
- Possible model to support entire Bay Area



Background Research Data Collection







- **21 jurisdictions** in San Mateo County
- **Permit process** details for HPWH
- Staff and applicant **roles** on HPWH permitting
- **Web-based platforms** and other tools
- Typical permit application processing **timelines and fees**
- Staff **training** and education on HPWH



Current Application Processes



-  8 of 21 jurisdictions offer HPWH permits without plan check
 - “Instant” or “Express,” typically online
 - May still require some documentation with the application
-  14 jurisdictions offer a single/combined permit for HPWH (rather than separate plumbing and electric)
-  18 jurisdictions have online application options for HPWH
-  Typical application documentation:
 - Location plan
 - Electrical calculations and/or single-line diagrams
 - Product specifications
 - Energy Code compliance documentation



Application Fees



- Lowest: \$0
- Highest: \$534



- Higher fees tend to be in jurisdictions requiring two permits





- Sensitive topic with varied responses
 - Some recognize that low permit fees helps support permit compliance
 - Cost-recovery fee structure drives reluctance to lower fees
 - Simplified permit process does not necessarily equal reduced staff effort
 - Fees typically calculated manually based on project scope – potential for inconsistencies



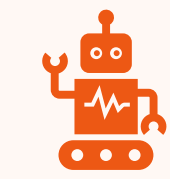
Industry Stakeholder Responses

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-  Fees are generally reasonable, but can be inconsistent
 - Application review and timeline generally reasonable
-  Inspections are generally reasonable, but with some barriers
 - 4-hour time window is a challenge
 - Inspection and plan check seen as redundant
 - Some issues with inspectors' familiarity with HPWH systems (plumbing inspectors not familiar with electrical systems; electrical inspectors not familiar with plumbing systems)



Innovative Processes and Tools



- Automated or AI-supported tools allow instant permitting
 - SolarAPP+, Symbium, BlitzPermits, etc.



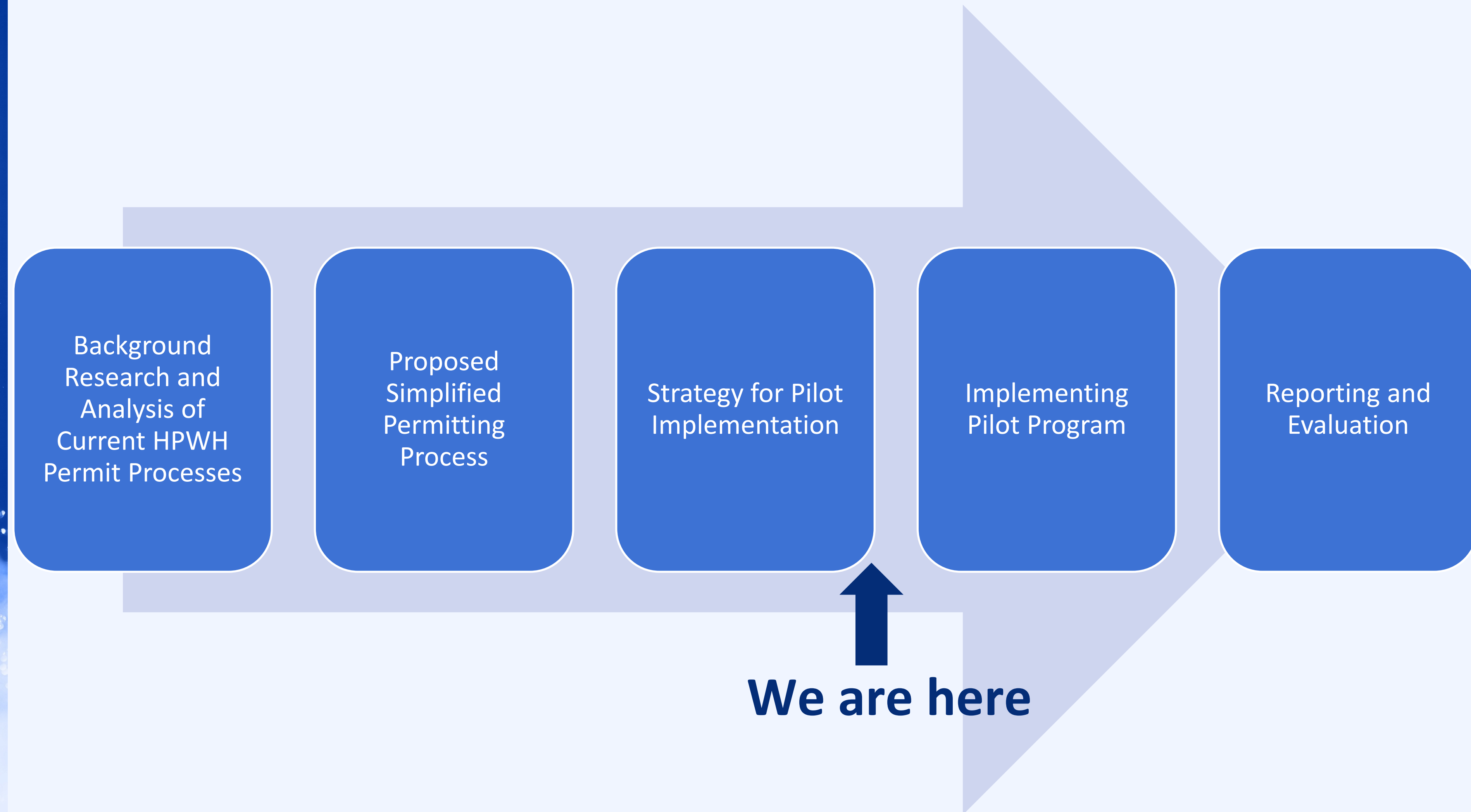
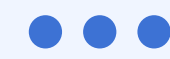
- Virtual or remote inspections to minimize waiting times
 - Many jurisdictions used remote inspections during the COVID pandemic



- Self-certification and/or sampled inspections for trusted contractors



HPWH Permit Simplification Pilot





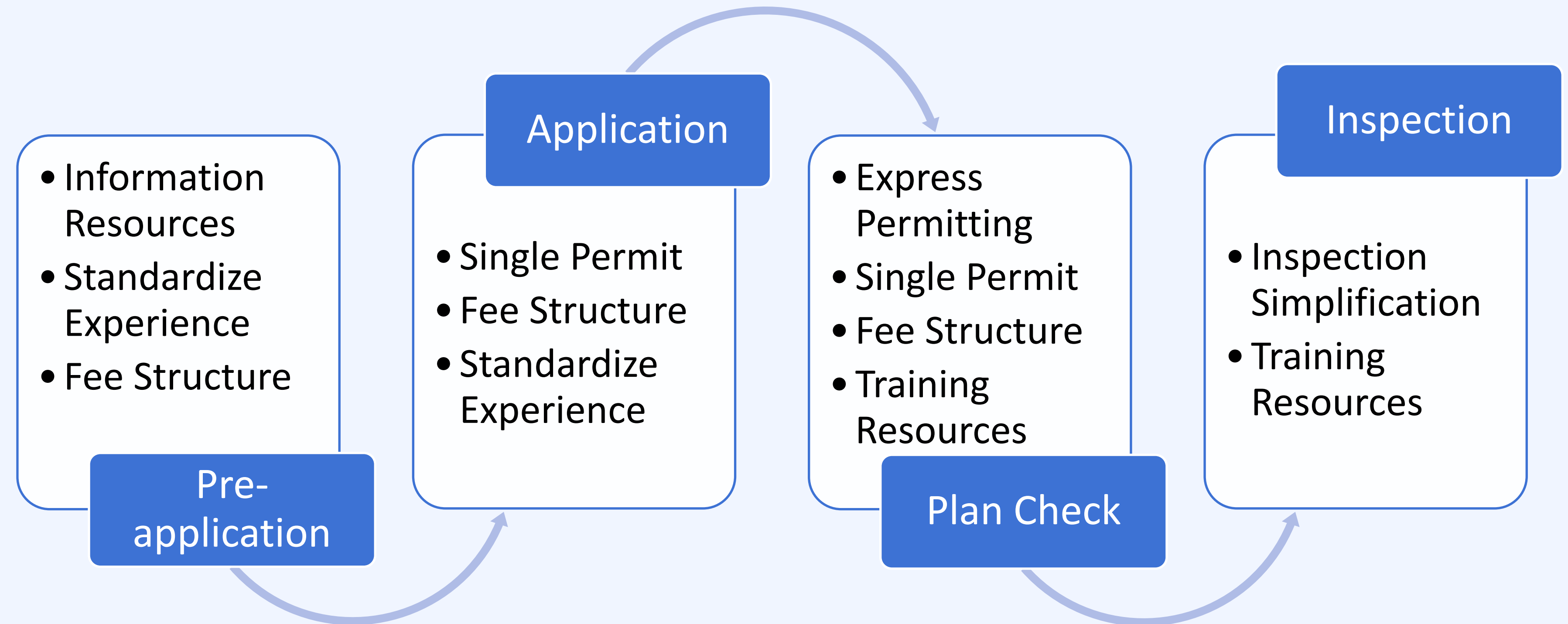
Pilot Opportunities



- Resources to support permit applicants (checklists, guidelines, etc.)
- Clear, up-front application documents and fee information to minimize manual processing
- HPWH-specific criteria to support “instant” or “express” permitting
- Opportunities to reduce friction at inspection

Addressing All Stages of the Process

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Multiple Approaches for Each Strategy

Express Permitting	Inspection	Standardize Online User Experience	Single Permit	Fee Structure	Training Resources	
AI Plan Check Tool	Sampled Inspections	County Web Hub	n/a	Reduced Flat Fee	n/a	Maximum Impact
Automate	Virtual or Asynchronous Inspections	Web Pages	HPWH-specific Permit	Transparent Fee	Active Outreach	Enhanced
Manual	In-Person Inspections	Permit Portal	Plumbing or Combination Permit	Master Fee Schedule	Informational Materials	Baseline



Automating Load Calculations with PCE



Site Address (ALL CAPS)

Panel Size: 100A

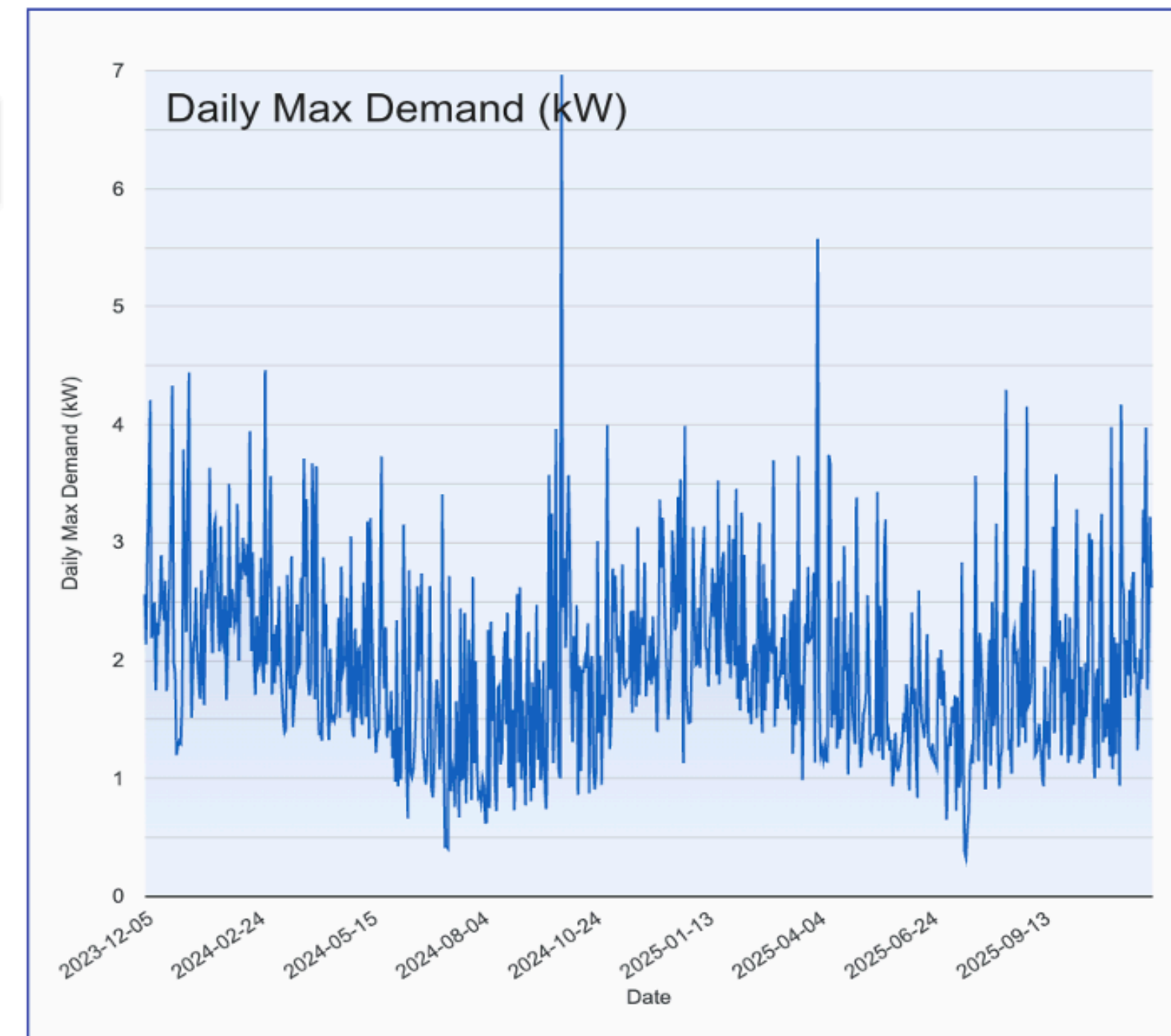
Analysis From:
Dec 5, 2023

Analysis Through:
Dec 1, 2025

Street Address 1	1910
City	BELMONT
Panel Size	100A
Max Demand Recorded Last 2 Years	6.96 kW
Including 25% Safety Factor	8.70 kW
Remaining Room on Panel	15.30 kW

PEAK ELECTRICAL DEMAND DISCLOSURE FORM

Provided for the purposes of determining available headroom for new electrical equipment



Peninsula Clean Energy ("PCE") provides maximum electrical demand information at the request of the customer for use in evaluating service capacity, including load calculations performed pursuant to NEC 220.87. The data is derived from Advanced Metering Infrastructure ("AMI") interval data recorded by Pacific Gas and Electric Company's utility-grade meter. PCE provides this information as a courtesy based on the best available AMI data for the service address. This information is intended solely to support load evaluation and service-capacity analysis and should be used in conjunction with professional judgment and code-required calculations. It is the responsibility of the customer, the customer's licensed electrical contractor, and/or the authority having jurisdiction ("AHJ") to verify compliance with the California Electrical Code, the California Building Code, and all other applicable laws and standards. PCE does not approve, certify, or validate electrical system designs, load calculations, or installations, and the use of this information does not relieve contractors or AHJs of their independent obligations. PCE assumes no responsibility for decisions made by contractors or AHJs based on this information.





Pilot Implementation Status and Next Steps



Complete:

- Participating jurisdictions identified
- Strategy details for each jurisdiction identified

Next Steps:

- Launch county-hosted online hub for resources and information
- Training, outreach, and resources for jurisdictions and applicants
- Pilot scheduled to launch April 1!





TRC

BAYREN



SAN MATEO COUNTY
**Sustainability
Department**

Thank you.