AGENDA: 5

Bay Area Air District

State and Regional Efforts to Advance the Equitable Transition to Clean Appliances

Stationary Source Committee

September 9, 2026

Richard Chien
Manager
Planning and Climate Protection

Abbreviations

BayREN: Bay Area Regional Energy Network

BAMBE: Bay Area Multifamily Building Enhancements (BayREN program)

CCA: Community Choice Aggregation (also referred to as Community Choice Energy)

EASE Home: Efficiency and Sustainable Energy Home Program (BayREN program)

EBD: Equitable Building Decarbonization program

HPWH: heat pump water heater

HVAC: heating, ventilation and air conditioning

LSE: load serving entity

MTC/ABAG: Metropolitan Transportation Commission/Association of Bay Area Governments

PG&E: Pacific Gas and Electric

Presentation Outline

1. Major players in the clean appliance transition
2. Spotlights on key regional activities
3. Special guest speakers
   - Jane Elias, Manager, Energy Programs, MTC/ABAG, Director, BayREN
   - Nik Kaestner, Senior Building Decarbonization Coordinator, San Francisco Environment Department
4. Questions and discussion

Major Players in the Clean Appliance Transition

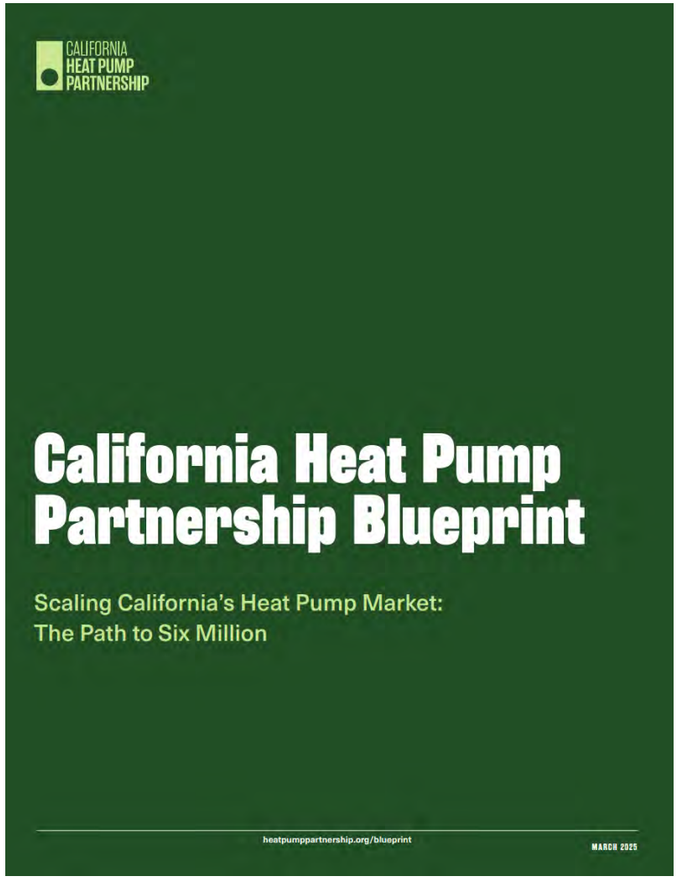
- California Heat Pump Partnership
- BayREN
- PG&E
- Load Serving Entities (Community Choice Aggregation programs, municipal utilities)
- Cities and counties
- State and local funding programs (rebates and financing)
- Building Decarbonization Coalition
- Community-based organizations
- Many, many others!

Spotlight on CA Heat Pump Partnership

What it is: public-private partnership with state policy leaders, heat pump manufacturers, retailers, distributors, utilities, and other key stakeholders to rapidly scale California's heat pump market to help achieve the state's goal of installing six million heat pumps in California's buildings by 2030

Activity highlights

- Marketing campaigns to raise public awareness on the benefits of heat pumps and increase familiarity with the technology
  - "Heat Pump Week": April 11-19, 2026
- Educating and activating installers and contractors statewide
  - Listening sessions, roundtables, advertise training
  - Provide members with policy updates and engagement



Source: https://heatpumppartnership.org/wp-content/uploads/2025/03/CAHPP_Blueprint_2025.pdf

Spotlight on BayREN: Overview

- A coalition of the Bay Area counties and the Association of Bay Area Governments (ABAG) working to create an energy efficient, healthy and resilient built environment
- Funded by public goods charge (utility ratepayer revenues)

BayREN: Overview (cont.)

Operates nine programs serving:

- Residential homeowners, property owners, and renters with personalized recommendations for energy upgrades, funding, and technical assistance
- Small and medium-sized businesses with free or low-cost help to lower operating costs and emissions and improve comfort
- Local government officials and staff with training, resources, policy guidance, and building upgrade assistance to meet climate goals and reduce facility costs

BayREN: HPWH for Hard-to-Reach Households

Single family program (EASE Home) directly installs improvements (including HPWH) for qualified low- and moderate-income households

- “Early replacement” focus (water heaters >10 years old)
- Pair with energy efficiency and post-install assistance to minimize energy costs
- Can address barriers under proposed Rule 9-6 exemptions
- Targets 100-200 HPWH upgrades annually at a minimum of 50% cost coverage

Multifamily program (BAMBE) supports HPWH installations for fuel substitution

- Provided over $12 million in incentives for over 1,300 HPWH installations from 2024 to the present
- Now targeting buildings with <50 units

BayREN: Contractor Readiness

- Working through member agency City and County of San Francisco and with other local governments via “Sprint to 9-6”
- Funding HPWH Contractor Trainings across the Bay Area
- Improvements being develop for future trainings to increase outreach and education, enhance in-language options, and incorporate hands-on learning
- Operating a paid “Contractor HPWH Mentorship Program” with Emerald Cities Collaborative

BayREN: Building Department Support

Training and resources to local building departments

- Forty HPWH trainings for building department staff since 2018 (>800 attendees)
- Training offered live, webcast twice per year, and available online on-demand
- Resources available include electrical load estimator, building code assistance sheet, guidance on HPWHs for accessory dwelling units, etc. (more resources to be added in Fall 2026)

BayREN: Building Department Support (cont.)

Permitting simplification efforts

- San Mateo County pilot project reviewed HPWH permitting processes in twenty-one jurisdictions and developed recommended improvements
- Eight jurisdictions are currently implementing and testing some recommendations
- Coordinating with counties and CCAs to scale-up permitting improvements across Bay Area

Spotlight on PG&E

Working to accelerate heat pump adoption and enable efficient electrification at scale through three strategic priorities: improving economics, simplifying the customer experience, and supporting equity customers

Improving economics

- ~$50M in residential incentives forecasted through 2031
- Supporting residential financing through GoGreen Financing Program
- Promoting new cost-reducing technologies (e.g. PanelBoost smart panel pilot)
- Exploring rate design solutions
- Pursuing cost-effective zonal electrification

PG&E (cont.)

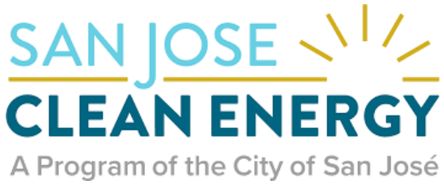
Streamlining the customer experience

- Evaluating options to make installation faster and easier, e.g. pilot deploying 120-volt HPWH to help customers electrify in 48 hours or less
- Streamlining service planning and interconnection (reduced application intake time by 40%, reached 96% compliance with new energization timelines)
- Providing guidance, online planning tools, and advisory services
- Providing training sessions and other support for contractors and installers

Supporting equity customers

- Incentives for income-qualified customers and underserved communities
- Running equity-focused zonal (neighborhood) programs

Spotlight on Load Serving Entities



Load Serving Entities: Funding Support

Load Serving Entity[1]	HPWH Rebate
CleanPowerSF	$1,200
Marin Clean Energy	$3,175
WestLight Energy	$3,500
San José Clean Energy	$2,500
Silicon Valley Clean Energy (SVCE)[2]	$2,500
Sonoma Clean Power	$2,500
Silicon Valley Power	$5,500
Alameda Municipal Power	$1,500
City of Palo Alto Utilities	$3,500

Table of current HPWH rebates offered by LSE's (as of 8/6/26)

Notes

1. Cities currently offering local rebates that can be "stacked" on top of LSE funds:

- Albany ($500)
- Redwood City ($500)
- Hayward ($800)
- Pinole (up to $3,000)

2. SVCE has additional "city toppers" for these cities: Milpitas, Los Altos, Sunnyvale, Mountain View

Load Serving Entities: Permitting Support

- On-the-ground engagement with local building departments
- Investing resources to expand simplification and standardization
- Aligns with funding support programs

Palo Alto	**San José**	**Santa Clara and Silicon Valley Power**	**San Francisco**
Instant $329 permit for HPWH, fee rebated back to the customer. Alternative load calculation uses actual metering energy data, encourages avoiding panel upgrades.	Same-day online permits for HPWHs. San Jose Clean Energy rebates require a final permit, and staff will assist when inspection scheduling causes delays	HPWH “Simple Permits” with $525 fee. $4,000 smart panel rebate ($6,000 for income-qualified) to avoid electrical service upgrades.	Single plumbing permit now allowed for most HPWHs (i.e. plumber can do minor electrical). Same day over-the-counter and instant online permitting.

Four examples of local permit streamlining achievements

Senate Bill 222 – The Heat Pump Access Act

- Sponsored by Senator Wiener (2026)
- Key provisions
  - Require asynchronous inspections for installations (contractor and inspector do not need to be present together)
  - Require jurisdictions to offer only one permit unless they meet certain conditions
  - Require jurisdiction to offer electronic signatures and submittals for permit applications
  - Require online “instant” permits for simple “swap-outs” (no panel upgrade or structural work needed) by January 2028
  - Limits local rules that create barriers for heat pumps
  - “Soft” fee caps of $150 (HPWH) and $200 (HVAC); flat fees for same equipment type

Spotlight on Sprint to 9-6

San Francisco Environment Department is leading regional coordination with cities, counties, agencies, utilities, technical experts, and nonprofit organizations to lay the foundation for a successful launch of Rule 9-6

Focus areas

- Reduce installation costs: equipment, labor, permitting and inspection
- Overcome common technical barriers: electrical and space constraints
- Support for homeowners: funding, technical assistance, communications and outreach
- Highlight and scale-up local best practices

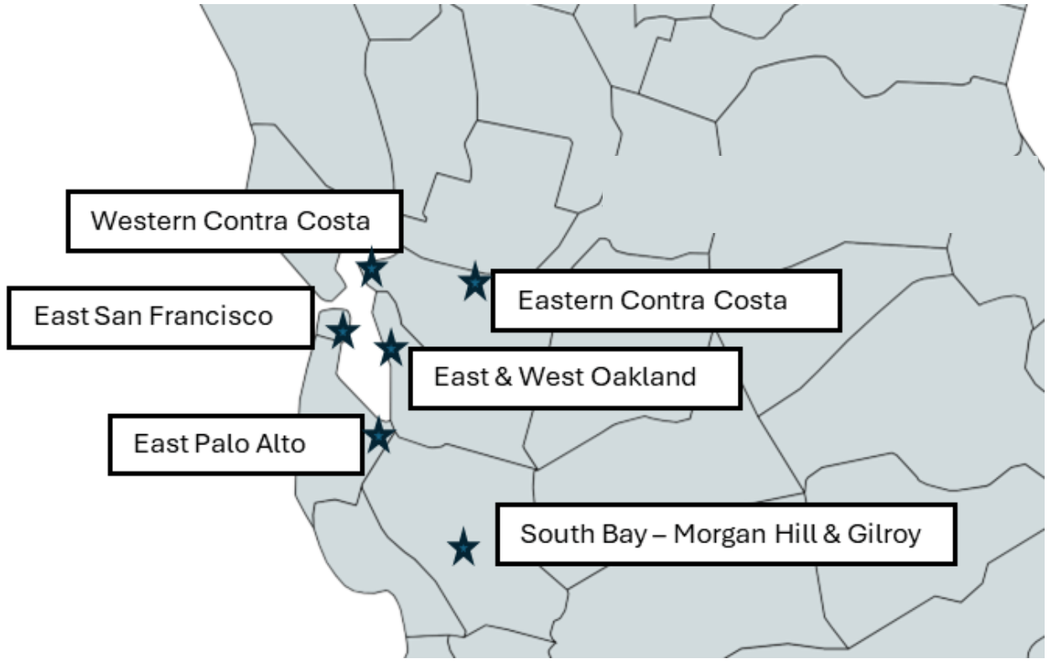
Sprint to 9-6: Communications and Outreach

Example activities

- Launching regional electrification campaign
- Developing generic, unbranded fact sheets and FAQs
- Sharing presentation templates between jurisdictions
- Coordinating press events and advocacy
- Developing regional newsletter and events calendar
- Expanding homeowner and property manager outreach

Spotlight on Equitable Building Decarbonization

- Program overseen by the California Energy Commission
- EBD in the Bay Area administered by Association for Energy Affordability (AEA)
- “Initial Community Focus Areas” (ICFAs)
- Comprehensive projects, single-family and multifamily properties
- Community based organization partners for outreach and recruitment
- Eligibility look-up tool under development



Map of Bay Area ICFA’s

Air District Outreach and Education

Outreach Events

- Bay Area Air District
- Online or webinar

- Building Decarbonization Coalition
- Online or webinar

Special Guest Speakers

Jane Elias

Manager, Energy Programs, MTC/ABAG

Director, BayREN

Nik Kaestner

Senior Building Decarbonization Coordinator

San Francisco Environment Department

Questions & Discussion

For more information:

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AGENDA: 6

Bay Area Air District

Permitting Research and Development: Unlocking Innovation

Stationary Source Committee

September 9, 2026

Kelly Crawford
Deputy Executive Officer of Engineering & Compliance
Engineering

Abbreviations

BACT: Best Available Control Technology

R&D: Research and Development

AQMD: Air Quality Management District

QA/QC: Quality Assurance/Quality Control

AC: Authority to Construct

PTO: Permit to Operate

Presentation Outline

- What is Research and Development?
- Current Pathways
  - Air District
  - Peer Agencies
- Considerations for R&D projects

Strategic Plan Alignment

4.01 Timely Permits

4.02 Transparent Permit Process

4.03 Consistent Permits

4.10 Ensure Success

Be Effective, Accountable, & Customer-Oriented

Stages of Research and Development
Regulatory Implications

Analysis and experimentation

At lab or “bench” scale,
i.e., small and controlled

Scale-up and learning

Validates lab data
to mimic real world operations

Final Proof-of-Concept

Performance in a
realistic setting

Full-scale production

Standard operating model

Specific

Time-limited

Enforceable

Current Pathways – Bay Area

Exempt from Permits

- Labs <25,000 SF or < 50 total fume hoods

  Rule 2-1-113.2.12

- Bench scale lab equipment used exclusively for:
  - Chemical or physical analyses or experimentation
  - Quality assurance and quality control
  - Research and development
  - Or similar bench scale equipment, excluding pilot plants

  Rule 2-1-126.2

Permit to Operate, Temporary Operations

- To test equipment or processes, including new formulations, if:
  - Permit expires in three (3) months and is non-renewable
  - Subject to prohibitory rules
  - Offsets required for increased emissions
  - BACT cost effectiveness analysis is based on short duration of the operation

  Rule 2-1-302.3

Typical R&D Project vs. Ideal R&D Project

What the Air District typically receives…		What would help streamline processing…
No outreach to Air District, no pre-application plan	→	Pre-Application meeting to identify potential issues and data requirements
Rush application; no time for possible bottlenecks, e.g., unknown emission factors or risk screening assumptions	→	Application submitted early in project development, time to address permitting issues and data gaps
Pilot-scale or larger projects that aren't eligible for exemption or temporary-PTO	→	Bench scale project
Projects that aren't R&D, i.e., applicant seeks permanent AC / PTO	→	Temporary project (i.e., < 3 months) to test equipment, processes, or new formulation
Project is in over-burdened community or near a school that requires public notice	→	Site selection to minimize risks to the public
Abatement and/or offsets not anticipated	→	Abatement and/or offsets identified early in project planning
Measurement, monitoring, or source test methods not well established or anticipated	→	Accurate recordkeeping, continuous monitoring, with plans for source testing, where needed

Peer Agency Models: South Coast AQMD

Exempt

- Non-production, bench scale research equipment and associated control equipment
- Laboratory testing and quality control testing equipment

Research Operations – Rule 441

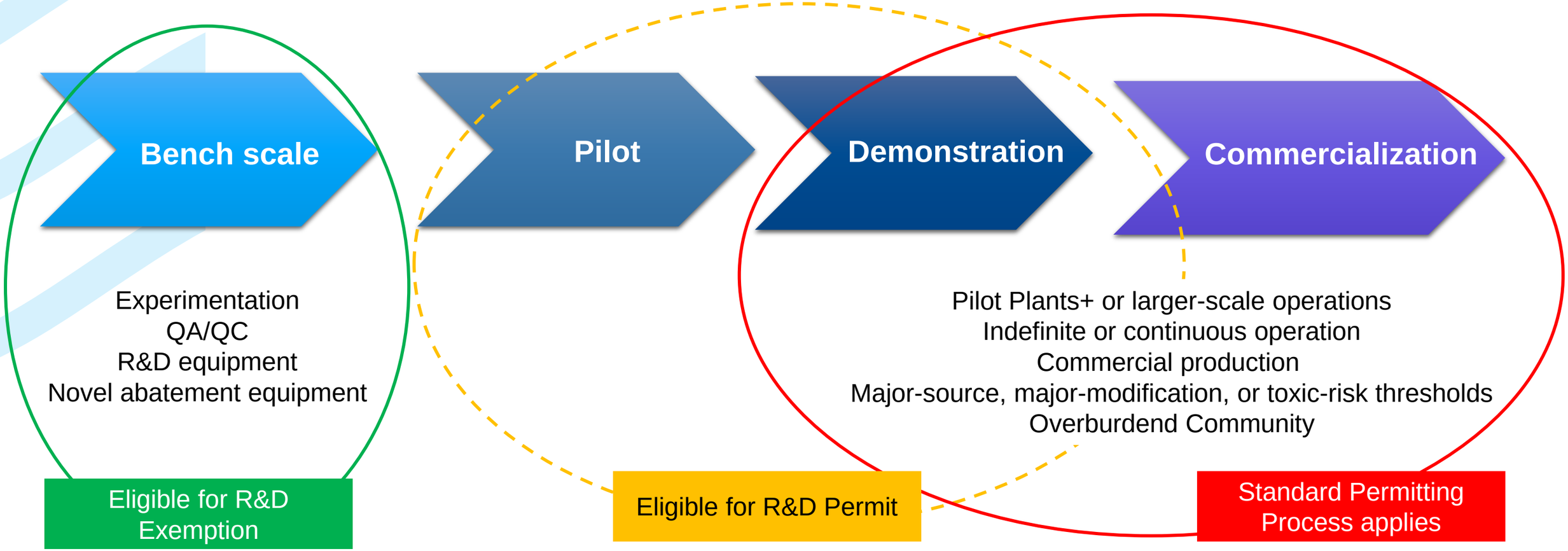
- Investigate, experiment or research that advances state of knowledge or state-of-the-art technologies
- 2-year maximum
- Subject to New Source Review

Peer Agency Models: New Jersey Department of Environmental Protection

New Jersey General Permit – 020A

- R&D Facility: new processes and products – no commercial sales
- +50 lbs/hr raw material
- 5 years
- Exclusions: formulas/products for multiple clients, combustion, exceeding 90 product/days per year

R&D Permitting Landscape



R&D Permitting Landscape (cont.)

- Multiple Pathways
  - Exemption
  - Temporary Permit
  - Operational Cap / Fixed Thresholds
  - Pre-approved Conditions
- Top Eligibility Concerns
  - Scale
  - Duration
  - Uncertainty

- Success Drivers
  - Eligibility is determined by staff
  - Objective testing > Subjective Decisions at intake
  - Applicant readiness is critical

Peer models narrow eligibility and enforce operating bounds

Considerations

- Develop internal policies, checklists and public guidance using existing authority
- Staff training and development
- Is three months realistic for R&D? What evidence should staff gather?
- Better outreach to projects through coordination with state demonstration and funding programs

Questions & Discussion

For more information:

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