

## TECH 8.5 Permitting Pilot Stakeholder Group

TECH Clean California and BayREN hosted a Stakeholder Meeting on September 30, 2021 to discuss permitting challenges and opportunities for heat pump water heating and heat pump space conditioning installations in existing single family homes in California.

Over 95 attendees from building departments, local governments, contractors, designers, manufacturers, and other building and electrification professionals provided a range of feedback throughout the meeting. Below is a summary of this discussion; names of attendees offering this feedback has not been shared to respect each commenters' privacy.

As appropriate and consistent with the goals for this TECH Pilot (as stated above), this feedback will be used to further inform the development and sharing of resources to address permitting for heat pump water heating and heat pump space conditioning installations in existing single-family homes. Feedback is also being channeled back to the larger TECH Clean California Initiative and BayREN efforts to inform policy and practice efforts.

This summary, the presentation from the Sept. 30, 2021 meeting, and additional pilot resources can all be accessed here: <https://energy-solution.com/tech-permitting-pilot/>

### *Top Level Takeaways*

- **Permitting processes should have clear requirements and be standardized across jurisdictions,** and simply laid out for contractors and homeowners. Currently, permitting processes vary across jurisdictions and requirements are not clear, leading to installs of Heat Pumps (HP) and Heat Pump Water Heaters (HPWHs) without permits. One resource that could help is a checklist spelling out the requirements.
- **Online portal processes should be more widely implemented** across jurisdictions with a streamlined process which also allows for multiple contractors on one project. Currently, not every jurisdiction has an online portal. These portals do not always work efficiently which extends and complicates the permitting process. In some instances, this leads to contractors foregoing the permit process altogether.
- **Heat Pump and Heat Pump Water Heater Installations** are complex and require a variety of knowledge. Creating educational installation/general knowledge coursework that includes a variety of professionals such as plumbers, contractors, installers, etc. would allow for standardized procedures and faster installs.
- **Standardized education should be created across a variety of professionals.** Requirements and education on temperature set points, thermostatic mixing valves, load calcs, safety bollards, modes, expansion tanks, HERS, fuse disconnect locations and HPWH sizing during replacements needs to be clarified state-wide to allow for projects to run smoothly.
- **Education on standardized processes should be provided industry wide.** A variety of professionals across California including electricians, plumbers, building departments, manufacturers and contractors would benefit from standardized education about the

complexities of HP/HPWH technologies and the proper install methods. Current best practices vary from contractor to contractor and lack cohesion.

### *Session 1 (Permit Applicant/Permit Review Discussion) - Key Takeaways*

- **The permitting process required to rewire a home for electrification should be clear.** Parties are proposing that having an electrician install multiple new circuits as necessary for future installation of major electric appliances and end uses (referred to as pre-wiring) is a cost-effective approach to help people get their homes ready to go all-electric. But many jurisdictions don't offer a clear path for getting this done, which can result in long lead times to get this type of work approved. -Suggestion to include plans for rewiring for several appliances rather than one to allow for future addition of electrification technologies to the home.
- **Complicated restrictions in a variety of areas need to be clarified.** Restrictions regarding venting, draining, setbacks and airflow make the installation of Heat Pumps/Heat Pump Water Heaters complicated and smaller jurisdictions do not have the capacity to efficiently handle the broad demands of these jobs.
- **Removing the division of labor for installs is key.** The installation process could be sped up by allowing licensed/trained plumbers installing HPWHs to pull an electric permit and install circuits. Similarly, options allowing electricians installing circuits for electrification technologies such as induction cooktops should allow these professionals to cap a gas line rather than call on a third party.
- **Clarify load sizing requirements especially in older buildings.** Incorrect load sizing creates additional barriers to best practice installation of heat pump water heater and heat pumps for space conditioning. However, documenting load sizing calculations for heat pump space conditioning projects in the permit application is one of the primary reasons people forgo HVAC permits in the first place.
- **Same day approval of HPWH /HP permits of permits at the counter varies across jurisdiction.** Petaluma and Sacramento both say same day approval is possible with Petaluma seeing virtual applications most of the time. Berkeley says their online process is speeding up. Roseville requires a site review with load verification which takes at least one day. A consistent application process within online portals throughout the state will simplify projects. However, allowing permits to be pulled without any plan check can put pressure on building inspectors in the field if installed equipment is not sized correctly or is otherwise non-compliant.

### *Session 2 (Heat Pump/Heat Pump Water Heater Discussion) – Key Takeaways*

- **Do not add increased restrictions to new technology like HPWH.** Requirements for heat pump water heaters should correlate with current standards for water heating equipment generally, to allow for ease of install/upgrade.
- **Differences in power requirements due to existing equipment at site need to be considered.** Installing heat pumps for space conditioning at a site with or without existing air conditioning can mean the difference between having to run new electric lines or not, which can change the scope and price of a project.
- **The industry needs to adjust to the change.** Installing a gas furnace that functions without complications is much easier than installing a HP. Refrigerant charge, static pressure in range and duct design are all areas in which HP installations have additional triggers and or considerations for code compliance.

- **Load calculations need to be accounted for in perceived cost of HP installations** along with other processes that make the work complex and add time to installations for all parties.
- **A two-to-three-day process may be better.** Rather than a one-day process, considering a longer turnaround time of 48-72 hours could allow for better quality control of this newer technology and safer installs. Inspection staff (especially in smaller jurisdictions) may not be prepared to handle a single-day permit with limited upfront review.