

Leading a Community in Planning for the Inevitable: Advance Planning for HVAC System Replacement

Kristin Heinemeier, Chris Granger, Monica Parisi, and Brandon Rueda, Cool Davis¹

ABSTRACT

It's a tale as old as the HVAC contractor: on the first cold day of the year your furnace takes the opportunity to breathe its last. Despite a desperate emergency service call, sadly, it's time to pull the plug. In your shock, and to get through the cold snap, you purchase whatever the technician has on hand. Had you planned ahead, you might have secured a smoother transition, but alas, you've now sealed your fate for the next 20-30 years.

But it didn't have to end that way. Making a plan for future replacement is essential to enabling homeowners to fully consider a range of options including higher-efficiency, all-electric systems, accelerated retirement, and accessing the ever-changing landscape of dealer promotions, rebates, and tax credits.

This presentation will describe a multi-year program by a community-based nonprofit to encourage homeowners to "Make a Plan" for household sustainability and energy efficiency, with a focus on HVAC and ultimately electrification. This benefits households, and at the same time helps to achieve community goals for carbon neutrality. The program includes in-person and virtual workshops with "Ask an Expert" breakouts, as well as on-demand recorded workshops, gatherings to provide peer-to-peer support, and home tours.

This paper will discuss the necessity of pre-planning and outline homeowner and contractor engagement considerations. It will present an evaluation of the program to date, and describe next steps for this program, including adapting the message for a less affluent rural community, and integrating with a pilot Home Energy Score program.

Planning for Household Energy Improvements

Importance of Planning

Making a plan for future improvements in a home's energy systems and operations is critical to making sure that it happens. Things don't always unfold according to plan, but without a plan, the path can be daunting and is not likely to be carried out. Figure 1 illustrates the way that an energy improvement project can feel at various places along its course: sometimes exciting, sometimes frustrating, and often somewhere in between (this diagram is based upon interviews of households engaged in energy improvements, conducted in collaboration with Cool Davis as part of a University of California, Davis course on sustainability—Afshar, Gomez, and Pandit 2020). Having a plan helps to maintain momentum despite the ups and downs of project considerations. Planning involves identifying past and future projects or activities that a household would like to someday undertake. These are in four categories:

¹ Cool Davis gratefully acknowledges financial support from the City of Davis, as well as logistical support through provision of data for engagement targeting and analysis.

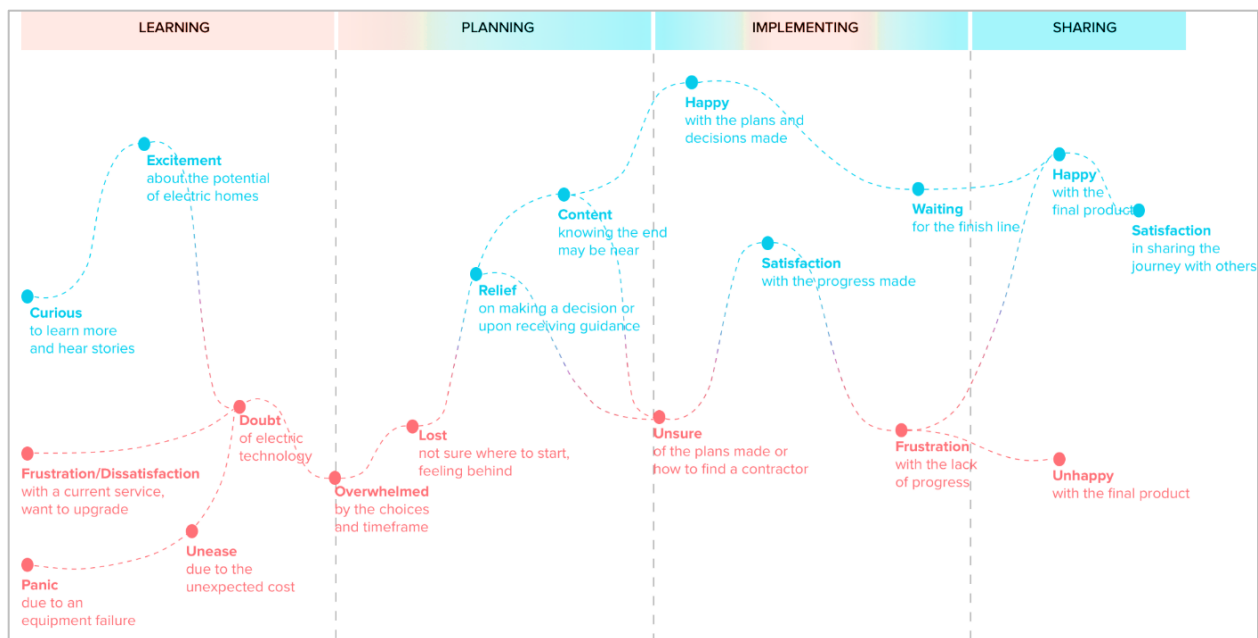


Figure 1. Emotions often felt throughout the course of an energy improvement project. *Source: Afshar, Gomez, and Pandit 2020.*

- Past: Improvements in systems as well as behavior that have already been accomplished—celebrate them and understand that path that you are already on.
- Now: No reason not to do it now—what are you waiting for?
- Soon: Waiting on something—maybe you need to accumulate savings to pay for it, or to combine with other related projects (for example, install solar when re-roofing, replacing windows when re-siding the home). This can include waiting for incentives or tax credits to be put in place, waiting for a sales or promotions, or waiting to see how your neighbor’s project turns out.
- End of life: Waiting for the natural order of things for replacement of a system or component when it is no longer functional or is not functioning reliably or efficiently.

Maintaining a record of this plan—maybe posting it on the refrigerator door—provides ongoing reminder and encouragement.

Examples of Planning and Planning Approaches

Table 1 shows an example of a plan for one home in Davis, California. It shows all of the improvements and operational or behavioral changes that affected their home’s sustainability over the years, as well as planned improvements. It also shows how the plan unfolded: the home was sold before much of the plan was implemented, and some of the new sustainability features were beneficial selling points. The homeowner also used this plan as the basis for developing a plan for their new home.

Table 1. Example of a plan for sustainability

PAST ACCOMPLISHMENTS		PLANNED IMPROVEMENTS	
2005	• Bought home • Replaced one bedroom window when it broke • Started composting yard waste • Replaced incandescent lighting with CFLs • Installed ceiling fans in family room and every bedroom	Now	• Replace showerhead in guest bathroom • Start a maintenance contract for HVAC
2006	• Bought box fan for window • Thermostat management • Replaced CFLs with LEDs • Removed window coverings	Soon	• Replace all smaller windows
2007	• Took out lawn in front and planted low water landscaping	End of life	• Replace back lawn with drought-tolerant landscaping • Replace roof • Get an electric car • Replace dryer • Replace big sliding glass and picture windows and clerestories
2008	• Replaced refrigerator	ACTUAL	
2010	• Installed submetering • Reduced clothes drying time • Rebuilt AC	2018	• Sold house!
2011	• Large energy project: Solar, HVAC replacement, water heater replacement		
2012	• Replaced dishwasher		
2013	• Installed reclaimed hardwood floors		
2014	• Stopped watering lawn		
2015	• Paid off solar loan • Replaced clothes washer when it broke down		

As an example of two different ways to approach planning, Figure 2 shows possible ways to stage different home electrification upgrades. The first approach to home electrification—strategically making improvements to enable the next steps—is conventional wisdom and thought to be more prudent. The second approach—which reflects a different set of drivers, in this case a desire to install solar because rebates, tax credits, or financing are available, or because friends or neighbors have installed it—is just as reasonable, and can be strategic as each improvement ultimately relies on the next improvement to achieve the best performance, leading to momentum in staging projects. Every homeowner will have their own approach to planning and this should be recognized and reflected in education and engagement programs.

Making a plan has the advantage that it provides the opportunity to make the best and most opportune purchases. For example, if a water heater suddenly fails, a household will have to find a replacement rapidly, because it is difficult to live without hot water for very long. These rapid replacements can offer limited choices, as a contractor may only have certain models or technologies in stock, and it may take lead time to order anything other than the most basic models. If a homeowner can begin thinking about eventual replacement before it becomes a

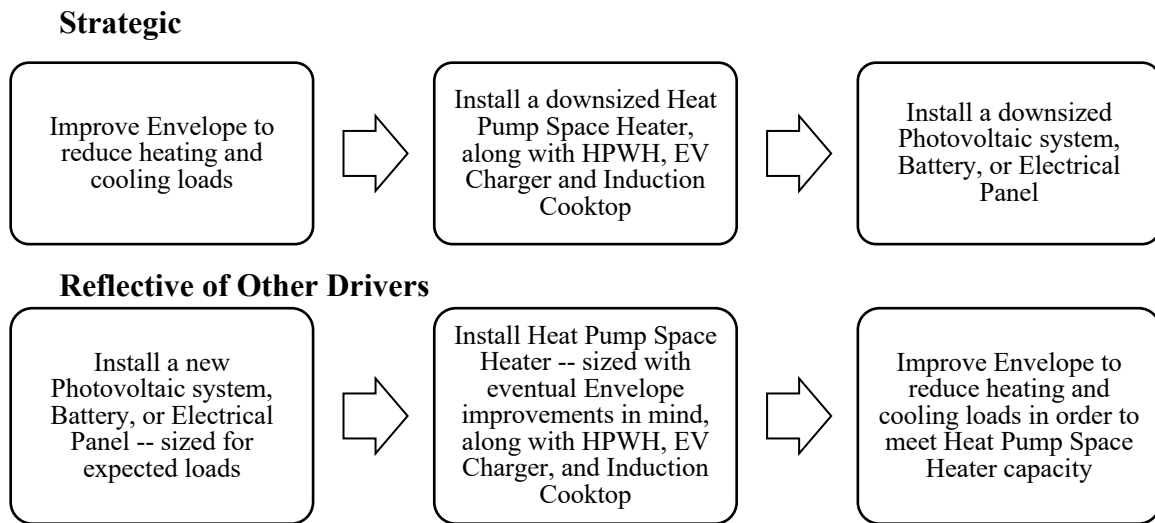


Figure 2. Different approaches to staging improvements

crisis, they can have an idea of the options they would like (such as technologies, efficiency options, manufacturers, features) and they can move quickly when the time is right—hopefully before failure. They can be on the alert for sales, incentives, tax credits, and financing—all of which can have limited availability and require moving quickly. Homeowners should be prepared to be flexible, ready to change the plan as they get new information or as new opportunities arise. All of this is facilitated if a homeowner can get to know a local contractor early so that they can be alerted to opportunities as they arise or face shutdown. A maintenance contract is a wonderful way to develop a relationship with a contractor and try them out to assess whether they would be a good choice to install a replacement eventually.

Cool Davis Home Energy Campaign

Cool Davis—a not-for-profit community-based organization located in Davis, California²—identified almost a decade ago, after engagement with households and local contractors, that planning for a series of sustainability-themed home improvements is critical to encouraging households to get started and to continue making progress. Once they have an urgent problem, they may already have a specific solution in mind and be less apt to consider other solutions. Trusted third parties can play an important role in connecting with household decisionmakers before this urgent situation arises. The “Make a Plan” concept is a major theme of their programming.

Davis California

Davis is a mid-sized city in the California central valley, a bedroom community for state workers in Sacramento, located about halfway between the San Francisco Bay Area and Reno, Nevada. It has a permanent population of about 67,000, supplemented by a large population of

² cooldavis.org

students from the third-largest campus of the University of California. It is a college town, with a large number of university employees and state workers. It is within Yolo County, which also includes several lower-income towns.

With its mix of education levels, it has a relatively high awareness of climate change and of sustainability issues. In 2023 the city updated its 2010 Climate Action and Adaptation Plan (CAAP) for 2020-2040, set an expedited goal for zero net-carbon emissions by 2040, and established targets for household electrification (City of Davis 2010 and 2023). While various mandatory approaches to spurring electrification were considered, the final document identified goals for voluntary action. The plan stated that after three years' time, the city's electrification progress would be assessed, and the idea of mandatory requirements might be revisited. It was recognized that doing the household engagement necessary to meet these goals would require the participation of community organizations like Cool Davis.

Cool Davis

Cool Davis has been a mainstay in the Davis community for over sixteen years. In 2010, the City of Davis convened local climate-oriented organizations to plan for the next steps in order to help implement the 2010 Davis CAAP. Out of that discussion several community members stepped forward to form Cool Davis as a non-profit community organization dedicated to engaging households in greenhouse gas (GHG) reduction. Cool Davis's vision is for a climate resilient region where everyone has equitable access to resources for sustainable, healthy lives, and they work to create enduring community resilience through equitable and inclusive strategies that lower greenhouse gas emissions and help the region adapt to a changing climate. As a "trusted messenger" in the community, its goal is to educate and inspire. It is not to sell products or to make money. The community trusts their unbiased approach. Additionally, the organization has the expertise and the networking abilities to find solutions to the issues that face the community as well as to achieve carbon neutrality goals. While Cool Davis was launched to help achieve Davis's goals, it has recently expanded its mission to include all of Yolo County, including lower income surrounding areas that are a mix of suburban and rural communities. It also includes unique communities such as farmworker housing and tribal lands. Cool Davis has separate areas of programming to promote different dimensions of sustainability, such as home energy systems, home energy behaviors, solar, electric vehicles (EVs), consumption (plant-based eating, water conservation, and waste reduction), and transportation.

Outreach to households is a major element of Cool Davis activities. This outreach is often based on the Community-Based Social Marketing approach developed by Doug McKenzie-Mohr (McKenzie-Mohr and Tabanico 2024). Cool Davis's outreach has included the following types of efforts:

- Monthly outreach at the Davis Farmer's Market: a *de facto* community-wide gathering for Davis. Each month has a separate theme, and whenever possible local experts and contractors are on hand to answer questions.
- Outreach at local community events such as the Davis Pride Festival, the California Honey Festival, and California Duck Days.
- Help Desk: A Help Desk engagement opportunity is suited for individuals who are "stuck" or need a personalized answer for their home energy. The Help Desk is staffed by

Cool Davis employees and volunteers, and any questions that they cannot answer are referred to local experts.

- **Webpage:** The Home Energy webpage for Cool Davis is a gold mine for improving any home's energy. This level of engagement is perfect for people needing some level of inspiration or knowledge to help them get started or move forward. The website has articles on how to plan for your home's energy use, what to ask for from contractors, lists of local "cool" contractors, resources on available technologies, tutorials for DIYers, and many stories of how other homeowners in Davis have successfully upgraded their home energy.
- **Monthly Newsletter:** A monthly online newsletter emailed to a list of individuals who have participated in any Cool Davis events or requested information. This newsletter includes articles on the whole range of Cool Davis topics. With a typical open rate of almost 50% and click-through of almost that percentage, it is effectively reaching a large fraction of the community.
- **YouTube Channel:** The "LiveCoolDavis" YouTube channel includes recordings of all the webinars, as well as videos developed by staff and local volunteers on Home Cooling, Precooling, Loadshifting, Evening Cooling, Changing HVAC Filters, and Why should Davis get off Natural gas?
- **Social Media Engagement:** Online content through Facebook, Twitter, and LinkedIn allows for focused engagement to a target audience that prefers receiving content through a feed type mechanism.

Cool Davis Home Energy Campaign

As one of the pillars of the organization's programming, Cool Davis launched its Home Energy Campaign in 2017. The focus of Home Energy engagement is to educate homeowners on the long-term benefits of installing energy efficient systems as well as to demonstrate the influence that home energy efficiency has on factors such as HVAC system sizing, cost, and comfort. When households address energy deficiencies, they lower their heating and cooling load resulting in a smaller, less expensive system. This programming has a focus on HVAC systems, and an emphasis on electrification to help achieve community decarbonization goals. Part of the Cool Davis solution is to craft roadmaps for households to guide them to lower home energy usage and leading to replacement of fossil-fuel fired end uses with electric ones. Additionally, Cool Davis emphasizes engagement through storytelling rather than lecturing. Neighbors share their retrofit stories with one another, providing motivation to one another, helping overcome barriers to action, and giving confidence.

Home Energy programming is planned with input and leadership from a community Home Energy Task Force. This group assists Cool Davis in design and oversight of campaigns by assisting with setting goals, identifying barriers and proposed solutions, providing feedback, and sharing data to improve and refine the Home Energy campaigns. The Task Force meets monthly, and its members are shown in Table 2.

Table 2: Roles of Home Energy Task Force members

Cool Davis staff and board members	Facilitate the process and ensure that it is meeting the objectives of the organization
Industry representatives such as HVAC contractors	Address the current state of home improvements and to understand market trends
Building energy analysts	Address the current technology, cost analysis and accumulated carbon impacts of home energy retrofitting
City representatives	Liaise with city departments and address city permitting and policy around retrofitting houses
Housing stock representatives	Address the diverse needs of the community to include single family, multifamily, rentals and low income
Technology experts	Address up-and-coming technologies and methods to manage home energy
Social and behavior experts	Address the motivations and methods that influence changes in behavior to address home energy
Resident representatives who have taken steps towards ZNE	Share stories of how people in the community are overcoming barriers to home energy upgrades
Utility representatives, from the local Community Choice Aggregator (CCA) and Investor-Owned Utility (IOU)	Address larger scale distribution impacts and address utility rebates and incentives

The Make a Plan Campaign

A major part of the Home Energy Campaign is a call for households to “Make a Plan.” Since Davis has a limited footprint, there is relatively little new construction in any given year, and 72% of the single-family detached homes in Davis were built before 2000 (based upon Cool Davis analysis of city and county housing data). The focus of most of its efforts is on existing homes, as the GHG footprint of these existing homes is a significant contributor to the community’s GHG emissions. Energy upgrades of these existing homes rely heavily on the homeowner’s initiative and can be confusing, intimidating, and complicated. Helping households to navigate the process and to be aware of the benefits of improving their home energy usage is the best way, currently, to address the energy usage of the existing housing stock.

In Davis, there are on average 600 Heating Ventilation and Air-Conditioning (HVAC) system permits for single family homes every year. The Make a Plan strategy is to use these HVAC replacements or repairs as an intervention point for household education. Due to its close partnership with the City of Davis, Cool Davis has access to the city’s permit database³, and is able to identify homes that may be due for an HVAC replacement (they haven’t received an HVAC permit in the past 15 years), *before* the systems fail. Since the typical life expectancy for an HVAC system is about twenty years, this is a useful way of identifying homes that may be

³ Davis is unique in that it requires resale inspections at which point any unpermitted work will be required to be addressed and permitted. One result of this is that the database of all permits issued is relatively accurate.

due for an HVAC upgrade shortly. Furthermore, using these data with Geographic Information Systems allows identification of neighborhoods with a large fraction of these homes, for use in targeting programming at these neighborhoods. Cool Davis maintains that a focus on neighborhoods is one excellent way to foster community relationships and resilience and promote action. Using city permit data Cool Davis identifies households that are heading towards system replacement and engages them to “Make a Plan” before their inevitable system failure.

In 2017, Cool Davis received funding from the City of Davis for Make a Plan program design, focus groups, and piloting. These activities were a beginning point for continued work with households on a variety of home energy and other GHG reduction strategies, providing intervention at strategic moments to enhance reduction outcomes.

Make a Plan Events

Building on outcomes from the pilot program, Cool Davis has been able to practice the various types of engagement opportunities and establish the Make a Plan Campaign with new households in targeted neighborhoods where systems are starting to fail. The Make a Plan Campaign engages a significant number of new households in energy retrofit of their homes with good information to make better decisions. The Make a Plan outreach is also designed to encourage next steps in energy efficiency crossing over to other Cool Davis campaigns, such as Solar and EVs.

The Make a Plan campaign has evolved over the years to include a number of different types of events, as shown in Table 3.

Table 3. History of Make a Plan events

Jan 1, 2019	Pilot Workshop, at a community center. The workshop included a number of information stations, such as Understanding Your Bill, Permit Questions, Thermostats, Repair vs. Replace, Rebates and Financing, City Building Department, Valley Clean Energy (local CCA). This workshop had approximately 70 people attending, with 66 pre-surveys completed. The results of the surveys documented households’ motivations and barriers to improving their home heating and cooling systems that helped guide future workshops.
Aug 1, 2021	Switched to webinar format (due to COVID restrictions). The session was recorded and published in Cool Davis’ YouTube channel. The webinar included breakouts on Financing, Contractor Q&A, and Electrification. The webinar had 64 online participants, and over 80 subsequent views on YouTube. Participating contractors reported providing 22 free audits to participants, resulting in ten replacement projects.
May 26, 2023	A “Wine Down Energy Fair” in a neighborhood with mixed housing types, with a large proportion with an upcoming need for HVAC replacement.
Oct 8, 2023	Information fair and drop-in workshops at a townhouse/condo complex, undergoing site-wide mandatory home electrical panel replacements.

Jan 21, 2024	Follow-up webinar at the townhouse/condo complex, followed by a tour of one home.
Aug 29, 2024	Home tours in neighborhood with mixed housing types
Dec 14, 2024	Webinar including presentations from volunteers, HVAC contractor, local Community Choice Aggregator, recorded for use in different ways, and for access on YouTube. 36 individuals attended, and there was a lively Q&A on chat the webinar chat. Contractors received requests for follow-up information.
July 26, 2025	Hybrid peer-advising session
Oct 9, 2025	Hybrid event at golf course event room within a neighborhood with many homes with systems approaching replacement. Information stations with contractors and homeowners who had done work. Q&A online.
Oct 18, 2025	Event at community center in a neighboring rural community with lower income residents and a large Spanish-speaking population. It included a Make a Plan drop-in workshop and information stations.
Nov 8, 2025	Home tours with four homes throughout city.
May 17, 2026	Make a Plan workshop at Davis Senior Center, followed by home tours

Important Components of the Make a Plan Programming

Some of the most important components of Make a Plan activities have included:

- **Identification of attendees most likely to replace systems.** Most of the Make a Plan events have utilized building permit data (provided by the city) and graphical-information-systems to identify neighborhoods with more homes with “older” HVAC systems (i.e. homes that have received no energy-related permits in the last 15 years).
- **Resources at event.** Presentations made at the workshops are provided by a combination of local energy experts and service providers. Information stations and webinar breakouts are sometimes provided to allow attendees to ask questions relevant to their situations and plans. This allows for more interactive information sharing, individualized guidance, and a variety of voices fielding questions throughout an event. These have resulted in lively one-on-one exchanges and group discussions. While most households are looking for input from experts, there is also an important role for encouragement from their peers. For this reason, peer-to-peer advising has been seen as one of the effective ways to remove barriers. This facilitates questioning from more timid participants and builds community as neighbors advise neighbors. Printed materials are made available, including a handout describing how and why to make a plan, providing a template for recording intended actions and information and links to describe specific technical measures. One unique element of these workshops is that event participants are provided with a customized report generated by a query of all HVAC permits taken out for their

home since 1991, to help them understand whether or not their systems should be considered for replacement. This is sometimes used as a “perk” to encourage completion of a survey.

- **Format.** Several different formats have been used for Make a Plan events. Several of the live and virtual events were recorded so that they could be made available on YouTube for on-demand viewing. This enables for the events to have a life beyond the original event date, allowing for providing the information again without requiring the same expert to present the material again, and for repackaging for different targeted events. Several of the events were combined with tours of local homes that are in the process of making a plan and implementing it. These are typically staffed by contractors, homeowners, and experts, to provide an opportunity for households to get their questions answered while getting a feeling for what an improvement looks like and what the process experience is like. Recent events have combined these formats—combining workshops, information stations, and home tours. This “one-two-three” punch opportunities can be offered simultaneously, on the same day, same weekend, or a week or more later. This has proven to be an effective way to address multiple types of barriers while the information is still fresh in memory.
- **Follow-up.** Follow-up is critical to making sure efforts are likely to spur action. Pre-and-post surveys are an important way to help understand how well received the events are, as well as to gauge the impact of the event in terms of intent to make improvements and success in implementing the improvements. They also provide an effective mechanism for timely reminders to encourage participants to take next steps that they identified as appropriate to them, or making them aware of other programs that may be good resources for them. For many of the events that included contractors and other service providers, a free audit was offered. The service providers generally felt that this made the event worthwhile and resulted in leads for work that wouldn’t otherwise have been generated.

Results of Make a Plan Campaign

Attendees at most Make a Plan events were asked to complete a pre-and post- workshop survey. The pre-survey enabled presenters to understand the audience and their home heating and cooling situations and challenges, and to record what home energy work they have previously accomplished and what their intention is to do more work, and what barriers are keeping them from doing it. Post-surveys gauge participants’ level of satisfaction with the workshop and what they learned. Telephone de-briefs were conducted with many of the “experts” and volunteers who participated to get their feedback and suggestions, and contractors reported how many of the participants took advantage of the audits that they provided free of charge to participants, and how many of these resulted in system replacements. In addition, because most participants provided their home addresses, it is possible to identify previous energy-related building permits, and to track actions over time.

The workshops were very successful, according to responses from participants. For the 2019 workshop, for example, when asked about what challenges face them regarding their HVAC systems, almost 40% of participants reported high energy bills, and two-thirds reported that their system is old. Their main barrier to planning and taking action is that they don’t know

where to go for information. In the post-workshop survey, more than 70% reported that they now know where they can go for help and that they have more confidence.

The figures that follow are based upon analysis of building permits, provided by the City of Davis. Figure 3 shows actions that were taken overall citywide (by all single-family homes that had systems at least 15 years old as of 2019) and those that participated in 2019 and 2021 workshops. Of those who took out an HVAC related permit, some installed a heat pump (including minisplits), a cooling-only air conditioner system, a natural gas or hybrid gas/electric system, or ducts or insulation. The type of work that was done had to be gleaned by identifying keywords in a text field, and in many cases, it was impossible to determine from the permit information what kind of work was done. Between January 2019 and August 2024, 2405 out of 9659 of the non-participants with older systems took out an HVAC-related permit. Over this same period, 17 out of 43 2019 workshop participants took out HVAC permits, and 31 out of 92 2021 participants took out HVAC permits. Of these permits, 71% were for heat pumps for the 2019 workshop participants, and 35% for the 2021 workshop participants. This is in contrast with 46% for non-participants. However, 11% of permits were for gas-related systems citywide, while there were no gas-related systems installed by participants.

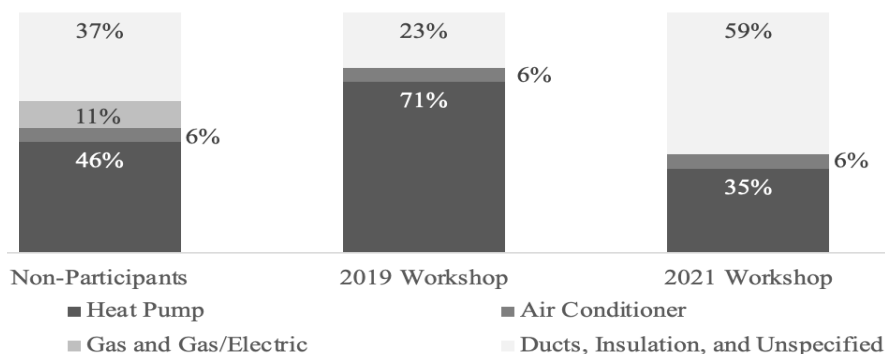


Figure 3. Percent of the all the workshop participants (and non-participants) that took out a permit for HVAC between January 2019 and August 2024 that undertook the specified type of action. *Source: analysis of City of Davis permit data.*

Figure 4 shows the results for participants of the October 2023 and January 2024 workshops and home tours at a townhouse/condo complex that received a requirement from the sitewide insurance carrier to have Zinsco electrical panels⁴ replaced in all housing units. Because households faced this expensive replacement, they were motivated to learn more about electrical panels. Cool Davis realized that this was an opportune time to discuss that and other measures that might be done in conjunction with the panel replacement. Figure 4 shows the fraction of all these households (workshop attendees and non-attendees) that took out permits for electrical panel replacement and/or HVAC work since 2023. It also shows citywide rate of panel replacements and HVAC permits since 2023 in the 1,202 single-family condos citywide that are not at this complex. As of August 2024, over 80% of the workshop attendees implemented panel replacements. Homes at this complex that did not attend one of the events did panel replacements

⁴ “Zinsco”-branded electrical panels, commonly installed through the mid 1970’s, have many design flaws that lead to potential fire hazards. They are no longer installed, and where they are present, it is advised to replace them.

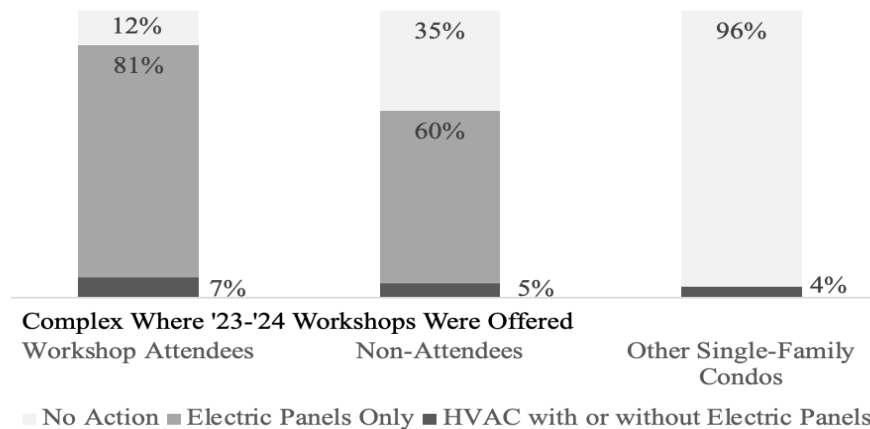


Figure 4. Percent of single-family condos that took out a permit for HVAC or electrical panel replacement between January 2023 and August 2024. *Source: analysis of City of Davis permit data.*

at a lower rate of 60%, while citywide no panel replacements were done during this period. 7% of attendees did HVAC replacements, while only 5% of the complex's non-attendees did HVAC replacements. City wide this fraction was only 4%. It should be noted that workshop attendees were likely to be more motivated and more interested in replacements than non-attendees, so it cannot be proven that the workshops were what provided the extra motivation to take action.

Figure 5 shows the overall percentage of HVAC permits citywide that were determined to be heat pump replacements. The percentage was quite low in 2010 and has been steadily increasing: heat pump replacements now represent about a third of all HVAC permits. Figure 5 also shows the timing of Make a Plan workshops. Of course, there are many other factors that went into the increased prevalence of heat pump installations (such as rebates and tax credits and contractors' growing familiarity with the new technology). But the education and engagement provided by Cool Davis in its Make a Plan program is likely to be helping to reinforce this trend.

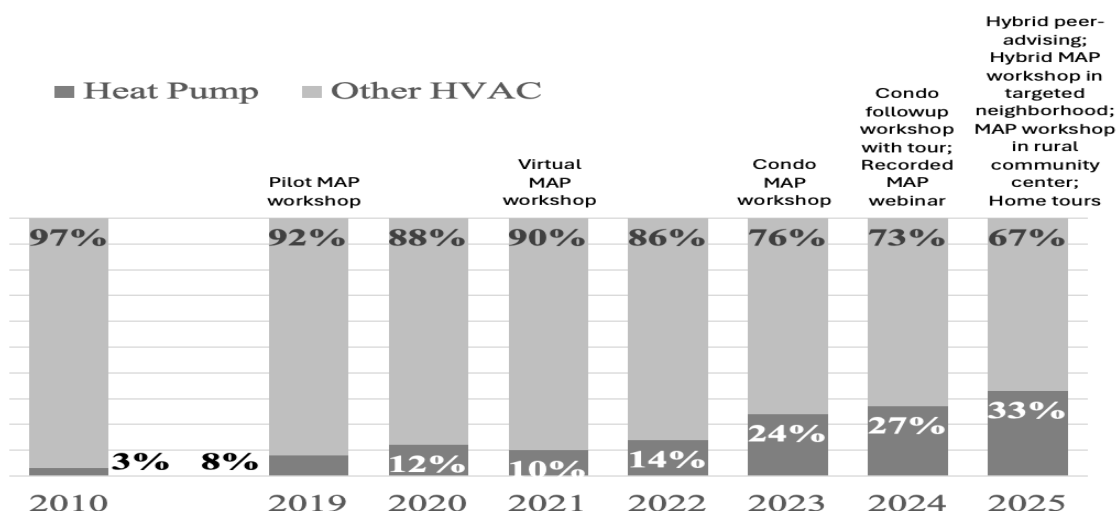


Figure 5. Percent of HVAC permits in a given year that were for Heat Pumps or for other HVAC work, and Make a Plan event timing. *Source: City of Davis permit data.*

Conclusions and Next Steps

Since 2010, Cool Davis estimates that it has effectively reached as many as 10,000 households with general outreach activities, events, and festivals. Outcomes expected from the Cool Davis Make a Plan campaign include a lower carbon footprint of the entire community, improved resilience and disaster preparedness, and a reduction in the scale and frequency of future climate emergencies. Some of the next steps for this successful campaign include:

- Consider providing additional workshops on location with community partners—such as faith communities, schools, senior centers, and community centers—in addition to additional neighborhoods
- Work with other community partners, such as realtors and property managers.
- Adapt outreach to further support implementation of CAAP action plans.
- Focus on additional measures such as solar and EV implementation and address other barriers such as lower-awareness households.
- Develop more of a focus on rentals, including both single-family and multifamily, targeted at renters, landlords, and property managers.
- Develop more of a focus on rural communities, low-income households, and providing workshop presentations and materials in other languages,
- Integrating with a local pilot and upcoming statewide program for offering Home Energy Scores—designed to drive more households to these programs and to provide programming that will ensure that households can turn their scores into actionable intelligence.

This has been proven to be a useful way to open a dialogue with households to allow for future engagement in other topics such as sustainable transportation, consumption, food, and water conservation.

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