



# Energy Efficiency and Building Electrification Project Success Tools

## Final Report

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## Executive Summary

The CalNEXT program conducted the Energy Efficiency and Building Electrification Project Success Tools study to examine the role of contractor-facing software tools in enabling high-quality energy efficiency and building electrification project delivery across California. The project responds to ongoing market challenges related to contractor participation, project complexity, and administrative burden associated with utility programs.

This CalNEXT project consisted of three core activities: (1) a review of a sampling of commercially available software tools that support contractors engaged in heating, ventilation, and air conditioning (HVAC) and related trade work; (2) an assessment of contractor awareness, adoption, and use of these tools; and (3) the development of a prototype buyer's guide intended to illustrate how a buyer's guide tool might align common project milestones and barriers with relevant tool categories.

The overall objective was to identify opportunities for improving contractor efficiency and program outcomes through better alignment between contractor software workflows, available software, and utility program requirements.

The research evaluated tools across the full HVAC project lifecycle, including marketing, lead generation, sales, financing, contract management, project specification, scheduling, field execution, quality assurance and quality control (QA/QC), and refrigerant management. Findings indicate that while a wide range of tools exist to support individual phases of project delivery, contractors frequently encounter challenges related to fragmented software ecosystems. For example, there is limited interoperability, and the cumulative burden of adopting and maintaining multiple platforms is a significant issue.

Contractor interviews and market research further identified software fatigue, insufficient training resources, and misalignment between software functionality and utility program processes as significant barriers to effective tool adoption. These factors often limit the practical value of available tools and contribute to continued reliance on manual processes, even where digital solutions are available. The findings also highlight gaps in education related to both software use and underlying technical and regulatory requirements relevant to energy efficiency and building electrification projects.

In response to these findings, the project developed an evaluation framework and a prototype buyer's guide to illustrate how this may help contractors, utilities, and program administrators identify tool categories that address specific project barriers. The guide is not intended to be considered complete or representative of all tools in market; rather, it is meant to demonstrate how to inform decision making, reduce trial and error adoption, and improve alignment between contractor operations and utility program objectives. The report also identifies opportunities for utilities and program implementers to incorporate contractor tools into program design, technical assistance, and outreach strategies in ways that reduce administrative burden and support consistent project quality.

Overall, the study concludes that contractor software tools—when appropriately selected, integrated, and supported—may improve participation in energy efficiency and building electrification programs, enhanced project quality, and more efficient program delivery. It should be noted that this project

only reflects research on approximately 5 percent of the software tools on the market, meaning additional research is necessary to explore all functionalities available.

The findings and recommendations presented in this report are intended to inform future program design considerations and the future build out of a functional buyer's guide with a software database, as well as to support CalNEXT's broader market transformation goals.

## Abbreviations and Acronyms

Acronym	Meaning
ACCA	Air Conditioning Contractors of America
AI	Artificial intelligence
API	Application programming interface
BayREN	Bay Area Regional Energy Network
CEDARS	California Energy Data and Reporting System
CRM	Customer relationship management
DOE	US Department of Energy
EPA	US Environmental Protection Agency
HVAC	Heating, ventilation, and air conditioning
IHACI	Institute of Heating and Air Conditioning Industries
IOU	Investor-owned utility
kWh	Kilowatt-hour
QA	Quality assessment
QC	Quality control

# Contents

Energy Efficiency and Building Electrification Project Success Tools .....	i
Executive Summary .....	iii
Abbreviations and Acronyms .....	v
Introduction .....	1
Background .....	1
Objectives .....	3
Methodology and Approach .....	4
Tool Functionalities .....	4
Tool Evaluation .....	4
Interviews .....	5
Creation of a Timeline Buyer’s Guide and Recommendations .....	6
Findings .....	6
Sources for Contractor Tools .....	6
Tool Functionalities by Project Lifecycle .....	6
Estimated Savings Methodology .....	15
Tool Evaluation .....	18
Interview Insights.....	22
Software Training Available .....	25
Buyer’s Guide Framework.....	26
Applying the Buyer’s Guide to Real Contractor Challenges .....	28
Recommendations .....	33
References .....	36

## Figures

Figure 1: Buyer’s Guide Framework software tool selection process.....	28
Figure 2: Buyer’s Guide Framework Scenario 1 tool priorities. ....	30
Figure 3: Buyer’s Guide Framework prototype searchable database Scenario 1 results. ....	31
Figure 4: Buyer’s Guide Framework Scenario 2 tool priorities. ....	32
Figure 5: Buyer’s Guide Framework prototype searchable database Scenario 2 results. ....	33

## Tables

Table 1: Initial round of interviews conducted.....	5
Table 2: Tool functionality project lifecycle stages. ....	7
Table 3: Relevant measures from the California Electronic Technical Reference Manual.....	16
Table 4: CEDARS program savings data.....	16
Table 5: Tool evaluation. ....	19

## Introduction

Heating, ventilation, and air conditioning (HVAC) contractors working on energy efficiency and building electrification projects often face technical and administrative compliance challenges. To support them, various organizations—including for-profits, nonprofits, manufacturers, and state agencies—have developed software-based tools designed to improve project results and success. These tools assist with tasks such as HVAC sizing, commissioning, and troubleshooting, as well as analyzing bill impacts. Additionally, they can help ensure the successful completion of project milestones, such as closing sales of high energy efficiency in equipment and shell measures, scheduling, design and specifications, installation and execution, quality assurance, commissioning, rebate applications, refrigerant charge, airflow, system design and sizing, and project closeout. Tools may also enable remote mentorship, accelerating skill-building for junior technicians and helping attract new participants to the workforce.

While these project success tools offer significant potential, their use among contractors has been limited. This market study aims to identify the reasons behind low tool uptake and suggest ways to increase their use among California contractors. Understanding these barriers will help investor-owned utilities (IOUs) and other interested stakeholders build a stronger HVAC workforce, increase heat pump adoption, and improve the quality of installations both in rebate programs and in general in the market.

This CalNEXT project includes three activities: a review of available tools, an assessment of tool awareness and use among contractors, and the creation of a prototype buyer's guide that aligns project milestones with appropriate tools—and that will help contractors and utilities more quickly find tools that remove barriers to completing high-quality energy efficiency projects. While the guide is not intended to be considered complete or representative of all tools in market, it illustrates the framework that may help contractors, utilities, and program administrators identify tool categories that address specific project barriers.

## Background

The HVAC industry is experiencing significant strain, driven by energy efficiency and decarbonization initiatives, workforce shortages, rising customer expectations, and the need for greater operational efficiency. In response, researchers and innovators are turning their attention to how software and technologies can support contractors in improving installation quality and streamlining business operations. Recent studies point to the transformative potential of digital platforms, automation, and smart diagnostics, which promise not only better technical outcomes but also relief from the administrative and labor challenges many contractors face.

A 2018 review by the US Department of Energy (DOE) underscores the urgency of these improvements. Drawing on research spanning two decades, the DOE found that 70 percent to 90 percent of HVAC installations in single-family homes had at least one fault, with that figure rising to nearly 100 percent when duct leakage was included (DOE Office of Energy Efficiency & Renewable

Energy 2018). These faults contribute to 20.7 terawatt-hours per year of excess energy use, costing ratepayers \$2.5 billion annually. For example, undercharging the refrigerant<sup>1</sup> by 20 percent to 30 percent in air-source heat pumps increased energy use anywhere from 6 percent to 23 percent, while overcharging led to an increase in the range of 4 percent to 14 percent (Winkler, et al. 2020). Despite the scale of the issue, the industry has been slow to adopt corrective measures, and the DOE concluded that training and standards alone are insufficient to drive meaningful change (DOE Office of Energy Efficiency & Renewable Energy 2018).

Recent studies have highlighted both the benefits of software tool use and the relative lack of tool adoption in the market. The HVAC School and WorkHero Industry Pulse Survey, which gathered input from over 1,000 professionals, identified two major concerns: the administrative burden of running a business and the difficulty of finding, training, and retaining skilled technicians. Business and management training emerged as the top priority, signaling a need for leadership and operational support alongside technical skills. However, despite the availability of digital tools, only about half of small HVAC companies use field management software, and just 3 percent are experimenting with artificial intelligence (AI) technologies like large language models, revealing a significant gap in technology (DOE Office of Energy Efficiency & Renewable Energy 2018) (WorkHero 2025).

Another study, conducted by Southface Energy Institute and funded by the DOE, examined the impact of smart diagnostic tools—specifically, the measureQuick HVAC app—on system performance and contractor businesses. These tools enable more accurate commissioning and fault detection, reducing energy waste and improving reliability. The research found that tools like measureQuick, which integrate seamlessly with Bluetooth-enabled instruments, can streamline workflows, reduce callbacks, and boost profitability. However, adoption depends on ease of integration, training availability, and alignment with existing business models. The study emphasized that education, incentives, and user-friendly technologies are key to accelerating high-performance HVAC practices (DOE Office of Energy Efficiency & Renewable Energy 2024).

Additionally, Efficiency First California's<sup>2</sup> research highlights the importance of aligning programs with contractor realities. Their research points to a persistent disconnect between policymakers and energy efficiency programs on one hand, and contractors on the other, especially in the design of rebate programs and the promotion of technologies like heat pumps. Contractors often operate within complex business ecosystems involving exclusive relationships with manufacturers and distributors, which include co-branded marketing, volume discounts, and special pricing that may limit equipment selection.

These arrangements make switching equipment brands or adopting new technologies financially risky. Additionally, it is often burdensome for contractors to handle rebate submissions, and they may opt to pay for third-party providers to submit this paperwork for customers. Without contractor

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<sup>1</sup> Each HVAC or heat pump system requires a specific amount of refrigerant per the manufacturer's specifications. Therefore, insufficient refrigerant reduces efficiency.

<sup>2</sup> Efficiency First California supports contractors by advocating for policies that reflect their business realities, providing resources and training, and serving as a bridge between contractors and policymakers to promote the adoption of clean energy solutions.

input, programs risk misalignment with real-world constraints and low participation rates (Cormany 2025).

HVAC contracting companies range greatly in size, and their needs vary depending on their growth trajectory, number of contracts, magnitude of revenue, and number of technicians in the field. According to a 2024 estimate by the Building Performance Association, E4theFuture, and BW Research Partnership, more than 40 percent of energy efficiency businesses in California—including HVAC firms—employ only 1 to 5 people, while 93.5 percent of such companies have fewer than 100 employees. By necessity, the smaller companies that constitute the greater part of HVAC contracting companies have employees that serve many functions, whether they have relevant skills or not. The dominance of small contractors in the industry underscores the need for tools, training, and support systems tailored to the realities of small business operations (E4The Future 2024).

These findings suggest that tools must be intuitive, compatible with current practices, and offer clear operational and financial benefits for widespread adoption in the HVAC industry. There is a growing opportunity to support contractors through mentorship, training, and tool development that meets them where they are and helps drive the adoption of tools that make completing high-quality energy efficiency projects easier.

## Objectives

This market study will provide insights to help increase the adoption of software tools among HVAC contractors and support the growth and expanded capacity of the HVAC contractor base. When relevant, this study focused mostly on contractors with less than 100 employees, with additional emphasis on even smaller companies serving disadvantaged communities. The prototype buyer's guide is intended to directly support the increased uptake of helpful software in this demographic. In turn, this will increase the adoption of heat pumps and allow IOUs to achieve decarbonization and energy efficiency goals through broader program participation and improved HVAC design and installation practices. It will also address challenges related to the refrigerant transition and the safe handling of A2L refrigerants. By offering a clear understanding of the types of available tools and their applications, this study aims to guide California's HVAC industry towards greater efficiency, compliance, and quality in project delivery.

The short-term outcome is to make resources available that inform utility rebate program design efforts to include contractor tools, which will increase the number of participating contractors and improve the quality and quantity of energy efficiency and building electrification projects submitted. This may be through recommendations on incentives, program-sponsored access to training, or the use of the prototype buyer's guide. The market study report will have suggestions for incorporating contractor tools and the buyer's guide into utility programs, and what to consider when doing so.

Long-term outcomes include helping the market understand contractor success barriers that still need solutions, the quality of existing contractor software tools, pathways to suggest features and capabilities for new and existing tools, and the opportunity to coordinate siloed tools to streamline contractors' use of different software. The report includes suggestions on how to achieve this.

## Methodology and Approach

This project includes three components: (1) a review of available tools; (2) an evaluation of tool awareness and use, including an analysis of tools and interviews with contractors; and (3) the creation of a prototype buyer's guide that aligns project milestones and challenge areas with appropriate tools.

### Tool Functionalities

The project team conducted preliminary research to understand a sampling of existing software tools in the market and their functionalities, which were reviewed based on how each tool assists with different stages of a standard HVAC project lifecycle. These stages include Marketing, Lead Generation, Sales, Financing, Contracting, Project Specification, Scheduling, Performing Work, Quality Assurance, Rebate Program Participation, and Refrigeration. The team determined which tool addresses which stage based upon publicly available information from the tool websites, as well as user reviews.

In addition to evaluating the project stages, the team also assessed tools based on ease of use and the features they offer. Examples of the former include instructional manuals, videos, and real-time diagnostics for on-the-job learning. We also evaluated the inclusion of resources and features related to refrigerant management, an increasingly important part of HVAC contract work as the refrigerant transition creates price pressures and introduces new regulations. When available, the team considered user reviews of these tools.

### Tool Evaluation

The team evaluated online tools using a structured, research-based approach designed to assess multiple dimensions of tool performance and relevance to HVAC contractor operations. The methodology involved targeted online searches to collect qualitative and quantitative data from publicly available sources, including product reviews, case studies, vendor documentation, and user-generated content. The team also conducted interviews with software vendors, trainers, and contractors to collect feedback.

**Pricing models:** Pricing models were noted based on dollar amount and subscription type where available, which is important for contractors of all sizes to see what is available and affordable for their business type. Nearly half of the tools the team reviewed tailored their prices to the specifics of the company using them, obscuring the exact pricing numbers from the research. These are listed as "Quote" in [Table 5](#), which appears in the [Tool Evaluation](#) section later in this report.

**Ease of use:** The team evaluated ease of use by analyzing user reviews, examining interface screenshots, and reviewing demonstration videos, and gathered additional insights from platforms like Google Reviews. Where applicable, the team used AI tools to synthesize user feedback and identify common usability themes. For tools without available reviews, we assigned ease-of-use scores based on similar tools. Due to the lack of available content on this item, it has been removed from the buyer's guide but will be included in this report with this caveat to summarize the research completed.

**Software training:** The team assessed training effectiveness by reviewing the availability and quality of instructional materials, including user testimonials, visual guides, and demo content that illustrated onboarding processes and learning support mechanisms.

**Accessibility:** We determined accessibility and availability by examining user feedback and technical specifications. Key factors included support for multiple languages, mobile application compatibility, and functionality in remote or low-connectivity environments.

**Education:** The team distinguished educational content from standard software tutorials. This content focused on providing educational resources tailored to the specific needs of the HVAC industry and broader business challenges; these resources were distributed through various platforms, including blog articles, dedicated online portals, and video channels. The goal was to equip HVAC contractors with practical insights, industry updates, and strategic guidance beyond technical software usage.

## Interviews

Upon completing initial research, the project team conducted interviews with contractors, trainers, and tool creators, listed below in [Table 1](#). These interviews served to identify all barriers to project success and to gather insights on what tools contractors currently use to address energy efficiency and building electrification project challenges. The conversations helped reveal gaps in awareness of available tools, gaps in the tools themselves, gaps in our initial research, and general feedback on current unmet needs.

**Table 1: Initial round of interviews conducted.**

Category	Count of Interviewees
Contractor	8
Tool Vendor	5
Trainer	3
Trade Association	1

The team then conducted a second round of interviews with both new and previously interviewed contractors, with the intent to validate the initial research findings, assess if there were any additional insights, and get feedback on the buyer’s guide format.

Table 2: Second round of interviews conducted.

Category	Count of Interviewees
Contractor	8
Trade Association	1

## Creation of a Timeline Buyer’s Guide and Recommendations

The project team has used findings from both primary research and interviews to inform report recommendations and create a prototype buyer’s guide to help contractors quickly assess the value of a tool category, feature, and specific brands alignment to those categories and features. Note that the guide is not intended to be considered complete or representative of all tools in market.

## Findings

### Sources for Contractor Tools

HVAC contractors can find tools through a variety of channels, including online platforms such as Software Connect, SoftwareWorld, and Capterra, which list a range of HVAC software tools. These tools were primarily located on a software aggregator website called Software Advice through their article, “Best Field Service Management Software of 2025,” which collected over 600 tools (Software Advice 2025). From this list, the project team derived and analyzed a sampling of HVAC contractor tools of about 5 percent.

For the more work-focused tools, such as load calculators, the team first looked at local offerings through the Bay Area Regional Energy Network (BayREN), an association of Bay Area governments. BayREN offers a free electrical load estimator on their website, contained within a Microsoft Excel document. Looking for similar tools through broader web searches uncovers tools offered by private companies such as Redwood Energy and Coded Energy, Inc., both of which offer free and paid online energy calculating services.

### Tool Functionalities by Project Lifecycle

The project team categorized available software tools according to the stages of an HVAC project lifecycle that the tools support and the roles they most directly assist within HVAC businesses. These stages include:

- **Marketing:** Advertising and promoting contract and business awareness.
- **Lead Generation:** Driving in interested clients asking for estimates.
- **Sales:** Providing estimates to clients and converting to a closed sale.
- **Financing:** Offering convenient financing for a potential customer.
- **Contract Management:** Creating customer contracts, negotiating, and signing.

- **Project Specification:** Performing technical project evaluation and creating specifications.
- **Scheduling Work:** Coordinating crews and schedules based on customer availability.
- **Performing Work:** Executing and completing the scoped work.
- **Quality Assurance/Quality Control (QA/QC):** Verifying that installation meets code and rebate program standards.
- **Refrigerant Management:** Ensuring HVAC technicians are certified and compliant with US Environmental Protection Agency (EPA) Section 608 regulations governing refrigerant leak detection, recovery, recycling, and emissions control.

For example, tools supporting marketing, lead generation, and sales primarily assist owners, managers, and sales representatives in attracting and converting customers—often through customer relationship management (CRM) platforms, digital advertising, and estimate generators. Tools aligned with financing and contract management streamline customer onboarding and agreement management, helping sales teams close deals faster.

As projects move into execution, software supporting project specification, scheduling, and work performance becomes critical for technicians and dispatch staff. These tools help evaluate HVAC system requirements, coordinate crews, and ensure proper installation. Finally, QA/QC tools assist technicians in verifying that installations meet code and rebate program standards, often integrating with inspection and compliance platforms. [Table 2](#) indicates what tools provide features within these 10 stages of the project lifecycle.

Table 2: Tool functionality project lifecycle stages.

Tool	Marketing	Lead Mgmt	Sales	Financing	Contract Mgmt	Project Spec	Scheduling Work	Perform Work	QA/QC	Refrig Mgmt
ThermoGrid	✓	✓	✓	✓	✓	✓	✓	✓	✓	
BuildOps	✓	✓	✓	✓	✓		✓	✓		
SERA	✓	✓	✓	✓	✓		✓			
Housecall Pro	✓	✓	✓	✓	✓		✓	✓		
WorkHero	✓	✓	✓	✓	✓		✓	✓		
Monday	✓	✓	✓		✓		✓	✓		
CompanyCam	✓	✓	✓		✓		✓	✓		
Service Fusion	✓	✓	✓	✓	✓		✓	✓		

Tool	Marketing	Lead Mgmt	Sales	Financing	Contract Mgmt	Project Spec	Scheduling Work	Perform Work	QA/QC	Refrig Mgmt
Field Pulse	✓	✓	✓	✓	✓		✓	✓		
Jobber	✓	✓	✓	✓	✓		✓	✓		
Field Motion	✓	✓	✓	✓	✓		✓	✓		
Service Trade	✓	✓	✓	✓	✓		✓	✓		
MHelp Desk	✓	✓	✓	✓	✓		✓	✓		
Simpro	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Razor Sync	✓	✓	✓		✓		✓	✓		
Kickserv	✓	✓	✓		✓		✓	✓		
Commusoft	✓	✓	✓		✓		✓	✓		
Vonigo	✓	✓	✓		✓		✓	✓		
Fergus	✓	✓	✓		✓		✓	✓		
ServiceTitan	✓	✓	✓	✓	✓		✓	✓	✓	
Field Edge			✓		✓		✓			
Workiz			✓		✓		✓			
Rock Rabbit			✓			✓				
Rebate Bus			✓			✓				
Encentiv Energy			✓			✓				
Unity Build Estimation				✓		✓				
3C Connect					✓		✓	✓		
Smart Service					✓		✓	✓		
measureQuick						✓	✓	✓	✓	✓

Tool	Marketing	Lead Mgmt	Sales	Financing	Contract Mgmt	Project Spec	Scheduling Work	Perform Work	QA/QC	Refrig Mgmt
Kwik Model 3D						✓		✓	✓	✓
DIYloadcalcs						✓		✓	✓	✓
AmPLY			✓			✓		✓	✓	
Conduit Tech			✓			✓		✓	✓	✓
Watt Diet Calculator						✓		✓	✓	
Energy Academy						✓		✓	✓	
WenDuct						✓				
Kopperfield Res. Electrical Load Calculator						✓		✓	✓	
BayREN Electrical Load Estimator						✓		✓	✓	
FMHero						✓		✓	✓	✓

Disclaimer: Note that this is not intended to be considered complete or representative of all tools in the market.

## Marketing

### DESCRIPTION

Marketing tools help HVAC contractors attract and retain customers by managing online visibility, reputation, advertising, and outreach campaigns. These systems often integrate with CRM software to automate email and text campaigns, collect reviews, and track performance metrics across social media, web, and direct communication channels. By coordinating marketing activities with sales and service operations, contractors can maintain a consistent brand presence and convert awareness into leads more efficiently.

### WHY IT MATTERS TO CONTRACTORS

Marketing functionality reduces dependence on third-party lead providers and minimizes seasonal slowdowns by generating a consistent flow of customer inquiries. Strong reputation management features—like automated review requests and social-proof tracking—also help contractors differentiate themselves in competitive local markets.

Tools that support the marketing stage, such as Housecall Pro, Service Fusion, and ThermoGrid, often extend their functionality into lead generation, sales, and customer communication. These platforms typically automate outreach through email or text messages, track campaign performance,

and integrate with CRM systems to convert marketing efforts into actionable leads. For example, Housecall Pro automates marketing and provides scheduling and invoicing, streamlining communications from first contact to project completion.

Housecall Pro sets itself apart from the other two programs with its targeted user base of smaller companies and teams. Conversely, Service Fusion, the most expensive of the three, targets large teams, offering fleet management and dispatch logistics tools among its other functionalities. All three of these applications offer mobile versions that contractors and staff can access on their smartphones in the field; training materials that assist users in accessing all functions are also accessible from both the mobile and desktop versions. Additionally, all three applications offer live training sessions, as well as onboarding materials for new HVAC contractors and business owners.

Tools that support marketing tend to also support callback management and invoicing, focusing on customer retention and lifecycle value. This overlap indicates that these programs are designed to maintain relationships and ensure repeat business, which is ideal for HVAC contracting.

## Lead Management

### **DESCRIPTION**

Lead management systems capture potential customer information from web forms, calls, chatbots, or walk-ins, and organize it in a centralized database. These systems qualify leads, assign them to sales personnel, and maintain a clear record of communication and follow-up activities. Many solutions also integrate with digital marketing platforms to measure lead sources and conversion rates.

### **WHY IT MATTERS TO CONTRACTORS**

Without structured lead tracking, small and mid-sized HVAC firms risk losing prospective jobs due to slow responses or poor follow-up. Centralized lead management ensures every inquiry receives timely attention, improving close rates and reducing administrative chaos.

Lead-generation tools like Housecall Pro, Service Fusion, and ThermoGrid also provide sales and scheduling services. These platforms include features like online booking, lead intake forms, and CRM integration, allowing businesses to respond to inquiries quickly and convert them into jobs. A key strength is their ability to track leads and assign them to technicians or sales representatives.

These tools often support contract management and invoicing, which means they can manage a lead from initial contact to payment. This reduces administrative overhead and ensures that no opportunities fall through the cracks. The integration of lead generation with downstream processes reflects a trend toward unified platforms that streamline the entire customer journey.

## Sales

### **DESCRIPTION**

Sales functionality includes digital estimating, proposal generation, pricing tools, and closing capabilities, such as electronic signatures and embedded financing options. These modules bridge the gap between customer interest and contract execution, enabling contractors to prepare professional proposals quickly, often on a tablet or phone in the customer's home.

### **WHY IT MATTERS TO CONTRACTORS**

Clear, consistent, and visually appealing proposals increase homeowner trust and shorten decision times. Integrating financing and rebate information directly into the proposal can turn uncertain prospects into confirmed sales, while also ensuring pricing consistency across a growing team.

Sales-focused tools—such as FieldEdge, Workiz, and Housecall Pro—typically offer pricing, proposal generation, and CRM features. These tools often bridge the gap between lead generation and contract execution, enabling sales reps to create and send proposals, track customer interactions, and close deals efficiently. Many also support financing, allowing customers to choose payment plans directly from the proposal.

Sales tools frequently integrate with scheduling and invoicing, streamlining operations and ensuring that once a deal is closed, the job can be scheduled and billed without switching platforms. The inclusion of callback management in some of these tools also shows a focus on post-sale service, which supports continuous quality improvement by providing contractors with data on the causes of system failures. Amply and Conduit Tech also support the sales milestone by creating project proposals that show the equipment proposed and how it will look installed in the home.

## Financing

### DESCRIPTION

Financing tools integrate third-party lending, payment scheduling, or internal payment plan management into the sales process. These systems can pre-qualify customers, calculate monthly payments, and apply incentive or rebate credits within the same workflow.

### WHY IT MATTERS TO CONTRACTORS

Many homeowners hesitate to proceed with high-cost electrification or HVAC upgrades without clear payment options. Integrated financing simplifies the buying experience, increases project approval rates, and reduces back-and-forth with external lenders. Tools that support financing, such as BuildOps, SERA, and Simpro, often provide integrated payment options, financing calculators, or third-party lending integrations. These features are typically embedded within the sales or proposal modules, allowing customers to view financing options while reviewing quotes. These features help make expensive projects more accessible to customers by providing payment flexibility and increase the likelihood a customer follows through with the project.

Tools that support financing also tend to support a wide range of other lifecycle stages, especially contract management, scheduling work, performing work, and invoicing. This suggests that financing is not treated as a standalone feature but as part of a broader workflow that spans from proposal to payment. For example, Simpro supports nearly every lifecycle stage, including rebate program coordination, indicating a strong alignment with electrification and energy efficiency programs that often require financing and rebate bundling.

## Contract Management

### DESCRIPTION

Contract management software automates the creation, review, signing, and storage of project agreements, including change orders and scope adjustments. These systems maintain version control, provide audit trails, and link signed contracts to job records and invoices.

### WHY IT MATTERS TO CONTRACTORS

Manual contract handling creates delays and increases the risk of disputes or missing documentation. Digital contracts reduce administrative workload, protect profit margins, and maintain legal compliance with clear records and standardized templates. Contract management is supported by tools like Housecall Pro, FieldEdge, and Workiz, which often include digital signature capture, document storage, and automated contract generation. These features are typically tied to the sales and scheduling work stages, ensuring that once a deal is closed, the contract is executed, and the job is queued for completion.

This streamlining reduces administrative overhead and ensures agreements are formalized. Contract management tools also frequently support invoicing, performing work, and callback management, tying together milestones for operational continuity. Once a contract is signed, these tools ensure that the job is completed, quality is maintained, and follow-ups are handled efficiently. This end-to-end support is especially valuable for HVAC contractors managing multiple jobs and customer relationships simultaneously. An effective contract management software should also have integrated invoice and callback features, as those two elements are often tied together for operational continuity.

## **Project Specification (Design)**

### **DESCRIPTION**

Project specification or design tools assist contractors in performing load calculations, equipment selection, and layout design. Some advanced versions include 3D modeling or augmented reality visualization to help technicians and homeowners understand system placement and performance.

### **WHY IT MATTERS TO CONTRACTORS**

Accurate system sizing and design are critical to the correct operation of equipment, energy efficiency, comfort, and rebate eligibility. Poor design decisions lead to callbacks, underperformance, and customer dissatisfaction—costly outcomes for smaller firms operating on tight margins. Tools like Kwik Model 3D, DIYloadcalcs, and Amply specialize in the project specification stage, offering advanced capabilities like 3D modeling, load calculations, and equipment placement. These tools are used to ensure accurate system sizing and design. They are particularly valuable for contractors and engineers who need to meet code requirements or optimize system performance.

Interestingly, project specification tools often also support performing work and QA/QC, reflecting their role in ensuring that the design translates accurately into field execution. For example, Amply and Conduit Tech provide visualizations and reports that guide installation teams, reducing errors and rework. This overlap shows how design tools evolve into field-ready platforms that bridge the gap between planning and execution.

## **Scheduling Work (Dispatch)**

### **DESCRIPTION**

Scheduling and dispatch tools coordinate technicians, manage calendars, and optimize routes for efficiency. These systems often include drag-and-drop interfaces, GPS tracking, and communication portals between office staff, technicians, and customers.

### **WHY IT MATTERS TO CONTRACTORS**

Efficient scheduling reduces downtime, travel costs, and missed appointments while increasing job throughput and customer satisfaction. Real-time dispatching also allows companies to adapt quickly

to cancellations or urgent calls. Scheduling is one of the most widely supported stages, with tools like Housecall Pro, FieldEdge, Workiz, and Simpro offering robust scheduling and dispatching features. These tools often include drag-and-drop calendars, technician tracking, and route optimization. Because scheduling is a central operational function, it is frequently integrated with sales, contract management, and invoicing workflows, assuring that once a job is sold and contracted, it is assigned and executed.

Scheduling tools often play a dual role in HVAC operations, supporting both initial service coordination and follow-up management, such as callbacks and warranty work. For instance, platforms like Service Fusion and ThermoGrid offer features like recurring job scheduling and technician reassignment, which are essential for managing maintenance contracts and ensuring timely service continuity. This functional overlap highlights the foundational role of scheduling tools, not just in logistics, but in delivering consistent, high-quality customer service throughout the project lifecycle.

## Performing Work (Field Execution)

### DESCRIPTION

Field execution tools support technicians as they perform installations, maintenance, and diagnostics. They may include guided workflows, integrated smart probes, material tracking, time logging, and mobile reporting with photo or video capture.

### WHY IT MATTERS TO CONTRACTORS

On-site efficiency and consistency directly influence profitability and quality outcomes. Tools that guide technicians step-by-step reduce errors, standardize installations, and help less experienced workers achieve higher accuracy. Tools that support the performing work stage—such as measureQuick, Kwik Model 3D, Amply, and BuildOps—are often designed to guide technicians through installations, diagnostics, and repairs. These platforms may include mobile apps, smart tool integrations, and guided workflows that ensure consistency and quality in the field. For example, measureQuick integrates with digital probes and sensors to provide real-time system diagnostics, performance scoring, and quality validation.

These tools frequently overlap with the project specification and QA/QC stages, addressing the need for faithful execution of the design. They also often support scheduling work and invoicing, allowing technicians to complete jobs and trigger billing workflows directly from the field. This tight integration reduces administrative lag and ensures that work is documented and billed promptly.

## QA/QC (Commissioning and Verification)

### DESCRIPTION

Quality assurance and quality control tools verify that system performance meets design and code requirements. They typically incorporate checklists, sensor readings, or pass/fail criteria tied to regulatory or rebate program standards.

### WHY IT MATTERS TO CONTRACTORS

QA/QC tools reduce warranty claims, strengthen customer confidence, and ensure rebate eligibility. Documented verification helps contractors demonstrate professionalism and compliance, which can be critical when bidding on utility-sponsored programs. QA/QC are supported by tools like Kwik Model 3D, DIYloadcalcs, Amply, Simpro, and measureQuick. These platforms often include

checklists, performance benchmarks, and reporting tools that verify whether installations meet design specifications and code requirements. For example, Amply and Conduit Tech provide visual documentation and load verification, while measureQuick offers system health scores and fault detection. Air Conditioning Contractors of America's (ACCA) partnership with measureQuick enables HVAC contractors to earn quality installation certificates by verifying system performance using Bluetooth-enabled diagnostics. Contractors can use the measureQuick app to assess installations and, if they meet ACCA standards, issue a Verified Equipment Operation or Verified System Performance certificate. This process helps contractors demonstrate quality, reduce callbacks, and build trust with customers, while also supporting ENERGY STAR® certification for qualifying (ACCA n.d.).

The tools that emphasize QA/QC were also found to address the lifecycle stages of project specification and performing work. Some tools that feature QA/QC also support callback management, helping contractors identify and resolve recurring issues. This proactive approach not only improves customer satisfaction but also reduces warranty costs and rework.

## Refrigeration Management

### DESCRIPTION

Refrigerant management systems track technician certifications, refrigerant inventories, cylinder usage, leak tests, recovery, and reporting to ensure compliance with EPA Section 608 regulations and emerging low-GWP refrigerant standards.

### WHY IT MATTERS TO CONTRACTORS

Regulatory compliance and environmental responsibility are increasingly critical as new refrigerants (like A2L blends) enter the market. Proper tracking prevents costly violations, supports sustainability commitments, and can improve inventory control. Refrigerant management is closely regulated under EPA Section 608 of the Clean Air Act, which outlines specific requirements for HVAC technicians.<sup>3</sup> These regulations cover key areas, such as leak detection and repair, proper recovery and recycling of refrigerants, and compliance with emissions standards. All HVAC technicians who handle refrigerants must be certified under EPA Section 608, which ensures they are trained to prevent the release of ozone-depleting substances and other harmful refrigerants into the atmosphere. Certification is divided into four categories based on the type of equipment handled: Type I, Type II, Type III, and Universal.

This project's research has included consideration of how available software can help to ensure that contractors are fully adhering to Section 608 standards. This includes verifying that contractors are properly certified and following all required procedures for refrigerant handling, recovery, and reporting. DIYloadcalcs and Kwik Model both offer dedicated training resources specifically focused on load calculations, helping users build foundational knowledge and apply it effectively. Conduit Tech integrates load calculation functionality directly into its software, streamlining the process for users without requiring separate tools or training. measureQuick stands out for its broad compatibility with external refrigerant management tools, allowing technicians to connect their own equipment for real-time diagnostics and perform tracking. Lastly, FMHero is a specialized tool

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<sup>3</sup> <https://www.epa.gov/section608/section-608-technician-certification-requirements>

designed exclusively for refrigerant management, offering specific features to support contractors in monitoring and maintaining refrigerant systems.

### **“All-in-One” (Integrated Operational Suite)**

#### **DESCRIPTION**

All-in-one software consolidates multiple business functions—marketing, CRM, scheduling, dispatch, invoicing, and reporting—into a unified platform. Examples include ServiceTitan, Simpro, ThermoGrid, and comparable enterprise-level systems. These platforms are designed to centralize data, reduce redundancy, and simplify workflow management across departments.

#### **WHY IT MATTERS TO CONTRACTORS**

Using separate, unconnected tools for each task leads to data errors, wasted time, and “software fatigue.” Unified platforms eliminate duplicate entry, streamline communication, and enable business owners to monitor operations through a single dashboard. Some software platforms aim to support HVAC contractors across the full project lifecycle, integrating multiple operational functions into a single system. Two notable examples are ServiceTitan and Simpro.

ServiceTitan offers functionality across most project phases, including lead generation, sales, financing, contract management, scheduling work, and performing work. However, it currently lacks dedicated features for marketing, project specification, and QA/QC. This means contractors may need to supplement ServiceTitan with additional tools or manual processes to fully support technical scoping and post-installation verification. Despite these gaps, ServiceTitan remains a solution for small to mid-sized contractors seeking to streamline core business operations.

Simpro, on the other hand, provides a more holistic solution, supporting all 10 stages of the HVAC project lifecycle from initial marketing and lead generation to final QA/QC. Its integrated platform includes tools for technical evaluation, scheduling, customer communication, compliance tracking, and more. This may make Simpro well-suited for larger contractors or those looking to consolidate multiple workflows into a single system.

While ThermoGrid has a similar range of functionalities as Simpro and ServiceTitan—such that it can be considered an all-in-one tool—it does not have any functions that are unique from both ServiceTitan and Simpro. However, it lacks rebate functionality, something that both ServiceTitan and Simpro have.

The comparison underscores the importance of aligning tool selection with business needs and project complexity. While these three platforms offer significant value, Simpro’s completeness of lifecycle support may offer strategic advantages for contractors seeking end-to-end operational integration.

### **Estimated Savings Methodology**

The goal of this market study is not to create a measure package or influence any specific product. This project aims to create a prototype buyer’s guide for software tools that will improve contractor performance for all construction projects. As such, the only technology or measure-specific focus includes the sizing of HVAC equipment, and it is assumed to be most useful for small to medium-sized contractors focused on residential and small commercial HVAC, water heating, and building shell measures. The influence on savings from this tool may be as it is referenced, distributed, or

required in any program with participating residential and small commercial contractors performing energy related measures. See [Table 3](#) below for sample measures.

**Table 3: Relevant measures from the California Electronic Technical Reference Manual.**

Measure Number	Measure Name
SWHC049-07	<a href="#">Ducted AC and HP HVAC Equipment, Residential</a>
SWHC044-06	<a href="#">Ductless HVAC, Residential, Fuel Substitution</a>
SWHC045-05	<a href="#">Heat Pump HVAC, Residential, Fuel Substitution</a>
SWHC050-07	<a href="#">Ductless Heat Pump, Residential</a>
SWBE010-01	<a href="#">Deeply Buried Ducts, Residential</a>
SWSV001-07	<a href="#">Duct Seal, Residential</a>
SWWH014-07	<a href="#">Heat Pump Water Heater, Residential</a>
SWWH025-09	<a href="#">Heat Pump Water Heater, Residential, Fuel Substitution</a>
SWBE006-04	<a href="#">Ceiling Insulation, Residential</a>
SWWH026-06	<a href="#">Water Heater Pipe Wrap, Residential</a>
SWBE007-04	<a href="#">Wall Insulation, Residential</a>

### Estimated Savings

A review of the California Energy Data and Reporting System (CEDARS) program data of resource acquisition and market-transformation-based residential and commercial programs showed that a range of savings from 5 percent to 10 percent would be 23,230,356 kilowatt-hours (kWh) to 46,460,712 kWh. This is based on the average total—453,214,565 kWh—from the years 2022 to 2024. [Table 4](#) below shows CEDARS data for these assumptions.

**Table 4: CEDARS program savings data.**

	Commercial (kWh)	Residential (kWh)	Grand Total (kWh)
2022	70,573,791	394,033,331	464,607,122
Energy Savings Assistance	-	26,240,227	26,240,227

	Commercial (kWh)	Residential (kWh)	Grand Total (kWh)
Integrated Demand-Side Management	-	428,861	428,861
Market Education Outreach	-	108,439,748	108,439,748
Market Transformation	-	12,855,892	12,855,892
Other	70,573,791	246,068,603	316,642,394
Workforce Education and Training	-	-	-
<b>2023</b>	<b>94,065,437</b>	<b>411,609,096</b>	<b>505,674,533</b>
Energy Savings Assistance	-	29,514,615	29,514,615
Integrated Demand-Side Management	-	2,439,415	2,439,415
Market Education Outreach	-	88,737,904	88,737,904
Market Transformation	1,028,050	13,623,267	14,651,317
Other	93,037,387	277,293,895	370,331,282
Workforce Education and Training	-	-	-
<b>2024</b>	<b>(29,740,897)</b>	<b>419,102,935</b>	<b>389,362,038</b>
Energy Savings Assistance	-	30,640,620	30,640,620
Energy Savings Performance Incentive	726,084	-	726,084
Integrated Demand-Side Management	-	-	-
Market Education Outreach	100	78,449,330	78,449,429
Market Transformation	2,101,829	(3,030,424)	(928,595)
Other	(32,568,910)	313,043,409	280,474,499
Workforce Education and Training	-	-	-

	Commercial (kWh)	Residential (kWh)	Grand Total (kWh)
Grand Total	134,898,332	1,224,745,362	1,359,643,694

**Potential Additional Savings Consideration**

As the software tools would fundamentally alter business practices, there would be significant spillover market transformation savings for influence outside of rebate programs; these savings are not accounted for in this estimate. This report does not evaluate the accepted market transformation savings algorithms approved for those programs.

**Tool Evaluation**

In addition to looking at the functions in [Table 2](#), [Table 5](#) below shows how the same tools are evaluated against the five criteria of pricing, ease of use, training, accessibility, and education. Pricing models vary widely, with some tools available free as a website or mobile app, others as an annual or per-user license, and still others priced depending on the size or needs of the customer. The term “quote” in this column indicates that pricing is variable and depends on factors such as company size and the number of users. Additionally, obtaining a quote typically requires participating in a product demonstration, which allows the tool representative to better understand the contractor’s specific needs and tailor their service offering accordingly.

For “ease of use,” the team looked through available customer reviews for indications of user friendliness. Results for “ease of use” were not considered authoritative as it was often extracted from other context. As such, it is not included as a filter in the tool itself, but the results we found for research purposes are included in the table below. For example, two tools that are rated “medium” and “high” might have the same density and complexity of their respective user interfaces, but the tool rated as “medium” might have more frequent or accessible tooltips to smooth out the user experience. Where some tools did not have available reviews to look at, the project team assigned ease-of-use scores of similar tools; additionally, the “software training” column provides available ways for a customer to educate themselves about the tool’s functionalities.

As seen in [Table 5](#), the formats of training materials range from user manuals to education portals hosting a myriad of articles and videos. For “accessibility,” the number of different devices from which a user can access the tool is the primary marker. In addition, a tool is rated as having higher accessibility if associated training materials are available in more than one language. Finally, the “education” column provides an indicator of whether the tool in question provides means for those new to the field of HVAC contracting to acclimate to the industry through training. Full definitions for the column headers are in the [Methodology and Approach](#) section above.

Table 5: Tool evaluation.

Tool	Pricing Models	Ease of Use	Software Training	Accessibility	Education
Kwik Model 3D	\$299/year	High	User manual/ YouTube/ Facebook user group	Desktop app	Yes (blog)
DIYloadcalcs	\$15 for a load calculation derived from a free scan	High	User manual/ embedded in website	Mobile app	Yes (PDF repository)
Amply	\$200/user/month (1-3)	High	Embedded in website, live online onboarding, podcast	Mobile app	Yes (podcast/blog)
Conduit Tech	Quote	Medium	User manual	Mobile app	Yes (e-book repository/ blog)
Housecall Pro	Quote	Medium	User manual/ embedded in website	Desktop/ mobile app	No
WorkHero	Quote	High	Embedded in website/ YouTube	Web app	Yes (blog)
ServiceTitan	Quote	Medium	Embedded in website/user manual	Web/mobile app	No
Monday	\$17/user/month	Medium	Embedded in website	Web/desktop/ mobile app	No
Field Edge	Quote	High	Education portal	Web/mobile app	Yes (blog, learning portal)
Workiz	\$229/month	High	Embedded in website	Web/mobile app	Yes (blog/ webinars/ podcast)

Tool	Pricing Models	Ease of Use	Software Training	Accessibility	Education
Service Fusion	Quote	Medium	Embedded in website: live training, recorded training, guide documents	Web/mobile app	No
Company Cam	\$129/month	High	Embedded in website	Web/mobile app	No
measureQuick	\$49/month	Medium	Embedded in website, live, in-person, YouTube, podcast, in-app technician education	Mobile app	Yes (training courses/PDF repository)
ThermoGrid	\$110 for 1–5 users, \$450 for 6–10 users	Medium	Embedded in website	Web/mobile app	Yes (blog)
BuildOps	Quote	Medium	User manual	Mobile	No
Field Pulse	Quote	Medium	Live, online	Web/mobile app	No
Jobber	\$25–\$126/month	High	Podcast/ embedded in website	Web/mobile app	Yes (blog)
Field Motion	Quote	Medium	Embedded in website	Web/mobile app	No
WenDuct	Quote	High	User manual	Desktop app	Yes (online training/blog)
3C Connect	Quote	Medium	In-app education	Mobile app	No
SERA	\$399/month	Medium	Live, online	Web/mobile app	No
Service Trade	Quote	High	Embedded in website	Web/mobile app	No

Tool	Pricing Models	Ease of Use	Software Training	Accessibility	Education
MHelp Desk	Quote	Medium	Embedded in website	Web/mobile app	No
Smart Service	Quote	High	YouTube	Desktop/mobile app	Yes (blog)
Razor Sync	\$360/month (15 users)	Medium	Embedded in website	Web/mobile app	Yes (blog)
Kickserv	\$100/month (10 users)	Medium	Embedded in website	Web/mobile app	Yes (blog)
Commusoft	Quote	Medium	Podcast	Web app/mobile app	Yes (PDF and video repository/e-books/blog)
Simpro	Quote	Medium	Embedded in website	Web app/mobile app	Yes (learning hub)
Fergus	\$68/month (under 10 staff)	Medium	Embedded in website	Web app/mobile app	No
Vonigo	Quote	Medium	Embedded in website	Web app/mobile app	No
Watt Diet Calculator	Free	High	Embedded in website	Desktop app	Yes (blog)
Energy Academy (in development)	Free	High	Education portal	Web app	Yes (content library)
Rock Rabbit	Free	Medium	Embedded in website	Website	No
Rebate Bus	Free	Medium	Rebate heat maps/case studies	Website	No
Encentiv Energy	Free	Medium	None	Website	No
Kopperfield Res. Electrical Load Calculator	\$40–80/month	Medium	Embedded in website	Desktop/mobile	Yes (blog)

Tool	Pricing Models	Ease of Use	Software Training	Accessibility	Education
BayREN Electrical Load Estimator	Free	High	Included in Excel file	Desktop	No
FMHero	\$25/month	Medium	Embedded in website	Mobile	No

Disclaimer: This is not intended to be considered complete or representative of all tools in the market.

## Interview Insights

While learnings from the interviews inform other portions of this report, this section highlights the key takeaways.

### Tool Types Used by Contractors

All contractors interviewed used some form of CRM software, such as Housecall Pro or Insightly CRM. At least two contractors used accounting software (most notably, QuickBooks), but many relied on manual accounting through spreadsheets. Several contractors used proprietary or manual tools for load calculations, with some using more advanced software, such as Wrightsoft. Among the contractors interviewed, preferred elements of a software tool included embedded training and user onboarding, utility rebate alignment, responsive support, and business process features. They also hoped software could address more of their needs within a single platform so they would not have to jump between software.

According to interviews, the element of embedded training and instruction is paramount for contractors, as it removes ambiguity from their search for software assistance by centralizing support and enhancing the overall effectiveness of the tool and, by extension, the contractor. The software tools that employ multiple training modes—such as live (e.g., Zoom or Google Meet), recorded (e.g., YouTube, Vimeo, or TikTok), or in-person—are by far the most attractive to contractors, especially those at the start of their careers. Software vendors like Conduit Tech go a step further and offer personalized onboarding, which can improve contractor success.

### Contractor Challenges

Through first- and second-round interviews, the team identified the following primary barriers for contractors.

#### **SCHEDULING**

##### Description

Contractors frequently struggle to maintain accurate, up-to-date project schedules, especially when balancing multiple employees and customers. Many small- to midsize HVAC firms rely on manual tools like spreadsheets to manage job calendars. Larger firms more often use CRMs for their scheduling needs.

##### Why it matters to contractors

Inefficient scheduling processes mean more time spent scheduling that could have been devoted to other tasks; this can also lead to other problems, like wasted travel time, missed appointments, or

uneven workload distribution among technicians. These inefficiencies reduce profitability and can negatively impact customer satisfaction, particularly during peak demand periods when timely service is critical.

### **What contractors say they want**

Contractors like our interviewees would ideally use a tool that provides real-time synchronization across office and field teams, easy rescheduling, and potentially automated route optimization. Smart scheduling also incorporates technician certifications and skill matching to ensure the right staff are assigned to each job. Contractors also are noting a rise in AI-driven tools that have the potential to increase efficiency and ease of use.

## **REBATES AND DOCUMENTATION**

### **Description**

Rebate submission and documentation remain major pain points for contractors participating in energy efficiency and electrification programs. Participation requirements vary by utility and program, and paperwork often involves uploading photos, invoices, and test data into different portals. Additionally, funding levels change frequently.

### **Why it matters to contractors**

Incomplete or inaccurate rebate applications delay payment. Many small businesses lack the administrative bandwidth to track evolving rebate requirements or to manage multiple systems, which results in decreased program participation.

### **What contractors say they want**

Our interviewees indicated they would like a tool that would integrate directly with CRM or project management software, automatically populate forms with project data, validate entries before submission, and attach required installation photos or QA results. Ideally, the tool would sync with utility or state databases to update rebate values and funding amounts automatically, as well as confirm eligibility.

## **RETURN ON INVESTMENT AND HOMEOWNER EDUCATION**

### **Description**

Homeowners often have limited understanding of energy efficiency or electrification benefits, which means contractors spend additional time explaining the technology and payback periods. The contractors interviewed mentioned a need for accurate, visual, and bilingual resources to support these conversations.

### **Why it matters to contractors**

Contractors spend considerable hours educating homeowners—but without clear, credible educational tools, it is harder for them to close projects.

### **What contractors say they want**

Our interview data indicates contractors would like a tool that offers educational content as a part of the sales or proposal software, as well as visual comparisons of energy use and lifetime savings. This tool should be bilingual and include downloadable homeowner guides. The information should come from authoritative sources to help with customer trust and combat other misinformation that may be online.

## **EQUITY AND ACCESS**

## **Description**

Contractors serving low-income housing or disadvantaged communities face additional barriers, including limited access to financing and potential language differences.

## **Why it matters to contractors**

Lack of accessible financing or multilingual resources can prevent contractors from serving low-income housing or disadvantaged communities, which can limit both equity outcomes and business growth.

## **What contractors say they want**

From our interviews, we learned contractors would prefer a tool that includes pre-approved financing options for income-qualified customers and bilingual resources for both contractors and residents. Ideally, these could be incorporated into CRM or sales tools.

## **TRAINING AND SUPPORT**

### **Description**

Learning new software is time-consuming, and busy contractors often do not have spare time for this effort. Training centers rarely include hands-on instruction in contractor-facing software, leaving users to self-teach or rely on the software vendor for training.

### **Why it matters to contractors**

Without adequate onboarding, software could go unused or underutilized. Contractors could stop using tools after the trial period if they are left feeling confused or unsupported, or if they generally do not see a benefit from the tool.

### **What contractors say they want**

We learned from interviews that a tool including in-person or video-based onboarding, as well as interactive tutorials built into the software interface, would be helpful. Trade associations or training centers can increase tool adoption by offering vendor-neutral classes or certification tied to utility program participation.

## **INTEGRATION AND FATIGUE**

### **Description**

Contractors often use multiple, disconnected software platforms for various project milestones; interviewees shared they often had four to eight software tools across CRM, scheduling, design, and rebate workflows. Each requires its own training and processes, leading to “software fatigue” that in turn, results in more inefficiency and user frustration.

### **Why it matters to contractors**

For contractors, having to learn, maintain, and engage with so many tools in daily business is often exhausting. It also discourages a contractor from adding on yet another tool, even if they still have unmet needs with their existing repertoire.

### **What contractors say they want**

Interviewees shared they would like a tool that combines all facets of contractor work into a user-friendly software. However, this should be balanced with maintaining feature depth. If simplicity puts usefulness at risk, an alternative solution could be enabling increased connectivity between existing tools, such as plug-ins or application programming interfaces (APIs).

## **PROCUREMENT AND SUPPLY CHAIN**

### **Description**

Contractors mainly have manual procurement processes and often have limited visibility into distributor inventories, pricing, or delivery timelines. In addition, they will often look across multiple suppliers to find the equipment they need for a job.

### **Why it matters to contractors**

Supply chain bottlenecks directly impact project timelines and profitability. Without real-time material availability, contractors may overpromise to customers or have costly equipment wait times.

### **What contractors say they want**

Interviews indicated that contractors want a tool that connects directly with supplier databases to provide inventory information, pricing, and purchase order status. Integrations with scheduling software would allow contractors to align deliveries with job start dates.

## **INTERNAL ORGANIZATION AND MANAGEMENT TOOLS**

### **Description**

Many contractors use spreadsheets for key data tracking, such as key performance indicators or inventory, which means reporting can often be fragmented or inconsistent.

### **Why it matters to contractors**

Without accurate performance data, contractors cannot find and track key information, such as drivers for profit, costs, or staffing effectiveness. This limits their ability to make sound business decisions and scale their services.

### **What contractors say they want**

From interviews, we learned contractors would prefer tools that consolidate data into visual dashboards, automatically update key metrics from CRM and accounting tools, and support customized reporting. Ideally, the system could also have automated alerts for customized problem areas.

## **Contractor Feedback on Buyer's Guide and Training**

When asked, contractors all agreed that a buyer's guide would be valuable—particularly for filtering software by business function, lifecycle stage, and pricing type. They said it could help save time and avoid costly trial-and-error adoption cycles. In terms of features they were most interested in, contractors wanted a searchable and filterable interface (by project lifecycle, cost, functionality, and company size), an interactive decision tree navigation (a visual or “click-through” tool), and for the software to be hosted by trusted third parties (like trade associations).

## **Software Training Available**

Tool vendors offer multiple training modes, including YouTube, Zoom, in-person, and in-tool tutorials. Tools such as measureQuick build support directly into their user interface with diagnostic feedback and “just-in-time onboard training modules,” making it intuitive for new technicians. Vendors like Conduit Tech provide personalized onboarding for improved contractor success. Tool effectiveness is enhanced when training and support are embedded, and tools that integrate training into the user experience or partner with utility training centers are better positioned for success and adoption.

However, most trainers the team interviewed noted that they do not currently offer software-specific training. Another gap we identified in these interviews is a lack of business training, which could potentially be provided through utility training centers or other providers. At this time, the lack of consistency and coordination between utility training centers would likely require another entity, such as a trade association or nonprofit organization under the supervision of the California Energy Commission or the California Public Utilities Commission (similar to Energy Code Ace), to assume responsibility for maintenance or continuation of a user's buyer's guide or decision tree.

## Buyer's Guide Framework

The Buyer's Guide Framework is designed to connect HVAC contractor barriers directly to the stages of the project lifecycle. By mapping these barriers—such as incentive paperwork, scheduling challenges, or training gaps—to specific stages like QA/QC, Scheduling, and Performing Work, the framework narrows down tool options that are contextually relevant and actionable.

Additionally, the framework offers the option to filter for key functions based on contractor preferences gathered through interviews and research. These filters enable contractors to reorganize and view tool options according to what matters most, whether that is training type, technical capabilities, pricing, or accessibility. This further narrows down the list of what appeals to contractors based on the functionalities each tool offers.

[Figure 1](#) below illustrates this framework process, as well as filtering options. At the top, the framework suggests using questions that help identify contractors' issues. The green box poses the key question, "What do you struggle with most in your business?" The scenarios below show specific problems included to help ask this question. From there, the framework maps to contractor barriers (purple boxes), such as incentive paperwork, fragmented software ecosystems, scheduling complexity, training gaps, and other issues. These barriers represent real challenges identified through interviews and research.

Each barrier is connected to project lifecycle milestones (blue boxes), such as Scheduling, Performing Work, Project Specification, Sales, and other phases, including Lead Generation, Marketing, Financing, Contracting, and Invoicing. This mapping ensures that tool recommendations are contextually relevant to the stage where the barrier occurs.

Next, the framework introduces business categories (yellow boxes)—Business Workflow, Technical, and Customer-Facing—providing another layer of organization for tool options.

Once this mapping is complete, the framework generates a list of tools. Contractors can then apply optional filtering (indicated by orange boxes) to further tailor the selection. Filters include priorities such as:

- Customer education
- Accessibility
- Cost
- Training availability

These filters reflect preferences gathered from contractor feedback, allowing tools to be reorganized based on what they value most. The framework enables HVAC contractors to narrow down market options based on their specific needs, making it easier to adopt the right tools that drive business

improvement and ensuring a structured, flexible, and aligned selection process that yields a curated list of solutions.

To achieve this, the framework includes a searchable database of software tools, their lifecycle stage relevance, and associated features, as outlined in [Figure 3](#) and [Figure 5](#). This list reflects both the contractor's identified barriers and preferred functionalities, providing recommendations that meet specific business requirements. Some questions that align with the framework concept are included below and are represented in the buyer's guide searchable database.

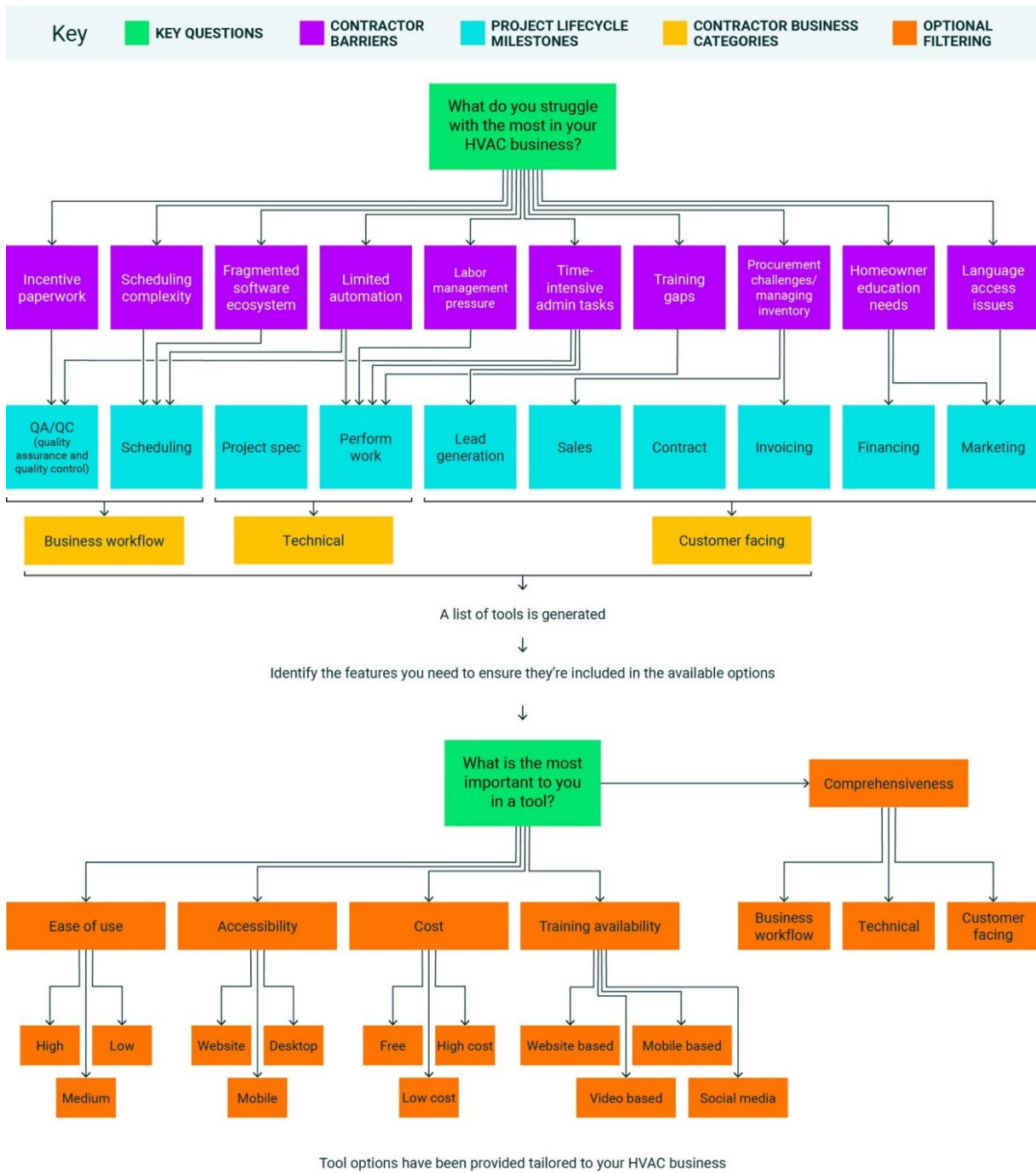


Figure 1: Buyer's Guide Framework software tool selection process.

## Applying the Buyer's Guide to Real Contractor Challenges

To demonstrate the contractor path through the framework, the project team selected two scenarios from contractor interviews. These examples demonstrate how contractors can use the framework to narrow down the tool solutions that best meet their needs.

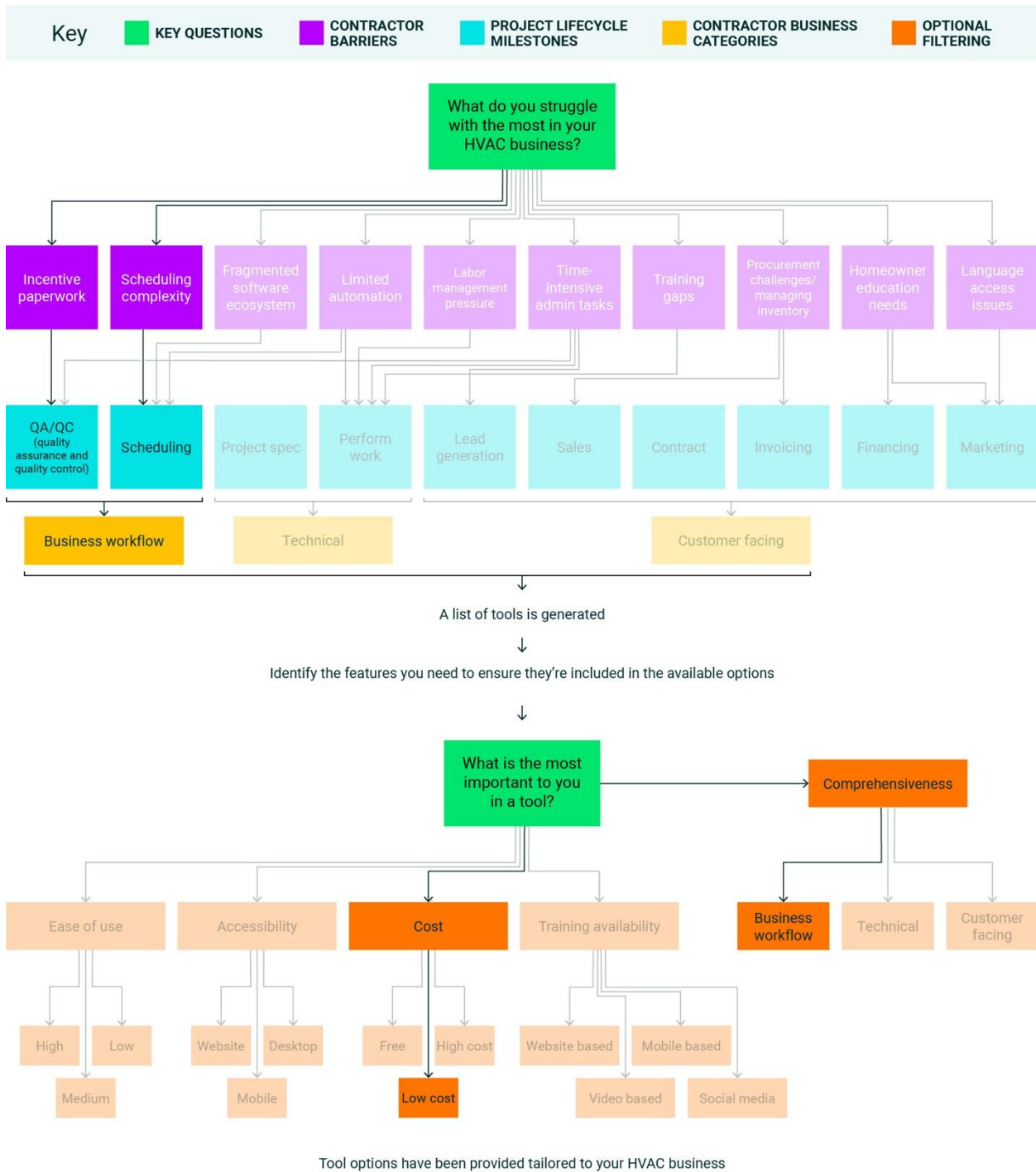
## Scenario 1

An HVAC contractor faces two persistent challenges:

- “We have difficulty making and keeping appointments.”
- “Our rebate paperwork is often late or incorrect.”

This contractor schedules jobs manually using a spreadsheet, which is prone to errors and results in inefficient travel. On the other hand, rebate paperwork for incentive programs is complex and time-consuming, sometimes taking up to eight hours per project.

Using the framework, the contractor identifies their challenges by selecting a question from the drop-down menu. From these entries, the framework returns a list of tools that address the project milestones relevant to this contractor’s barriers; in this case, the relevant milestones are Scheduling and Quality Assurance. Finally, the user is presented with a series of filtering options that can make the list more suitable for their specific company needs. For instance, as a medium-sized contractor, they may be willing to invest in a tool that not only streamlines scheduling but also integrates several of their administrative tasks, thereby minimizing the number of discrete software platforms they use. By filtering for per-use tools that are comprehensive within the business workflow category, the framework ranks the list of tools by how well a tool meets the contractor’s needs, as shown in [Figure 2](#) below.



**Figure 2: Buyer's Guide Framework Scenario 1 tool priorities.**

After the contractor in this scenario answers the key questions, the prototype searchable database yields the results in [Figure 3](#) for the search described in [Figure 2](#), enabling the contractor to identify specific software solutions that best meet their needs.

SEARCH RESULTS			Filter Groups:	Project Lifecycle Stages	Education	Training & Support Type	Accessibility	Pricing
RESULTS	Total Matched	Lifecycle Stages	You Selected:	Scheduling   QA/QC   Contract Mgmt	No Value Selected	Embedded	No Value Selected	Fee per Output
ThermoGrid	4 of 5	3 of 3		Scheduling   QA/QC   Contract Mgmt		Embedded		
SimPRO	4 of 5	3 of 3		Scheduling   QA/QC   Contract Mgmt		Embedded		
Service Titan	4 of 5	3 of 3		Scheduling   QA/QC   Contract Mgmt		Embedded		
Build Ops	3 of 5	2 of 3		Scheduling   Contract Mgmt				Fee per Output

Figure 3: Buyer’s Guide Framework prototype searchable database Scenario 1 results.

Note: This result is not intended to be considered complete or representative of all tools in market.

## Scenario 2

An HVAC contractor is eager to expand heat pump installations but faces two major obstacles:

- “We often have a hard time explaining the benefits of heat pumps to our customers, especially to those who don’t speak English as their first language.”
- “It is challenging for staff to make a sale because customers are unsure if they can afford a heat pump.”

Many customers are unfamiliar with how heat pumps work or why they are more efficient than traditional systems. As a result, sales conversations often stall, requiring extra staff time to explain technical details and overcome skepticism. At the same time, financing discussions are complicated by the lack of integrated tools to show payment plans, rebates, and long-term savings in a customer-friendly format.

Using the framework, the contractor begins by identifying these pain points: homeowner education needs and financing challenges. These issues map to the Marketing and Financing milestones, both within the Customer-Facing business category. Because the customer education and discussion of financing options need to take place at the jobsite, this contractor filters the list for tools that have a mobile app. The research did not discover contractor tools that function in languages other than English, which is an unmet need in the marketplace.

As with Scenario 1, the contractor in Scenario 2 uses the framework to find the right tools for their needs, answering the framework’s key questions in [Figure 4](#) and receiving a list of results from the prototype searchable database in [Figure 5](#).



Figure 4: Buyer's Guide Framework Scenario 2 tool priorities.

SEARCH RESULTS			Filter Groups:	Project Lifecycle Stages			Education		
RESULTS	Total Matched	Lifecycle Stages	You Selected:	Marketing	Sales	Financing	Blog	Doc Library	Webinar
Jobber	5 of 7	3 of 3		Marketing	Sales	Financing	Blog	Doc Library	
ThermoGrid	4 of 7	3 of 3		Marketing	Sales	Financing	Blog		
Build Ops	4 of 7	3 of 3		Marketing	Sales	Financing		Doc Library	
Sera	4 of 7	3 of 3		Marketing	Sales	Financing	Blog		
HouseCallPro	4 of 7	3 of 3		Marketing	Sales	Financing		Doc Library	
WorkHero	4 of 7	3 of 3		Marketing	Sales	Financing	Blog		
Field Motion	4 of 7	3 of 3		Marketing	Sales	Financing	Blog		
Service Trade	4 of 7	3 of 3		Marketing	Sales	Financing		Webinar	
MHelp Desk	4 of 7	3 of 3		Marketing	Sales	Financing		Podcast	
Service Titan	4 of 7	3 of 3		Marketing	Sales	Financing	Blog		

Figure 5: Buyer’s Guide Framework prototype searchable database Scenario 2 results.

Note: This result is not intended to be considered complete or representative of all tools in market.

## Recommendations

### Program Design Recommendations

#### **CONSIDER SUBSIDIZING SOFTWARE LICENSES OR TRAINING IN REBATE PROGRAMS**

Because contractors come to rebate programs with varied knowledge regarding the use of software, it may be more equitable to subsidize training or education on software that benefits workforce development in either the new entrant’s effort or an existing staff proficiency effort. Consider focusing on automations that reduce the administrative burden of redundant tasks, especially rebate program application preparation and submittal. This can be through standalone, non-resource market support programs so that the resource acquisition program TRC is not negatively impacted.

#### **CONTINUE STATEWIDE ALIGNMENT ON REBATE PROGRAM PARTICIPATION STANDARDIZATION**

Years ago, California IOUs created and adopted the HPXML format to allow streamlined application programming interface (API)

connectivity from modeling software data to be submitted to utility rebate application systems. Continue standardizing rebate applications across utility portfolios—and utilities themselves—to allow for consistent export reports statewide or API connectivity from common contractor CRMs. This may be complicated by the fact that not all investor-owned utility (IOU) rebate program application platforms are based on the same platform and as such, functionality may or may not be similar across IOUs. Systems may also need to be tailored for unique tariffs, financing, or other considerations.

#### **STREAMLINE QA/QC PROCESSES USED IN REBATE PROGRAMS**

Consider a standard format and structure for rebate program QA/QC, including targeting checklists that focus on critical program quality areas. While there will be some unique content and requirements per IOU, anything that can be standardized should be standardized, aligning with the common minimum design requirements before allowing room for utility-specific needs. This will be easier to implement with statewide programs than those with local nuance; however, standardizing certain elements of program implementation with a single vendor while allowing other elements to be handled with IOU-specific implementers may be beneficial. Align this with how contractor software handles QC and commissioning by accepting the existing outputs of commonly used software. For

example, ensure that the ACCA has verified equipment operation and system performance, or that airflow targets are used wherever possible.

## **Project Research Advancement and Dissemination Recommendations**

### **EXPAND THE BUYER'S GUIDE FRAMEWORK AND TOOL DATABASE**

The current prototype only reflects research on approximately 5 percent of the software tools on the market, which means additional research is needed to explore all functionalities available. Additionally, there may be more contractor barriers that should be taken into consideration. Therefore, we recommend that future iterations of this buyer's guide and tool database should include a broader range of contractor pain points and software capabilities to ensure the tool is comprehensive and representative of real-world needs.

To accomplish this, we recommend handing off future ownership and development to a trade association, trade school, or other third party that would be willing to own and manage the tool moving forward, including building out the necessary additions to the guide, maintaining the guide, and sharing it with their audience (e.g., hosting it on their website and disseminating it at trade shows or conferences). The Institute of Heating and Air Conditioning Industries (IHACI) has shown initial interest in taking on this role. The team suggests using Energy Code Ace as a precedent for this type of structure.

### **MAKE PROBLEM-SOLVING INTERACTIVE**

The Buyer's Guide Framework should evolve beyond a static reference system into an interactive decision-making experience. Future versions could incorporate enhanced dynamic problem-solving prompts, guided workflows, and additional feature filtering to help contractors identify solutions more intuitively. This interactive approach would make the process more engaging and actionable, ultimately improving adoption and usability.

### **DEVELOP COMMUNICATION PATHWAYS FOR CONTRACTORS TO SUPPORT ONGOING RESEARCH**

#### **"Voice of Customer" Channels Sponsored by Industry Trade Associations**

Encourage third parties, such as trade associations or training centers, to conduct focus groups that will collect structured contractor feedback on tool usability and needs. The third party would then also share this consolidated feedback with tool vendors, providing value to them as well as contractors. This recommendation is based on the finding that tool vendors often receive feedback informally and inconsistently, with most vendors receiving input only through customer support channels. IHACI has shown initial interest in conducting these focus groups.

#### **Enhanced Peer Feedback Channels**

Encourage third parties to create or leverage existing online forums for contractors to discuss software tools, including any pain points or recommendations. The team's research found that contractors place greater trust in referrals from peers than in direct marketing. Again, IHACI has shown initial interest in supporting this effort.

### **PROVIDE THIS REPORT AND BUYER'S GUIDE TO UTILITIES**

Share the report with:

- Utility demand-side management portfolio leads that include HVAC prioritized savings, who could provide this as an optional resource for their programs alongside any program requirements, tools, or other training materials.
- Utility training centers, who could incorporate these recommendations into a new, contractor-facing training on accessing and selecting available contractor tools.

#### **FUND ADDITIONAL RESEARCH UNDER CALNEXT**

Continue buyer's guide development within CalNEXT, or in collaboration with a trade association.

This project created a functional proof of concept for the buyer's guide that may be useful to the market, but additional work and refinement is highly recommended. Consider extending or creating another CalNEXT project to fund this directly or work with a trade association to hand off this effort to the market.

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