From Energy Speak to Owner Speak: Communicating the Value of Commercial Building Upgrades

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ABSTRACT

Energy programs targeting the commercial sector tend to approach building decision-makers in Energy Speak. They offer rebates and technical assistance for measures. Sometimes, they couch the offer in terms of payback periods. But is that meaningful for building owners with budgets or investment objectives? What language do they speak? And who speaks what dialects?

A market research study for the California Market Transformation Administrator's (CalMTA) Commercial Building Efficiency Accelerator (CBEA) Market Transformation Initiative (MTI) sought to find out. The study was designed to understand how the people who hold the purse strings for building improvements view their investments. What are the fundamental investment strategies they follow for their building assets? What kinds of investors seek to improve their buildings' value? For whom is cash flow important? How do they "do the math" when deciding whether to pursue a particular building upgrade?

The study team is employing secondary research, assessments of financial decision-making tools, market actor interviews, and focus groups with building decision-makers to answer these questions. The paper lays out the key findings from interviews conducted with market actors and focus groups with building owners and investors about factors that drive the financial valuation of upgrade investments for commercial buildings and how they vary by type of owner, building, and investment strategy. These insights will help programs communicate more effectively with commercial building owners to increase engagement and program participation.

Introduction

Commercial buildings are responsible for 35% of the electricity and 18% of the total energy consumed in the U.S., and on average, 30% of the total energy used in all commercial buildings is wasted (U.S. Department of Energy 2026). Furthermore, the most energy-intensive commercial buildings in California – which comprise one-fifth of the floorspace - consume between 65%-183% more energy than average buildings (California Energy Commission 2026; CalMTA 2026). This represents a substantial opportunity to optimize energy usage, and as more efficient technologies and building management practices emerge, it is crucial to understand how building owners and investors can be motivated to pursue offerings. These opportunities are being explored by a study to understand how market transformation programs could be designed around commercial building decision-makers, using their language, and deploying offerings throughout the state of California, to encourage whole building energy efficiency upgrades.

Due to the variability of the segment targeted for this study, the study team seeks to engage a variety of groups involved in the process of managing and maintaining commercial buildings. California has nearly 88,000 commercial buildings over 20,000 ft^2, managed by a diverse set of actors with different motivations, constraints, and levels of access to capital (Horsey et al. 2023). The study aims to develop tools and practices to assist the process of

making commercial buildings more efficient and build upon tools that have already been developed by organizations such as the Department of Energy (DOE), American Council for an Energy-Efficient Economy (ACEEE), Institute for Market Transformation (IMT), and New York State Energy Research and Development Authority (NYSERDA) (Cobb and Olson-Huddle 2025).

This study is being conducted as part of the CalMTA program, administered by Resource Innovations for the California Public Utilities Commission (CPUC). The goal of the CBEA MTI is to accelerate reductions in energy use intensity (EUI) and greenhouse gas (GHG) emissions in existing commercial and multifamily buildings over 20,000 ft^2 by advancing market adoption of asset management planning practices that incorporate energy concerns into standard building management and investment decision making. This will be done by influencing three different groups of market actors – (1) building owners, (2) energy professionals, and (3) commercial real estate (CRE) finance professionals – to make energy, GHG emissions reductions, and demand response a standard part of everyday asset management. Ultimately, CBEA will prepare the market for a constructive and accelerated response to policies and laws aimed at reducing EUI and GHG emissions of the built environment (Cobb and Olson-Huddle 2025).

Methodology

Market Actor Interviews

As an initial step to understanding the language of building decision-makers, the study team spoke with eight market actors from an array of roles and responsibilities. These eight interviews were conducted between December of 2025 and February of 2026. The respondents included:

- Three lenders whose organizations specialize in funding energy efficiency projects for commercial buildings and small businesses
- Two program administrators who work on state and federal scale commercial building energy efficiency programs
- One market actor from the "MUSH" (Municipalities, Universities, Schools, and Hospitals) market, specializing in work with universities
- One market actor from the affordable housing market, with insights on federal programs
- One private project consultant who specializes in projects with commercial building owners

These interviews were the first of several waves of market actor interviews planned for CBEA, in which each wave is intended to cover a different topic and target somewhat different types of market actors, with some expected overlap.

The primary goal of these interviews was to understand the basics of how building decision-makers think about investments and upgrades to their buildings. To do this, the study team employed the use of exploratory interviews with fewer, open-ended questions meant to get informants talking and thinking big picture. The study team conducted the interviews based off a small set of pre-determined questions, then probed to follow the conversation in the direction that the interviewee took them. The purpose of the interview was to inform a more focused inquiry in the study based on a high-level understanding of the landscape.

The study team completed interviews to investigate the following topic areas:

- Key characteristics and strategies that building owners in their sector consider when making building investment decisions
- Tools or calculations used when financing investments
- Financial benefits of energy efficiency, with a focus on decarbonization
- Impact of Building Performance Standards (BPS)

The study team primed interviewees that this effort was to understand the thought process that goes into these decisions and inform future efforts by the study team to directly engage commercial building decision-makers. While not primarily focused on energy efficiency or advocacy for specific interest-based efforts, interviewees were allowed to speak about these topics if they were familiar.

Focus Groups

After completing the market actor interviews, the study team conducted a set of four focus groups to speak directly with building owners. The focus group participants were split into two primary groups, the first being "investor-owned" building owners. These building owners often owned and operated buildings on behalf of commercial customers who leased the space. The second primary group was building owners operating in the MUSH market. The focus groups were split into these two primary groups as they often operate with differences in considerations for their occupants, which can influence their investment decision-making strategies, as corroborated by the market actor interviewees. Two focus groups were conducted for each primary group to allow each participant an equal opportunity to participate.

The primary goal of these focus groups was to help the study team better understand building investment project valuation and financial strategies, as well as understand the roles and responsibilities of building owners and their representatives. While the market actor interviews informed the study team of the language and terminology building owners use when considering investments and upgrades, the focus groups connected the study team directly with these owners to walk them through what the process looks like in detail and understand what opportunities and barriers exist to implementing projects. Both groups were asked a similar series of questions, with slight variations to account for the differences between the groups (i.e. investor-owned building owners have different considerations for their buildings compared to MUSH market buildings owners whose organizations occupy their buildings).

A total of 20 respondents participated in the focus groups, 11 investor-owned respondents and 9 MUSH market respondents. These respondents represented a variety of sectors including:

Investor-owned:

- 9 respondents from various commercial real estate firms
- 1 respondent from a science and research company
- 1 respondent from a commercial real estate advisory group

MUSH market:

- 3 respondents from universities

- 3 respondents from healthcare organizations
- 1 respondent from a community college
- 1 respondent from a charter school district
- 1 respondent from a county

Insights

During the process of interviewing the market actors and conducting focus groups with building owners, the study team developed nine key themes that related to how decisions are made and by whom.

1. Timing Is Vital

Timing is of high importance and relevance when it comes to building upgrades. Interviewees stated that first mortgage lenders (those in the primary mortgage lending market who finance a building owner's mortgage directly) do not like to add debt. Because of this, the most crucial times for building owners to make building improvements revolve around "trigger events" or financing events. During these events, such as refinancing, acquisition, building rehab, and new construction, building owners often have access to capital to make improvements. Interviewees explained that while it may often be difficult to create an investment project specifically aimed at improving energy efficiency and/or decarbonization, these efforts can often be included in larger building improvement efforts. Therefore, planning for energy efficiency and decarbonization projects during these trigger events creates more opportunities for change, rather than waiting for equipment failure.

During the focus groups, participants from the MUSH market corroborated the importance of timing, noting the influence of trigger events specifically. These participants stated their organizations often operate on a reactionary basis when it comes to investments and building upgrades. They explained while they monitor potential problem areas within their facilities, trigger events such as a major repair, renovation, or the need for new construction often drive these upgrades. They also added that bundling projects together is key to justifying multiple upgrades at a time. One differentiation was the participants representing universities, who noted some of their decisions related to upgrades are made on an annual basis. They explained that assessments are conducted annually to identify and prioritize maintenance and upgrade needs for buildings across campuses and these are planned regardless of trigger events.

In addition, interviewees noted that the investment horizon is key. The length of holding time for an investment plays a crucial role in determining if an upgrade is feasible for building owners. For example, if a building owner who invested in a property is planning to sell it within a few years, the desire for upgrades may look different compared to building owners who operate in the MUSH market. Participants in the investor-owned focus groups estimated their average holding time on their buildings is three to seven years. Because of this, they reiterated that upgrade projects generally need to meet double-digit return-on-investment (ROI) targets and specific upgrades with payback periods of greater than ten years are typically deal-breakers when it comes to their decision making. Conversely, building owners in the MUSH market plan to retain their buildings for long periods of time as the groups they represent use them for crucial operations. The implication of this finding is that any efforts aimed at encouraging building investments must be able to cater to the different considerations these building owners have when it comes to their assets and investment to ensure their offerings are viable. This could

include different paths within programs to ensure that owners with different time horizons on their investments still have attractive offerings to increase their building's efficiency.

2. Lenders Care About The Math

Lenders made clear that the math must "make sense" for improvements to be funded, by both traditional banks and Community Development Financial Institutions (CDFIs). A number of components determine how the math can make sense, including the building owner's credit score, debt-service-coverage (DSC) ratio,[1] net operating income (NOI), and loan-to-value (LTV) ratio.

In order to determine if a loan should be approved, lenders go through an underwriting process to assess risk. The underwriting process uses numerous factors which can include: the building owner's complete portfolio, income gained from the building, the market or neighborhood where a building is located, who the stakeholders are, tenant history, and other factors. To standardize the underwriting process, most lenders use a handbook. Lender interviewees noted that while energy efficiency and decarbonization efforts can be included in project, these efforts often do not fit nicely into the current underwriting strategy due to their complexities and often require further attention. In these more specialized scenarios that involve energy efficiency or decarbonization efforts, lenders will look at additional factors such as the desired technology, available warranties, who the installers will be, and the manufacturers of the equipment to determine viability of the overall project for the building owner.

One important way building owners can be informed of the value in energy efficiency and decarbonization investments is through the education of energy auditors. Interviewees noted energy auditors often play a key role, not only in educating building owners, but also in shaping projects and preparing them to be more viable to attain financing. In speaking with the interviewees, the study team found there is a difference between traditional lenders and CDFIs in this regard. CDFIs may offer technical support or client coaching to help include specific measures, while traditional lenders are typically more hands-off when it comes to project creation and technical assessment of projects.

In many instances, building owners will already have a mortgage on their property. The mortgage lender in this case would be in the "first" position, meaning if the building owner is unable to cover the mortgage payments, the lender would have the right to seize the building. One interviewee explained it becomes complicated if the building owner tries to take on additional debt for the purpose of completing energy efficiency or decarbonization projects. Some solutions to this include the projects being included in the mortgage during refinancing or having the lender move to what is called the "second" position to supply funding from an additional source. In the latter case, building owners would take an additional loan from the service provider, and the service provider would move into the "first" position on the loan, meaning in the case that the building owner is unable to pay back the loan, the service provider would be the first to be paid back the funding they loaned, with the original lender receiving any

[1] DSC ratio is calculated by dividing a property's annual NOI by its annual debt service (ADS) of the mortgage (P+I payments). Once the value is determined (usually by the income capitalization method), the lender multiplies by the LTV ratio to determine the maximum loan. As an example, if a lender has a maximum LTV of 75 percent, and the property is worth $2 million, the maximum loan (based on the LTV method) would be $1.5 million. The maximum loan using the LTV method might be higher or lower than the maximum loan available using the DSCR method explained above. The underwriter will calculate both and usually cap the loan amount at the lower of the two ratios.

remaining funds. As a result, many mortgage lenders are uncomfortable moving to a subordinated position due to the risk factor. To avoid this, lenders can choose to lend directly to the service provider conducting the upgrades for energy efficiency projects, in order to use equipment included in the project as collateral rather than the building itself. These projects often include larger pieces of equipment (such as an HVAC system), which provide security for the lender as the equipment can be seized and resold to repay the loan if needed.

One additional aspect of the underwriting process for lenders is that equipment can be used as collateral. One interviewee mentioned that their policy states they need two sources of repayment on a loan – where the first source is typically from cash flow from the building (i.e. rents collected), the second repayment source can be to seize the equipment as collateral and sell it. This offers additional security to the lenders and can help the project receive a loan. The combination of each of these factors is taken into account by lenders to determine the amount of funding given for a project and what adjustments can be made to make the project more viable.

3. There Are Differences Between Sub-Markets

Key differences were identified among the three sub-markets the study team was interested in researching (investor-owned properties, the MUSH market, and affordable housing) that affects how investments are planned and executed.

As previously explained, investor-owned properties often follow specific timelines for when improvements can be made, and planning for these opportunities is critical. Depending on the intent of the owner, these buildings can often have larger capital budgets to make improvements as well. During the focus groups, participants in the investor-owned groups explained further explained this. These participants noted their timing for upgrades is often driven by tenant interactions, including lease renewals, tenant needs, or vacancies. These building owners stated they often look for value-add strategies and time the upgrades around tenant turnover to offer the improvements to new tenants. Additionally, they detailed that energy improvements are typically considered only when they can be justified within the context of a broader renovation or when they directly impact their operating expenditures.

Additionally, one project consultant who was interviewed noted some investor-owned buildings they work with often think about prescriptive fixes even though these often do not address larger issues with preexisting buildings. They added utilities often offer prescriptive fixes through incentive programs and offering certain technologies in the market. They explained, however, that with retrofits and upgrades, they need to know holistically how everything works together in the building and how it can be optimized to achieve performance goals. Therefore, prescriptive fixes often do not address the entirety of an issue with a building, but merely a part. They provided the example that installing a smart thermostat does not lead directly to increased energy efficiency for the building if it is not set and maintained properly. They explained the discussion to optimize a building's performance often involves both capital availability and ongoing operations (i.e. behavior of those in the building) to ensure all aspects of an issue are taken into account to help solve the entire problem.

While participants in each focus group noted the importance of minimizing disruptions to building occupants when choosing technology and performing upgrades, this was especially true for building owners in the MUSH market. Because these buildings often serve vital functions, specifically those in healthcare, operational impacts are taken especially seriously. These participants explained that it is often difficult to plan upgrades if they will have a large operational impact.

During the market actor interviews, the respondent representing universities note that the "master plan" is crucial. Specifically, universities have unique decision makers which include the internal leadership team and donors. Oftentimes, this results in these institutions looking for projects that are "win-wins" such as energy efficiency upgrades while other maintenance is being performed and bundling these smaller energy efficiency savings to put toward larger energy efficiency projects. In practice, the university interviewee the study team spoke with noted this can look like gaining LEED certification for flagship buildings on a university campus. They explained their university has building standards and often look to match with donors that will supply funding for projects like these where an accomplishment can be displayed and increase efficiency.

Separately, the affordable housing sector is vastly different than other markets when it comes to making efficiency upgrades. Oftentimes, these building owners do not have resources for large capital investments in the same way that commercial buildings may have. In order to address these resource constraints, one interviewee explained that decision makers rely on subsidies, tax credits, and other resources for the funding to make upgrades. Additionally, some buildings may have an operation subsidy that can be used to make improvements, but in these cases, there is often more limited opportunities for off-cycle projects (projects completed at times when "trigger events" are not occurring). This interviewee also noted that utility energy efficiency programs and grid modernization often lack continuity in their offerings, which can be a barrier for these properties which often need a stable source of funding to make continuous improvements.

Further, the interviewee explained that one of the largest differences in affordable housing compared to market rate is how energy efficiency can be used to affect the rentability of their spaces. In theory, market rate buildings can use higher energy efficiency as a selling point (i.e. a "green premium") which create real opportunity for financial return to meaningfully increase post-retention revenue. However, with affordable housing, it does not work the same way. In these housing developments there are often limited choices in the available units and long waiting periods for residents. Because of this, discernment of residents is not a concern for some building owners as the spaces will be rented regardless. Understanding these differences in submarkets is imperative to create opportunities to encourage efficiency upgrades or create requirements to incorporate them.

4. Energy Efficiency Is Not Top-Of-Mind For Building Owners

Building owners are most concerned with cash flow. Cash flow includes capital expenses, financing costs, operating expenses, and NOI.[2] One interviewee noted that it can be hard to convince owners to focus on energy efficiency upgrades to their buildings because energy is often a small part of operating expenses of a building. Building owners are more interested in energy upgrades when they can increase tenant retention, tenant comfort, or the ability to charge higher rent. Oftentimes building owners look at investments with short payback periods as a starting point or "low hanging fruit" to make small improvements to their spaces.

The interviewees offered specific insights into the different types of stakeholders they often interact with. One interviewee, a lender, divided building owners into two groups- "sophisticated" and "non-sophisticated." Sophisticated owners refer to those who pay close

[2] Net-operating-income measures the profitability of an income-generating property prior to deducting financing costs and taxes.

attention to their buildings. They often know what equipment needs to be replaced before it fails, may know of BPS that apply to their buildings, use energy monitoring, and are proactively making upgrade decisions for their building that make sense. The "non-sophisticated" owners only replace equipment when it fails and rely on contractors for advice on upgrades to their buildings once equipment fails. Additionally, non-sophisticated owners are less likely to reach out to banks for the purpose of securing loans for more efficient technologies. These owners are often not acting proactively, and thus, it is imperative to intervene to make them knowledgeable about potential improvements at opportune times. Another interviewee mentioned that small business owners tend to be less energy savvy, so being able to communicate energy efficiency in a way they value is key to being able to make improvements.

While focus group participants noted specific efforts their organizations had undertaken to improve the energy efficiency of their buildings, they largely confirmed that these efforts come secondary to other concerns. Within the MUSH market, usability, health, and safety are the biggest factors for owners. These buildings are intended to serve a specific purpose and building owners do not view these as investments. For organizations who also receive funding from donors, their opinions can also influence which projects move forward. For example, cosmetic upgrades are often easier to accomplish with donor funding compared to mechanical improvements.

Similar to the explanation from interviewees, participants in the investor-owned focus group detailed the importance of cash flow, return on investment, and occupancy within their buildings. Attracting and retaining tenants is key for these building owners to help cover expenses, and energy is often a secondary consideration unless tenants explicitly request specific efficiency upgrades or it directly reduces operating expenses. One participant also noted that environmental, social, and governance (ESG) goals are present in some larger organizations, but these do not translate to strong investment mandates at the building level.

5. Leased Spaces Need Special Considerations

Because building owners have control over the investments and improvements made to their properties, tenants operating in the buildings often need to account for additional steps to improve their space.

The CDFI interviewee explained that when engaging with their clients, who are often smaller businesses in leased spaces, they first try to understand if it is cost-advantageous for them to make an improvement, especially for significant projects that might affect direct operations of the business. The interviewee explained that these businesses in particular may be operating on significantly thin margins and a disruption to their business is not possible. Additionally, as part of this engagement, the CDFI encourages consultation about the lease agreement to ensure it is advantageous for both landlord and tenant. The interviewee explained they perform this as some of their clients may not be as knowledgeable about the rental agreement parameters established in their lease.

In addition, the project consultant interviewee corroborated the dynamic for businesses working in leased spaces, explaining that building owners may see the tenant/landlord relationship as a barrier to making upgrades. Because of this, the interviewee asserted that no matter the amount of incentive offered, there will be resistance from some building owners, therefore requirements (such as updates to building codes and/or the implementation of BPS) must be added to address the lack of desire. The interviewee added that this could look different

in each market, but the intent would remain the same in terms of overcoming barriers cause by the landlord/tenant relationships which occur throughout the commercial building landscape.

6. Building Owners Want Additional Information And Programmatic Assistance

Through the focus groups, participants identified areas of information and support they feel they currently lack in the market. One of these areas was the usage of benchmarking for their buildings. Participants across each group explained how some of their buildings are subject to benchmarking standards in their sector; however, the implementation and usefulness of benchmarking results varied. Participants in the MUSH market groups noted inconsistencies with how benchmarking tools at the national and state level group building types together. For example, one participant detailed how some of their facilities vary in usage, including offices, educational buildings, and healthcare facilities, but these were grouped together to compare to national averages. This participant felt that the grouping of different facility types under a shared name limited meaningful peer comparisons. During the investor-owned focus groups, participants expressed frustration with the process of creating benchmarking data, with multiple participants stating it is primarily time consuming and a compliance burden that provided little to no actionable feedback. They expanded to say they do not receive usable data to truly understand how they can improve their buildings compared to others in their sector. However, there was common sentiment among the groups to the openness of benchmarking if it provided actionable peer comparisons and clear guidance on what to do with results, with some participants noting their organizations conduct internal efforts to benchmark their energy usage against similar organizations in their sectors. Examples of improvements that would be beneficial to building owners included visual and comparative feedback, and the ability to tie benchmarking outcomes to resources such as program eligibility, available incentives, or prioritized permitting to create positive feedback loops. The openness to these efforts indicates that updating current benchmarking efforts to be more useful to commercial building owners could encourage greater participation in efforts to make their buildings more efficient.

Additionally, during the focus groups, participants offered recommendations to program strategies they would find valuable to encourage increased building efficiency. These recommendations included insights into what sort of language would be most effective to engage them in market transformation programs moving forward. One primary consistency between the groups was the desire for better communication of the program process. Ensuring items such as the anticipated project timeline, projected savings, and other programmatic details are explained in easy-to-understand language is imperative to building owner's decision to participate.

Participants in the MUSH market also need the alignment of program offers with their capital planning cycles. As these participants have some maintenance and upgrade efforts planned on a pre-determined schedule as previously noted, the need to have proactive planning support to develop energy upgrade roadmaps before equipment failure is especially helpful to avoid reactive replacements that often come at a higher cost. Along with proactive planning for pre-determined upgrade work, participants also highlighted the importance of leveraging trigger events when they occur and designing programs that make it easy to incorporate efficiency measures when buildings are already undergoing repairs or renovations. While it may be hard for building owners to justify energy efficiency projects when there is not an immediate need, due to the disruption of those who rely on the building to operate, if there is already an existing need to perform upgrades, this is a good opportunity to include energy efficiency work.

For investor-owned buildings, programmatic support was seen as most beneficial when it clearly details ROI and other financial benefits. Participants also explained that the split incentive problem is a hindrance for their participation in programs along with barriers such as a lack of trusted intermediaries and permitting timelines. These building owners said they were more likely to participate in programs that offered item-by-item design rather than whole building programs as they are viewed as more feasible and comprehensible to their organizations and those who fund their projects. However, programs that help structure green leases or pass-through mechanisms for efficiency investments were also seen as having high potential for these building owners as it can help justify the work by increasing potential ROI in their buildings.

7. Building Performance Standards Impact (Or Will Impact) Owners' Decision Making

As explained by interviewees, when BPS are introduced, the requirements drive building owners to seek new capital resources in order to update their buildings. These points were corroborated by the market actor from the affordable housing sector who noted BPS can drive behavior change for landlords and property management companies.

While this study was not specifically focused on new construction properties, one interviewee noted that Building Performance Standards also impact owners in these situations. These owners often need to think proactively about holistic building operations, rather than waiting until after the building is constructed. A building that requires retroactive upgrades in order to be compliant with BPS is often more costly and can experience a closure to the space being upgraded, which would not be necessary if the building was constructed with BPS in mind.

8. Green Banks And Other Programs Can Help Get Efficiency Projects Off The Ground

Interviewees explained how additional entities and programs such as Green Banks and C-PACE often can help finance energy efficiency projects. Green Banks are entities that can assist building decision-makers with providing capital to pursue projects focused on energy efficiency and/or decarbonization. Additionally, the Commercial Property Assessed Clean Energy (C-PACE) program also helps building decision-makers fund upgrades to their buildings, with the purpose of incentivizing more efficient technologies. These resources target projects specifically tailored to increase efficiency and can help fund projects in situations where the measures alone may not be enough to help building owners get financing.

Additionally, interviewees mentioned that policy makers and engineering firms can be beneficial in the process as well, the latter especially for technical education about ways to reduce greenhouse gases (GHGs). The interviewees explained that engineers often interact with building owners and can help frame investments in more efficient technologies in ways that are easy to understand from their perspective. While those who work in administrative roles for programs, such as the interviewee, may know plenty of information about the specific program, engineers play a vital role in communicating the technical aspects of the benefits to potential participants. Focus group participants echoed the importance of having trusted information sources to understand the value of potential upgrades. These participants specifically expressed difficulty in evaluating the reliability of true lifecycle costs of new technologies. Due to this, they explained that having trusted intermediaries, such as engineers, is often more influential on their understanding and ultimate decision making than having program materials. These engineers are critical to explaining the value of new technologies to building owners who may be concerned with the risk of investing in upgrades they would otherwise be uncertain about.

9. CDFIs can fill gaps.

While traditional banks often have a defined, more inflexible approach to their lending processes, CDFIs use more specialized strategies for their clients. The CDFI interviewee that the study team spoke with noted that they can leverage opportunities such as the California Capital Access Program (CalCAP), client coaching/technical assistance, and lower credit thresholds to be able to approve loans that traditional banks may not be able to. The interviewee noted that most of their clients are businesses located in a low or moderate income (LMI) community, and these clients may be outside a traditional bank's credit box or risk appetite. Despite this, the interviewee stressed that these building owners often have buildings that need energy efficiency upgrades due to older infrastructure.

Additionally, the CDFI interviewee noted that they have a green lending analyst in their organization who provides support with packaging the loan and working with the client. Further, they offer a third-party construction manager for larger projects (over $50,000) to assist the process.

The interviewee also mentioned that there are some good incentives and rebates related to equipment purchasing in the state of California, though in most cases, these incentives do not overcome the difference in upfront cost between more and less efficient equipment.

Closing

This study sought to gain a deeper understanding of the language that building decision-makers employ when considering potential upgrades. Through the market actor interviews and focus groups, the study team has gained critical insight into what this decision-making process looks like. There are a number of key characteristics and strategies that building owners consider including the timing of improvements, existing or future existence of Building Performance Standards, how their financial situation impacts their interactions with lenders, and their sector. Additionally, other market actors involved in the process such as lenders, green banks, and CDFIs all play vital roles in certain sub-sectors and can often determine whether or not a project moves forward.

A number of implications were also evident from the interviews which must be taken into account for the overall market landscape:

- Efforts to support increased efficiency in commercial buildings must be strategic in the timing of projects and consider aspects such as the building lifespan, upcoming "trigger events", as well as code changes and BPS creation and updates. Framing conversations about efficiency projects to discuss "trigger events" is one useful way to speak the language of building owners.
- Being proactive is crucial to getting projects off the ground, but cost remains the determining factor. Upfront costs can be a barrier to building owners, and efforts to support projects must ensure that owner cost criteria are met.
- Traditional lenders utilize a myriad of sources in the underwriting process to decide if a loan should be approved. This includes the owner's portfolio, building location, and rent collection among other factors. While traditional lenders are often hands-off when it comes to shaping projects, finding ways to proactively engage with clients and encourage energy efficiency and decarbonization measures should be investigated.

- Many market actors noted that energy efficiency was not top-of-mind for most building owners, and this was confirmed during the focus groups. While it may be challenging to engage with building owners, especially proactively, to put capital towards energy efficiency projects, common practices do exist. These include bundling energy efficiency projects with planned maintenance work; utilizing rebates, programs, and incentives; and providing technical or project support from energy educators, engineers, policymakers, CDFIs, and programs. Building owners stated willingness to put capital towards energy efficiency projects, but only if it made sense from a financial or institutional perspective.
- Building owners want to understand how their buildings perform compared to others in their sector, but current benchmarking practices do not meet their needs compared to the effort to collect the data. While benchmarking tools and standards do exist, many building owners feel they do not provide relevant or detailed enough information to be helpful. Ensuring that building owners receive actionable results from benchmarking through additions such as detailed information on where improvements could be made or tie-ins to program support opportunities, is key to making the collection of this data worthwhile for those involved.
- A deeper understanding of the financial incentives for carbon reduction and electrification is still needed. Interviewees identified that BPS play a significant role in this process, but regulations and code changes also are crucial to influencing building owners' decisions to electrify. The study team plans to conduct future research with industry organizations and program staff to investigate this topic further.

The study team did note current knowledge gaps in the study, which will be investigated further. Deeper understanding of financial incentives for carbon reduction and electrification, the role of regulations and code changes in decision-making, and existing opportunities for these incentives are vital to understanding future opportunities as a whole. The study team plans to conduct additional research including more rounds of secondary research, additional market actor interviews with different groups, and additional focus groups with other building decision makers from multiple sub-markets to gain deeper insights and knowledge from each group involved in the process. The synthesis of all these results will inform future market-transformation programs aimed at increasing efficiency in commercial building across the state of California.

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