Getting Ahead of the Next Recession: Leveraging Utility Energy Efficiency Incentives to Prepare for an Economic Downturn

Katie Vrabel, Carly Burke, and Victoria Parker – Waypoint Energy

ABSTRACT

Commercial real estate (CRE) was severely impacted by the 2008 recession and took years to recover from valuation losses. Towards the end of Q1 2020, the stock market dropped by 20% and sent the U.S. economy into a Bear Market, ending the record Bull Market run of 11 years and increasing the likelihood of an economic recession. Consequently, investors will likely be cautious regarding how capital is utilized as we approach a period of economic uncertainty. Research has shown that there was reduced participation in new construction and residential utility programs during the 2008 recession, as well as decreased overall energy use (Nadel et al. 2014). However, there has been an increase in technologies and programs that lower building operation costs and improve performance over the last decade. For example, Leadership in Energy and Environmental Design (LEED) and ENERGY STAR certifications have increased; with 32,000 LEED and over 34,000 ENERGY STAR certified buildings nationwide.

There has been minimal analysis on how economic downturns impact CRE building owners and property managers' motivations to participate in energy efficiency initiatives. Understanding this is critical given that the residential and commercial building sector represents 40% of U.S. energy usage (EIA 2019). During times of economic uncertainty, will the market prioritize energy efficiency, or will attention be diverted away from improving building performance, health, and wellbeing? In either scenario, utilities will need tailored customer engagement strategies that address how CRE may adapt its capital improvement planning. By understanding recession-driven impacts, utilities and CRE can exhibit stronger alignment and continue to increase building performance and drive continued savings.

Introduction

Energy efficiency programs are designed to influence utility customers' decision to reduce energy usage across multiple sectors. The commercial segment – a significant portion of a utility's target customer base – is generally motivated by asset value creation, investment returns, and building codes rather than energy efficiency incentives alone. In times of economic uncertainty, financial incentives can play a critical role in determining which projects are implemented or delayed. Research from the 2008 recession indicated that energy usage declined but was attributed to an increase in efficient technologies versus consumer behavior (Nadel et al. 2014). As noted in this report, new energy saving technologies such as low-cost light-emitting diodes (LEDs) became more accessible during the 2008 recession, which motivated property owners to capture energy savings and reduce operating expenses. With stringent building codes and already utilized plug-and-play solutions like LEDs, utilities will need to refine CRE engagement tactics based on lessons learned from the Great Recession to maintain program participation and realized savings.

The initial draft of this paper was submitted to ACEEE for peer review before COVID-19 became a global pandemic, causing a market crash and recession. Given that we are in a unique

position to compare our original market research to current outcomes, we decided to incorporate a section on preliminary COVID-19 market impacts.

The purpose of this paper is to address the following questions:

- What specific impacts have previous recessions had on the CRE sector and utility energy efficiency program participation?
- What are the primary barriers for participation, both during an economic downturn and times of stability?
- What types of engagement strategies can be used by utilities to increase CRE sector engagement and participation during an economic downturn?

This paper will not project whether an economic downturn will occur, rather it highlights how it may impact CRE's property and energy efficiency investments and lessons learned from past recessions that program implementers can incorporate into engagement strategies.

Methodology

To address our research questions, we conducted market research and interviews with CRE stakeholders. Our research utilized market reports and publications from CRE firms and industry sources to identify trends in vacancy, tenant turnover, investment priorities, rental concessions, and impacts unique to office, multifamily, industrial, and retail market segments. 12 CRE stakeholders were targeted for interviews, 10 of which agreed to participate. The participants were chosen based on their role within the CRE industry, building sector, and size to ensure a range of perspectives. Over half of the participants were owners or managers; while the remaining were property technology, nonprofit associations, and consultants. The building sectors represented by the participants consisted of office, multifamily, industrial, and retail – two were primarily office; one was primarily industrial, and the remaining three were split evenly across the building types. The participants hold relatively senior roles within their organizations and have over 120 years of collective industry experience. The organizations represent a broad range of expertise with respect to their age, size, location, services, portfolio, and client composition. The average age of the organizations was 28 years old. The number of employees varies from 30 to more than 80,000.

An interview protocol of 25 questions was developed, which included sections exploring CRE's past, present, and future approaches to sustainability and energy efficiency. Two versions were created, one for owners and managers; and a second for the CRE-focused firms, specifically property technology and associations. Nine interviews were conducted via phone calls. One organization submitted responses via email. Interview responses were coded and categorized to summarize challenges, priorities, and opportunities. Due to the swift onset of the 2020 COVID-19 pandemic and associated economic impacts, we developed a follow-up interview protocol of eight questions and distributed them via email to participants. The questions focused on how CRE is responding to COVID-19, specifically, impacts to energy efficiency investments and long-term planning. Three CRE firms and one association provided responses. The remaining firms declined to respond either due to internal approvals, bandwidth, or were unresponsive.

Findings

The Great Recession

From late-2007 through mid-2009, the U.S. market experienced the longest economic recession post-World War II, also referred to as the Great Recession (Geewax 2017). Although it centered around credit risk and the residential housing market, nearly all sectors of the economy were affected. With commercial property values dropping almost 40% from peak valuation in 2007 to 2009, CRE was among the sectors most heavily impacted (NAIC 2015). Property owners were faced with high vacancy, decreased rental rates, reduced asset values, expanded cap rates, forced layoffs, a competitive tenant market, and overall lower net operating income (NOI). With 8.7 million jobs lost (NBER 2020), office vacancy rates reached 17.4% in 2010 (WSJ 2010), up from less than 10% just three years prior in 2007 (CBRE 2018). Stemming from high vacancy rates and low demand for office space, building owners were forced to attract tenants with decreased rental rates. This combination of factors pushed property developers towards defaulted loans, ultimately exposing them to a plethora of risks associated with vacant buildings, foreclosure, and insurance liability.

Impact to CRE

The impact to CRE owners varied depending on whether they were well-capitalized, short versus long-term hold investors, or over leveraged. Generally, well capitalized owners have access to usable funds. The capital may be in the form of cash that the owners possess, investments from third parties, access to revolving lines of credit, and/or third-party debt. A short versus long-term hold investor is determined by the length of time that the investor plans to own the investment, as well as the investment strategy. Different investment strategies and financing vehicles are deployed based on the length of the planned hold period. Over-leveraged owners have deployed their available capital and taken on too much debt relative to their assets. It is typically more difficult for these owners to make investments in their properties.

One sustainability focused CRE firm saw fewer impacts to their primarily office portfolio as a result of long-term leases; but saw rental rates decline and cap rates expand. Cap rate, short for capitalization rate, is the expected rate of return that can be generated from a real estate investment. For example, a 5% cap rate means that the property generates annual net cash flow of 5% of the asset value. Higher cap rates generate higher returns but are riskier. Spaces leased by small companies were unable to pay rent and filed for bankruptcy, leaving landlords with broken leases and no rental income. Spaces leased by large companies that were able to survive the recession were less impacted. Another CRE firm, representing a wide range of building types, found that their multifamily properties were largely protected from recession impacts. Multifamily properties are unique within the CRE market and saw a much lower decrease in rental rates than the office sector (CBRE 2019). Due to the massive number of home foreclosures – nearly 10 million between 2006 and 2014 – demand for multifamily housing increased, thus rental rates remained stable.

Fiscally conservative firms who entered the Great Recession with cash reserves were in a prime position for strategic acquisitions and doubled down on sustainability targets. One CRE owner, primarily focused on office, built up their portfolio of LEED and ENERGY STAR certified properties as they were being sold at a fraction of the cost pre-recession. In 2010, they began purchasing "fully LEED buildings for nothing because people needed cash." This

anecdote demonstrates the market opportunities that became available to CRE owners with the foresight to recognize that green buildings were soon to become the norm, as they are today.

Nevertheless, the majority of CRE firms that we interviewed communicated that the market came to a standstill. The local chapter of a green building association for a medium-sized metropolitan city said, "There was a lot less work happening than in the past. No commercial office build outs, CRE firms stopped sponsoring [the association], stopped paying to participate. There wasn't as much work or money going around." CRE owners were competing for a small pool of tenants in a limited market. Five respondents representing a wide array of building types communicated how competitive the tenant market became and the significance of operating costs. To attract tenants, one participant said, "You either had the best building with good rates, or a good building with the best rates."

During the economic downturn, property owners had to find ways to maximize returns despite significant revenue losses. Operating expenses became an important controllable expense for increasing NOI. A sustainability consultant explained that "CRE owners and portfolios with energy efficient assets were more resilient to some of the effects." Efficient buildings have lower operating costs and can hedge against revenue losses, regardless of the commercial lease type and utility payment structures. Low-cost capital initiatives with obvious returns were the star of the show – from LEDs to retro-commissioning (RCx). Even as the market began to recover, new construction lagged because of the long lead time. Skilled labor shortages plagued the market as the recession caused a significant number of construction workers to leave and pursue opportunities in other fields due to lack of work, an effect that can still be felt today. Between the years of 2005 and 2015, construction employment dropped over 40% while labor wages increased by nearly 32% (Bogdansky 2016).

Impact on Energy Efficiency Programs

The years of the Great Recession (late-2007 to mid-2009) coincided with a drop in LED lighting prices, allowing inexpensive LED technologies to flood the market. Falling lamp costs, improved technology and appearance, abundant utility incentives, and simple payback periods were the perfect storm to push building owners towards LEDs as a tactic to reduce operating costs while providing more well-lit spaces for tenants. This trend was confirmed by utility evaluation reports during the during this period. Some utility programs (prescriptive or standard) realized over 70% of their annual commercial program savings from incentivized lighting projects, including ComEd (Navigant 2010; Navigant 2011) and Energy Trust of Oregon (The Cadmus Group 2015), as shown in Figure 1.

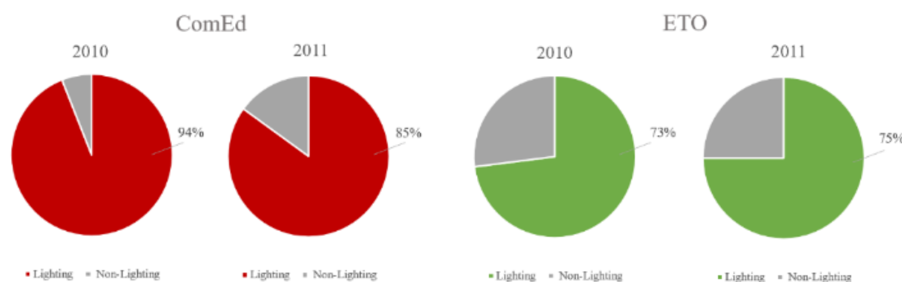

Figure 1. Percentage of Savings Derived from Lighting Measures for Commercial (Prescriptive) Programs. *Source:* ComEd Program Evaluation Reports 2010 & 2011; ETO Program Evaluation Reports 2012.

When asked about LED's success compared to other measures, multiple participants said that LEDs were simple to explain and quick to install. The savings potential of complex, technical and more sophisticated energy efficiency projects became lost in translation between management, the utility, and the CRE firm's client. For example, one of the participant's clients installed LEDs instead of variable frequency drives (VFD), despite VFDs having a much higher utility incentive. Another participant explained that LEDs were "guaranteed – you knew what the wattage was before and what it was going to be after." This simple narrative of short payback periods and generated savings was easily communicated to and understood by CRE owners. Given the pivotal role that those two considerations play in decision making, LEDs became the popular measure for decreasing operating costs.

In some cases, energy efficiency measures were implemented because the CRE firm had a champion of sustainability who was able to help property managers articulate the benefits of complex, technical measures. Building tune-up programs, such as RCx, were leveraged to identify energy savings. RCx is a systematic process that seeks to improve how building equipment and systems function together through equipment and operational upgrades. RCx programs were attractive to large CRE owners and managers because they offered immediate operational savings with minimal upfront investments. Five of the participants said that RCx was a priority, in addition to lighting, due to the clear value proposition and return on investment.

Increased adoption of lighting technologies boosted utility program savings, however, overall investments in energy efficiency programs remained relatively flat. Expectations for annual savings goal adjustments did not materialize uniformly across regions during this economic downturn. As illustrated by Figure 2 below, Commonwealth Edison (ComEd) and Energy Trust of Oregon (ETO) realized increased savings targets throughout the recession for prescriptive commercial programs; while PG&E and SCE showed a slight decline over the same time frame.

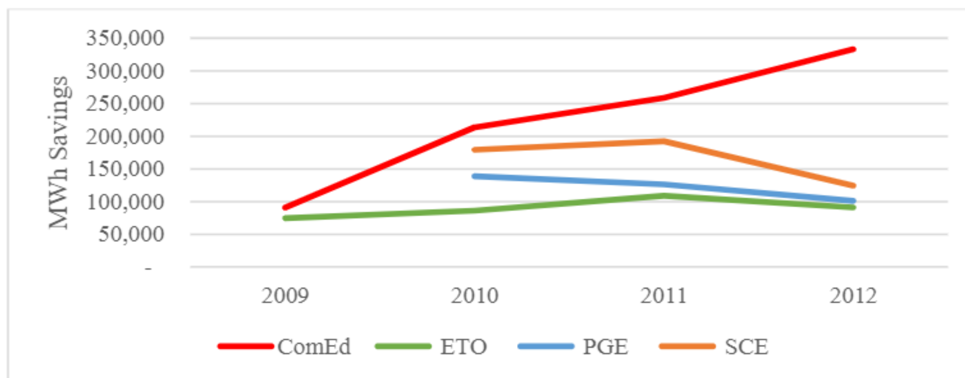

Figure 2. Ex-Ante Gross Reported Annual Savings Trends for Business Prescriptive and Business Custom Programs. *Source:* ComEd Evaluation Reports; ETO Evaluation Reports; California Public Utilities Commission Energy Efficiency Statistics.

Transition to Post-Recession

The 10 CRE firms that we interviewed agreed that there was an upswing in CRE property values between 2011 and 2013. One CRE owner explained that although asset values began increasing around that time, they were hesitant to rehire and kept staffing at post-recession levels. Participants felt that the market's recovery was largely based on asset sales versus investments in energy and sustainability. One CRE owner explained, "In CRE, investment sales

drive the business. Operations is somewhat of a cost, it really is, but investments sales – often foreign investments – are what turned the market around. Buildings were selling and the market was moving. People felt like they could start to buy and sell assets again." Nevertheless, another participant felt that investments in energy efficiency and sustainability were important during and post-recession – claiming that the opportunity to increase NOI and revenue by reducing operating costs demonstrated the value of those investments. The ability to invest in energy efficiency creates thicker insulation against a future recession by driving down operating costs, making them appealing beyond their sustainability impacts. "We're back at asset values that were higher than the peak before the financial crisis. I think that [energy efficiency] has been consistently important throughout, it has become more mainstream…The head of asset management for firms are having to think about [energy efficiency] because institutional investors now care."

The Market Today (Pre-COVID)

Prior to 2020, the U.S. economy had strengthened, showing growth in 92% of financial quarters since the end of the recession in 2009 (Thompson 2018). Unemployment fell to 3.6%, the lowest level since 1969 (BLS 2020). The economy's Gross Domestic Product (GDP) grew by 2.3% in 2019 from the annual level in 2018. Although annual growth of 2% is considered steady, GDP technically decelerated when compared to the 2.9% increase seen in 2018 and 2.4% in 2017 (BEA 2020).

Impacts to CRE

The CRE market has seen steady growth since the Great Recession. Over the last decade, investment strategies and ownership portfolios evolved, moving into new markets with increased demand due to technological advances and consumer preferences. Based on findings from Real Capital Analytics (RCA), the last five years saw larger investments in U.S. industrial and multifamily properties, and fewer in retail (Costello 2020).

The multifamily sector's steady increase is not surprising given the last recession forced families to transition to rental homes as a result of foreclosures and lessened appeal in home ownership as property values dropped (CBRE 2019). Multifamily was resilient during the 2001 and 2008-2009 recessions, experiencing the lowest level of rent decline; fastest period of rent recovery; and longest post-recession period of rent growth (CBRE 2019). The Urban Land Institute's (ULI) Emerging Trends in Real Estate 2020 report suggests that the shift towards multifamily is attributed to the popularity of the "live/work/play" concept; growing desire for community; and advances in health and longevity (2020).

While the multifamily sector has grown steadily since 2013, the industrial sector hit record levels in 2019 (Marcus & Millichap 2020). The increased prevalence of online shopping and expedited shipping has heightened demand for properties associated with e-commerce logistics, such as warehouses and distribution centers (ULI 2020). The number of data centers in the U.S. has added fuel to the fire, empowering e-commerce and our demand for cloud-based technology (Thomas 2019). Indicative of this shift, Blackstone Group Inc., one of the largest real estate investment firms in the world, acquired one billion square feet of industrial space over the last 10 years (Schatzker 2019).

Given these CRE impacts, we wanted to understand if investments in energy efficiency were affected. Investment firms' interest in environmental, social, and governance (ESG) principles has grown significantly since the Great Recession. According to Morgan Stanley's

Sustainable Signals survey of 1,000 individual U.S. investors, 85% were interested in sustainable investing (Morgan Stanley 2019). Harvard Business Review interviewed 43 global investors about their investing criteria – including State Street, Black Rock, and Vanguard. ESG was a top priority given that shareholders are now holding them accountable (Ecceles et al. 2019).

As a result, investors are requiring CRE owners to implement ESG-focused policies, increase investments in energy efficiency, expand their portfolio of ENERGY STAR and/or LEED certified buildings, and in some cases, report progress to third-party organizations such as the Global Real Estate Sustainability Benchmark (GRESB), which measures sustainability performance of investments across a range of criteria. Two of the CRE firms that were interviewed said that investor demand for ESG reporting is their primary motivator for energy efficiency investments. One CRE firm's clients are "pressured" to report to GRESB while the other firm's goal is to reduce operating cost in order "to look better on investor reports." Reporting, specifically to GRESB, is becoming an industry standard, like energy benchmarking. The head of a green building organization representing a large metropolitan city commented that "[ESG reporting] was once just the top of the market and is now a no brainer, which creates more need for ENERGY STAR, LEED, Well, and Fitwell [certifications]." The demand for ESG, combined with city and/or state energy reporting requirements, indicates that energy efficiency investments are likely to remain a priority for CRE firms during the next recession, but that remains to be seen.

Prior to the start of the recession in 2006, there were only 3,200 ENERGY STAR certified buildings and 5,000 LEED certified buildings (EERE 2008; USGBC 2016). Fast forward to 2019 and there were more than 36,000 ENERGY STAR certified buildings and 33,632 LEED certified buildings (ENERGY STAR 2019; USGBC 2019). Three participants continue to be pro-certification and prioritize it within their portfolios – partly because they are assessed on the percentage of buildings with certifications. One participant acknowledged the impact of brand awareness, stating that "you can argue [whether or not] LEED is a great system, but people know LEED." Conversely, two CRE firms said that certifications are fragmented depending on their customer. Some customers want to track energy usage and benchmark, while others "feel like its big brother putting on the tin foil hat." Although green certifications have become the expectation for Class A buildings, Class B and Class C buildings differ. Certifications require time, capital, and expertise, which many smaller owners and firms do not have the capacity or desire to pursue based on the investment strategy. CRE firms are spending more time researching the most cost-effective certifications as "cost and complexity is often a barrier," as one participant stated.

Impact on Energy Efficiency Programs

Residential and commercial buildings accounted for 40% of global energy consumption in 2018 (EIA 2019) and is expected to grow by 1.3% annually from 2018 to 2050. A study conducted by the American Council for an Energy Efficient Economy (ACEEE) found that utility funding for efficiency programs was $8 billion in 2018 (2019). Energy savings plateaued in 2018 at 27.1 million megawatt-hours (MWh), which is explained by a diminishing baseline from market transformation and improved codes and standards. The latter minimized net savings since buildings were required to achieve high levels of energy efficiency. Given that LEDs were a primary source of savings for utilities previously, there are fewer opportunities to explore. In response; states, utilities, and third-party implementers are identifying new energy saving technologies to leverage – such as heating ventilation and air conditioning (HVAC), controls, electric vehicles, and zero-energy buildings (ACEEE 2019).

Despite CRE's focus on ESG and green building recognition initiatives, utilities, third-party implementers, cities, and states still experience tremendous barriers when attempting to influence building performance. While there is a transparent common goal for energy usage reductions, there is a misalignment of language between utilities and CRE. As illustrated in Table 1. below, the CRE firms that we interviewed are motivated by investor satisfaction and the profitability of their asset, which corresponds to payback period, ROI, internal rate of return (IRR), ESG, and the asset's hold period (i.e. how long they intend to keep the building). One participant explained that while energy efficiency is a priority given that it positively impacts ROI and ESG, "investors are more interested in achieving higher returns with positive ESG outcomes as a byproduct." Ultimately, CRE firms all too often must divest in ESG and energy efficiency solutions to prioritize investors' vision.

Table 1. CRE participant's energy efficiency investment motivators

	Investment Motivators			
Participant	Investor Demand	Return on Investment (ROI)	Increased Net Operating Income (NOI)	Sustainability
1	X		X	
2			X	X
3		X		
4			X	
5	X		X	
6	X			
7		X		
8				X
9		X		
10	X	X		

Although they may increase the project's ROI, utility incentives do not highly influence a CRE owner's decision to pursue energy efficiency measures. The CRE industry looks at everything through a financial lens. "Will this allow me to charge higher rents?" "How will this improve NOI?" "Will this increase asset value?" CRE owners typically use in-house models based on their investment criteria to determine if an energy efficiency measure is a go or no-go. A key metric of this criteria is the project's payback period, which is the time it takes to recoup the capital expended in a project. "Payback drives the [client's] investment," as one CRE owner said. CRE firms have tight thresholds and may require 1, 2, or 3-year payback periods, or in some cases zero, depending on how long they are holding the asset. However, these considerations are not typically included in the utilities' engagement strategy. Several participants emphasized "it is too difficult for owners, decision makers, and operators to integrate the [utility incentive] information effectively into their planning process." Arguably, CRE stakeholders at the building-level have limited awareness of available utility incentives and how programs work. Understanding and incorporating this information is time consuming and can dissuade CRE from participating. Rather, energy efficiency programs primarily focus on the technical improvements of a project, communicating the benefits in terms of kWh and peak demand reductions, with financial information limited to annual cost savings and payback period.

An important tool for most CRE customer's is capital budget planning. Properties operate on an annual capital budget, which is determined during the previous fiscal year (i.e. 2020 budget is developed in 2019). Capital budgets include all annual building expenses – from utility to janitorial costs; in addition to capital improvements to the building, such as equipment upgrades. By actively engaging with the CRE customer during the planning phase, incentivized measures are more likely to be prioritized. Half of the participants emphasized that they use annual capital budgets to ensure that energy efficiency investments are prioritized and funded. Conversely, two participants do not prioritize energy efficiency measures in annual capital budgeting; rather, money is set aside for replacing end of life equipment versus energy efficiency projects. This feedback is a reminder that CRE owner's approach to energy efficiency varies. Energy efficiency measures must align with CRE's internal planning processes, objectives, and language for them to be utilized.

Lessons Learned in Preparing for Economic Uncertainty

"Normal" Economic Downturn

Typical economic cycles undergo a period of maximum growth followed by a recession. Declined economic activity causes companies to generate less revenue, which instigates layoffs. Higher unemployment leads to less consumer spending, which can then help officiate a recession.

During a "normal" recession, multifamily would likely be minimally impacted, with data centers and industrial properties shortly behind (Stribling 2019). A desire to minimize loneliness and cost of living have influenced co-living and co-working trends across Gen-Zers and millennials. Baby boomers are also beginning to cohabitate – termed the Golden Girls trend – as a result of limited retirement funds, loneliness, and longer lifespans (Kaysen 2018). Society's craving for convenience and community, in parallel to CRE's investment returns, has solidified the "live/work/play" model in densely populated cities. Consequentially, suburban areas are introducing community-oriented development, which has increased housing and job growth (Thompson 2019; ULI 2020). Millennials entering the housing market are investing in suburban homes given the high cost of property in metropolitan cities. In parallel, technology firms are moving their offices to suburban and rural markets as downtown rents surge. Investments in e-commerce properties are expected to expand from primarily large, regional warehouses to small, urban spaces as a result of guaranteed two-day, next-day, and same-day delivery. Blackstone's co-head of real estate, Kathleen McCarthy, said that investments in logistics are her top priority, "followed by offices and rental housing in so-called innovation centers such as Seattle and Stockholm" (Schatzker 2019).

Given that certain property sectors are "safer bets," we wanted to know if CRE firms were seeking opportunities to diversify their portfolios. One participant responded, "absolutely" and is seeing clients move to industrial, medical office, and federal properties. Another CRE firm is moving towards life sciences, multifamily, and more experimental properties. A third is considering scaling back on new construction aside from developments in cities like San Francisco with long lead times for development. With that said, most participants are not intentionally diversifying but noted that office has become challenging to invest in due to cost. One CRE firm explained, "[office] is so overpriced that the returns are really small, so there has been movement towards alternative asset classes. Industrial was the sweet spot but then that went through the roof, so it's moved to storage, senior housing, secondary asset classes of multifamily."

We asked the participants if they were preparing for an economic downturn and how they plan to maintain low vacancy rates. Some are utilizing lease renewal perks, sustainability certifications, and amenities; while others are focusing more on health, active design, and the overall experience inside the building. Operating costs become increasingly important during an economic downturn, both from an NOI and vacancy perspective. "Utility prices will not lessen, therefore lowering operating costs should be the focus now," as one participant noted. "If a [CRE owner's] overall operating costs and common area maintenance (CAM) charges are lower than the guy next door, you can charge less rent to maintain or grow occupancy. On the flip side, you could maintain or attract tenants with lower overall cost of occupancy." Given this, one participant is investing heavily in energy trending technology, which measures consumption in real-time and flags anomalies. They will transition to a fully remote engineering team allowing them to respond to multiple assets at a time versus one – the outcome being significant savings and increased NOI that will add value if a recession were to occur.

CRE owners motivated by asset value and returns are beginning to treat mitigation strategies for an economic downturn like climate risk. Dodge Data & Analytics conducts research on green building trends and found that 60% of respondents agree that CRE assets will be impacted by climate change (2018). CRE owners are experiencing the impact of fires, strong storms, and sea level rise – both physical and transition impacts such as power outages or lower demand for properties in vulnerable areas. As a result, they are beginning to frame energy efficiency investments under the guise of climate risk. By modernizing portfolios to endure blackouts, floods, fires, and wind, CRE assets are better positioned to withstand market fluctuations. One participant noted, "we want to promote prudent asset and risk management to ensure we're as competitive as we can be." Some CRE owners are future proofing by targeting specific tenants with infrastructure and amenities that would appeal to tenants who they consider to part of the "future economy." Others are committing to portfolio-wide carbon neutral targets.

However, it was clear that not all CRE owners are investing in initiatives such as building electrification and/or net zero unless required by a client or regulation. A major challenge for CRE owners is coordination with tenants regarding energy and carbon reductions. One participant explained, "most people have no idea what electrification means, in theory people say it's a good idea but the reality is that the decision is super variable based upon the energy grid around you." One participant acknowledged the need to create a strategy towards net zero buildings, especially for long-term investments given the market's trajectory. "That doesn't mean we're looking to electrify buildings now, the technology isn't there, but we understand that we need to invest in energy efficiency to get there one day."

The COVID-19 Recession

Upon submitting this paper to ACEEE for peer review, the COVID-19 recession arose as an economic byproduct of the ongoing, global Coronavirus pandemic. Given that the U.S. economy had seen long-term growth since 2009, an economic slowdown was expected. While some characteristics of this recession are like a "normal" recession; they differ in their origination, rate, and magnitude. The impetus for the COVID-19 recession is tied to global lockdowns in order to stop the Coronavirus from spreading, versus a financial market crisis. Additionally, the rapid onset and impact to the economy is unlike other recessions, stemming from multiple state-wide and regional "shelter at home" orders. Millions of people in the U.S. filed for unemployment in a matter of weeks. Furthermore, the COVID-19 recession has impacted almost every industry given the near standstill to daily life.

The initial phase of the COVID-19 recession has impacted CRE in a variety of ways. Desire for e-commerce, grocery, warehouses, and data centers has surged (Berry 2020) due to shelter-at-home orders influencing consumer demand for home delivery and increased data usage. Business closures and unemployment have impacted retail, multifamily, office, and hotel revenues. One participant reviewed their portfolio and found that retail properties were most impacted economically due to closures; multifamily had increased occupancy and energy consumption; industrial was business as usual; and office saw 20-30% energy reductions from operating on an after-hours schedule. As sectors look to reopen, businesses face higher operational costs associated with sanitation, air filtration, symptom checkpoints, tenant engagement, and security protocols (Berry 2020). There is also uncertainty around building occupancy due to the continuous evolution of company COVID-19 protocols, directly impacting the number of prospective tenants. One estimate anticipates Wall Street firms will need to spend an additional 50% for each employee working in the building due to COVID-19 upgrades (Surane 2020). Regarding capital projects, several CRE firms that we followed up with had their budgets entirely frozen and projects halted. Another CRE firm reviewed impacts at a portfolio level to determine which projects would move forward based on timing and need. The CRE stakeholders that we spoke to are prioritizing the following: health and well-being; new technologies; and tenant communication.

While societies approach to the Coronavirus pandemic is continuously evolving, it is certain that CRE will be required to focus heavily on health and wellness to ensure tenants are safe and comfortable. Health and wellness inside buildings has become increasingly discussed and desired as certifications like Fitwel and the WELL Building Standard have made their way through the market. Since its inception in October 2014, there have been 4,315 WELL projects certified or registered across 581M square feet of buildings in 62 countries (WELL 2020). Since March 2017, Fitwel has been used by 980 registered projects with over 370 projects certified or pending certification (CAD 2020). Although climate risk arguably solidified the importance of the green building movement, the Coronavirus pandemic is drastically accelerating the healthy building movement. In fact, one CRE firm that we spoke to has re-deputized their Director of Sustainability to oversee their COVID-19 operations. Another CRE consultant said their clients have increased interest in health and wellness certifications to better position their multifamily properties to prospective residents. As three Senior Partners at McKinsey & Company explained, COVID-19 introduced imminent and perceptible health dangers whereas climate change presents "gradual, cumulative, and often distributed dangers that manifest themselves in degrees and over time." (Pinner et al. 2020) New technologies related to health and wellness will play a critical role in CRE operations and will come at a high cost. Firms on Wall Street are expecting to invest $18k per banker according to a Deloitte estimate (Berry 2020).

CRE stakeholders are exploring and implementing a variety of protocols and technologies to ensure their buildings are safe and healthy for tenants. Given this, utilities have an opportunity to adapt program offerings and include energy saving measures related to CRE's COVID-19 response. One participant is implementing indoor air quality monitoring systems and improvised operational strategies for better cleaning procedures. Another is implementing robotic UV cleaning as well as looking into new air sensors and UV and bipolar ionization technology. CRE firms articulated the importance of air filtration, ventilation, and UV technologies. By updating health and safety protocols, clear and ongoing tenant engagement need to help people trust that the building is safe for their return. Given the amount of shared

common area amenities at many properties, there is significant engagement to ensure tenant safety.

Opportunities to Grow CRE Participation

We asked each participant what programs or incentives motivate them to participate in utility programs during times of economic uncertainty, as highlighted below in Figure 3.

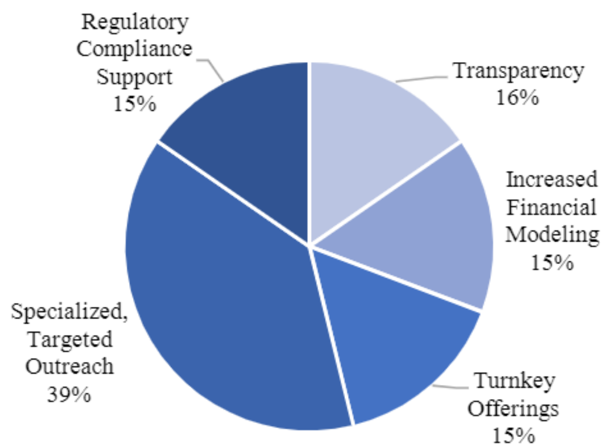

Figure 3. CRE stakeholder participant utility program recommendations. *Source:* Waypoint CRE interviews 2020.

CRE owners have limited bandwidth and are driven by returns, especially when capital is limited. The overarching sentiment is that program design and engagement tactics need to align with their business structure; and processes need to be simplified. Below are a few specific recommendations stemming from our research:

- *Operational efficiency is an engineering priority.* RCx programs have been around for years and were a popular measure during the last recession. As CRE owners look for ways to lower operational costs and remain competitive, utilities should leverage RCx programs for increased participation during an economic downturn.
- *Adjust messaging to align with immediate needs of customers*. Examine what customers are experiencing in the market and adapt outreach to help communicate how the service or incentive being offered will address their needs.
- *Prioritize payback periods.* Most CRE firms have inflexible, internal restrictions on project payback, limiting projects to those with a 2- or 3-year payback window. Know each customer's payback criteria and prioritize those projects to build rapport. Clearly articulate the financial incentive and/or ROI within energy assessment reports, or other program marketing, to spur adoption of measures and/or programs.
- *Speak CRE.* Shift the conversation from energy savings and kilowatt hours to dollar savings, ROI, and increased asset value to drive uptake in programs. Communicate how a measure will improve NOI, asset value, and rent.

- *Put a face to the name.* The CRE industry is insulated and relationship based. Target CRE through industry-specific communication channels. Equip CRE-facing vendors with program information and attend events to reach key decision makers.
- *Simplify program participation.* CRE owners find energy efficiency programs to be complex and burdensome. Minimize barriers by streamlining the enrollment process and ensuring participation information is accurate and up to date.
- *Communicate a sense of urgency.* Promote transparency and mutual trust by communicating about upcoming program or incentive fluctuations, such as measure phase-outs, to encourage adoption and heighten customer awareness.
- *Provide access to aggregate, whole-building energy usage data*. CRE owners who certify properties and/or report to third parties, such as GRESB, need access to energy data. Utilities who provide aggregate data by combining tenant and common area meters are supporting CRE customers and opening the door for future energy efficiency opportunities.

Conclusion

While there are distinctions to each recession, CRE's priorities during a "normal" economic downturn did not vary significantly from how they generally operate. CRE's prioritization of energy efficiency investments depends on several factors – investor demand, increased revenue (e.g. ROI and/or NOI), and sustainability objectives. When capital is limited, CRE will typically prioritize essential projects followed by energy-saving measures that promise reduced operational costs and short payback periods. Risk assessment and capital budget planning become critical tools for prioritizing energy efficiency incentives and present an opportunity for utilities to influence CRE decisions.

Regarding the current COVID-19 recession, CRE priorities and motivations mirror those experienced during a "normal" recession with a few nuances, specifically, the focus on health and wellness protocols; new technologies (e.g. air filtration, ventilation, UV); and tenant engagement to build trust and safety. By focusing on these types of offerings; aligning engagement strategies with CRE business planning; and adapting offerings to meet CRE customer needs, utilities can encourage strong investments in energy efficiency programs and realize participation from the CRE sector during times of economic uncertainty.

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