NAVIGANT

Measure, Application, Segment, Industry (MASI):

Chain Operations

Prepared for:
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Introduction

Navigant Consulting, Inc. (Navigant) undertook this Measure, Application, Segment, Industry (MASI) study from the California investor-owned utilities with the purpose of understanding the process that chain operations undertake when deciding whether to implement energy efficiency measures. For the purposes of this study, a chain operation is a business with multiple, customer-facing store locations that operate under a centralized decision-making structure, which includes decisions on energy efficiency measures that require capital expenditure.

First, Navigant conducted secondary research to determine high-potential chain operations sectors, and used that to focus the scope of the study. Next, Navigant conducted primary interviews with utility account managers and executives who work with chain operations; third-party implementers of programs that serve chain businesses; and corporate decision makers such as energy, sustainability or operations managers at chain accounts. In all, Navigant conducted 15 interviews.

Early on in the process, Navigant found that hotels/lodging were not truly representative of the nature of a chain operation due to the highly localized management structure of hotel locations, and thus did not consider it further in the study after understanding its decision-making process.

Findings and Recommendations

From these interviews with utility account representatives, third-party program implementers, and corporate energy managers, Navigant developed a set of recommendations for improving energy efficiency in chain operations, which are summarized below:

- Synchronize the rebate application process with corporate timelines: We recommend that utilities develop prescriptive rebates earlier in the year to align with chain operations' budgeting process for capital projects.
- Explore simplifying the pre-inspection process: We recommend that utilities further investigate the possibility of taking advantage of the fact that establishments within a chain are similar or identical, and develop a simplified pre-inspection process for custom projects based on a sample of establishments within California.
- Continue long-term relationships between chains and account executives and between chains and third-party program managers: We recommend that California utilities, as well as third-party implementers of utility programs, continue to be proactive and responsive in their communications with chain operations. In general, chain customers consistently saw the relationships with account managers as a bright spot.
- Better understand effects of upstream rebates and communicate their purpose: We recommend that utilities conduct further research and determine the impact of upstream rebates on downstream participants, particularly for heating, ventilating, and air-conditioning systems, to

ensure that upstream rebates achieve their intended market transformation effect. Utilities should also ensure that downstream customers understand the purpose of the upstream rebates to avoid possible friction with upstream sellers and/or utilities.

» Explore the need for grocery program in southern California: We recommend that southern California utilities reach out to potential chain grocery customers and possible internal or external program implementers to see if there is a need for a dedicated program similar to that of Pacific Gas and Electric Company's EnergySmart Grocer program.

» Promote on-bill financing and on-bill repayment as an alternative to capital budgets: We recommend that utilities continue to promote on-bill financing as a way for chain businesses to finance energy efficiency projects. Such efforts should focus on franchisees and on chains implementing more complex projects.

» Provide technical assistance for energy management systems and advanced measures: We recommend that utilities continue to act as a resource for information sharing and training with respect to energy efficiency measures.

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1 MASI Description and Introduction

1.1 Definition of a Chain Operation

For purposes of this study, chain operations are defined as businesses with multiple, customer-facing store locations that operate under a centralized decision-making structure. In the context of energy efficiency, this means that energy decisions on upgrades such as energy management systems or new heating, ventilating, and air-conditioning (HVAC) equipment are driven from the corporate level. Both corporate-owned and franchise stores and locations can be considered as parts of a chain operation as long as they meet these conditions.

1.2 Value Proposition

The nature of chain operations presents particular challenges and opportunities for utilities to promote energy-saving measures. Utilities have an opportunity to propagate measures across a large number of facilities at once; however, the challenge is to effectively target and influence the decision makers within the organization to implement these measures. With this study, Navigant Consulting, Inc. (Navigant) intends to help the California investor-owned utilities (IOUs) to better understand the decision-making process that occurs within various types of chain operations. This process includes providing insight into the key market trends, drivers, and barriers within chain operations for energy efficiency initiatives, as well as recommendations for utilities to strengthen their relationships with chain customers and respond to their unique challenges.

1.3 Study Methodology

Navigant conducted secondary research to determine high-potential chain operations sectors. Navigant evaluated energy intensity data from the 2003 Commercial Building Energy Consumption Survey to identify the highest-potential market sectors.[1]

Navigant also conducted a total of 15 interviews, which consisted of the following:

- Five interviews with account executives at each of the four California IOUs.
- Four interviews with third-party program managers with sector-focused programs (i.e., supermarkets)
- Six interviews with energy managers of chain businesses who are involved with energy management, utilities, incentives, and capital expenditure planning

[1] http://www.eia.gov/consumption/commercial/data/2003/

1.4 *Identification of High-Potential Chain Sectors*

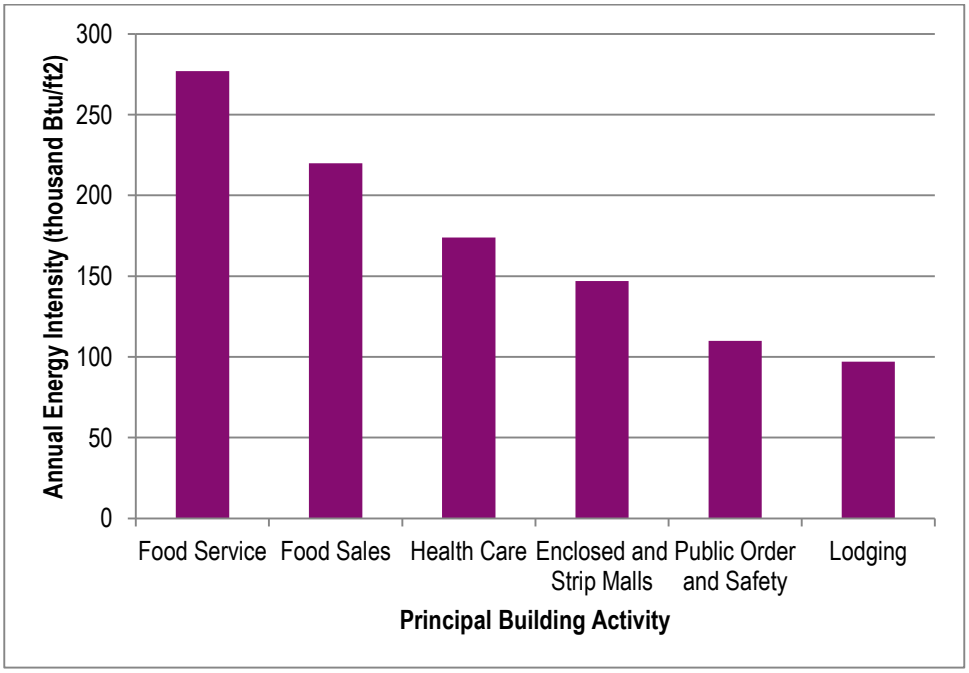
Navigant loosely narrowed its focus to sectors that utilities considered to hold many chain operations while also having high potential for energy savings. This involved two tasks:

- Conducting secondary research to determine high energy intensity building end uses
- Interviewing California IOU program managers to determine what types of businesses they consider to be "chain operations"

First, Navigant obtained data from the 2003 Commercial Building Energy Consumption Survey to determine that food service and food sales were the principal building activities that had the highest energy intensity, as seen in Figure 1. Lodging also represented one of the highest intensity energy consumers.

Navigant applied a qualitative screen to remove health care, malls and public order and safety institutions from the study as businesses or organizations that fall under these building activities generally do not have centralized management of energy consumption and energy efficiency initiatives. This was reaffirmed by interviews with utility account executives, who also did not consider these organizations to be chains.

Figure 1. Top Energy Intensities by Principal Building Activity



Source: U.S. Energy Information Administration, 2003

As a result, food service, food sales, and lodging were the three sectors that were loosely targeted for third-party program manager and energy manager interviews. For clarity, food service consists of

restaurants and fast-food chains, while the food sales sector represents grocery stores and supermarkets. Additionally, while general retail chains were not an initial focus sector for this study, Navigant received opportunities to speak to these types of chains and thought that the information from these interviews would contribute value to this study, so information on retail chains is presented separately in this report

2 Current California Program Activities that Benefit Chains

This section summarizes existing California programs that benefit chain operations.

2.1 *Account Management*

Over the course of multiple interviews with utility representatives, Navigant determined that the majority of current California IOU activity within the chain operations space comes in the form of account management. Currently, dedicated utility account executives or third-party program managers are responsible for guiding customers through existing rebate or incentive programs. These account executives and program managers usually focus on a particular type of business (i.e., lodging or grocery stores) and help streamline the application process for rebates, whether the process is for a deemed or custom rebate. Often, this includes the task of marketing outreach and providing new information on rebates and possible opportunities to their respective clients. Account managers tend to be responsible for both chain and non-chain accounts. Thus, although the account management structure does not distinguish between chain businesses and other businesses, it does provide an opportunity to reach out to chain customers.

2.2 *Statewide Energy Efficiency Programs*

Likewise, energy efficiency programs offered by the state and by utilities do not focus on chains in particular, but many end up benefiting chain operations. Navigant identified several statewide commercial energy efficiency programs, which are broadly applicable across sectors and offered by all utilities[2]:

- **Commercial Deemed and Calculated Incentives:** Rebates for installing new energy efficiency measures. Deemed incentives are fixed amounts that apply to measures whose energy savings have been previously estimated. Calculated incentives are assessed on a case-by-case basis and depend on the estimated savings for a particular measure.
- **Energy Advisor Program:** Education program that helps customers identify and implement energy savings solutions that meet their particular need. Subprograms include the following:
  - Benchmarking
  - Online Energy Audits
  - Site Energy Audits
  - Continuous Energy Improvement
  - Retro-commissioning assessments

[2] United States. California Public Utilities Commission. Fact Sheet: Statewide Commercial Program (2013-2014). N.p., Apr. 2013. Web.

- **Savings by Design:** Uses a whole-building approach to identify and implement energy-saving measures in new construction[3]
- **Direct Install:** Provides free and/or low-cost equipment retrofits for small businesses, helping them overcome first-cost barriers.
- **On-Bill Financing:** Allows commercial and industrial (C&I) customers to finance energy efficiency upgrades with zero percent interest loans that are paid back over time as a charge on the customer's utility bill. (For more details, see section 4.1.2.)

2.3 Sector-Specific Programs

Navigant also identified sector-specific programs that benefit chains within each sector. These include the following:

2.3.1 Food Service

- **Food Service Technology Center**: Operated by Fisher Nickel for Pacific Gas and Electric Company (PG&E), this is a test facility for commercial kitchen appliances that provides unbiased information and benchmarking of equipment performance to customers.[4]
- **Food Service Equipment Center:** Operated directly by Southern California Gas Company (SCG), this is a demonstration facility for commercial kitchen appliances that customers can use to "test-drive" equipment.
- **Instant Rebates! Point of Sale Foodservice Program**: Operated by Energy Solutions for SCG, this program offers immediate rebates to customers on specific energy-efficient equipment upon purchase (at the point of sale).[5]

2.3.2 Supermarket/Grocery

- **EnergySmart Grocer**: Operated by CLEAResult for PG&E, this program provides specialized energy efficiency solutions for medium-size to large grocery stores, focusing on refrigeration efficiency measures.[6]

[3] http://www.savingsbydesign.com/.
[4] http://www.fishnick.com/about/overview/.
[5] Instant Rebates! Point-of-Sale ("POS") Foodservice Rebate Program Program Implementation Plan. Publication. California Public Utilities Commission, n.d. Web. <http://eestats.cpuc.ca.gov/EEGA2010Files/SCG/PIP/Clean/SCG3793_-_Instant_Rebates_PIP.pdf>.
[6] http://www.energysmartgrocer.org/ca/pge/index.html.

2.3.3 Hospitality

» **LodgingSavers**: Operated by Ecology ActionEcoAct for PG&E, LodgingSavers provides free energy audits of lodging facilities and helps implement energy-saving retrofits.[7]

» **Lodging Energy Efficiency Program:** Operated by Willdan for San Diego Gas & Electric Company (SDG&E), this program is similar to PG&E's LodgingSavers as it helps hotel chains identify and implement energy-saving measures at lodging properties.

[7] http://www.lodgingsavers.org/.

3 Corporate Team Structures and Decision-Making Processes

This section summarizes the key details on energy team structure, differences between large and small chains, and decision-making processes from Navigant's numerous interviews with utility account executives, third-party program managers, and key corporate energy managers.

3.1 Energy Team Structure

National chain accounts usually have an energy team consisting of several people with decision-making capabilities, in addition to staff working behind the scenes. For large chains, a dedicated energy team may consist of between 5 and 15 people and possess at least a high-level director, if not a vice president, within the company. For smaller chains, decisions are often made at the operational level as owners are more involved in the day-to-day operations of the business. There are few small chains that have dedicated energy personnel, unlike the larger chains.

Table 1 describes the energy teams of the six corporate companies interviewed as part of this study. Navigant only interviewed relatively large chains for this study, so conclusions drawn from this data are only applicable toward larger chains.

Table 1. Interviewee Energy Team Sizes and Descriptions

Code	Dedicated Team Sizes (approximate)	Team Description
Grocery 1	13	12 regional maintenance and operations coordinators plus 1 global coordinator, 4 non-exclusive support staff
Grocery 2	8-10	8-10 employees: 1 department each for lighting, HVAC, procurement, refrigeration, building controls, and carbon footprint; manager of incentives and additional support staff
Food Service	2	2 dedicated employees: one for supply-side and demand-side energy responsibilities, one for coordinating utility payments; franchise owners
Retail 1	16	16 employees on the energy team in three departments (renewables, conservation, procurement; 6 in conservation, which includes energy efficiency
Retail 2	~10	~10 employees in dedicated energy management team
Retail 3	2	Two non-dedicated employees that manage energy as part of the maintenance team

3.2 Differences between Large and Small Chains

While Navigant only directly interviewed relatively large chains, insights were provided by utility account executives and third-party program managers as to the nature of different size chains. While there is no definitive threshold for large and small chains, Navigant interprets small chains to be operations with single-digit to double-digit numbers of stores, while large chains are operations with

hundreds to thousands of stores. These stores do not need to be limited to any particular geography such as the state of California – in other words, chains can be nationwide.

These two size characterizations are important as they have fundamentally different processes for making energy-related decisions. Table 2 and Table 3 illustrate some of the qualitative natures and differences between large and small chain operations, as described in interviews with utility account executives and third-party program managers.

Table 2. Qualitative Nature of Large Chains

Benefit/Cost	Description
+	Large chains generally have sustainability objectives.
+	Large chains can have dedicated teams for energy and sustainability initiatives.
+/-	Large chains generally evaluate energy efficiency opportunities on the basis of their financial value and whether they drive monetary savings.

Table 3. Qualitative Nature of Small Chains

Benefit/Cost	Description
+	Small chains have less red tape and bureaucracy when it comes to obtaining approvals for implementing energy efficiency measures.
+	Small chains can sometimes implement energy efficiency or sustainability measures at a loss, for the sake of distinguishing themselves from competitors.
-	Small chains generally do not have dedicated teams for energy/sustainability initiatives and the responsibility falls under the operations manager.

3.3 Decision-Making Processes

One of the key focus areas of this study is what the decision-making process entails for chain operations. Navigant developed insights on each industry using secondary research, industry experience from utility account executives, and third-party program managers and firsthand descriptions of decision-making processes from energy managers themselves.

3.3.1 General Retail

By nature, retail is a broad sector that can vary dramatically in product mix, store size, and energy consumption. Navigant interviewed energy managers at three retail chains: a clothing chain, a specialty accessories chain, and a wholesale chain. For all three chains, energy efficiency decisions are made within a team that is broadly focused on facilities-related issues. Among the interviewees, these issues also included energy procurement, maintenance, sustainability, and/or renewables. Two interviewees reported that decisions are primarily based on the measure's expected return on investment (ROI), with

one specifying that a measure with an ROI of 24 months or less would be more likely to get approved (See section 4.1.1 for a more detailed discussion of financial metrics driving energy efficiency in chains.) Two of three interviewees also reported that energy efficiency measures have to compete with other, non-energy measures or business objectives. On the other hand, decision makers are conscious of how energy efficiency goes hand-in-hand with other business objectives. Non-energy benefits are factored into the decision-making process—for example, two interviewees saw light-emitting diodes (LEDs) as a major opportunity not only for energy savings, but also for the improved customer experience and improved sales that would be influenced by better product lighting.

For the interviewees, ROI seemed to be considered on a store-by-store basis instead of a company-wide basis. This can hinder energy efficiency improvements for certain types of locations. The interviewee at one of the retail chains noted that very small stores have such a low electricity bill to begin with that the labor expense for implementing an energy efficiency measure would far outweigh the operating cost savings.

Interviewees varied in the level of autonomy they had to make energy-related decisions. One interviewee said that it depends on the magnitude of the expenditure, and the energy manager can approve annual budgets of up to $100,000 per store. The other two interviewees said that their decisions must be vetted and in some cases, management must be convinced to adopt the measures.

In summary, energy efficiency decisions at retail chains seem to be initiated by dedicated corporate energy managers working within an overall facilities team. The energy managers are conscious of the long-term savings of the measures they wish to implement, and do not only focus on the up-front cost. They are also aware that they must compete with other priorities within the organization. Although they may have to seek permission from upper management to implement measures, it is their job to advocate for energy efficiency as long as it is cost effective.

3.3.2 Groceries

Decision-making for chain supermarkets seemed to be more structured and segmented than other sectors. One third-party program manager drew a distinction between energy and sustainability, noting that energy managers typically make decisions on energy-saving measures, while sustainability is more relevant to the supply side (e.g., which products to stock). The decision structure itself differed substantially between the two grocery chains interviewed. One supermarket chain is structured by regions, where regional energy managers act as maintenance and operational coordinators. Their energy-related responsibilities include procurement, energy efficiency, and on-site generation projects. The interviewee for this chain is in the role of coordinating programs across all of the operating regions and approving projects that are developed by the regional energy managers.

The other supermarket chain is structured based on type of equipment, with different people responsible for refrigeration, lighting, and HVAC measures. As refrigeration represents the single largest proportion of utility costs in chain supermarkets—the interviewee estimated 50%—the refrigeration team is the largest team, and is regulated "from soup to nuts." In contrast, lighting and HVAC decisions are made when equipment breaks down and needs to be replaced.

As with other sectors, the two energy manager interviewees in the grocery sector said that ROI was the largest factor in the decision-making process. Likewise, one of the interviewees noted that there is significant internal competition for capital and energy efficiency competes with other priorities.

3.3.3 Restaurants

Many restaurant or food service businesses operate under a dual-ownership structure where the corporate company owns a certain percentage of stores and franchisees own the other percentage. This means company-owned stores are fully controlled from the corporate level, while franchisees have a certain degree of autonomy.

Navigant interviewed one fast-food restaurant chain and learned about that chain's decision-making process. This restaurant chain consists of 30% corporately owned stores and 70% franchised stores. The interviewee describes her role as managing energy procurement and demand-side operations for all of the corporately owned stores nationwide, while having some influence on how franchisees manage energy demand.

For corporate-owned stores, energy-consuming equipment upgrade or replacement projects are analyzed for financial, operational, and cooking impacts and then rolled out to stores if approved.

The dynamic between the franchisee and the corporation for this chain fell into two categories for equipment upgrades – critical equipment designated for installment for new franchisees or replacement on burnout (ROB) by the central corporate company, and noncritical equipment that that may or may not be installed by the franchisee. For the first category, approved changes in equipment go into new construction plans. For retrofits, franchisees are contractually mandated to use the approved equipment when replacing the old piece of equipment on burnout.

For the second category, the interviewee puts together a business case to try and convince franchisees to retire their current equipment early. For example, the interviewee has pitched an early replacement of existing broilers due to energy savings, rebate availability, and other soft costs like less labor due to easier cleaning and maintenance. Overall, however, franchise owners are in charge of approving or denying energy efficiency measures for their businesses.

In this chain operation, restaurant franchisees prefer to have a single point of contact within the company from which to receive information.

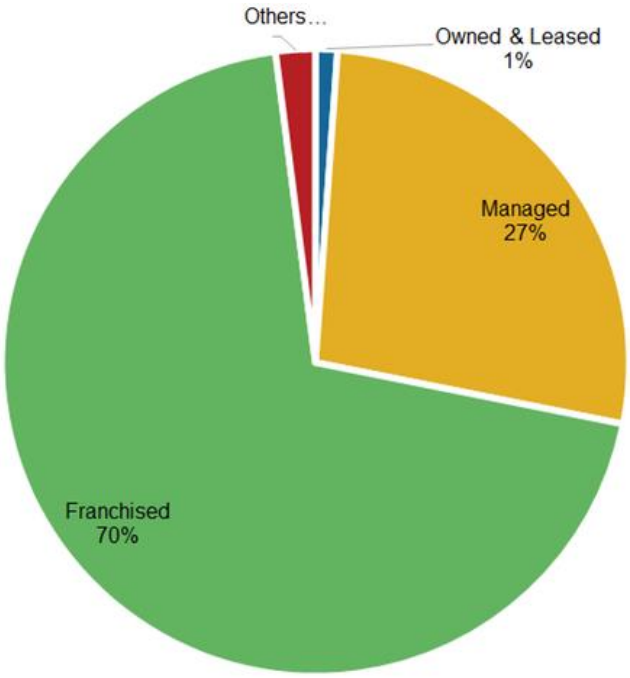
3.3.4 Hotels and Motels

Navigant interviewed two third-party program managers who have worked extensively with hotels, motels, and other lodging facilities.

The key finding from these interviews was that the decision-making process at hotels and motels has a high level of variance due to the complex nature of property ownership. Many hotels may seem to belong to a chain due to the commonalities in name, but are controlled by a myriad of owners. These can

include real estate investment trusts, private equity companies, franchisees, and hotel management companies. Looking at Figure 2 as an example, 70% of all properties operating under the Marriott brand name in 2013 were franchised businesses, which paid Marriott a portion of its revenues for use of the name and other services rendered. At the same time, Marriott managed 27% of the properties under long-term (20- to 30-year) agreements with the respective property owners. Finally, Marriot only directly owned 1% of all Marriott-branded properties.

Figure 2. Ownership of Marriott's Hotel Properties for Fiscal Year 2013



Source: Market Realist, http://finance.yahoo.com/news/why-marriott-hotels-specific-ownership-210012901.html

As a result, the decision-making process filters up to two stakeholders: the management group and the ownership group, which can be synonymous or different. All projects that affect the operations of the hotel or motel must be vetted and approved by both groups. Due to the dual stakeholder approach to project upgrades, most lodging properties look at energy efficiency investments and upgrades on a property-by-property basis.

For larger properties, the general manager, director of engineering or equivalent employee(s) is responsible for energy usage and utility bills. These employees are held accountable to make sure that utility costs stay reasonable. Ideas for energy efficiency projects often originate from these points of contact, but rarely do general managers or directors of engineering have authorization to make major decisions. Capital expenditures that exceed $10,000-$15,000 usually have to be approved by the ownership and management groups. For smaller properties without dedicated site engineers, the decision-making process is shorter because the owner is often involved with paying utility bills and managing energy usage.

Both third-party program managers interviewed stated that top-down approaches for targeting and marketing to management groups were highly unsuccessful. Navigant observes that while lodging properties may seem to be centrally managed, they are in fact not and should not be considered chain operations for the purposes of this study in energy efficiency for chain operations.

4 Market Trends, Drivers, and Barriers

In this section, Navigant discusses the key market trends, drivers, and barriers with regards to the implementation of energy efficiency in chain operations. Throughout this section, Navigant includes several tables that summarize key findings for each subsection. However, Navigant reports findings that are not just limited to insights from energy manager interviews, which are summarized in the tables, but also from third-party program manager and utility account manager interviews.

4.1 Market Behaviors and Trends

Chain operations are becoming more and more aware of the impact of energy usage upon their business operations and profit margins. These are reflected in general market trends described in Table 4 and the subsequent subsections in how chains currently view and evaluate energy efficiency as part of their business.

Table 4. Key Chain Operations Market Trends

Subject	Financial Metrics	Internal vs. On-Bill Financing	Sustainability Policy	Centralized Control
Grocery 1	X*	X	X	
Grocery 2	X	X		
Restaurant	X			X
Retail 1	X	X	X	X
Retail 2	X	X	X	
Retail 3	X	X	X	X

* Within the table, an "X" means that the interviewee discussed the topic and provided information regarding their chain operation in relation to the market trend.

4.1.1 Financial Metrics

Chain operations primarily make business decisions. It is rare that green campaigns or goals are enough to drive capital investment. Small energy efficiency projects can usually be accomplished using dedicated energy-related budgets. However, large energy efficiency projects, like most other operational projects, usually must be evaluated based on financial metrics such as return on investment or payback period.

Return on Investment (ROI) is both a threshold and a comparison metric for energy efficiency projects. Higher ROIs are preferable. Payback period is the inverse of ROI. Shorter payback periods are preferable.

At all of the large chain operations interviewed, projects such as LED lighting upgrades or energy management systems (EMSs) must meet a minimum ROI or payback period. Three energy managers

stated that their maximum payback period requirement was two years, while two energy managers stated having maximums of three years. This roughly translates to 50% and 33% ROIs, respectively.

Champions of energy efficiency projects must first and foremost justify their projects on an ROI basis. Without meeting minimum financial metrics such as payback period and/or ROI, these projects have little chance of being approved by internal decision makers and those responsible for capital expenditure budgets. Projects that satisfy the minimum threshold for these metrics are then often compared to other projects to evaluate how much the project benefits the company in cost savings, along with other factors like reduced maintenance time or equipment performance.

4.1.2 Internal vs. On-Bill Financing

California's utilities offer a slate of financing options to help commercial businesses reduce the capital expenditure burden of installing energy efficiency measures. The California Public Utility Commission's Long-Term Energy Efficiency Strategic Plan, adopted in 2008, made on-bill financing (OBF) available to customers as a way to relieve capital constraints on energy efficiency projects. On-bill financing is a service that allows commercial and industrial customers to finance energy efficiency upgrades with zero percent interest loans from California utilities. Loan repayment takes place via regular charges that are part of customers' utility bills. All four IOUs implement this program, and between 2010 and 2012, lent a combined $41.5 million to their customers.[8] OBF funds were renewed for the 2013-2014 program cycle, with approximately $106 million allocated for utility customers.[9]
Additionally, the CPUC authorized funds for pilot programs in on-bill repayment (OBR), which is similar to OBF but allows customers to repay third-party loaners or leasers on their utility bills. However, one key difference between OBR and OBF is that OBR will have a market interest rate, whereas OBF has zero percent interest rate.

Although most chain energy manager interviewees were aware of on-bill programs, all of the interviewees' companies resorted to in-house financing to pursue energy-related equipment upgrades, preferring to utilize internal capital. According to multiple account executives from utilities, large chain operations often have access to cheaper capital in-house, rather than looking outward for financing from banks or utilities. Additionally, with internal access to capital, chains find it less complex to finance projects themselves than to obtain financing across multiple utility territories. (Note that this is different from obtaining rebates across multiple utility territories, which is usually simpler in the sense that rebates are one-off items and do not require payment schedules, credit checks or other complexities that are included in the process of obtaining loans.)

Grocery stores in particular have benefited from on-bill financing, according to one third-party program manager. This program manager discussed how on-bill financing has enabled several grocery chains to commit to projects that would normally have a five- to 10-year payback period – far higher than the two- or three-year maximum that most chains can tolerate. The varying feedback on in-house vs. on-bill

[8] United States. California Public Utilities Commission. Fact Sheet: Energy Efficiency On-Bill Financing Program (2010-2012). N.p., July 2010. Web.
[9] http://www.caleefinance.com/wp-content/uploads/2014/02/Finance-Roadmap-Update-Webinar-Slide-Deck-02-27-2014.pdf

financing suggests that while on-bill financing may not be utilized by a majority of chains, it may still have applications in certain situations. Importantly, OBF can shift the perception of an energy efficiency measure from a capital expenditure to an operational expenditure by adding the cost to the energy bill along with other operational expenditures. Particularly as chains move beyond projects with short payback periods to more complex or more expensive projects, on-bill financing may help projects with longer-term paybacks compete with other priorities at the chain.

4.1.3 Corporate Sustainability Objectives

Four interviewees pointed to their companies' nationwide sustainability objectives, which played strong roles in driving energy-efficient equipment upgrades by holding their companies accountable to the public. These included the following:

- Participating in the U.S. Department of Energy's (DOE's) Better Buildings Challenge, which targets reducing carbon emissions by 25% by 2015, compared to a 2008 baseline[10]
- Targeting to directly reduce energy consumption by 30% by 2020, compared to a 2010 baseline
- Committing to a zero material or food waste culture
- Obtaining ENERGY STAR certification for 75% of all buildings by the end of 2015

As chain operations are numerous, larger, and generally publicly owned by nature, corporate sustainability policies are commonly implemented across chains. However, the energy managers interviewed believed that sustainability objectives were secondary or tertiary to financial considerations when it came to project decisions.

4.1.4 Centralized Store Management

Centralized store management has become more and more popular as chain operations look to develop a higher level of control over energy consumption. One utility account executive relayed that there is a lot of interest in developing capabilities to control individual store temperature set-points and lighting schedules from a centralized location. Centralized energy management allows easier tracking and consolidation of energy consumption, which in turn can help companies more efficiently plan around energy costs and identify inefficient equipment across multiple stores for potential upgrades. This also gives the company better control over lighting and temperature set-point schedules. This growing trend is evidenced by the fact that three of the energy manager interviewees have already begun looking or have implemented centralized EMSs. Utilities can capitalize on this trend by providing technical expertise and recommendations for how to approach installing these systems, as well as possibly providing financial incentives to lower the capital costs of such systems.

[10] https://www4.eere.energy.gov/challenge/home.

4.2 *Key Drivers*

Navigant identified a number of key drivers that are currently driving energy efficiency within chain operations. These drivers are summarized in Table 5 and are explained in more detail in the subsections below.

Table 5. Key Drivers Discussed in Energy Manager Interviews

Subject	Cost Savings & Market Competition	Driven Utility Reps	Customer Experience	Highly Driven Program Implementers
Grocery 1	X		X	X
Grocery 2	X			
Restaurant	X	X		
Retail 1	X	X	X	
Retail 2	X		X	
Retail 3	X	X	X	

* Within the table, an "X" means that the interviewee discussed the topic and provided information regarding their chain operation in relation to the market trend.

4.2.1 Cost Savings and Market Competition

Many chains are under competitive market pressures to keep operational costs low in order to preserve already small margins – particularly in the case of grocery stores and restaurants. Small changes in energy costs can make a significant impact on per-store earnings. Multiplying these energy savings by the sheer volume of stores in a large chain grocery or restaurant operation results in significant cost savings. One grocery store interviewed said that energy is the third highest cost category in the business, behind leasing and payroll costs, while the restaurant interviewed pays a portion of its bonuses to operations staff based on keeping energy costs below target thresholds.

Less tangibly, businesses within a sector also compete for "green cred." Several chains reported having corporate sustainability objectives (see section 4.1.3), and one specifically said that they look at other companies when they are setting their own carbon reduction goals and they want to be leaders in their industry.

This type of competition can also drive specific equipment decisions: One manager of a grocery-focused, third-party-run program said that groceries often make decisions based on what other grocers are doing, and that national chains tend to set trends. This is particularly relevant to visible, customer-facing measures such as LED lights, where there is pressure to meet a certain customer expectation.

4.2.2 Utility Representatives

The chains we interviewed were all large enough to have dedicated account managers from their utilities. The account managers work directly with the chain's energy team to help them implement and identify projects and apply for incentives. In general, energy managers we interviewed were pleased with the utility representatives they work with, with two describing them as "proactive." Actions taken by account managers and reported by interviewees included the following:

- Informing their customers of new energy efficiency programs that customers can participate in
- Helping fill out rebate forms, and in particular assisting with the technical calculations
- Responding to customers' questions and concerns on a timely basis
- Attending conferences to interact further with customers

Aside from driving energy savings through the technical assistance and information they provide, account managers act as a key link in maintaining a good relationship between utilities and their customers. Three interviewees felt that account managers were on their side and that account managers "go to bat" for them in terms of pushing for customer rebates and incentives. Thus, dedicated account managers can be a key driver of customer engagement with their utilities and, consequently, energy savings.

4.2.3 Customer Experience

In-store customer experience is a highly researched topic for any kind of consumer-facing, brick-and-mortar store, and this is reflected by opinions from interviewees across multiple sectors.

Two of three general retail chains are replacing standard incandescent, fluorescent or halogen lamps with LEDs because of the enhanced quality associated with those bulbs, in addition to the energy efficiency benefits. One retail chain that Navigant interviewed stated that they are strongly considering switching out all track lighting with LEDs, as LEDs tend to have high color rendering index, a measurement of light quality.

Another grocery store interviewed discussed how they were replacing refrigeration lighting with LEDs, again for the dual reasons of enhanced lighting quality and energy savings. In general, interviewees believe that LED lighting generates a more buoyant, welcoming environment than traditional fluorescent or halogen lights. Utilities can take advantage of this driver by highlighting the non-energy, customer-related benefits of certain energy measures.

However, a focus on customer experience can also lead to practices that waste energy. One retail interviewee noted that it is common practice for small shops to leave their doors open because of the belief that this attracts customers. This can result in huge amounts of energy being used to condition the space. In this type of situation, utilities may wish to focus on strategies to save energy despite such practices (e.g., air curtains) or interventions that encourage chains to avoid such practices.

4.2.4 Highly Driven Third-Party Program Implementers

Third-party program implementers are independent companies that are contracted by utilities to manage energy efficiency programs on the utilities' behalf. They can be a key link between the utility and the customer. One grocery store manager who had participated in numerous utility-run and third-party run programs stated that he thought third-party implementers tend to run prescriptive programs particularly effectively because they are highly invested in the performance of the programs. Third-party implementers have different incentives from utilities because the majority of their revenue streams are dependent on how they perform in running utility-sponsored programs. Achieving high success rates for these programs is critical for these implementers to earn both performance-based incentives and repeat business in the future, the latter of which is based on developing a successful track record.

A third-party program manager we spoke with saw their program as the link between the customer and utility because of their hands-on approach towards helping customers. Other third-party implementers had similar perspectives. These implementers credited the key to their continued success around three factors:

- Being as proactive as possible in reaching out to chain customers
- Maintaining long-term relationships with key energy staff at chains
- Providing technical expertise along with strong industry background

These findings suggest that utilities should continue to implement successful third-party programs and work together to share best practices across utility territories.

4.3 Key Barriers

Interviewees identified a number of key barriers encountered in recent years while attempting to drive lower energy use within their respective companies. These barriers are summarized in Table 6 and are explained in further detail in the subsequent subsections.

Table 6. Key Barriers Discussed in Energy Manager Interviews

Subject	Limited Staff	Timeline Misalignment	Internal Capital Competition	Pre-Approval Issues	Upstream Rebate Non-Passage	Technical Expertise
Grocery 1	X	X	X			X
Grocery 2	X	X			X	
Restaurant	X	X	X	X		
Retail 1	X	X	X			
Retail 2	X	X	X	X		
Retail 3	X	X	X	X		

* Within the table, an "X" means that the interviewee discussed the topic and provided information regarding their chain operation in relation to the market trend.

4.3.1 Limited Staff

As discussed in section 3.1, most national chain operations have small teams relative to the number of stores in the nation that are dedicated toward managing energy usage and utility incentives. As a result, a few employees are usually tasked with being the point of contact for hundreds of utilities across the nation for a number of stores that range from the hundreds to the thousands. This means that energy managers have limited time to dedicate to each utility. Multiple energy managers have mentioned that the more work that a utility account executive or program manager can do in preparing energy calculations and paperwork, the more likely they are to sign off on projects – simply due to a lack of time.

This is particularly the case in California, where the same energy efficiency measure may have multiple and differing rebate applications across the state of California. One of the account executives interviewed believes that it is imperative that California develops a statewide approach for chain operations to apply for rebates. By nature, chain operations are spread out across multiple utility territories; it is difficult and bureaucratic to obtain rebates in six different territories with six separate application procedures. This process involves not just the major IOUs but also the municipalities (Los Angeles Department of Water and Power, Sacramento Municipal Utility District, and smaller city municipalities as well).

While there is no simple solution to simplify or coordinate rebate applications due to the restrictions of each IOU or municipal territory, the fact remains that multiple, different rebate applications pose a challenge for energy managers who may be responsible for not just California chains, but national chains in upwards of hundreds of utility territories.

4.3.2 Differing Utility and Corporate Timelines

For some chain customers, a significant disconnect exists between the corporate and utility timelines for rolling out a rebate-eligible energy efficiency project. In the cases of failed equipment where equipment needs to be replaced upon burnout, corporate chains often have little to zero leeway for equipment

downtime. In these cases, individual establishments need to move quickly to replace refrigeration, cooking or lighting equipment, which significantly affect product quality and/or customer experience – all major factors in low-margin businesses like restaurants and groceries while also important in many retail businesses.

In these cases, many energy efficiency opportunities are lost. When energy managers are faced with purchasing a cheaper, inefficient piece of equipment versus an expensive, efficient alternative, they will choose the cheaper option. Without the cost-reducing rebate, the business case for the efficient option is not there.

One restaurant chain interviewee stated that she thought the incentives seemed reversed regarding the issue of roll-out plans. Chain operations often develop roll-out plans for operational projects, including energy efficiency measures. These plans must include the timeline for installation for each affected store, estimated budgets, when money is needed, and other critical factors for a successful rollout.

In her experience, chains are more likely to receive custom rebates when they have already developed a roll-out plan. It would seem that having a pre-developed rollout plan would mean that the chain could go through with the energy efficiency initiative with or without utility custom rebates. However, obtaining rebates was harder for chains that need to know what the rebate values were in order to calculate internal payback periods, as well as how much money they would need at what points of time – in other words, their rollout plan. She thought chains that needed to calculate payback periods were more likely to need the rebate.

4.3.3 Capital Expenditure Budget Competition

There are often internal barriers within chain operations in the sense that energy investments are competing with other capital requirements. As mentioned in section 4.2.1, one grocery store interviewee rated energy as the third largest operational expense. While this can be a large driver in terms of incentivizing cost reduction projects, this also means that there are two other operational expenses that may be prioritized over energy savings. This is also the case for the chain restaurant interviewed, where energy is a lower priority than rent and labor costs.

4.3.4 Pre-Approval Issues

One restaurant chain and one retail chaininterviewed found that the pre-inspection requirements from utilities tended to be over-stringent and inconsistent across territories. For custom rebates, utilities often conduct on-site visits to determine the baseline equipment and energy consumption. This enables the utility to calculate the value of the custom rebate available to the customer. For chain operations and particularly in California, however, many chain locations are similar in equipment, design, and consequently, energy consumption, thus potentially making on-site visits to every location redundant and overly time-consuming.

For example, Navigant spoke to one retail chain about one project that occurred several years ago, where 48 locations were targeted as part of a program to replace halogen lighting with more efficient lighting. The utility required all 48 stores to be pre-inspected to establish the baseline for the measure upgrade but

only completed 20 inspections in time for the retail chain's timeline. This directly resulted in lost energy savings, where halogen light replacements only occurred in those 20 stores, even though all 48 stores were relatively consistent in design, equipment, and energy consumption.

Another issue that a restaurant chain brought up was that even for projects where only a subset of locations needed to be pre-inspected for upgrades, the numbers were inconsistent across utility territories and different projects. For one energy-efficient broiler replacement that the restaurant chain was targeting across California, the three utilities concerned required five, 10, and 30 site inspections, respectively, to approve the upgrade. Additionally, these requirements could not overlap across utility territories, meaning that 45 locations had to be pre-inspected by utilities for the chain restaurant to obtain rebates across all of their California locations. As a result, not all locations were pre-inspected and not all locations received broiler replacements.

The same chain restaurant also expressed frustration at the fact that, regardless of how many locations were pre-inspected by utilities, franchisees were considered different enough that each franchise location required an individual inspection.

Finally, another retail chain's energy manager encountered free-ridership issues, particularly for California's Savings by Design program. Her view on the program was that the program requires stores to submit an inefficient design so that the program can create a more efficient design to claim savings. Because her retail chain already had a standard, efficient store model, the program refused to issue rebates to her chain because program managers assumed that the model would have been implemented regardless of whether rebates were offered. One observation that this manager offered was that other customers could be gaming the system by submitting inefficient designs that they have no intention of using.

4.3.5 Disconnect in Expectations Regarding Upstream Rebates

One grocery store chain interviewee said that in her experience, manufacturers and/or retailers are not passing on the benefits of upstream rebates to her stores. She stated that this occurred primarily for HVAC upgrades in the statewide, commercial Upstream HVAC Equipment Distributor Incentive,[11] where manufacturers or upstream sellers receive rebates from the utilities after selling high efficiency HVAC equipment. This particular interviewee said that if her stores were seeing the benefits of those rebates, they would retrofit a far larger portion of their HVAC equipment than they do currently. However, literature about the program says that the program is designed to drive an overall market transformation by focusing upon "a small number of market actors… to impact hundreds of thousands of customers and influence their choice of equipment."[12] The program is not necessarily intended to result in rebates being directly passed on to customers, although customers may benefit indirectly as energy efficient equipment becomes more widely available as a result of this program. This reveals a potential disconnect between customer expectations and program design.

[11] United States. California Public Utilities Commission. Fact Sheet: Statewide Heating, Ventilation, and Air Conditioning (HVAC) Residential and Commercial Programs (2013-2014). N.p., Mar. 2013. Web.
[12] Ibid.

4.3.6 Technical Expertise Constraints

One head of energy management for a nationwide grocery store chain noted that maintenance and operations staff at his stores would not have the technical expertise to identify or install advanced energy efficiency improvements, such as refrigeration mechanisms like digital fault control, new valves, and new compressors. This is likely a common issue for chains that are proactively ahead of their competitors by having completed the relatively simple upgrades and are now moving into measures that require a higher level of technical experience and expertise, whether that is in refrigeration systems, HVAC upgrades or any other category of energy efficiency measures.

5 Recommendations

Navigant has consolidated interview findings and developed recommendations for utilities to strengthen their relationships with chain operations and further reduce energy usage within this sector.

5.1 Synchronize Rebate Application Process with Corporate Timelines

Firstly, utilities could increase the likelihood of chains implementing energy efficiency measures by developing prescriptive rebates earlier in the year. Within chain operations, energy efficiency projects are competing with other priorities at the corporate level for capital funding, and the presence of rebates can make energy efficiency projects more economically favorable and more likely to get approved during the budgeting process for capital projects. One retail chain stated that they would prefer to know the following year's available prescriptive rebates in June or July of the previous year in order to secure internal capital funding for prospective projects.

Likewise, utilities can be more flexible in working with customers wishing to implement custom rebates as well. One grocery store interviewee found it difficult to obtain an estimate of a potential custom rebate from the utilities, which prevented her team from being able to calculate ROI and develop a schedule for rolling out the equipment upgrade. The resistance from the utility stemmed from the fact that they had not yet developed a rollout schedule, which led to a chicken-first-or-egg-first issue. With more willingness on the utility's part to give estimates, chains may be able to better plan out energy efficiency rollouts.

Finally, utilities could better address the time-sensitive needs of chain operations by speeding up the rate of rebate processing. While it is understandable that each utility has large volumes of rebates to process, multi-month waiting periods for rebate approvals do not match the fast-paced business timelines that chain operations work with, particularly for ROB measures. Having to wait months for rebate approval could easily push a chain to purchase cheaper but inefficient equipment, especially if the chain has little leeway for downtime.

5.2 Explore Simplifying the Pre-Inspection Process and Include Franchisees

It is important for utilities to understand what the baseline energy consumption is for custom rebate calculations, and this is typically accomplished through pre-inspection. However, the California IOUs have the opportunity to streamline the pre-inspection process by developing a simpler inspection process for chains with many similar or identical establishments. This is particularly applicable to chain restaurants, which differ very little in terms of menu choices and consequently, equipment choices and energy consumption. We suggest that chain businesses could qualify for custom rebates through pre-inspection of a random sample of establishments, instead of every establishment having to be pre-inspected.

Furthermore, as chains do not plan the design of their establishments based on utility territories, locations are generally similar across California. To reduce the costs and lengthiness of the pre-

inspection process, utilities could increase their willingness to share the results of their inspections with the other California IOUs. Sampling 15 stores across California instead of 15 in each of three different territories would save money and time for all parties involved, especially if the establishments targeted for custom rebates are similar in design, operation, and energy consumption across the different utilities.

The pre-inspection process should also treat franchisees as similar to corporately owned establishments. Franchisees often must adhere to corporate policies that include menu choices and design that make them similar in nature to corporately owned locations. As a result, pre-inspection could also apply to franchisees who wish to qualify for the same "bulk" rebates as corporate-owned establishments.

5.3 Continue Long-Term Relationship Development from Account Executives and Third-Party Program Managers

California utilities should continue to be both proactive and responsive in their communications with chain operations. As discussed in sections 4.2.2 and 4.2.4, a consistent theme across many of the energy managers interviewed was that frequent communication from dedicated account executives and third-party program managers was one of the largest drivers of reducing energy usage in their various stores.

It is clear that chains' energy managers are increasingly responsible for coordinating with numerous utilities across multiple states, if not the entire nation. Utilities should continue to encourage account executives to be as proactive as possible in reaching out to chains, while also taking care of as much of the technical calculations and paperwork as possible. In the words of one third-party program manager, chain operations overwhelmingly prefer a one-stop shop for their rebates and energy efficiency initiatives. Sector-specific third-party implementers can also perform this role effectively.

5.4 Better Understand the Effects of Upstream Rebates

We recommend that utilities attempt to better understand and determine the impact of upstream rebates upon downstream participants, particularly for HVAC systems. As discussed in section 4.3.5, one grocery chain felt that the rebates provided to upstream manufacturers in California were not being reflected in the sale price to that grocery chain. For that chain, this had a notable, negative effect on the number of HVAC systems purchased as costs remained prohibitive for many stores within that retail chain. While the Upstream HVAC Equipment Distributor Incentive was designed as a market transformation program, the interviewee's response indicates that perhaps not all customers recognize the aim of the program, which could lead to frustration with upstream sellers or the utility. Steps that utilities could take if not yet already done include the following:

- Communicate with chain energy managers and their staff to understand the purpose of upstream rebate programs, which is to encourage a wider market transformation toward more efficient equipment
- Determine the extent to which manufacturers or upstream sellers are (or are not) pricing in upstream rebates, ascertain knowledge about the resulting prices and its effect on end customer adoption and if necessary, realign incentives and conditions for receiving upstream rebates

5.5 *Explore Potential Grocery Programs in Southern California*

Navigant recommends that utilities in southern California explore the possibility of developing a program similar to that of PG&E's EnergySmart Grocer program. One third-party program manager has been approached by multiple grocery chains for help in Southern California Edison Company and SDG&E territories, and some customers have gone as far as to directly contract with the third-party implementer to conduct direct energy audits. This shows that there is a potential demand for a targeted grocery program within those utility territories. Coupled with the fact that multiple third-party program managers have anecdotally touted the success of the EnergySmart Grocer program in northern and central California, means that the southern California IOUs could explore a dedicated energy efficiency program for groceries and supermarkets that could possibly benefit the numerous chain groceries in the region. Southern California IOUs could evaluate the potential by taking the following steps:

- Reach out to grocery chains with both northern and southern California locations who have participated in PG&E's EnergySmart Grocer program
- Survey other chain grocery stores that have locations in southern California to gauge interest and/or need for dedicated grocery programs
- Discuss rollout strategies with potential internal or third-party implementers

5.6 *Promote On-Bill Financing as an Alternative to Capital Expenditure*

We recommend that utilities continue to promote on-bill financing and on-bill repayment as a way for chain businesses to finance energy efficiency projects. Although many chain businesses use in-house financing of energy efficiency projects due to the presence of capital funds, some customers do not have enough up-front cash to implement such projects and would benefit from on-bill financing through the utilities. This is shown in the overwhelming 91% positive response in surveyed participants in an evaluation of California on-bill financing programs when participants were asked if they thought that repaying a loan through a utility bill was a valuable feature.[13] Particularly as chains with more technical sophistication embark on increasingly complex projects, with longer payback periods, on-bill financing can be a strategy for such projects to continue to compete with other priorities in the company's budget. On-bill financing may also be useful to franchisees that may not have the same access to capital as a corporate-owned establishment.

5.7 *Provide Technical Assistance and Advice on EMS, Advanced Measures*

We recommend that utilities continue to be a resource for information sharing and training with respect to energy efficiency measures, from the chain's corporate leadership down to staff on-site such as operations and maintenance personnel. Interview evidence suggests that opportunities for saving energy continue to increase in complexity; for example, more and more chain operations are implementing energy management systems where equipment at individual establishments is controlled from a centralized location. On the other hand, chain businesses sometimes have difficulty identifying and implementing energy-saving measures due to a lack of technical expertise, particularly with respect to personnel at the locations who would be responsible for maintaining such equipment. Research centers,

[13] http://www.calmac.org/publications/On_Bill_Financing_Process_Evaluation_Report_2010-2012.pdf

similar to the Food Service Equipment Center and the Food Service Technology Center, can act as technical resources for chain operations.

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Appendix A References

2003 CBECS Survey Data: Table E3A. Electricity Consumption (Btu) by End Use for All Buildings. N.p.: Energy Information Administration, Sept. 2008. XLS.

2003 CBECS Survey Data: Table E4A. Electricity Consumption (Btu) Intensities by End Use for All Buildings. N.p.: Energy Information Administration, Sept. 2008. XLS.

2003 CBECS Survey Data: Table E5A. Electricity Consumption (kWh) by End Use for All Buildings. N.p.: Energy Information Administration, Sept. 2008. XLS.

2003 CBECS Survey Data: Table E3A. Electricity Consumption (kWh) Intensities by End Use for All Buildings. N.p.: Energy Information Administration, Sept. 2008. XLS.

2003 CBECS Survey Data: Table E3A. Natural Gas Consumption (Btu) and Energy Intensities by End Use for All Buildings. N.p.: Energy Information Administration, Sept. 2008. XLS.

Cederholm, Teresa. "Why Marriott's Hotels Have a Specific Ownership Structure." Yahoo! Finance. N.p., 16 Oct. 2014. Web.

Instant Rebates! Point-of-Sale ("POS") Foodservice Rebate Program Program Implementation Plan. Publication. California Public Utilities Commission, n.d. Web. <http://eestats.cpuc.ca.gov/EEGA2010Files/SCG/PIP/Clean/SCG3793_-_Instant_Rebates_PIP.pdf>.

United States. California Public Utilities Commission. Fact Sheet: Energy Efficiency On-Bill Financing Program (2010-2012). N.p., July 2010. Web.

United States. California Public Utilities Commission. Fact Sheet: Statewide Commercial Program (2013-2014). N.p., Apr. 2013. Web.

United States. California Public Utilities Commission. Fact Sheet: Statewide Heating, Ventilation, and Air Conditioning (HVAC) Residential and Commercial Programs (2013-2014). N.p., Mar. 2013. Web.

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Appendix B Program Manager/Account Executive Interview Guide

The objectives of the interviews are to gather useful information to develop strategies to effectively address the target Measure, Application, Segment, Industry (MASI) opportunities for 1 of the 15 market characterization reports. Through these interviews, Navigant Consulting, Inc. (Navigant) will focus on recognizing sector-specific measures for remaining energy efficiency potential, identifying market barriers, and developing potential solutions to these market barriers.

Program managers, facility managers, and subject matter experts will be interviewed with questions addressing but not limited to the following areas of interest:

Technology & Process Characterization	Market Assessment & Program Activites	Identify New Opportunities
• Equipment, processes, and practices • Distribution of activities among regions and major/minors • Inventory of applications by predefined categories	• Recent program activities, practices approaches • Market actors and roles and resources • Market barriers and drivers • Lessons learned	• Opportunities for improving process and/or promoting market • Potential of energy efficient technologies • Market readiness and/or potential barriers to adoption

B.1 Program Manager Introduction Questions

1. Please take a few minutes to briefly describe…
    a. your industry,
    b. current involvement in chain operations energy efficiency,
    c. related programs and knowledge of /involvement in related studies.
2. While we do have a set scope of work for the chain operations study, can you tell us what you hope to gain from this research we are conducting?

B.2 Characterizing Chain Operations Questions

3. In your opinion, what are the defining characteristics of a chain operation? Could you provide us with examples that are and aren't chain operations? Prompt: our assumptions are…
    a. Chains: Food service, food retail, other retail, lodging
    b. Not chains: Hospitals, commercial real estate
4. From your perspective, what types of chains do you think that the IOUs and Navigant should be focusing on? Why?

5. At both a high level and at the subsector level, who is responsible for managing energy usage at a chain operation?
    a. If relevant, how large is this person's supporting staff? Does he or she have a small team or an entire department for support?
    b. If relevant, what level of influence does this person have to make operational decisions? If this influence is small, who makes the final call on energy-related issues?
6. What are the most significant trends and drivers in efficiency in the chain operations industry?
    a. Do they differ across subsectors? (ex. food service, health care, lodging)
    b. Can you think of sector-specific efficiency measures with a high potential to save energy?
7. Can you describe any industry standard practices (ISP) that affect energy efficiency of chain operations?
    a. Are any of these ISPs subsector-specific?
    b. Can you talk about technologies or processes that are becoming ISP?
8. How would you convince centralized decision-makers within chain operations to prioritize energy efficiency measure implementation over other competing responsibilities?

B.3 Market Assessment and Program Activities Questions

9. Can you describe any current or recent program activities (California or non-California) including:
    a. Program history and targeted subsectors (i.e. food service, health care, lodging)
    b. Program designs and implementation approaches
    c. Baseline assumptions and sources
    d. Targeted decision-making processes and trees
    e. Program marketing
10. Are you aware of any volume certification processes or 'bulk' energy efficiency programs that are tailored toward chain operations? (For example, LEED has a volume certification process for building owners with multiple, similar properties.)
11. *Data Request: Do you have any information on these topics you can share (studies or data on previously targeted opportunities or equipment, etc.)?
12. Tell us about any lessons learned or best practices developed during current and/or historical program activities.
13. Are you specifically marketing any of your programs to chain operations?
    a. If so, how effective is this marketing? How could you increase program participation? What are the major barriers toward your efforts to increase program participation?

B.4 Identify New Opportunities Questions

14. Do you have any programs you are planning or envision launching in the near future?
15. Do you have ideas for programs or strategies to target chain operations that would be applicable across California?
16. Besides energy savings, what are the drivers you see behind these efforts to pursue new opportunities for equipment or process changes? (In other words, non-energy benefits or drivers.)
    a. Prompt for: maintenance (cost & time) savings, environmental concerns, federal and/or state requirements, etc.

B.5 Market Actors

17. *Data Request: Can you identify additional interview candidates for the sub-sectors we discussed:
    c. Subject matter experts - *Regulators, State and Federal organizations, Trade organizations*
    d. Trade allies - *Suppliers/vendors*
    e. Centralized decision-makers – *Chain operation corporate leaders, energy managers, equipment purchasers*
18. Can you tell us about any other specific resources (market actors or other) you use to support your work in this area?

B.6 Concluding Questions

19. Do you have any additional comments or concerns?

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Appendix C Energy Manager Interview Guide

The objectives of the interviews are to gather useful information to develop strategies to effectively address the target measures, applications, segments and industry (MASI) opportunities for one of the 15 market characterization reports. Through these interviews, Navigant will focus on recognizing sector-specific measures for remaining energy efficiency potential, identifying market barriers, and developing potential solutions to these market barriers.

Program managers, facility managers, and subject matter experts will be interviewed with questions addressing but not limited to the following areas of interest:

C.1 Energy Manager Introduction Questions

1. Please take a few minutes to briefly describe:
    a. your industry,
    b. your role at your company, including your experience in managing energy consumption at a large chain (if relevant).
2. Do you have responsibility for managing energy usage at your business? If not, who is responsible for managing energy usage?

C.2 Characterizing Chain Operations Questions

3. Please describe the operations team structure and decision making process including:
    a. Organizational structure of the operations team
    b. Team size
    c. Decision chain
    d. Decision approval process
4. How important is energy efficiency to your business as a whole?

5. How important are energy costs and energy savings compared to other business objectives?
6. At a high level, how do utility costs compare to other operational expenditures?
7. What major energy-efficient equipment upgrades have you implemented in the last five years?
8. What is the process of implementing energy efficiency retrofits vs. energy efficiency in new construction?
9. How would you convince decision makers within your business to prioritize energy efficiency measure implementation over other competing capital expenditures?
10. What are the most significant trends and drivers in efficiency in your chain operation?
    a. Are there any corporate policies that drive efficiency?
    b. Are there any non-energy drivers for equipment or process changes?
11. What are the most significant barriers to improving energy efficiency?
    a. Are there any corporate policies within your chain that act as barriers to improving energy efficiency?
12. How similar is energy usage across different stores and climate locations?
    a. What kind of energy efficiency measures can you implement uniformly across stores?
    b. Conversely, what kind of energy efficiency measures do you find difficult to implement across different stores?

C.3 Interaction with California Investor-Owned Utilities

13. Have you participated in any utility energy efficiency programs in the state of California in the past five years?
14. *If yes:* Can you describe the kind of interaction have you had with the California utilities? What are the primary channels for outreach and communication with your utilities?
15. *If relevant to the interviewee*: Have you encountered any issues while implementing energy efficiency measures across store locations in different utility territories within California?
16. What could utilities do to better help you implement energy efficiency measures?
17. *If this has not yet been addressed:* With respect to your participation in California utility programs, in what ways have they been successful? Where could they improve?
18. Do you use any financing mechanisms to fund energy efficiency investments, whether through the IOUs or not, implemented in the past five years?
    a. *If they use any financing mechanisms that are offered by a utility:*
        i. How effective are the utilities' marketing efforts with regard to financing mechanisms?
        ii. What do you think the utilities could do to drive stronger program participation?
    b. If they use financing mechanisms that are not offered by a utility:
        i. What is the type of financing used?
        ii. Who is the lender and what are the lending terms?
        iii. What is the experience and loan volume?

C.4 Market Actors

19. *Data Request *(only if applicable)*: Can you identify additional interview candidates for the sub-sectors we discussed:
    f. Trade allies - *Suppliers/vendors*
    g. Centralized decision-makers – *Chain operation corporate leaders, energy managers, equipment purchasers*

C.5 Concluding Questions

20. Do you have any additional comments or concerns?