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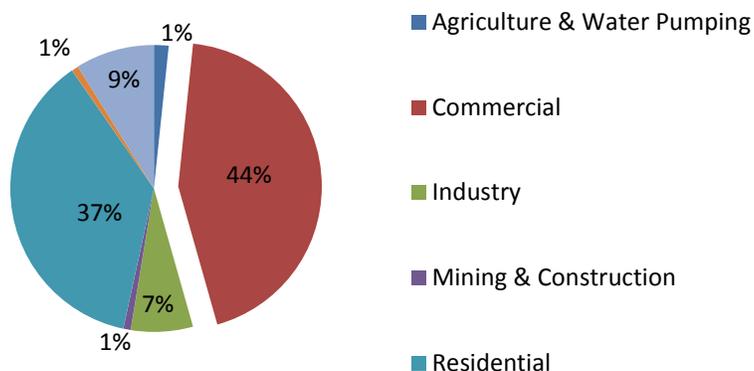
Business Plan
Commercial Chapter
Stage 2

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Market Characterization

SDG&E Electric Consumption by California Energy Commission (CEC) Sectors



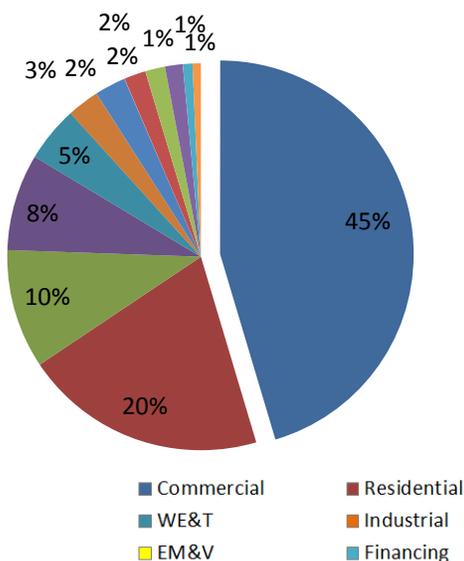
Source: CEC - Kavalec et al., 2013. California Energy Demand 2014-2024

Key Observation:

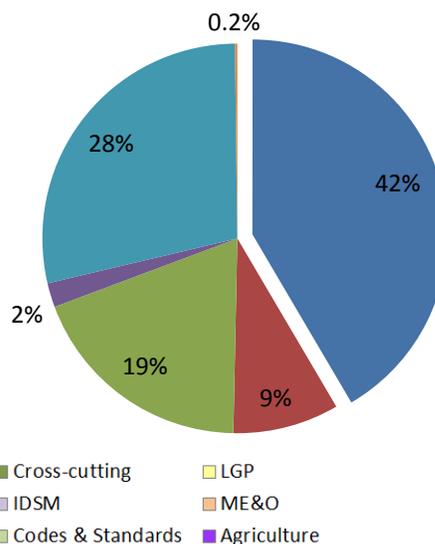
- In the 2013-2015 Program Cycle, 44% of the electric consumption within SDG&E's service territory came from the Commercial Sector. This represents 28,022 GWh compared to the total of 63,755 GWh between 2013 and 2015.

Portfolio Spending and Savings

Portfolio Spending



Portfolio Savings

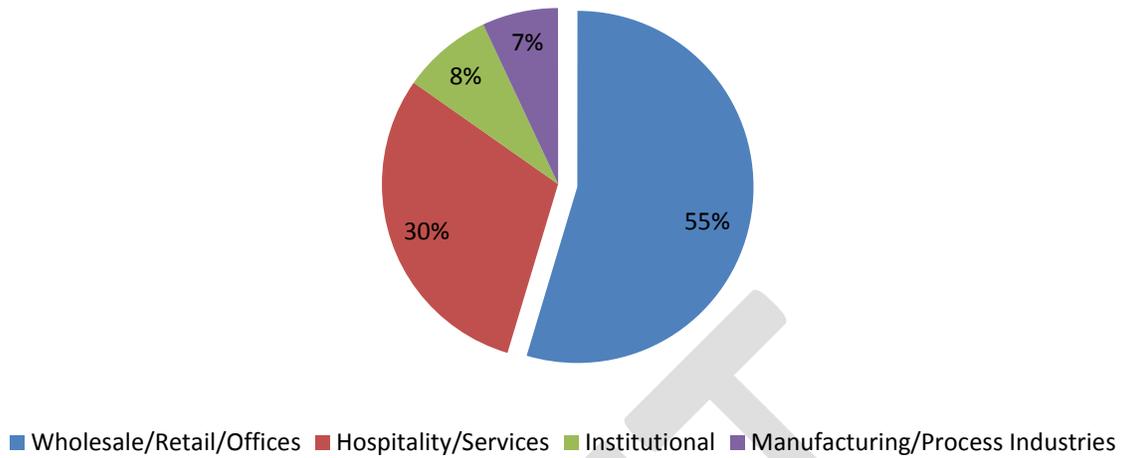


Source: EEstats Dec 2015 Monthly Report, Final numbers to be reconciled by May 2016

Key Observation:

- In the 2013-2015 Program Cycle, 45% (\$117.8M) of all EE spending were spent on Commercial programs while 42% (264 GWh) of the portfolio savings came from the Commercial sector.

Commercial Account Distribution

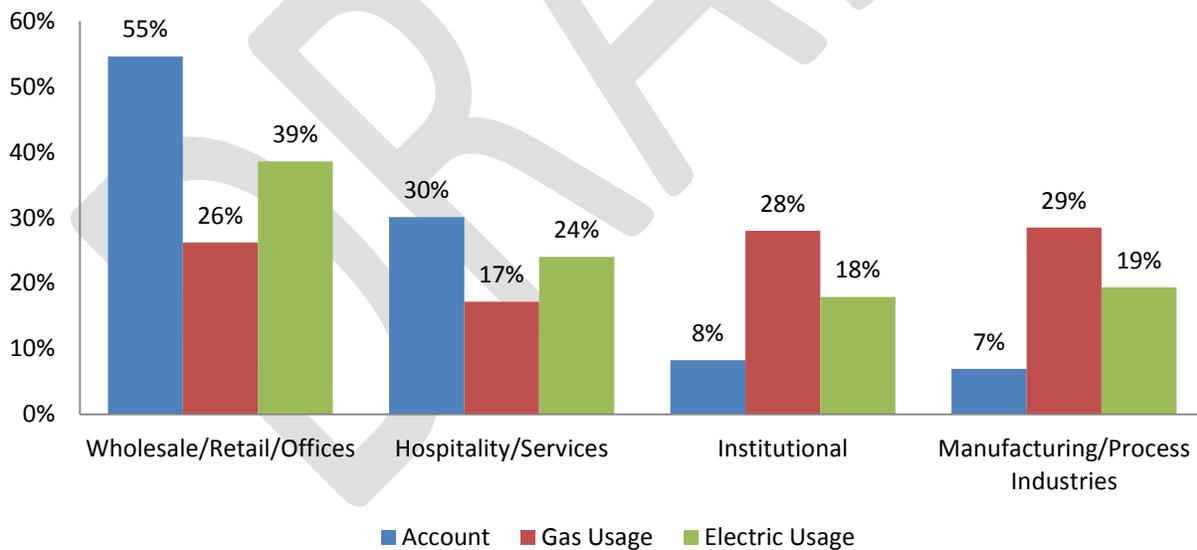


Source: SDG&E (2013-2015)

Key Observations:

- Most commercial accounts belong to the wholesale/retail/offices and hospitality/services segment, which represents ~85,500 accounts of the ~155,000 commercial accounts.
- All Manufacturing/Process Industries accounts classified as Commercial are from the Biotech/Lab/Research segment.

Usage by Customer Segments

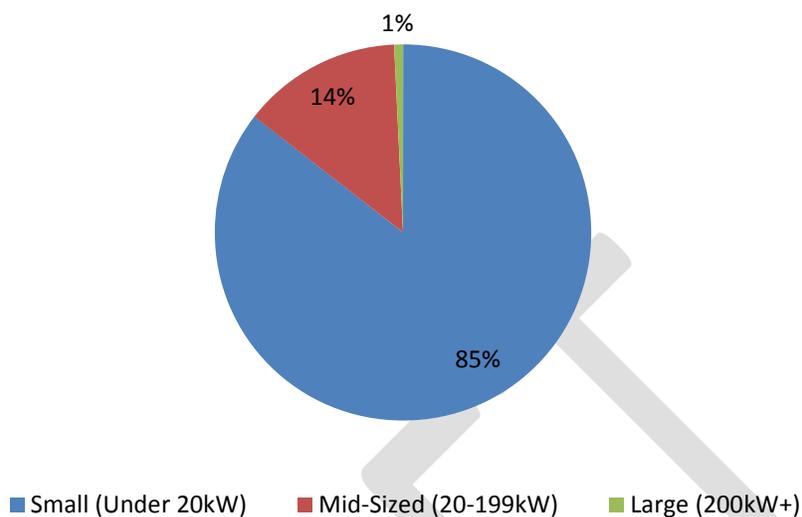


Source: SDG&E (2013-2015)

Key observations:

1. Accounts from the retail/wholesale/offices and hospitality/services segments have lower average usage
2. Accounts from the institutional and manufacturing/process industries segments have higher average usage

Commercial Customer Size

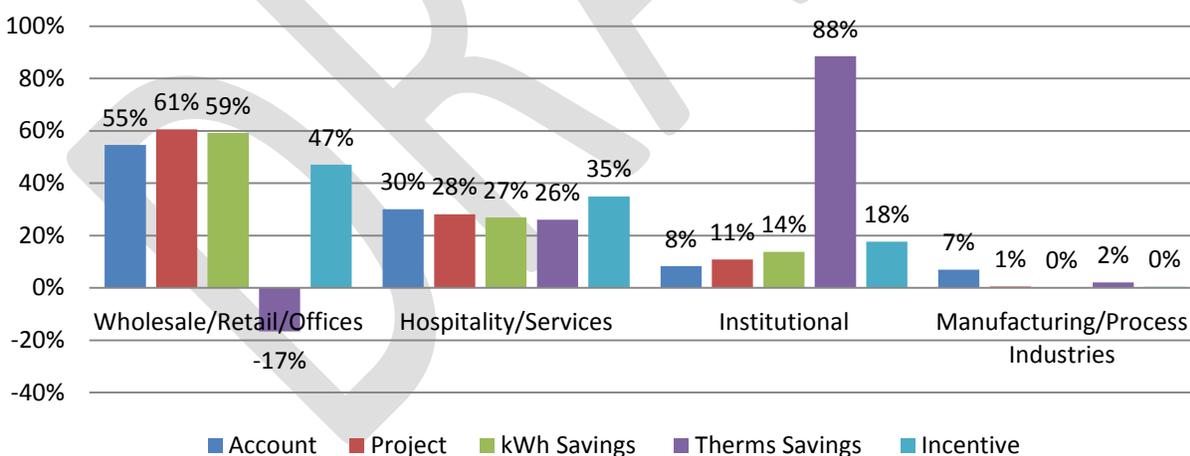


Source: SDG&E Commercial Customer Distribution (2013-2015)

Key observation:

- Most commercial accounts are small-sized accounts under 20kW

Historical Energy Efficiency Projects

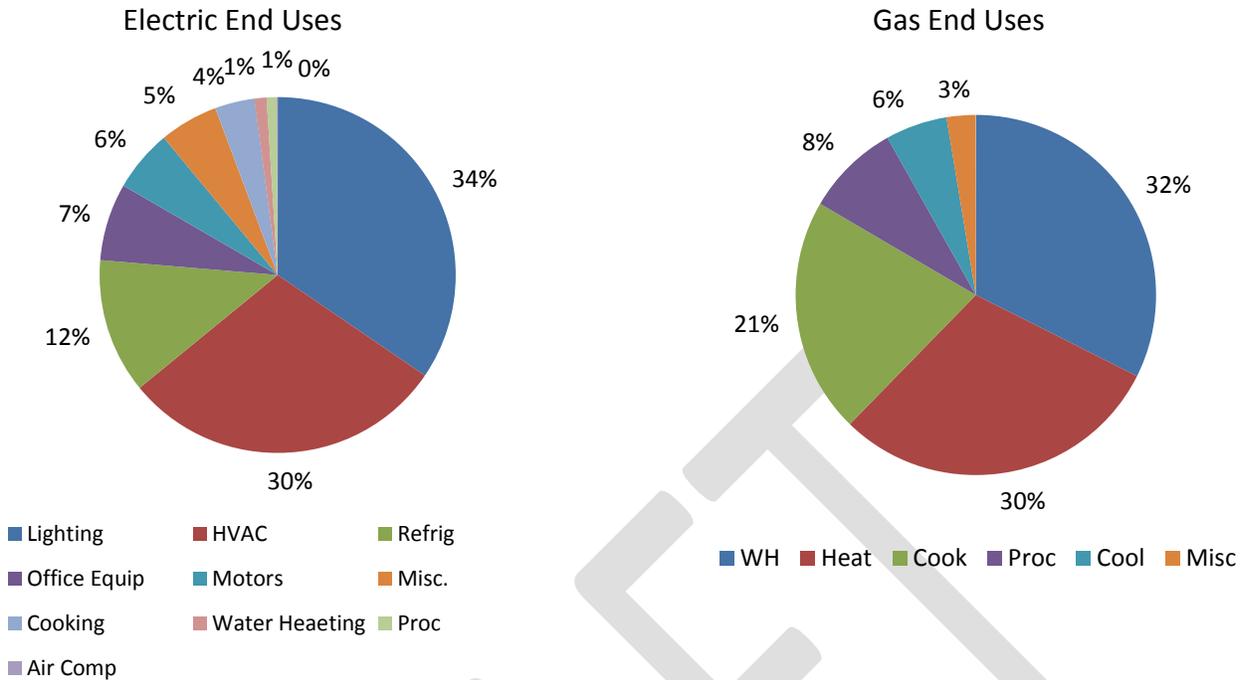


Source: SDG&E (2013-2015)

Key observations:

- Majority of the historical EE projects took place in the wholesale/retail/offices segment. Many of the projects were lighting projects; therefore there were negative therm impact due to the interactive effect.
- Institutional projects contributed to a high amount of therm savings due to process and HVAC measures
- Although manufacturing/process industries (i.e. biotech/lab/research) account for 7% of all commercial accounts, their participation rate was minimal.

Electric and Gas Usage by End Uses

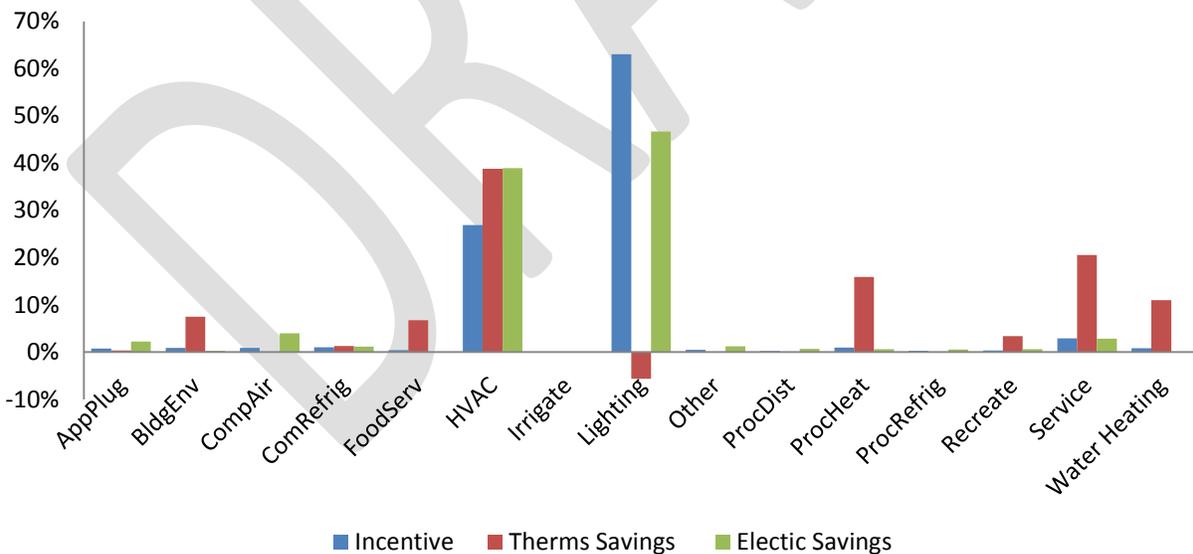


Source: California Commercial End-Use Survey, 2006

Key observations:

- The top 3 electric end uses are Lighting, HVAC, and refrigeration
- Top 3 gas end uses are water-heating, heating, and cooking equipment

Historical Savings by End Use



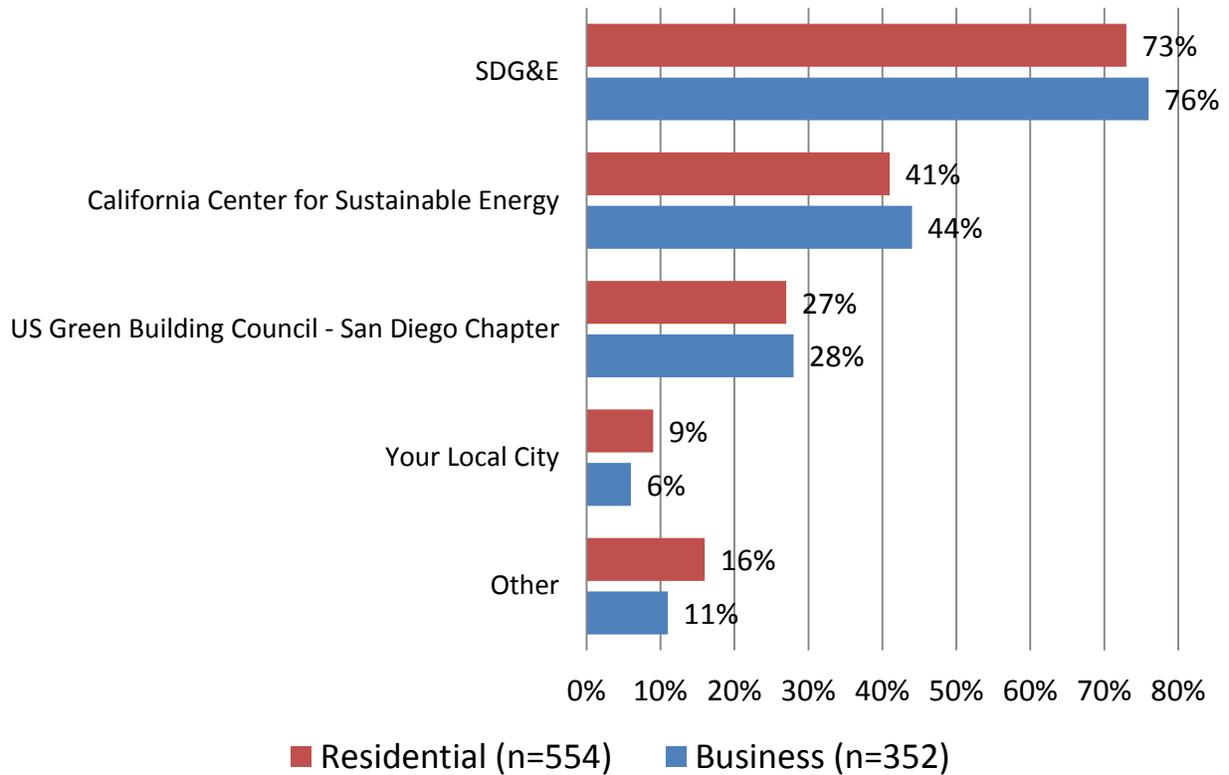
Source: SDG&E (2013-2015)

Key observations:

- Commercial Refrigeration has high historical usage (from previous table), yet very little savings from historical projects.
- Food Services equipment has high historical usage (from previous table), yet very little savings from historical projects.
- These are key areas of focus because there are high potential in these untapped end uses.

Trusted Energy Advisor

Customer-Identified Local EE Expert



Source: SDG&E Customer Insight Panel, October 2012

Key observations:

- When asked what LOCAL organizations in San Diego or Southern Orange County customer's believed were experts in energy efficiency, three quarters of the business respondents (and almost three quarters of residential respondents) said they believed SDG&E is a local expert in energy efficiency.

SDG&E Vision

San Diego Gas & Electric, in collaboration with key stakeholders, will create the foundation for an innovative, connected and sustainable energy future.

SDG&E Commercial EE Mission

SDG&E's mission for the commercial sector is to empower customers on their path to ZNE by providing energy tools, simple program offerings, and access to assistance.

SDG&E's Commercial EE Role

- SDG&E seeks to drive market transformation by generating customer demand for energy efficiency. The resulting energy savings will be deeper, more comprehensive, and more persistent.
- As a trusted energy advisor to our customers, SDG&E has extensive local knowledge of our grid, our customers' needs, and their energy consumption patterns.
- SDG&E will utilize decades of administration experience to change the way customers look at energy improvement in their commercial buildings and connect customers to local resources.
- SDG&E is uniquely positioned to work with various stakeholders^[1] to continue to achieve California's significant energy reduction goals.
- SDG&E will explore new services and innovative approaches to motivate and enable customers to get on the path to zero net energy, resulting in the achievement of California's long term energy efficiency strategic plan goals.

^[1] Stakeholders include, but are not limited to: state agencies, specifically California Public Utilities Commission and California Energy Commission (CEC), manufacturers, distributors, contractors, Investor Owned Utilities, Program administrators, energy efficiency program implementers, capital providers and customers.

Problem Statement - Strategy Matrix

Category/ Problem Statement		Customer Attitude		Customer Aptitude	
		Decision Maker <i>(Are we talking to the right person?)</i>	Awareness of EE Value <i>(Does the customer know what's in it for them? Do they want it?)</i>	Customer Sophistication <i>(Can the customer do it technically? Do they have the ability to do it?)</i>	Financial Considerations <i>(Can the customer do it financially?)</i>
Category/Strategy					
Energy Tools	Financing Offers		X		X
	Cross-promotion enabled by innovative technology		X	X	
	Emerging Technology		X	X	
	Workforce Education & Training		X	X	
Simple Offerings	EE Value Proposition		X		X
	Single Point of Entrance & Simplified Offerings	X	X		
Access to Assistance	Targeted Stakeholder Engagement	X	X	X	X
	Target Marketing	X	X		
	Assess Behavioral Potential/Encourage Peer Comparison		X		X

Problem Statements

Problem Statement 1: Multiple Decision Makers

Multiple decision makers in the commercial world make it difficult to kick-start energy efficiency projects.

In order to increase participation, we need to make sure we are talking to the right person – the energy decision maker. There are multiple decision makers in the commercial setting; these added layers make it difficult for energy efficiency projects to be initiated. Decision makers sometimes conflict with each other, prime examples would be conflicting desires between tenants and landlords, and facility management and corporate management, etc.

Observations

Tenant & Landlord Split Incentive

Due to the nature of most commercial leases, tenants and landlords both have little incentive to make energy efficiency improvements at their facilities. Tenants do not want to make improvements to the facilities because they may not stay there for long and may not be able to enjoy the full benefit of the installation. Landlords do not have the incentive to improve because they are not responsible for the utility bill. This mentality results in a large untapped opportunity in the commercial building segment.

“Under most net leases, energy costs are paid directly by tenants and building owners aren’t driven to invest in efficient building systems. Conversely, in many gross leases, building owners pay energy expenses and tenants have little incentive to save energy in their leased space. This dynamic is commonly referred to as the “split incentive” barrier to energy efficiency.”

- *Better Building Alliance, U.S. Department of Energy*

“This split incentive for operating efficiency is a result of standard leasing practices that share operating and capital expense responsibilities between landlord and tenant, diminishing the landlord’s recovery of capital invested in efficiency.”

“The result is usually inaction, even in the face of rising energy prices and other pressures to improve the sustainability of buildings.”

- *Energy Efficiency Lease Guidance, Center for Market Innovation, Natural Resources Defense Council. November 2011*

Different Levels of Management

At different levels of management, customers may have different ideas of what they’d like to implement at the local level. For example, a local store of a restaurant may want to have a particular kind of lighting installed because of the direction the storefront is facing, while the corporate office in a different state may have a procurement policy in place which prohibits the store from doing so. This relationship will not only hinder the initiation of the project, but may result in termination of the project.

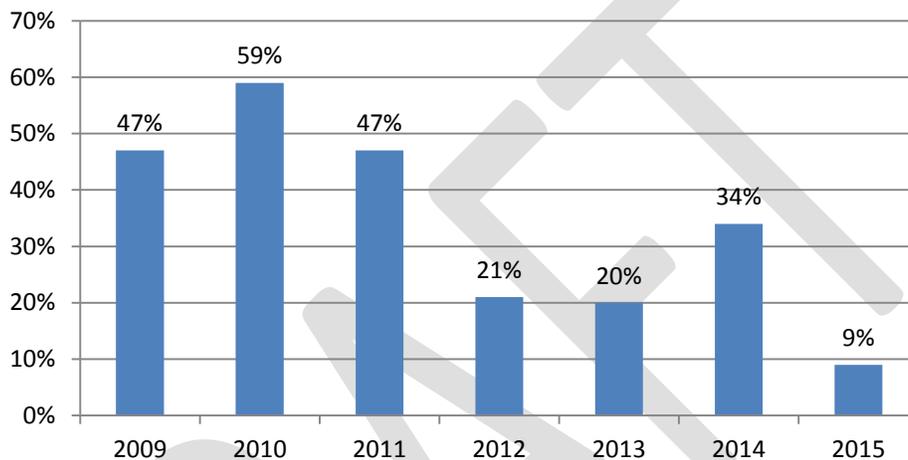
“Maximizing energy efficiency is not generally part of the core mission statement of an institution—regardless of whether it is a university that prioritizes research excellence, a hospital that emphasizes patient health, or a manufacturing company that focuses on product sales.”

- *Show Me The Money, Energy Efficiency Financing Barriers and Opportunities, Environmental Defense Fund, July 2011*

Commercial New Construction

There is a lack of design firm collaboration in commercial new construction. This lack of collaboration causes missed opportunities to improve energy efficiencies in these new buildings in the SDG&E area. Design firms make some of the most important influences to our customers (i.e. decision makers); by encouraging design firms to participate, we can effectively influence the decisions our customers make.

Design Team Participation



SDG&E program data shows a decrease in design team participation in Savings By Design projects since the termination of the design team incentive in 2013. Note that the increase in 2014 was a result of remaining design team incentive agreements that were committed from previous years.

- *SDG&E Savings By Design Program participation data*

“Other new construction programs are finding success proactively engaging top design firms and the largest customers”

“Consider a pilot program where SBD staff embeds with a handful of large design firms to promote market transformation”

- *Savings By Design Market Potentials, Characterization and Best Practices Enhanced Program Participation Study*

“Owners/developers/investors/financers set the budget limits. An engineering firm typically does most of the analysis associated with code requirements and energy efficiency and frequently makes adjustments to satisfy both the dollar and the energy budget. Architects choose the materials, the layout, and the aesthetics, but generally defer to the engineers on energy related analyses. Tenants who want to manage image may get their own consulting architects and engineers involved.”

- *Decision-making and market segments in the commercial building sector. 2002 Decision-making in existing commercial buildings workshop, John H. Reed, TecMRKT Works LLC.*

The building market is diverse and complex. The commercial relationships between the many specialists involved are intricate and critical in sparking action on energy efficiency. The sector is characterized by the fragmentation within sections of the value chain and nonintegration among them.

- *Energy Efficiency in Buildings, Business Realities and Opportunities, Summary Report. World Business Council for Sustainable Development, 2007*

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Problem Statement 2: Awareness of Energy Efficiency (EE) Value

Commercial customers may not understand the value of energy efficiency and may not be aware of utility’s energy efficiency offerings.

SDG&E recognizes that we not only need to make sure customers know about our program offerings, but they also have to understand what’s in it for them. Currently, the commercial portfolio provides various programs to fit various needs. However, this can be unclear and confusing to customers. Historic program participation shows fair commercial sector market penetration, however, low results are seen in certain segments and end uses. Through the pursuit of Integrated Demand Side Management (IDSMS) efforts, a lack of cross-promotion and comprehensiveness has been identified. SDG&E needs to transform the market so customers not only understand energy efficiency and its value, they would also want to benefit from it.



Observations

Misperception of EE Value

Energy efficiency is seldom the first priority for commercial customers. One reason is due to misperceptions about the investment in EE. Capital costs and uncertainty about project savings lead to the lack in confidence in pursuing energy efficiency projects. The lack of understanding of the calculation on the return on investment also leads to hesitation. Customers also may be unaware of the business benefits beyond utility bill cost savings.

When following up with a customer who completed whole-home insulation project. The customer expressed how impressed she is with the unforeseen benefits. She said, “You know, I was all about the energy savings, and seeing that come true was great. Everything worked out just as you said it would, but what’s really interesting is that after you put that insulation in my wall, I could no longer hear the street noise – I can now watch my TV shows with the volume set three notches lower!”

- *Selling Energy, Mark Jewell, 2014*

“A host of barriers stand in the way of these cost savings and associated GHG emissions reductions being realized, including but not limited to: High upfront capital costs, high development costs, long payback periods, uncertainty of savings and perceptions of risk, split incentives, limited capital availability.”

- *Show Me The Money, Energy Efficiency Financing Barriers and Opportunities, Environmental Defense Fund, July 2011*

“Energy is a small proportion of cost for most decision-makers in the building value chain.”

- *Energy Efficiency in Buildings, Business Realities and Opportunities, Summary Report. World Business Council for Sustainable Development, 2007*

“When asked if the decision maker always believes the projections for the project’s energy savings, 48.9 percent of respondents said no; while 51.1 percent said yes. Some of the reasons the decision maker does not believe the energy savings forecasts include lack of understanding of the technology and lack of understanding of the math to make the projections. Also, the decision maker may be suspicious of the vendor who has a vested interest in selling the project. Interestingly, 46 percent of decision makers think the projections seem too good to be true.”

- *2015 Energy Projects Survey Results, Noesis*

“In general, organizations purchase capital equipment for two reasons: (a) to make money (or expand), or (b) to save money. When the economy is strong, most organizations focus on increasing sales and growing their market. During economic downturns, cost reductions and capital conservation become the priorities.”

- *National Electrical Manufacturers Association, February 2009*

Program Complexities Diminish Perceived Value

Program evaluations indicate the current mix of commercial portfolio offerings can be confusing to some customers and trade professionals, due to multiple program entry points and complex program requirements. Anecdotal feedback from customers and account executives support this finding. While the variety of options provides flexibility, customers often have difficulties finding the right program to participate in; this can cause frustration and discourage participation.

“Program offerings can be confusing to customers and trade professionals”

“Most applications are filled out by [trade professionals] and AEs, and are 50% incomplete. Some customers do not understand the program and how incentives are calculated”

“[Trade professionals] would like to be more involved in the program”

“[Trade professionals] are frustrated by paperwork and other program requirements”

- *SDG&E 2010-2011 Non-Residential Program Process Evaluation Study: Main Volume (SDG0256.01-.05 or WO1025); Published March 19, 2012*

High Opportunity Areas Not Participating

Based on historical program participation data, it's noticed that several high potential areas (both customer segments and end uses) did not generate as much energy savings as expected. Rebates and incentives are low compared to project cost, resulting in low participation in areas (e.g. segments or end uses) with high consumption. Researches show capital is a major obstacle for customers wanting to implement energy efficiency improvement. Although utility programs offer rebates and incentives to alleviate the financial challenges, these rebates and incentives are often perceived as being too low compared to the total project cost. Combined with observation 2 (program complexities diminish perceived value); some customers choose not to participate in utility programs because it is perceived to be too time-consuming to go through the process, when the anticipated utility rebate cost-savings alone is not attractive.

Segment: Although manufacturing/process industries (i.e. biotech/lab/research) account for 7% of all commercial accounts, their participation rate was minimal (1% of all projects).

End use: Commercial Refrigeration has high historical electric usage (12%), yet very little savings from historical projects (1%).

End use: Food Services equipment has high historical gas usage (21%), yet very little savings from historical projects (7%).

- *SDG&E 2013-2015 Program Data*

Lack of Cross-Promotion & Comprehensiveness

Past acceptance of lighting efficiency measures has been strong; however, there are still many untapped opportunities to encourage IDSM and implementations of more comprehensive measures. A review of historical energy efficiency projects found efforts were often single-end-use, non-comprehensive projects. For example, more than half of the deemed projects were lighting only. The lack of cross-promotion of energy efficiency programs result in leftover opportunities which could have been addressed.

"Lack of cross promotion of SDG&E EE Programs by Contractors, and little (if any) follow up on other programs"

- *SDG&E 2010-2011 Non-Residential Program Process Evaluation Study: Main Volume (SDG0256.01-.05 or WO1025); Published March 19, 2012*

Only 13 projects qualified for the 20% comprehensive cash bonus since its inception in March 2013.

- *SDG&E 2013-2015 Program Data*

Problem Statement 3: Customer Sophistication

Customers who recognize the benefits of energy efficiency may not have the technical capacity and/or organizational structure to act.

Problem statements 1 and 2 address customers' attitude towards energy efficiency. Problem statements 3 and 4 address the aptitude of customers. Even when some customers recognize the value of EE and are willing to initiate an energy efficiency project, may not be able to do it because of their lack of knowledge, connections, technical ability, etc.

Observation

Gap in Technical Expertise

Even with the interest in adopting energy efficiency, customers often lack the required knowledge to act. Technical expertise can be a barrier for customers who are focused on their own business challenges. Anecdotal information suggests commercial customers who understand the benefits of energy efficiency sometimes do not know where to start.

"Most energy efficiency projects stall due to one or more of the following perceived barriers: lack of money to fund them, lack of time or personnel to design and plan them, or lack of internal expertise to implement them."

- *Financing Energy Efficiency Projects, Government Finance Review, Energy Star, February 2003*

Organizational Structure

The barrier of technical expertise is especially an issue for small and mid-sized customers, as they often lack in-house support such as facility management, engineers, energy advisors, etc. Questions customers have include, what products to use, how to choose a contractor, are permits required, etc. These are services SDG&E can provide to set customers up for success.

"According to a 2011 National Small Business Association energy survey, many small business owners and operators are concerned about energy costs and have taken steps to reduce energy use in their businesses in order to save money. However, busy owners face several barriers, including: (1) Limited capital for energy efficiency measures, (2) Higher transaction costs related to energy cost savings, (3) Lack of time to research and implement energy efficiency solutions, (4) Split incentive obstacles between owners and tenants, (5) Lack of user-friendly, sector-specific resources and technologies"

- *Small Buildings = Big Opportunities for Energy Savings, Building Technologies Office, U.S. Department of Energy. December 2013.*

Problem Statement 4: Financial Considerations

Customers who recognize the benefits of energy efficiency and have the technical capacity to act still may not have the capital required to move forward with projects.

Problem statements 1 and 2 address customers' attitude towards energy efficiency. Problem statements 3 and 4 address the aptitude of customers. Even customers who recognize the value of EE and are willing to initiate an energy efficiency project, may not be able to do it because of their lack of capital resources.

Observation

Lack of Capital

Even with the interest in adopting energy efficiency, customers often lack the required capital to invest in such projects. This is especially true in small and mid-sized customers who are focusing on staying in business and paying their rent. More than 80% of SDG&E commercial customers are small businesses, so we recognize the need to address the financial barrier (*Graph: SDG&E Commercial Customer Distribution (2013-2015)*).

"What does a small business owner care about? Most are running lean on working capital, so their primary concern is probably making payroll. This can be an issue if you're trying to sell efficiency products or services. The minute you start talking about the upfront cost of the project, the prospect's interest may wane."

- *Selling Energy, Mark Jewell, 2014*

"Capital is obstacle for customers (ROI is shorter than in previous years)"

- *SDG&E 2010-2011 Non-Residential Program Process Evaluation Study: Main Volume (SDG0256.01-.05 or WO1025); Published March 19, 2012*

"On-bill financing programs are a promising way for utilities to help their customers invest in energy efficiency improvements, such as upgrading to a high-efficiency air conditioner or adding insulation. These improvements can deliver valuable efficiency to the utility, reduce customers' energy expenses, improve the value of properties, create jobs, and reduce harmful pollution."

- *NRDC Issue Brief, July 2013*

"A host of barriers stand in the way of these cost savings and associated GHG emissions reductions being realized, including but not limited to: High upfront capital costs, high development costs, long payback periods, uncertainty of savings and perceptions of risk, split incentives, limited capital availability."

"As a result, energy efficiency investments are often pushed to the side when drafting annual budgets (internal financing) or pursuing outside investor interest (external financing) in favor of other investments that are deemed more essential to the institution's core business activities and operations, such as improving customer satisfaction, gaining market share, or expanding production."

- *Show Me The Money, Energy Efficiency Financing Barriers and Opportunities, Environmental Defense Fund, July 2011*

Unaware of Financing Options

Even with the interest in adopting energy efficiency, customers often lack the required capital to invest in such projects.
Limited marketing dollars

An assortment of existing financing tools, strategies, and incentives can be applied to energy efficiency. These tools may be underutilized due to lack of stakeholder awareness, information gaps, or regulatory barriers.

- *Financing Energy Efficiency, Electricity Markets and Policy Group, Berkeley Lab, 2016*

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Strategies

Category 1: Energy Tools

Finance Offerings

“Capital is obstacle for customers (ROI is shorter than in previous years)”

- *SDG&E 2010-2011 Non-Residential Program Process Evaluation Study: Main Volume (SDG0256.01-.05 or WO1025); Published March 19, 2012*

“A host of barriers stand in the way of these cost savings and associated GHG emissions reductions being realized, including but not limited to: High upfront capital costs, high development costs, long payback periods, uncertainty of savings and perceptions of risk, split incentives, limited capital availability.”

- *Show Me The Money, Energy Efficiency Financing Barriers and Opportunities, Environmental Defense Fund, July 2011*

Lack of capital for energy efficiency investment is a known challenge for most small and mid-sized businesses. This problem is especially prominent in SDG&E’s service territory, where more than 80% of SDG&E’s commercial customers are small in size (i.e. less than 20kW). SDG&E’s On-Bill Financing Program has been able to assist a large number of customers to overcome their financial challenges by providing a zero-percent interest loan. Since the program’s inception, over \$48 million were loaned out to over 1,400 businesses. The integration of On-Bill Financing Program and the Commercial Direct Install Program (i.e. Business Energy Solutions Program) in July 2015 begun to assist small and mid-sized customers by providing a seamless customer experience from energy audit to financing to installation. SDG&E shall continue to offer these successful financing programs in the future. The anticipated financing pilots such as On-Bill Repayment Program will assist customers who do not qualify for On-Bill Financing. SDG&E will also continue to educate customers about other financial assistance programs such as PACE.

“On-bill financing programs are a promising way for utilities to help their customers invest in energy efficiency improvements, such as upgrading to a high-efficiency air conditioner or adding insulation. These improvements can deliver valuable efficiency to the utility, reduce customers’ energy expenses, improve the value of properties, create jobs, and reduce harmful pollution.”

- *NRDC Issue Brief, July 2013*

Cross-Promotion Enabled by Innovative Technology

Interactive technologies such as an online bidding platform can help account executives monitor the progress of the customers’ near, mid, and long-term energy management plan. Such technology will enable trade professionals to locate customers and projects as well. This will also keep the momentum of the project as customers with potential projects will be continuously encouraged by account executives and trade professionals to move to the next phase of their established energy management plan.

Emerging Technology

Emerging Technology Department should utilize pilot programs to test new technologies to tackle high potential segments and end uses. Once proven to be cost-effective, such new technologies can be offered through various energy efficiency programs to increase savings from the segments and end uses with high energy consumption. More than 130 customers utilized SDG&E’s demonstration kitchen to test energy efficient equipment in 2015. The introduction of new

technologies to the targeted industries and the ability for them to try them first hand will be keys to increasing adoption rate of such technologies.

Workforce Education and Training

Based on available historical data, SDG&E shall identify high potential areas by end uses and customer segments. Once the areas of potential are identified, specific training classes for targeted customers and trade professionals should be offered at the Energy Innovation Center. From 2013-2015, about 3,000 individuals attended program-specific seminars hosted by SDG&E at the Energy Innovation Center. By offering end-use and segment-targeted classes, SDG&E can effectively educate businesses with high potential. SDG&E should also consider recording these trainings and make them available to customers and trade professionals through a web-based, centralized resource library.

SDG&E should also host regular trainings to educate the property management communities about the benefits of energy efficiency improvement. This will help address the tenant and landlord split incentive issue.

On the new commercial building side, SDG&E will continue to work with our statewide counterparts to further improve the statewide code compliance website, with a focus on user-centric enhancements. Tools will be designed specifically for the compliance actors who will be using them (i.e. architects, energy consultants, designers, etc.)

Category 2: Simple Offerings

EE Value Proposition

In trying economy, business customers often focus on minimizing cost. Energy efficiency projects are often overlooked because they are perceived as unnecessary expenditure which may not generate sufficient monetary savings. SDG&E shall help customers understand the value of energy efficiency improvement, both from the financial perspective and the business perspective. For example, if the customer's profit margin is 10%, they can choose to sell a \$10 product to make \$1 in profit, or they may choose to implement an energy efficiency measure which costs \$10, but may yield energy cost savings of more than \$1. From a business perspective, energy efficiency improvement could potentially lead to increased productivity. One example would be an installation of a combination oven. A combination oven is capable of retaining moisture in meat product compared to a convention oven. This will help the restaurant produces juicer meat, and reduction in shrinkage in the cooking process will also yield a higher volume of meat the restaurant can sell. By installing a combination oven, a restaurant customer could potentially produce better food in higher volume, resulting in higher business profit. Account executives and trade professionals should help customers perform a long-term cash flow analysis to help them understand the financial and business benefits of the investment. In addition to defining the potential value of the project, account executives and trade professionals should also educate the customers about the cost of delaying the implementation of the projects (i.e. money left of the table).

“Quantifying the costs of delaying the installation of energy efficiency equipment adds a new dimension to the financial decision. Public officials often believe that postponing energy projects until operating or capital budget dollars are available – rather than financing them immediately – is a better financial decision. They reason that if internal budget dollars are used, paying interest can be avoided completely. However, delaying the installation delays the point at which energy savings can begin. These opportunity losses are quite real.”

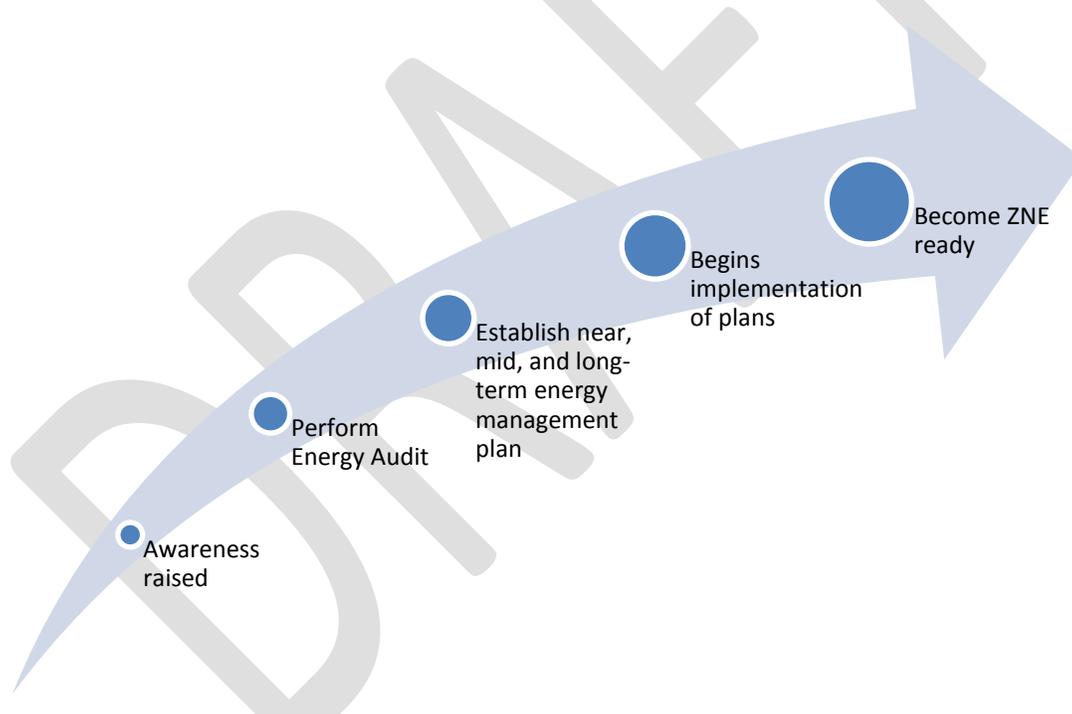
- *Financing Energy Efficiency Projects, Government Finance Review, Energy Star, February 2003*

Account executives and trade professionals should educate tenants and landlords about the business benefits of energy efficiency improvement. For example, greener building can potentially generate higher rental income for landlords; better lighting can potentially result in higher productivity for tenants, etc.

Similarly, design community and landlords in the new commercial building sector should be educated about the value of EE in their new buildings. For example, efficient buildings are more valuable (e.g. higher rent), there are non-tangible benefits such as higher productivity. By incorporating and highlighting non-energy benefits of EE projects, the design community as well as building owners will be more likely to accept more comprehensive measures

Single Point of Entrance & Simplified Offerings

By using technologies such as online and mobile surveys, customers can easily inform SDG&E about their desire to improve energy efficiency at their facilities. Technology such as software algorithm will determine if the customers should be assigned to an account executive or a qualified trade professional. Assigned account executive or trade professional will reach out to the customers and collaborate and establish the customers' near, mid, and long-term energy management plan. This single point of entrance will eliminate the need to pick a program or a specific incentive/rebate. The account executive or trade professional will walk the customers through the energy efficiency curve with them until the long-term plan is accomplished.



According to J.D. Power, “Satisfaction is higher when customers are familiar with their utility’s energy efficiency programs. Overall satisfaction is at least 200 points higher (on a 1,000-point scale) among customers who say they are “very” familiar with their utility’s energy efficiency programs than among those who say they are “not at all” familiar.” By “handholding” customers through the energy efficiency curve, SDG&E can increase customer’s satisfaction and potentially improve participation in customer programs.

Current program offerings can be confusing because the same project could potentially qualify for multiple programs and receive different incentive amounts. Customers often have to go from one program to another to complete one project.

While it might be difficult to completely merge all programs into one in a short period of time, it is considerably easier to present all programs as one. From the customer's perspective, there is no need to know which program incentives/rebates come from, and there's no need to understand the structure of utility program offerings.

There is also the possibility of consolidating program applications so customers do not have to fill out multiple forms to receive incentives from multiple programs. The feasibility of a uniform application for all commercial programs with supplemental and optional attachment for some specific programs should be investigated.

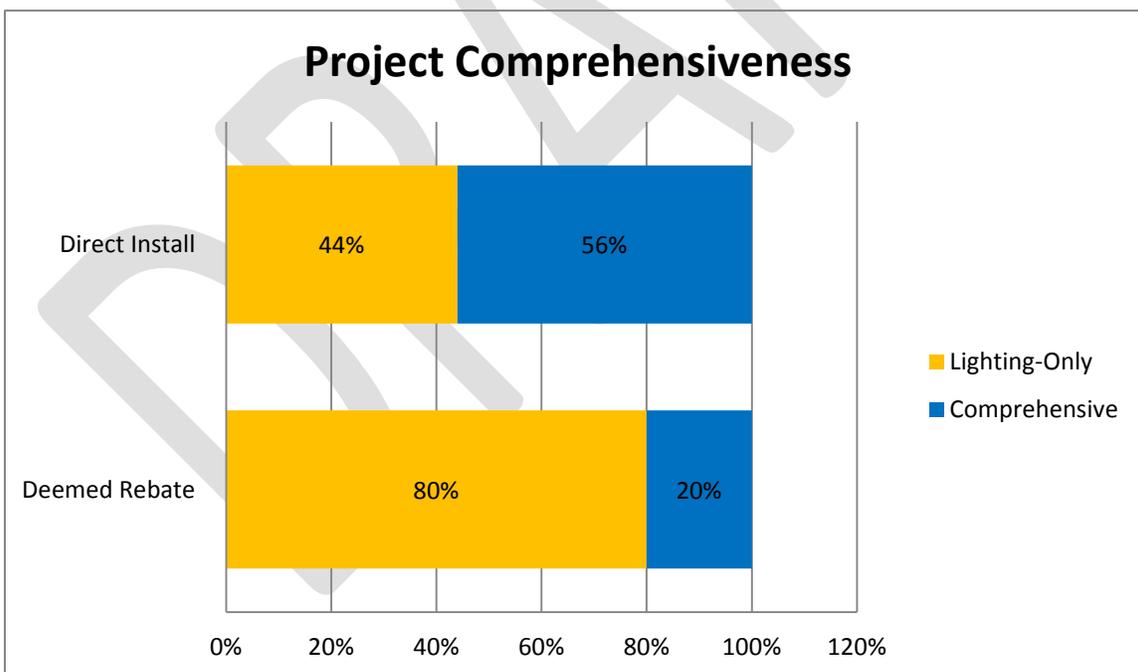
Category 3: Access to Assistance

Targeted Stakeholder Engagement

Utility advisors and trade professionals

Utility advisors and trade professionals should continue to encourage collaboration between tenants and landlords to address the tenant and landlord split incentive issue.

Assigned accounts should always be handled by their assigned account executives. Unassigned accounts should ideally be handled by the Small and Mid-sized Business team/advisors. Advisors and/or Account Executives should work with trade professionals closely to jointly help customers establish and implement their near, mid, and long-term energy management plan. Historically, statistics show more comprehensive projects result when contractors who specialize in more than one end-use are utilized.



Source: SDG&E 2013-2015 Program data

80% of all deemed rebate projects in the 2013-2015 program cycle were lighting-only projects. While only 44% of all Direct Install projects were lighting-only, where Direct Install contractors are contracted with SDG&E, and cross-promotion goal are one of the program priorities. Utility advisors cannot endorse trade professionals; so, innovative technologies, such as an online bidding platform, would help connect different parties together without the need for

endorsements. SDG&E plans to pursue new ideas for trade professional motivators for contractors who have diverse support offerings.

Trade professionals also often specialize in one skill (e.g. lighting, HVAC). Once their project is done, there is currently no incentive for them to transfer the customer to another specialist to address the remaining opportunities at the facility. By improving the collaboration between utility advisors (such as project manager, assigned sales representative/account executives) and trade professionals, SDG&E's technology tools will enable customers to connect with the appropriate trade professionals to implement their identified projects. As projects are completed, SDG&E advisors can assist customers in identifying and proceeding to the next phase of their energy management plan (mentioned in problem statement 1).

Landlords & Tenants

Currently, an incentive is provided to the electric account holder, often the tenant. This decreases the landlord's desire to make building improvements. Creating incentives for landlords would give them a greater reason to make capital improvements to the building

Design Team & Building Owners

SDG&E should examine the effectiveness of re-engaging local design teams by restoring enhanced design team incentives for high efficiency buildings and/or projects pursuing zero net energy. SDG&E should also pilot repositioning the owner incentives to support market transformation and zero net energy projects by providing direct design assistance to help offset incremental costs for modeling associated with natural ventilation, daylighting (beyond code), new and innovative technologies and thermo-dynamic modeling.

Targeted Marketing

SDG&E should utilize targeted marketing campaign to inform trade professionals and commercial customers about the available education. Industry-specific target outreach should be conducted through the account executive network and trade professionals. Additional and limited-time rebates and incentive should be offered to targeted high potential high uses and industries.

Address Behavioral Potential

"Roughly one-third to one-half of the energy consumption in commercial, multi-tenanted buildings is driven by the behavior, equipment, and operating decisions of the tenants. Landlords (owners and managers) seeking to improve the energy performance of their buildings need to encourage and work with tenants to adopt best practices for energy management", Better Building Alliance, U.S. Department of Energy. Although landlord's incentive would give tenants little reason to conserve energy, technologies such as programmable/automatic thermostats and lights, efficient and adequate refrigeration, energy star appliances will result in decrease in tenant's consumption. It's believed "behavioral changes in commercial buildings can lead to as much as 30% of energy savings" based on the result of the Watt Watchers Program, a Commercial Building Demonstration Project.

"Energy has important symbolic and behavioral aspects that can have as much impact on consumption as energy efficient equipment does. In many people's minds, energy "rationing" is a negative symbol of hard times, whereas energy consumption is a sign of prosperity. Saving energy therefore carries ambiguous connotations."

- *Energy Efficiency in Buildings, Business Realities and Opportunities, Summary Report. World Business Council for Sustainable Development, 2007*

Watt Watchers Program, a Commercial Building Demonstration Project

		Pre-program	Watt Watchers Program				
Experimental Floor		Jan-Feb	March	April	May	June	Oct
Use (kwh)	WD	1310.2	1142.8	1039.4	965.9	982.9	921.6
	WE	1005.0	940.0	890.9	871.4	908.8	670.5
Savings	WD		-12.8%	-20.7%	-26.3%	-25.0%	-29.7%
	WE		-6.5%	-11.4%	-13.3%	-9.6%	-33.3%
Comparable Floor		Jan-Feb	March	April	May	June	Oct
Use (kwh)	WD	1532.9	1454.1	1411.4	1373.9	1378.9	1389.0
	WE	1388.2	1306.3	1248.7	1250.9	1250.6	1223.5
Savings	WD		-5.1%	-7.9%	-10.4%	-10.0%	-9.4%
	WE		-5.9%	-10.0%	-9.9%	-9.9%	-11.9%
Net Savings			March	April	May	June	Oct
	WD		-7.6%	-12.7%	-15.9%	-14.9%	-20.3%
	WE		-0.6%	-1.3%	-3.4%	0.3%	-21.4%

Source: Karen Ehrhardt-Martinez, Ph.D. and Milepost Consulting
http://becconference.org/wp-content/uploads/2014/12/presentation_Ehrhardt-Martinez.pdf

Another behavioral aspect to focus on is to encourage peer comparison and building benchmarking. Reference tables such as the U.S. Energy Use Intensity by Property Type published by EnergyStar Portfolio Manager provides building stakeholders with national median energy use of similar properties. Building stakeholders can have a better understanding of the building energy saving potential by comparing themselves with their peers.

Metrics

Category	Baseline (2016)	Near-term (Decision-2021)	Mid-term* (2022-2024)	Long-term* (2025-2027)
Energy Tools	<p>Establish current customer utilization of existing energy tools such as OBF, WE&T, etc. (e.g. X% utilization)</p> <p>Identify requirements for new energy tools</p>	<p>Comprehensiveness of projects utilizing energy tools vs. those that did not (e.g. X% of energy tool projects are comprehensive and Y% of non-energy tool projects are comprehensive)</p> <p>New energy tools (technology/system) implemented</p>	<p>A % increase in comprehensive projects utilizing energy tools</p> <p>New energy tools (technology/system) optimized</p>	<p>A % increase in comprehensive projects utilizing energy tools</p> <p>Track activities in new energy tools</p>
Simple Offerings	<p>Establish participation baseline in targeted high usage areas</p> <p>Establish baseline on “ease of participation score” (e.g. X% of customers think programs are easy to understand, easy to enroll, etc.)</p>	<p>Incremental increase in participation in targeted high usage areas by X%</p> <p>A % increase in “ease of participation score”. This metric should positively correlate with the one above.</p>	<p>Incremental increase in participation in targeted high usage areas by X%</p> <p>A % increase in “ease of participation score”. This metric should positively correlate with the one above.</p>	<p>Incremental increase in participation in targeted high usage areas by X%</p> <p>A % increase in “ease of participation score”. This metric should positively correlate with the one above.</p>
Access to Assistance	<p>% of near, mid and long-term energy management plans established for customers</p>	<p>% of near-term (tier 1) implementation begins</p>	<p>% of implementation of projects at each tier (i.e. persistency)</p>	<p>Condense time between adoptions of each tier of the project.</p>

*Mid-term and long-term metrics contingent upon near-term results

Key Partners

- Utilities (IOU's)
- Water Agencies
- Local Government Partners
- Trade Professional Groups
- Landlords (Building Owners)
- Building Industry
- A&E Firms
- Financial Taskforce

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