Pacific Gas and Electric Company (PG&E) submits this draft 2006-2008 energy efficiency portfolio design for your further review and advice in accordance with Decision 05-01-055 of Rulemaking 01-08-028.

I. Introduction

The purpose of this document is to inform the PAG of the portfolio concept PG&E is developing to meet the directives of the California Public Utilities Commission (CPUC) and to receive additional PAG feedback on the draft concept. The concept has been developed with PG&E’s understanding of the CPUC’s directives, the experience of PG&E’s energy efficiency staff, and the input of participants in this public design process.

Not least among the CPUC’s directives is their new energy efficiency targets set in Decision 04-09-060. For PG&E, CPUC’s set energy efficiency savings targets over the next decade at about twice the level of PG&E’s accomplishment over the last decade (1994-2003). This did not take into account the state’s rising energy efficiency standards, or new, lower savings measurements on popular measures. Thus the actual effort and accomplishment PG&E must sustain over the next decade is more than twice and closer to three times the last decade’s accomplishment.

The concepts proposed for portfolio design integrate program approaches with market sector needs and provide for highly effective delivery of program elements within each market. This approach constitutes a paradigm shift that is in keeping with state legislative and regulatory decision-making. Primary policy directives which underpin the new paradigm and PG&E’s response include:

- The Energy Action Plan which targets energy efficiency as the first resource required in the procurement of energy.
- Finding of Fact 7 from Decision 05-01-055 which states “Energy efficiency in California is returned to resource acquisition.”
- Finding of Fact 62 from that Decision which states that the “focus for spending ratepayer dollars should be to capture the most cost-effective demand-side resources as possible over both the short-and long-term that can meet or exceed the adopted energy savings goals. Focusing efforts in this way is the most equitable way to distribute program benefits: By keeping IOU procurement costs as low as possible through deployment of cost effective energy efficiency, all customers will share in the resource savings from energy efficiency programs.”
- Finding of Fact #24 which specifies that IOU’s are being returned to the lead role in program choice and portfolio management is “the most effective way to hold the IOU’s accountable for the responsibilities they have been assigned by both the Legislature and the Commission to procure demand-side and supply-side resources.”
• Finding of Fact # 41 which orders that IOU’s and non-IOU’s should pursue the most cost effective energy efficiency resource programs first, if doing so does not create lost opportunities.
• Finding of Fact #46 which directs the IOUs to”integrate energy efficiency with demand response and distributed generation offerings to end-users.”

While these policies and directives create the need for the new paradigm, Decision 05-01-055 further directs the IOU’s to continue with successful components from the pre-2006 portfolio. Where those elements are essential to market success, existing portfolio components will be carried forward into the new portfolio design to accommodate the directive, provide market continuity, and maximize savings potentials. These elements include, but are not limited to, local government partnerships, competitive solicitations (third party bids), and statewide consistency.

With input from the public design process, PG&E will work to finalize the many details remaining on how local government partnerships, competitive solicitations, and statewide consistency. These decisions will impact specific program elements in 2006 and beyond. Planning for these issues will continue to be shared with the PAG throughout the remaining portfolio design process.

Overview

The remaining sections of this document will highlight PG&E’s portfolio concept model introduced as Market Integrated Demand Side Management (MIDSM); next we describe a portfolio structure that provides the foundation for a market-oriented program approach; an overview of anticipated EM&V needs; our final section provides specific details on the various market segments we will address under our calculated and deemed savings umbrella.

Portfolio Concept

a. Rationale

CPUC decision 05-01-055 establishes utility accountability for the first three years of the eight years of energy savings goals established by the CPUC in compliance with California’s Energy Action Plan. The new energy and demand savings goals are significantly higher than historical accomplishments of California’s energy efficiency programs. In order to meet this challenge, PG&E portfolio designers conducted a comprehensive assessment of remaining market potential and the ability of current program structures to deliver the goals. This work resulted in the conclusion that current programs and market segmentation approaches are unlikely to deliver the aggressive CPUC targets. Further, statewide or intra-utility coordination among and between programs is not sufficient for the sequential targeting of market segments and project types which will be required to achieve goals over multi-year periods.
PG&E must develop a streamlined approach, based on effective market segmentation with the greatest possible flexibility to achieve savings, in order to meet the targets. The approach must recognize pending changes in Title 24 code and must accommodate the results of current studies, including DEER (which will reestablish savings potential by technology, in some cases markedly decreasing possible claims). In order to maximize program uptake, offerings must align with market needs while accommodating CPUC philosophy.

This MI DSM portfolio concept takes into account the following assumptions:

- Potential savings for both measure-by-measure, whole-building, and process claims will decrease as a result of 2005 code change as well as market studies due to be released soon;
- Utilization of the new E3 avoided costs, and new electric and natural gas cost forecasts will be added soon.
- The portfolio’s effectiveness must be improved before requesting additional funds to meet the goals.
- Achieving increased goals with devalued measure savings will require interventions which better address customer needs, are easier to access, and greatly increase market penetration over current offerings;
- Limitations inherent to various markets and project types will demand that a highly flexible approach is adopted if targets are to be met. The implications of market structure and project type will require an evolving and coordinated approach to goal achievement;
- Both market-pull and market-push strategies will be required to achieve the targets;
- The utility cannot rely on current programs/delivery structures, even if substantially expanded to deliver the aggressive goals.
- Energy savings from lighting will need to carry much of the portfolio in the first several years, however, PG&E will need to progressively diversify offerings each year (both measures and marketing strategies) in order to meet the goals over eight years.
- Policy makers will require and customers will demand integrated demand response and self generation.

Dealing with these issues will require a robust approach which segments the market based on the customer’s need and addresses opportunities based on the market potential. The portfolio must concentrate on the highest-potential market segments providing the most cost-effective savings while still impacting the mass market. A simplified portfolio structure needs to provide broader outreach and easier customer access leading to higher market penetration. Much of the basic delivery structure for this new approach exists today but delivery of the high-yield 2006-2008 programs will require substantial realignment, streamlining, and greater coordination of delivery channels - as well as the development of new ones.
b. **Portfolio Model – Market Integrated Demand Side Management (MI-DSM)**

MI DSM includes all those activities intended to influence the way customers use energy, as opposed to the way that energy is supplied. Historically, potential techniques have included strategic conservation (including energy efficiency), peak shaving, load shifting, flexible load shape, and strategic load growth (although this is not presently a California utility goal). Market Integrated refers to the *customer value proposition* in which energy-efficiency, demand response, load management, low-emission customer services, time-of-use rates, and distributed generation (including renewables) as market interventions are combined to produce the most value for the customer and society. In the context of this definition, distributed generation is considered a supply offsetting measure as opposed to exclusively a supply measure. It is presumed that customers using distributed generation would use it primarily as a means to influence their use of energy as opposed to the bulk supply of energy to the grid.

c. **Integration with other DSM activities:**

PG&E is planning on providing fully coordinated and integrated DSM programs, such that potential customer participants can choose from a seamless menu of demand side offerings. PG&E is coordinating overall energy efficiency, demand response, low-emission customer services, and distributed generation planning across the planning groups. Work on detailed integration is beginning and is proceeding with two considerations, DSM program delivery and integrated service/program development, both with careful consideration of the *customer value proposition*.

DSM customer based resources share the common characteristic in that, unlike supply-side resources, they are “supplied” to PG&E through its customer base. PG&E has determined that the most effective way to reach our customers is to integrate marketing, and outreach of PG&E’s portfolio of energy efficiency, demand response and distributed generation program efforts.

PG&E’s “portfolio sales and delivery” approach adopts a strategy used by financial planners as they work with their clients to understand their individual financial goals, resources, needs and limitations. Customers are offered a portfolio of integrated options based on their specific needs. Once customer needs are identified, PG&E facilitates the process of customer energy management, through its portfolio of customer energy programs or other delivery support mechanisms.

By taking this approach, PG&E believes that it will be able to capture (or acquire) these customer-based resources in the most effective and efficient manner. Among the benefits that PG&E sees in meeting our goals in this manner are: higher customer acceptance; reduction in the “gaps” in service that can occur in providing uncoordinated and un-integrated demand-side/distributed generation services; higher potential for customer uptake/market penetration of multiple demand side opportunities through a more streamlined and cost-effective delivery mechanism.
II. Delivery:

No matter how good energy-efficiency service or rebate programs are, it takes focused effort to influence participants to actually make recommended improvements. Focused delivery becomes progressively more important as the size of the opportunity increases. For example, providing point-of-purchase rebates for compact fluorescent lamps requires working with only a limited number of retailers. Conversely, encouraging large commercial or industrial customers to proceed with a large, capital intensive retrofit project, takes considerable sustained effort, often involving multiple market actors.

PG&E will train and align its current staff of account representatives to better impact key markets in order to deliver high efficiency appliance, building materials, and design practice interventions. Since opportunities are similar in similar industries, working within industry associations (such as food processing, or large manufacturing) will prove an effective way to reach a larger number of customers while minimizing effort and expense.

Delivery will be enhanced by the use of a simplified application process which will provide a single application for participation in deemed interventions and another for calculated. Ideally, applications will be consistent among all program providers, both utility and third party, and will be an important part of the program simplification process. PG&E will also conduct energy surveys to assist customers with identifying DSM opportunities, installing capable energy management control equipment, commissioning or effective programming of controls (often neglected due to the complexity and lack of standardization among control manufacturers), and training to teach responsible personnel how to use control systems to achieve effective demand side management.

III. Integrated Service/Program Development:

Achieving optimally integrated and fully coordinated DSM programs is much more difficult than simply improving delivery. It involves setting the correct regulatory policy/guidelines for each of the DSM activities (energy-efficiency, demand response, etc., as noted above), setting the right economic values, identifying the right customer value mix, and marketing the package in an effective manner, in order to achieve high level of participation.

Key to integrated service/program development is the determination of the customer perceived value. From the customer’s perspective, each component of the DSM offering has its own reward and concession:

- Energy Efficiency – offers the same utility or service from the customer’s perspective for less energy use.
- Critical Peak Pricing - offers, in exchange for lower over-all average prices and improved service reliability / reduced likelihood of rotating outages, significantly higher prices at times of extremely low spinning reserve margin.
• Load Management – offers, in exchange for the opportunity to reduce load automatically on receipt of a signal from the utility, lower over-all average costs and improved service reliability.
• Time-of-use Rates – offers lower overall prices in exchange for daily price signals that encourage customers to reduce on-peak demand.

a. Statewide Consistency:

The objective of the “statewide” concept in the new energy efficiency paradigm is two-fold. First, statewide coordination must be established at a level which prevents program enrollment differences from inhibiting customers and vendors with involvements throughout the state from participating. Secondly, statewide commonalities must help to create a large homogeneous market to make the production of energy efficiency equipment by national manufacturers inescapable.

The strategies employed will follow with the spirit of cooperation employed in programs over the past few years but without program limitations that prevent programs from adapting to local conditions. The statewide strategies employed to achieve these ends include:

• Promoting essentially the same measures throughout the state. Basically, what saves energy one place saves it another, allowing for differences in climate.
• Addressing the need for simple processes for customers with facilities and vendors with activities throughout IOU service territories.
• Considering rebates that reflect value from new avoided costs, local conditions and market requirements. i.e., rebate levels may vary by location (within or between service territories) based on definable factors.
• Use existing “brands” (Savings By Design, Standard Performance Contract, Energy Star) selectively where the value of those brands will help to achieve objectives but not as entities in and of themselves.

Making use of these strategies within a less rigid framework will achieve the objectives listed while allowing each utility the flexibility to achieve program targets and tailor their offerings for local economic, climatic, and market conditions.

b. Local Government Partnership Activities:

Local government partnership design is underway through an IOU/Partners Task Group. These could include calculated savings activities adapted to local markets.
Portfolio Structure

This approach to high impact markets begins with establishing a portfolio structure that advances mass and niche market energy efficiency and promotes universal identity and brand awareness around an energy message. The basis of the approach is to conduct outreach and serve customers within naturally occurring major market segments based on industry and customer type, rather than rate class. This will allow for tailored energy efficiency opportunities that optimize savings based on specific load profiles.

Unified marketing messages will improve energy efficiency awareness while emphasizing utility roles in delivering integrated demand side management (DSM). The customer activated channels will direct consumers to retailers, vendors, or contractors who promote DSM goods and services for instant or vendor-driven rebates. More complex customer inquiries and projects will be guided to a central clearinghouse for assessment and referral. This clearinghouse will be able to assess customer needs and direct the customer to all resources available including education programs, training, and both IOU and third-party deemed and calculated incentive opportunities.

IV. Structural Overview

a. Market-Based Program Delivery

In order to provide programs that meet the customer’s needs, deliver on perceived customer value, and make the energy targets, PG&E determined that a portfolio structured around market segments will provide the optimal possibility of success. Programs tailored to specific markets rather than to customer rate classes should achieve higher penetration into those markets because they better serve the needs of the market actors. Analysis of historical and load profile data of end users identified market segments, grouped into value-based categories with enough homogenous characteristics to allow PG&E to deliver a customer-focused “value proposition” of integrated DMS that is simple for customers to access.
The segments include:

- Mass Market comprised of residential, multi-family residential and small commercial. These market actors have similar purchasing patterns and strategies, utilize the same vendors, and have similar approaches to energy efficiency. A common approach to these market actors, historically viewed as separate segments, will provide greater penetration into the small commercial market while eliminating the artificial boundary between them and providing for program delivery economies.
- Agricultural and Food Processing comprised of food processors, wineries, dairies, greenhouses, and refrigerated warehouses.
- Schools, Colleges, and Universities, comprised of K-12 schools, community colleges, universities, and campus housing,
- Retail, comprised of general retail, “big box” retail, supermarkets, and restaurants and food services.
- Industrial, comprised of fabrication industries, process industries (including waste water and water treatment), and heavy industrial manufacturing.
- Medical, comprised of hospitals, assisted living facilities, skilled nursing facilities, and medical specialty facilities.
- Large Commercial, comprised of office buildings, governmental facilities, and large institutional facilities.
- Hospitality comprised of lodging, resort, and hotel facilities.
- High Technology, including laboratories, clean-rooms, and data centers.

Crosscutting these market segments will be special efforts aimed at promoting specific energy efficiency technologies with broad application and high potential. These include compressed air systems, motors, variable frequency drives, and heating ventilation and air conditioning systems.

Segmented program delivery allows program managers to tailor program elements and components to the needs and values specific to their market. Consideration of retrofit versus new construction become an internal baseline issue, rather than a customer concern because program managers serve all market needs within that segment. Program managers and implementers are responsible to and for the market they serve, drawing on informational resources, deemed savings rebates, or calculated or customized services and incentives as needed to best serve each market, customer, and project.

This structure allows for greater flexibility within and between programs because program managers are responsible for tracking market growth or decline, total potential, total market size, market actor size, market trends, and overall market potential. Consideration of these factors provides program managers and portfolio administrators the opportunity for real-time program scale-up or down-sizing, ongoing introduction of emerging technologies, and earlier codification of established end-uses.
b. Intake Clearinghouse

The intake, assessment, and referral clearinghouse will provide customer contact and response resources (including audits) to assess customer wants and analyze customer needs, and then channel the customer or stakeholder to the appropriate market segment and resource. The clearinghouse will be a central point of contact for all energy efficiency activity and will refer customers to both utility and third party programs. Third party providers will have access to the clearinghouse to maximize information flow and enhance program market penetration.

A secondary, but no less important, function for the clearinghouse will be ongoing evaluation of the entire mix of program offerings relative to market requests and opportunities. Customers whose needs exceed the capabilities and resources of the vendor or contractor-driven components will be directed to a deemed savings incentives applications on-line or, based on an auditor’s determination of the appropriate baseline, would be directed to the appropriate resources to determine a calculated savings incentive. This initial audit would also be used to educate customers on demand response and self generation opportunities.

c. Deemed Savings Offerings

A simplified deemed savings offerings for both residential and nonresidential customers will serve the needs of the mass market and provide for maximum participation. Outreach efforts through vendors, a mass marketing campaign, and customer inquiry will promote incentives and rebates by end-use. Customers will work with vendors, retailers, the utility intake resource, or will download applications from a website and submit documents to central processing at the utility. This will allow for both easy customer access and climate-and-use-specific savings claims. This simplified and consistent system will encourage energy efficiency inclusion in routine upgrade, replacement, or new construction efforts. Marketing for the deemed savings element would expand beyond the brand awareness campaign to include industry allies such as BOMA, SMACNA, RBA, the USGBC, and so forth.

i. Deemed - Midstream, Upstream, and Point-of-Purchase

Expansion of mid-and-upstream components is another process efficiency strategy of the 2006-2008 approach. Working upstream with manufacturers and distributors will result in greater program cost effectiveness and significant long-term energy savings. The upstream element provides financial incentives to distributors to stock and sell qualifying high efficiency products combined with downstream customer rebates to create a push/pull strategy. Objectives will be enhanced through coordination with programs run by other entities (i.e., manufacturers, distributors, and industry associations). In addition to paying incentives to distributors to overcome specific market barriers, the upstream initiatives will leverage, engage, and enhance manufacturers’, distributors’, and associations’ resources by integrating them into the marketing and sales efforts.
d. Calculated Savings Offering

PG&E will offer calculated savings elements to both nonresidential and residential customers with major remodel, replacement, custom or new construction projects involving highly specialized or integrated designs. Services for such projects would include customer education, project design review and recommendations including “charter” services for projects with huge potential, on-site verification, and rebates. PG&E will assure consistent incentive levels across project types.

e. Education, Training, Emerging Technologies, and Codes and Standards

Current broad-based marketing, training, and outreach efforts will be consolidated. Focused outreach will be added for high-potential specialized commercial and industrial market segments, market actors, and industry groups. Educational efforts will target emerging opportunities in commercial and industrial markets with specialized information, education, outreach that provides the sector-and-industry-specific information on the economic and life-cycle value of energy efficiency. Targeted outreach efforts will be undertaken to draw high-yield projects into program offerings.

Specific programmatic initiatives addressed under the education and training umbrella include Emerging Technologies and Codes and Standards. Information from these programs will back to both education and training efforts and market-based programs.

i. Emerging Technologies

An emerging technology program will work closely with the California Energy Commission’s PIER project and would participate in cross-functional teams to feed technology uptake, ascertain market need, and create a dynamic feedback loop. The emerging technologies component, working closely with PIER, the cross-functional teams, and upstream market actors will fuel early industry involvement in new technologies by disseminating information, sponsoring pilot projects, and evaluating “outside of the box” approaches. The program will identify promising technologies for maturing markets and commercialize them.

The emerging technologies component will consider pilots for operational and performance guarantee programs for future inclusion in mainstream efficiency interventions thereby documenting the performance of both deemed and calculated market interventions and offering verification of procurement objectives. Pilots could include:

- expanded O&M training for facility maintenance staff,
- remote monitoring of energy efficiency savings,
- pay for energy savings persistence over time,

ii. Codes and Standards
A codes and standards effort will work with the CEC, the cross-functional teams, and the emerging technologies component to assess market readiness for inclusion energy efficient technologies and practices in code.

V. Evaluation Needs

Given the substantial changes and innovative delivery approach to PG&E's energy efficiency portfolio, we anticipate a commensurate need for more market assessments, market research and testing of marketing strategies and program theories to ensure a successful transition to the changes described for the portfolio components. PG&E will employ various market research techniques that will: 1) test the hypotheses in the various program theories such as integrated DSM, cross-marketing, mass market outreach and vertical delivery strategies; 2) enhance market segmentation and targeting strategies through assessment of market barriers, customer attitudes and behavior, communications testing; and 3) continue to streamline marketing outreach strategies by integrating demographics, customer billing, and market potential resources into cross-functional/relationship databases. PG&E will develop more specific market assessment and research needs along with parameters for process evaluations and program metric tracking once program descriptions are fully developed.

VI. Competitive and Innovative Initiatives:

Development of the competitive and innovative initiatives and evaluation criteria are under design. PAG and public input to the design has been gathered and discussions are occurring between the IOUs. The portfolio design will yield much opportunity for third party initiatives through both open idea solicitations and targeted specialized initiatives targeting market opportunities.

VII. Market Segments Approach - Crosscutting Component Detail

a. Calculated Savings Description:

Generally includes all measures for which the savings and rebate require a calculation based on a customer specific input. These measures are large in scope, sometimes interactive, and are usually delivered through targeted channels or even one-to-one. Many past large customer activities, such nonresidential new construction, standard performance contact programs, or customized programs, represent a calculated approach, but those categories have not allowed for inter-program synergies or efficiencies, and have resulted in less effective marketing. The main goals of a calculated approach are to capture large savings from larger projects, raise awareness of the benefits of efficiency, and ultimately to change market behavior to use energy more wisely and efficiently.

This component includes all activities required to raise customers’ energy efficiency through calculated savings measures. Marketing and sales activities include, identification of opportunities, various levels of technical support, assistance with project development and approval, monitoring, fulfillment of rebate, tracking, recording and reporting of activities, etc.
Component Rationale/ Logic:

When buildings or processes are built and operated correctly from the outset, excess electrical and gas demand never impact the electric and gas transmission and distribution systems, assuring both energy savings and savings persistence. As buildings and processes are operated, upgraded, or retrofitted these savings can be lost if operational and retrofit strategies do not consider ongoing systems integration, performance management, and systems optimization. By providing the technical and financial means to influence the basic design, start-up, on-going operation, and retrofit of commercial and industrial projects, the calculated savings program will assure that these projects maximize their energy efficiency, productivity, and operational economy at every stage in their life-cycle. A fully integrated calculated savings element avoids the missed opportunities that result when energy efficient measures and strategies are approached on a single technology basis because this component will emphasize integrated planning and analysis for new construction and retrofit projects as well as ongoing operational optimization.

This strategy will employ a multiple interventions to achieve these savings. Market-segment specific outreach to high-potential vertical markets will maximize market penetration and program uptake while highly specialized, technology-specific outreach and operations management interventions will cut across markets to maintain savings and minimize lost opportunities. This component, delivered across market segments, will meet the California Public Utilities Commission’s (Commission) goals and objectives for energy efficiency programs that can deliver cost-effective, verifiable, long-term energy savings and peak demand reduction.

The intent of this innovative approach is to produce market-based programs that not only address market needs, barriers, and failures, but which can evolve in response to the changing demands of markets and energy costs. In addition to ongoing changes to account for the tri-annual tightening of Title 20 and 24 standards, this component will be annually re-evaluated and modified to support and enhance the momentum of emerging technical and operational best practices.

Targeted Market Sector/Customer Class

Calculated approaches will address all customer classes with the exception of individual residential households. This is the main approach for reaching larger commercial, industrial and agricultural customers as well as builders. Individual residential customers indirectly participate in programs of this type through new construction programs.

Target Audience/Market Segments:

Applicable to essentially all market segments with the exception of individual households, although the measures delivered and the delivery channel will vary by market sector.
Implementation Strategy and Representative Elements

Calculated Savings will employ market-segment appropriate outreach and delivery channels including: third party, industry-specific market allies, technology specific experts, professional organizations, governmental and institutional allies, and internal resources. It will leverage market segment information and deemed savings offerings. For example, the Calculated Savings will seek out energy-efficiency savings in specific market segments; i.e. wineries, dairies, hospitals, office buildings, or wastewater treatment facilities; and/or across technology specific systems i.e., compressed air, chillers, and boilers. PG&E will integrate both new construction and retrofit delivery channels to leverage opportunities at a particular customer site and capture all possible energy savings opportunities, minimize customer confusion, and reduce transaction costs. Such efforts will include, but are not limited to, new construction and retrofit design guidance, systems integration information, operational and tune-up support, as well as commissioning and retro-commissioning interventions, among others.

Overview of Process/Implementation Plans:

This component provides the market programs with a matrix of services that will have as two main axes the following: specific market segment energy efficiency solutions and specific technology-systems energy efficiency solutions.

For specific market segments, it will look at customers’ existing facilities and future expansion plans to develop a portfolio of services that would best meet the customer needs and maximize savings over time; incorporating best practices, variety of energy efficiency measures, financing, incentives, commissioning, retro-commissioning, design assistance, and equipment rebates. An industry expert would be assigned to serve as a one-point contact.

For technology-specific savings cutting across market sectors, the component will engage current market actors (vendors, distributors, contractors, engineering service companies, etc), to provide energy-efficient enhancements across market segments.

Market-segment based programs will integrate both of these approaches. The point-of-contact for specific market segments will coordinate as needed resources and services to best meet customers’ needs. When needed, the point-of-contact will provide leads to the market actors engaged in providing system enhancements.

To move to this new paradigm, we propose that:

- Strategic marketing and outreach efforts, including collateral materials will be developed
- Integrated marketing and outreach efforts will be designed and implemented
- Further clarification of fuel-switching and self-generation/cogeneration constraints will be sought with CPUC, so the program will to be able to provide integrated DSM
- A quick resolution mechanism with the CPUC for integrated DSM issues will be sought
• Integration and leveraging of other programs (Information, Deemed, Third Party Initiatives) efforts will be designed and implemented
• Existing internal staff will act as coordinators for specific market segments, rather than geographic areas
• Current contacts with market actors will be shared among both SPC and SBD and will engage with them to align current contracts with new paradigm for program delivery
• Market research (primary and secondary) will be conducted to optimize early targeting of programs by market segment and systems
• Statewide consistency if beneficial, will be pursued
• Internal staff roles and responsibilities will be re-aligned to conform to the new paradigm
• New evaluation approaches will be explored to ensure that savings are accurately determined

Key Assumptions:

• Ease of engaging trade allies to leverage our resources
• Ease of paying trade allies on a per-kWh or Therm savings structure
• Ability to offer financing as an alternative to incentive payments
• Change of internal infrastructure to leverage economies of scale of tapping into retrofit and new construction resources to offer identical incentive structures to customers to minimize marketplace confusion and transaction costs.
• Current NTG ratio of 0.7 for SPC retrofit, 0.82 for new construction Commercial, and 0.94 for new construction industrial, was used to estimate future savings. e NTG values were assumed not change as program activity increases, given that traditional NTG values have ignored spillover; and overly estimated free-ridership.
• One sole NTG value would be preferred, so as to not have a conflict in the determination of the optimal mix between new construction or retrofits at a particular site.
• Education, outreach & information efforts are leveraged and do not detract from program savings claims. Efforts to accurately account for their savings beyond direct program savings occur.

b. **Deemed Savings Description:**

Generally includes all measures for which the savings and rebate do not require a calculation based on customer specific input. These measures are often delivered through mass market up- or mid-stream channels and through rebates directly to participating customers. Many past residential and nonresidential program such as “Express”, used a deemed approach. However, those programs did not capture inter-program synergies or efficiencies, resulting in less effective marketing. The main goal of PG&E’s MIDSM model is to promote synergies that maximize the overall performance of the portfolio. PG&E’s deemed savings approach will integrate with various marketing strategies and technologies that will capture immediate savings, raise awareness of the benefits of energy efficiency, and ultimately change consumer behavior towards using energy more efficiently.
The various efforts undertaken through PG&E’s deemed savings approach will include activities aimed at:

1) educating consumers to ask for targeted technologies
2) incenting contractors, distributors, and retailers to promote targeted technologies
3) encouraging manufacturers to build and supply targeted technologies

The targeted technologies will include specific EE measures/end-uses that capture and expand the energy efficiency potential still on the table through improvements to the equipment and installation of the targeted systems.

Suggested targeted technologies/end-uses that will comprise the deemed savings portfolio component (however this list may expand as we continue to work on program descriptions) include:

- Appliance package that includes rebates for, refrigerators, dishwashers, clothes washers,
- Hot water appliances
- Small boilers
- HVAC
- Lighting
- Swimming Pool Pumps and Motors

**Targeted Market Sector/Customer Class:**

Includes all customer classes with deemed savings being the main approach for reaching residential, small commercial and small/medium agricultural customers. Large customers are also eligible but would be expected to participate only when standardized measures are most appropriate.

**Target Audience/Market Segments:**

Deemed savings delivery channels will include manufacturers, product distributors, contractors, and mass market retailers and customers.

**Implementation Strategy and Representative Elements**

Detailed strategies for deemed savings targeted technologies and end-uses is provided in the attached addendum.
Rationale/ Logic:

A deemed savings program with “easy to obtain” rebates for retrofit or new construction projects will serve the needs of the mass market (residential and small/medium nonresidential customers) and provide for maximum program adoption. Outreach efforts through vendors, a mass marketing campaign, and responses to customer inquiry will provide education and stimulate interest to pursue the monetary and non-monetary incentives the programs have to offer. Customers will have multiple channels for obtaining information and access to the program rebate forms. Customers can access program information from retailers, vendors, or they can contact the utility directly through the 800 number or download applications directly from the utility website and submit documents for processing to the utility allowing for both easy customer access and climate-and-use-specific savings recommendations. Additional program features will include endorsements and marketing by respected trade organization and allies such as BOMA, SMACNA, RBA, and the USGBC, among many others, and the elimination of short application periods allowing for maximum participation. This simplified and integrated approach will encourage energy efficiency inclusion in routine upgrade, replacement, or new construction efforts.

Overview of Process/Implementation Plans:

The deemed savings implementation approach will benefit from the many synergies offered through PG&E’s MIDS model. This component will also seek opportunities to partner with other allies and agencies that may also offer incentives for components of the “Appliance Package” element. Such as water districts for clothes washers, manufacturers for refrigerators and dishwashers, builders for new construction developments and other utilities.

The approach will include delivering technologies using multiple channels across previous untapped market segments. Examples include:

- Actively promoting what was the residential CFL program to the small commercial customer. It is generally known that small commercial customers do participate and contribute savings to the residential program. Since this segment typically has longer operating hours than residential customers, they represent a substantial source of potential savings typically not captured in the cross-cutting CFL program.

- PG&E’s deemed savings approach will also seek to optimize the advantages emerging in the market due to strong competition. With the wide acceptance of residential CFLs along with many new products and competitive pricing, PG&E will seek opportunities for lowering incentive levels on individual purchases or offering current incentives for increased volume purchases. PG&E will continue to work with the other IOUs to achieve statewide consistency on these and other options.

For water heaters, PG&E will continue to promote statewide consistency with the IOUs on the appropriate specifics as PG&E considers whether implementing the program midstream or downstream offers more potential than the current downstream strategy.
For boilers, this is a new strategy and approach to promote the installation of high efficiency boilers in the ‘smaller classifications”. Associated with several of these boilers are inefficient motors and the initiative will promote the use of multiple speed motors. This will result in lower electrical demand, reduced maintenance costs and avoidance of stand-by heat loss.

The deemed savings approach will offer two key marketing strategies for delivering program offerings they include: 1) a market segment strategy that focuses on targeting energy efficiency solutions to high potential segments; and 2) a technology-systems strategy that focuses on delivering energy efficiency solutions for specific applications.

For a specific market segment, the approach will include looking at a customer’s existing facilities and future expansion plans to develop a portfolio of services that would best meet the customer’s needs and maximize savings over time. This approach will include incorporating best practices, multiple offerings of EEMs and services including; financing, incentives, design assistance and equipment rebates. The approach will include assigning an industry expert to serve as one-point of contact.

For the technology-systems approach, the program will engage current market actors (vendors, distributors, contractors, engineering service companies, etc), to provide energy-efficient enhancements across market segments.

The deemed savings approach integrates both strategies. The point-of-contact for a specific market segment will coordinate resources and services as-needed to best meet the customers’ needs including providing leads to the market actors engaged in providing system enhancements.

Activities required to move to this new paradigm, include:

- developing strategic marketing and outreach efforts, including collateral materials
- designing and implementing integrated marketing and outreach efforts
- changing Standard Offer and New Construction rules & procedures to allow for joint marketing and program rules alignment
- seeking changes or further clarification of fuel-switching and self-generation/cogeneration constraints in order to provide integrated DSM
- realigning existing resources and staff to support specific market segments areas as opposed to geographic alignment
- developing cross-functional processes that facilitate sharing key contact information regarding markets and market actors across programs
- conducting market research (primary and secondary) to optimize early targeting of programs by market segment and systems
- pursuing statewide consistency when beneficial
- exploring new evaluation approaches to ensure that savings are accurately determined
Key Assumptions:
- ability to engage trade allies to leverage resources
- ability to pay trade allies on a per-kWh or Therm savings structure
- ability to offer financing rather than incentive payments
- ability to change internal infrastructure to leverage economies of scale of tapping into retrofit and new construction resources to in order to minimize marketplace confusion and transaction costs.
- no change in current NTG ratio of 0.7 for Standard Offer retrofit and 0.82 for commercial new construction and 0.94 for industrial new construction industrial.
- assume NTG values will remain fairly constant given that spillover and free-rider ship tend to cancel each other out.
- leverage diverse education, outreach and information programs to not detract from program savings claims.
- ability to accurately account for education, outreach and information savings beyond our direct program savings occur.

c. Education, Training, Emerging Technologies, and Energy Standards Portfolio Component:

Component includes all activities for which savings are not connected to a hardware installation. Past activities include information activities with specific content, audits for all types of customers, training in support of raising energy efficiency, “bridging” activities to bring new, non-commercial technologies to commercial status, and support for a wide range of improvements in state and national energy efficiency standards. The main goals of these approaches are to educate decision-makers about the advantages (savings) of energy efficiency, and how to realize those benefits; to maintain a steady flow of new energy efficiency technologies, and to make permanent minimum standards in the efficiency with which energy satisfies end uses: light, heat cooling, power, etc.

A foundational perspective in designing these activities is that they should support achievement of the state’s Energy Action Plan, including the order of acquiring energy efficiency, demand response, and renewables/distributed generation. PG&E terms this market integrated demand-side management (MI DSM). MI DSM includes all those activities intended to influence the way customers use energy, as opposed to the way that energy is supplied. Historically, potential techniques have included strategic conservation (including energy efficiency), peak shaving, load shifting, flexible load shape, and strategic load growth (although this is not presently a California utility goal). Market Integrated refers to the customer value proposition specific manner in which energy-efficiency, demand response, load management, low-emission customer services, time-of-use rates, and distributed generation (including renewables) as market interventions are combined to produce the most value for the customer and society. In the context of this definition, distributed generation is considered a supply offsetting measure as opposed to exclusively a supply measure. It is presumed that customers using distributed generation would use it primarily as a means to influence their use of energy as opposed to the bulk supply of energy to the grid.
Program Type: e.g. Education, Training, Measure (“Direct”) Installation, Rebate, Marketing, etc.

Includes all activities required to raise decision-makers awareness, information resources, and disposition to implement energy efficiency. Historically, this has included targeted outreach, audits for residential and non-residential customers (from web-based to extensive engineering analysis), classes offered to general and specific audiences, ongoing analysis and improvement of food service energy usage. In the future, this may include broadly reaching information campaigns linked to specific delivery objectives. Also includes the “book-ends” of energy efficiency activities: commercializing new technologies and raising energy efficiency standards.

Targeted Market Sector/Customer Class:

Education, outreach, classes, etc. are targeted to all energy-using decision-makers or upstream market influencers. Communications are best shaped by the technology or approach (e.g. whole systems approaches), and the decision-makers’ needs and decision criteria. For brevity, these are referred to as educational and training or E&T activities.

All new, not-yet commercialized technologies can be supported, but those promising the largest long-term savings are most important. Generically these are referred to as emerging technology or ET activities.

State and national statutes set the framework for improved standards in new construction, appliances, or other energy-using measures. Generically these are referred to as codes and standards or C&S activities.

Target Audience/Market Segments:

Education and training activities are directed to all market segments. Specific information efforts, including audits, are aimed at targeted markets. Classes and training can be general (“Energenius”) or specific (“Title 24 – Equipment Sizing and Selection”), and targeted to general audiences (primary schoolchildren), or specific (residential/small commercial air conditioning contractors). The Food Service Technology Center

Implementation Strategy and Representative Elements

Elements include:

- on-going integration based on achieving savings targets
- both broad and targeted outreach
- technical information and audits
- general and specific training and classes
- new technology assessment, development and commercialization (“emerging technologies”)
- specialized technology development including special efforts for food services industries
• codes and standards development including
  o improvement identification
  o demonstration projects
  o test and specification development
  o advocacy and code compliance enhancement

Component Rationale/ Logic:

Education and Training: energy-using decision makers or upstream market influencers generally require motivation and information to make improved energy usage choices. The E&T programs represent the building blocks of these aspects of the entire package to bring decision makers to make the energy efficient choice. The key links are: information to elicit interest, technical information about opportunities and choices, and information on successful implementation. These components work synergistically in a targeted delivery with rebates to maximize market uptake of energy efficiency technologies and activities.

Emerging Technologies: new technologies continue to emerge, but often face significant barriers to becoming commercially available. Facilitating that final process accelerate progress to raising overall energy efficiency.

Codes & Standards: Where legislation puts in place code-making mechanisms, codes can be used to ensure minimum energy efficiency. By identifying code improvements, developing demonstration projects, new code practices can be refined, shown to be effective, and indicate least-cost approaches to introducing the required technical changes. These are all steps PG&E take to enhance and accelerate the improvements of codes over time and enhancement of marketplace compliance with established codes.

Overview of Process/Implementation Plans; Key Assumptions:

As target markets and key decision makers or influencers are identified for critical market sectors, outreach, (technical) information transfer, audit recommendations, training, etc. will be designed and delivered as part of those market based delivery channels. ET activities will be developed so as to best leverage new vintage technologies developed through research and development programs at the state or national level, or arising from the private sector, but needing commercialization support. C&S activities will continue to be developed so as to ensure energy efficiency practices and measures reaching appropriate levels of saturation become the new standard going forward, or to take advantage of other energy efficiency opportunities best addressed through code changes and code compliance.

Key assumptions include:
  • decision-makers can be identified, and decision criteria affected
  • high-quality, focused outreach can deliver impactful information
  • technical information can be efficiently transferred
  • key industry leaders participate to path-break the use of new methods and technologies
  • emerging technologies with high savings potential which can be feasibly commercialized can be demonstrated and supported