



## Proposal to Develop Prototype Community Energy Efficiency Programs

*Presented to*



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*Presented by*

Robert Shelton  
Director

Navigant Consulting, Inc.  
1 Market Street, Spear Street Tower, Suite 1200  
San Francisco, CA 94105  
415-356-7100  
rshelton@navigantconsulting.com



Navigant Consulting, Inc. has submitted proposals identical to this one for each of the three primary California Electric Investor-Owned Utilities.

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## Section I. Program Overview

### A. Program Concept

Local governments often have significant opportunities to reduce energy consumption within their jurisdictions, both in their own facilities and those of their constituents, but lack the resources and expertise to realize their full potential. Navigant Consulting, Inc. (NCI) proposes to develop a prototypical process to assist local governments in identifying, selecting, and implementing programs and policies to achieve and to promote aggressive energy efficiency improvements. Our project will consist of four tasks. First, working in consultation a broad group of stakeholders, including local government organizations, state and federal energy agencies and utility companies, we will identify the universe of energy efficiency programs and policies available to local California governments, the associated mechanisms for implementing those programs/policies, and ways to overcome barriers. Second, working with a smaller group of stakeholders, including selected community agencies, we will develop a process for screening available programs and policies to select those most attractive and “doable” for a particular local jurisdiction. Third, we will conduct yearlong pilot projects with three diverse local governments, assisting them with selection and implementation of energy efficiency programs and policies and studying the results. Finally, we will incorporate lessons learned from the pilots, produce a “template” for establishing local government energy efficiency programs, and develop a comprehensive, multiyear marketing strategy to reach all of California cities, counties and special districts. The proposed project will be designed to meet the broad needs of all types of California local governmental entities, including those who may ultimately become aggregators of their own load under AB117 Community Choice Aggregation (CCA).

### B. Program Rationale

The California Energy Action Plan, the California Energy Commission (CEC) Integrated Energy Policy Report, and the Assigned Commissioner Proposed Decisions Soliciting 2004-2005 Energy Efficiency Program Proposal put forth the most aggressive goals and challenges for energy efficiency and conservation of any state in the nation at any time in our history. Extraordinary and bold steps must now be taken to achieve these goals. The programs, services and implementations of the past will not bring California quickly to a reliable, cost effective, integrated energy future. We believe firmly that only through creating unprecedented

partnerships between local governments and Investor-Owned Utilities (IOUs) will new benchmarks for energy savings be attained.

Because our commitment to energy efficiency and conservation must extend through this decade and beyond, a long term planning process is essential to success. For maximum results, local plans targeting specific energy use sectors that offer greatest potential for reductions should be tailored in close collaboration with the IOUs and other providers of energy efficiency programs.

California's local governments have significant opportunities to reduce energy consumption in public facilities and to elicit energy efficient behavior from their constituents. In fact, local governments have superior access to the hard-to-reach residential and small business sectors through provision of essential public services. Ongoing relationships and interactions with low income customers, small businesses, public institutions, contractors and the general residential population can be leveraged to significantly improve delivery of energy efficiency programs to these targeted groups. However, a host of barriers stand in the way of this synergy of effort, including the following:

- Lack of resources. Many communities lack the resources needed (1) to identify available programs offered by outside sources, and (2) to dedicate resources (both staff and time) to complete and submit applications to participate in these programs. It takes time to figure out what programs are available, how a local government might take advantage of them, what sources of funding might be available to help defray implementation costs, whether there may be program modifications that could greatly facilitate participation in and benefits from such programs, and so on. It also takes time to collect information on what other local governments are doing and benefit from their lessons learned. Governments and their constituents are often already stretched thin in just addressing their core areas of responsibility.
- Lack of expertise. Few local governments have the luxury of hiring staff dedicated to energy issues. Many have not yet formulated an energy policy and goals tailored to the specific needs of their community. Few understand all of the options and their implications. This is a significant hurdle as energy choices become increasingly complex in the evolving energy market.
- Structural and political barriers. While local governments may have the will to implement aggressive energy efficiency measures, their existing rules and processes often significantly hamper implementation. All too often, the reward for achieving substantial energy savings today may be a budget cut in future years. In addition, rules and procedures initially established for the protection of

their constituents have, for many local governments, evolved into daunting hurdles, which restrict access to innovative programs that are not consistent with the structures in place at the time that the rules and procedures were developed. As a consequence, the conundrum is that many local governments lack both the flexibility and the agility required to successfully participate in IOU and other energy efficiency programs – even when those programs were designed specifically to serve them.

Today, despite the efforts and good intentions of state and local policymakers and legislators, the potential for energy savings in public facilities remains largely untapped. While the IOUs have programs that could be accessed by local governments, few have availed themselves of those programs. By assisting local governments in confronting their own internal hurdles and barriers and bringing them a structured process to tailor programs than can work, the delivery of IOU programs can be significantly improved. In addition, by leveraging local government access to hard-to-reach sectors, the effectiveness of IOU and other energy efficiency programs would likewise be significantly enhanced. Concurrently, these energy efficiency programs become an extension of the positive services local governments offer to these constituents -- a "win-win" all around."

### **C. Program Objectives**

In general, the objectives of our proposed project are to work with key stakeholders to develop an energy efficiency and conservation planning process that can be used by local governments and special districts, either alone or in consortia, to identify the most cost-effective and needed energy efficiency and conservation programs for implementation in each locale. Specifically, the prototype we develop will seek to maximize the use of existing programs and resources by:

- Enhancing uptake of energy programs already being implemented by the IOUs, the state and federal governments, and other non-governmental entities
- Investigating high-potential energy efficiency programs not typically being implemented by local governments, with an emphasis on programs driven by local government agency policy changes, such as changes in energy-related procurement practices, changes in government building usage patterns, and changes in regulations regarding residential and non-residential building sales/ownership transfers.
- Integrating these and other existing energy programs with non-energy related programs targeted to specific hard-to-reach constituencies (e.g., low-income, small business, and institutional sectors).

- Leveraging local government resources, including existing program staff, and ongoing contacts and communications with various constituencies, and the reputation (brand) of the local government as a trusted source that is held closely accountable to its constituents.
- Identifying alternative sources of funding for programmatic efforts and methods for implementing those funding approaches, both through the private and the public sector, including advantages to be gained by aggregating the funding needs of multiple local governments (e.g., through jointly issued bonds).

Our proposed project meets the primary objectives for Information-Only and Statewide Marketing and Outreach Programs in the following ways:

### ***Ability to Overcome Market Failures***

For decades energy efficiency and conservation programs have struggled to access hard to reach mass-market, residential and small commercial, consumers. It has proven difficult to find a cost-effective means to reach into the homes and small businesses in communities through traditional utility program structures. This proposal seeks to augment those efforts by employing the untapped resources available in our communities.

IOUs have a very good record of working with local agencies to seek out energy efficiency opportunities. However, efforts to date have lacked consistency and coverage within given utility service territories, let alone across the state. Further, past "top-down" approaches were essentially limited to effecting energy efficiency improvements to city and county facilities. Efforts to-date have failed to tap the expertise and knowledge of the agencies concerning their communities and their ability to access all classes of their constituents. The proposed project will establish a formal and effective means for local agencies to contribute significantly and consistently to the state's energy efficiency initiatives.

### ***Equity***

Local governments are well positioned to influence energy behavior in the traditionally hard-to-reach sectors by incorporating energy efficiency requirements in local building codes, permitting processes, business licensing and standards for public housing. These and other program channels give local governmental agencies the capacity to access and influence in a meaningful way the underserved residential and small commercial target markets, as well as low-income and ESL. In addition to targeting the broad array of customer groups that form the constituency of local governments, the proposed program focuses on one additional difficult-to-reach customers segment – local governments, themselves.

Local governments can assist in identifying target low-income customers through local tax records, local political organizations, and local community groups, as well as through their general knowledge of their constituent base. They also generally have ongoing interactions with low-income citizens through programs they offer that are targeted to this population. Energy efficiency education and marketing can also be incorporated into interactions occurring with the hard-to-reach low-income population. For some local governments, it may be possible to utilize existing jobs and constituent services programs to help in targeting small businesses, low-income households and non-English-speaking customers.

In addition, local governments are very well positioned to influence energy behavior in the traditionally hard-to-reach residential sector by incorporating energy efficiency requirements in local building codes and real estate transactions, energy efficiency standards into procurement rules for energy-related equipment, and energy efficiency education and marketing into existing local government programs that target selected residential hard-to-reach customer segments (low-income, ESL, etc.). There is also typically a strong connection between local government and the hard-to-reach small business sector, through ongoing contacts with these businesses and interactions around permitting, licensing, chamber of commerce activities, and other non-energy-related interactions.

### ***Innovation***

A first of its kind, the proposed project will work to inventory the channels of public access and influence common to governmental agencies. Resulting energy efficiency and conservation program planning and implementation templates will be structured to fit naturally within agency existing functions, activities and competencies. Program initiatives will be tailored to align with agency staff and elected official responsibilities and objectives. The goal will be to link the energy efficiency industry, including utilities and private sector service providers, with markets previously outside their reach.

To promote creating financing of local government initiatives, NCI will use its extensive experience in public financing and the development and operation of energy services companies (ESCOs) to maximize the ability of local governments and consortia of local governments to fund selected energy efficiency programs. By reaching out to specific local governments and local government agencies such as the Local Government Commission, we will also work to publicize and customize existing financing resources available to local governments so that their use is easier, better targeted, and more timely.

Finally, it is widely believed that codifying energy efficiency improvements is both an important precursor to, and often the final step in, making certain energy efficiency improvements sustainable. This program will target the purchasing, building transfer, and other government policy structures that have potential to lead to continued energy savings by making the energy efficient practice the status quo. While this has already occurred in some areas in some jurisdictions, the proposed program will seek a comprehensive approach to identifying the potential areas for improvement and introducing modifications to those areas that are both feasible and practical from local government's point of view.

***Coordination with other Program Implementers***

NCI's energy retail services team has intimate knowledge of energy efficiency planning and implementation, as well as measurement and verification disciplines. Our mission is to build an effective bridge between governmental local agencies and traditional program implementers. The deliverable templates and processes are aimed at being used by agencies and useful to implementers. The proposed project empowers and equips local governments to become better conduits and achieve incremental growth in the State's baseline energy efficiency performance. NCI and the project team will meet with and solicit input from the entire California energy efficiency community, including all California's three electric IOUs and prominent private sector contractors, to ensure compatibility in objectives and programmatic approaches.

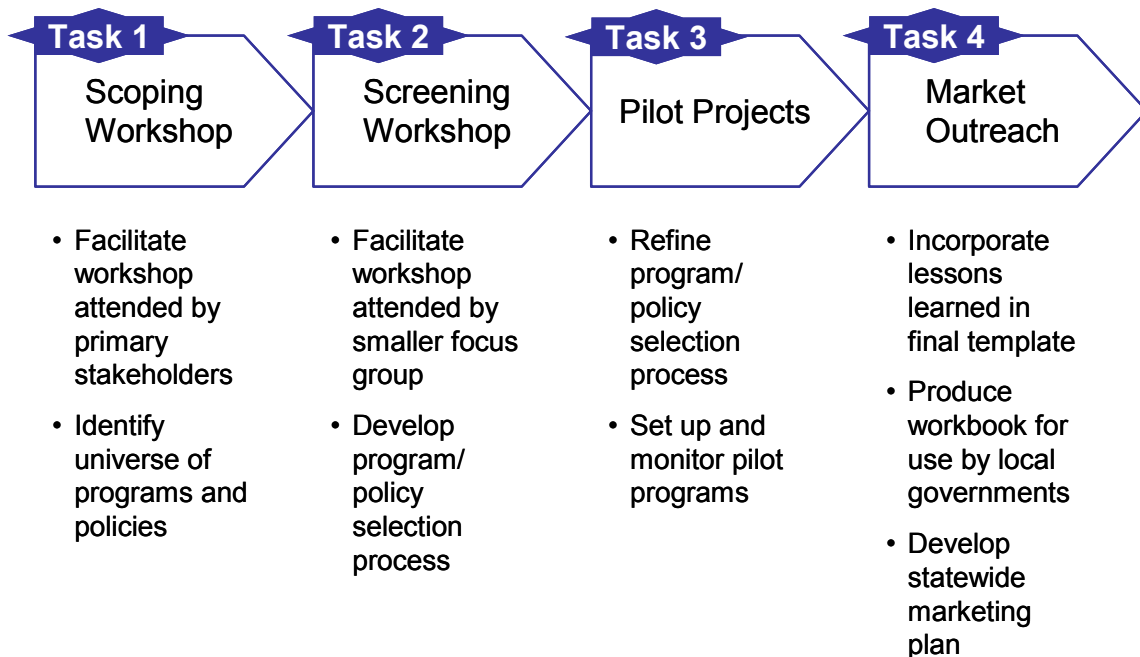


**Section II. Program Process**

**A. Program Implementation**

NCI will to develop the proposed template for establishing local government energy efficiency programs in an 18-month, 4-task process, starting with determining the scope of options and developing a screening process, then conducting pilot projects, incorporating lessons learned in a final workbook, and developing a statewide market outreach program to disseminate the results. The 4 tasks are depicted in Figure 1 and described in detail in the sections below:

**Figure 1: Program Implementation**



The proposed project is intended to enhance implementation of other energy efficiency programs by providing local governments with the tools they need to adopt such programs and to administer them effectively. In particular, in addition to their role in the program process, Tasks 1 and 2 are also intended to facilitate coordination among agencies that deliver energy efficiency programs, Task 3 is expected to demonstrate enhanced delivery of such programs through local

governments, and Task 4 will provide a mechanism for funneling programs through local governments statewide.

The proposed project will be similar to our current joint effort with the Local Government Commission (LGC) and the CEC to develop a template that local governments can use in implementing CCA and realizing aggressive renewable energy portfolio goals. For those local governments who may eventually adopt CCA, we intend our proposed project to provide a mechanism for collaborating with, and not competing with, their IOUs in setting up complementary energy efficiency programs to provide their constituents with even greater savings.

#### *Task 1: Scoping Workshop*

Working in consultation a broad group of stakeholders, we will identify the universe of energy efficiency programs and policies available to local California governments, the associated mechanisms for implementing those programs/policies, and ways to overcome barriers. To facilitate communication with and among the key stakeholders, we propose to hold a “scoping” workshop to confirm and to expand our understanding of available programs/policies and to discuss issues associated with their implementation by local governments. Likely participants will include:

- Local Government Commission (LGC)
- League of California Cities (LCC)
- California State Association of Counties (CSAC)
- California Public Utilities Commission (CPUC)
- California Energy Commission (CEC)
- Independently Owned Utilities (IOU)
- U. S. Department of Energy (DOE)
- Local energy offices
- Representative local government agencies

We will also seek input from cities that already have robust community energy efficiency programs (e.g., Berkeley) to get the benefit of their input as to “lessons learned.” Approximately 50 participants would be expected to attend. The workshop would be preceded by an evening reception. There would be a plenary

session the following morning, 4 break-out group meetings over lunch and into early afternoon, and a final plenary session the last few hours of the day.

Preparatory to the workshop, NCI will compile a comprehensive database of energy efficiency programs and policies available to local governments, based on publicly available sources. An indication of the types of programs and policies that will be covered is given in Figure 2 below. The database will be circulated among workshop participants prior to the event. Relying on our extensive experience with energy technology road mapping for DOE and strategic energy planning for the U. S. Navy, we will also prepare other materials to guide and to stimulate active participation.

**Figure 2: Example Local Government Programs and Policies**

	Programs	Policies
Government Facilities	<ul style="list-style-type: none"> <li>• IOU and Third-Party DSM</li> <li>• U. S. Department of Energy Rebuild America Program</li> <li>• Energy Savings Performance Contracts</li> <li>• In-house design/build</li> </ul>	<ul style="list-style-type: none"> <li>• Procurement standards               <ul style="list-style-type: none"> <li>- Appliance efficiency</li> <li>- Building materials</li> </ul> </li> <li>• Design standards</li> <li>• Building operation and maintenance procedures</li> </ul>
Constituent Facilities	<ul style="list-style-type: none"> <li>• IOU and Third-Party DSM</li> <li>• U. S. Department of Energy Rebuild America Program</li> <li>• Bulk purchase (appliances and materials)</li> <li>• Project finance</li> </ul>	<ul style="list-style-type: none"> <li>• Energy efficiency Building codes</li> <li>• Property transfer requirements</li> <li>• Special zoning</li> <li>• Tax programs</li> </ul>

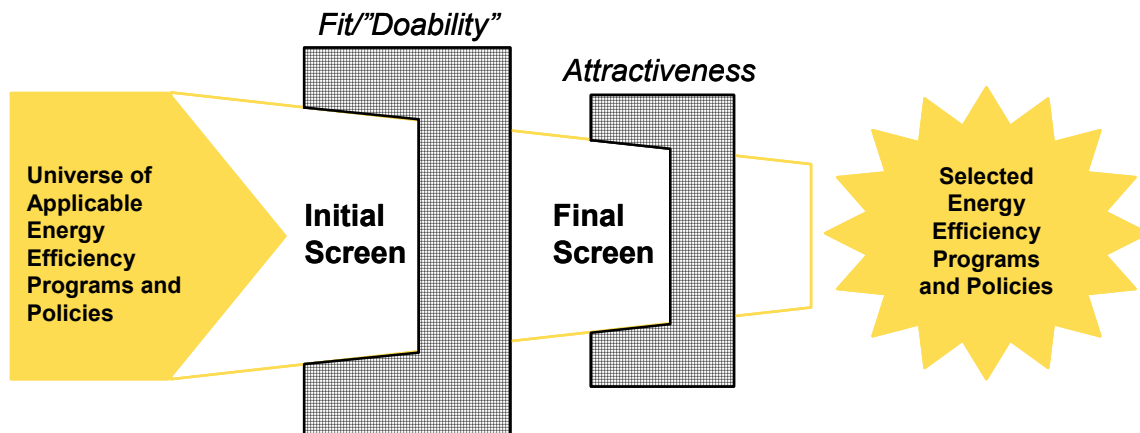
After the workshop, we will incorporate additions, changes, and new insights in the database, and post the modified results on our Internet site. Our intention is to maintain the database at least for the duration of the project. We will also consider making it available for use in other venues as approved by the CPUC.

### *Task 2: Screening Workshop*

Working with a smaller group of stakeholders as a steering committee, we will hold a second workshop to develop a process for screening available programs and policies to select those most attractive and “doable” for a particular local jurisdiction. We will also invite the participants to identify potential candidates for the three pilot projects and to assist in determining the process for final selection.

Prior to the screening workshop, NCI staff will develop a tentative screening process, as depicted in Figure 3, identifying potential metrics to winnow potential options down on the basis of fit (e.g., extent of appliance purchase program), “doability” (e.g., likely political response), and attractiveness (e.g., savings impact per expenditure). Workshop participants will help with refining the program/policy screening tool and will also discuss approaches to overcoming barriers.

**Figure 3: Energy Efficiency Program and Policy Screening Process**



After the workshop, NCI will prepare a draft Prototype Community Energy Efficiency Program workbook that will be used to guide selection and implementation of programs and policies under the three proposed pilot projects. We will also identify candidate local jurisdictions for the pilots, conduct interviews and select three participants

### *Task 3: Pilot Projects*

To test the effectiveness of the prototype and to gain further insights, we propose to conduct yearlong pilot projects in three diverse local jurisdictions, assisting the local government entity with selection and implementation of energy efficiency programs

and policies and studying the results. NCI will assign a senior engagement manager to work side-by-side with local governments and also provide access to a broad range of internal professional expertise. To start each project, NCI's dedicated liaison will meet with meet with local officials and other community leaders and engage them in various strategic energy planning exercises. Together, they will use the Task 1 database and Task 2 screening tool to choose an appropriate portfolio of programs and policies.

After adopting a suitable energy efficiency plan, our liaison will help town administrators roll out the selected programs and policies. Examples or programs that might be implemented include:

- Incorporating advanced EE features in local building code and training inspectors
- Adopting appliance efficiency procurement standards for public housing and other facilities
- Training purchasing officers to consider life-cycle costs in making procurement decisions
- Inviting Energy Savings Performance Contract (ESPC) proposals for all public buildings and possibly local industry
- Creating a revolving residential energy efficiency project loan fund

To help defray local costs, we propose that set aside up to \$75,000 per pilot jurisdiction to pay for specialty services, such as energy audits, legal review, staff training and certification, and associated administrative costs for one year. Use of these funds would require a 50 percent match from the local government, in kind or in cash. Funding will require prior approval from the CPUC and would be paid directly to the local government agency.

#### *Task 4: Market Outreach*

As the pilot projects unfold, NCI will begin to incorporate lessons learned into the Prototype Community Energy Efficiency Program workbook and to develop a comprehensive plan for marketing the template to local governmental jurisdictions throughout the state. NCI will perform outreach to local governmental entities principally in conjunction with industry associations and state and federal energy agencies. For example:

- NCI has a very close working relationship with both the CEC and the DOE. We have in the past, and are now, conducting a wide variety of sustainability studies

for both of these entities. Through this work, we know that both CEC and DOE have extensive databases that identify and qualify energy efficiency opportunities in various sectors. We intend to work closely with CEC and DOE throughout this project, including during the critical market outreach phase of this project in which we seek to widely disseminate information about the universe of options available, potential implementation barriers and hurdles, and lessons learned as to key elements of effective program design which best assure successful implementation.

- In addition, we would access other types of local governmental entities through their respective industry associations. For example, California water agencies are presently facing the prospect of significant increases in energy consumption, and, therefore, costs, as new rules and power-hungry technologies for treatment and disinfection of potable water are implemented. In order to assure that their power costs are kept as low as possible, these water agencies will need to implement aggressive energy efficiency measures, both in retrofits of existing systems and facilities, and in new facilities design. The Association of California Water Agencies (ACWA) is a natural vehicle to reach all of these agencies.
- Other special purpose agencies and special districts that could benefit from the information developed during this project will be identified and contacted separately or through state agencies responsible for their oversight.

Principal vehicles for conveying information will include the following:

- Prototype Community Energy Efficiency Program Workbook (Workbook) will be provided in electronic (pdf) form to all target entities and anyone who requests it.
- NCI will conduct 3 workshops in each of the IOUs' service territories, staggered over a 3-month period to allow for resolution of schedule conflicts, to present the findings of this process. Printed copies of the Workbook will be provided to all workshop attendees. It is our hope that staff from both CEC and DOE will participate in these workshops.
- NCI will establish a website at which a master copy of the Workbook will reside. It may be accessible through NCI's own website, another organization's website (e.g., Local Government Commission), or an entirely separate site. The Master Workbook (e.g., updates to the Workbook, databases supporting the Workbook, Workshop program materials, etc.) will be maintained at this designated site. In addition, this site will provide links to other authoritative sites maintained by the CEC, DOE, the three IOUs, and other energy agencies and sustainability organizations. In particular, links will be established to programs that provide technical support and/or funding to local governmental entities and/or their constituents.

- NCI will request each of the targeted membership, energy agency and other organizations participating in the outreach process to establish a link to the Master Workbook site on their own website.
- NCI will assist each of the targeted organizations in emailing invitations to their members to attend workshops. In addition, NCI will develop an email notice advising all members of these organizations how to obtain copies of the Workbook (e.g., a list of websites and a number to call for more information).
- NCI will offer an unlimited number of Webcasts to walk through the findings and content of the Workbook, and to provide support to any entity that requests assistance in applying the template in the Workbook to their own specific needs. Webcasts will be priced to recover NCI's costs, and the costs will be shared by Webcast participants. Therefore, no funding is being requested for this portion of the outreach.

#### **B. Marketing Plan**

Not applicable.

#### **C. Customer Enrollment**

The “Customer” for this initiative will be the cities, towns, counties, and other local government entities (e.g., water agencies and special districts) who or whose constituents take electric service from an IOU. More detailed descriptions of Customer characteristics and selection criteria are given in Section III. As part of Task 2, NCI will identify a short list of candidates for participation in the three pilot projects in consultation with LGC, LCC, CSAC, CPUC and the other participants in the screening workshop. The customer eligibility criteria described under Section III. B. will be used to create a weighted ranking methodology that will be applied to select the specific pilots.

#### **D. Materials**

Not applicable.

#### **E. Payment of Incentives**

Not applicable

#### **F. Staff and Subcontractor Responsibilities**

NCI will serve as prime and sole contractor for this project, other than the EM&V contractors recommended in Section VI. The key positions and responsibilities of key staff are depicted in the organization chart provided as Figure 4. Below we have listed the major positions and their responsibilities. The expected percentage of time projected to be dedicated to the project for each individual is provided in the

program implementation workbook, sheet “8 – Labor”, in accordance with the proposal instructions. Descriptions of the relevant qualifications of each of the key staff members listed below are provided in Section VII Qualifications.

- **Director-in-Charge & Stakeholder Processes** – Rob Shelton will have overall responsibility for project oversight, quality assurance and controls. He will also have lead responsibility for facilitating the stakeholder processes during initial and subsequent phases in which needs and issues are being identified, qualified, ranked and resolved.
- **Program Manager** – Tom Crooks will serve as overall Program Manager. In this capacity, he will be responsible for managing all aspects of the project during the initial fact-finding, pilot development and implementation, and subsequent phases.

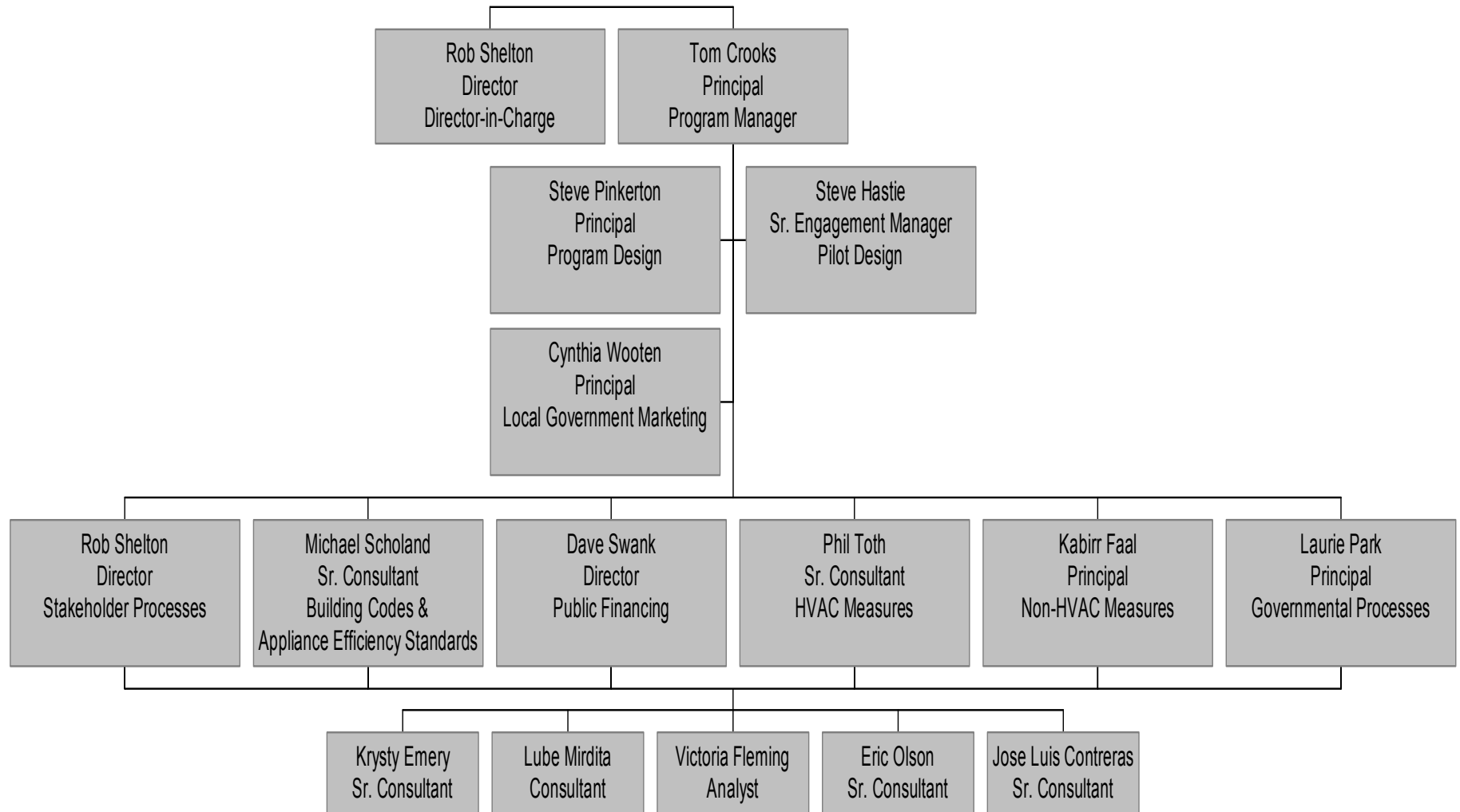
Other key staff will hold both lead and team roles. Each of the individuals listed below will fulfill lead responsibilities for the particular areas described, but will also support other team members in various aspects of the project.

- **Local Government Marketing** – Cynthia Wooten will have primary responsibility for marketing this program to California local governments and assuring that a diverse and representative sampling of local governments’ needs and requirements is attained.
- **Program Design** – Steve Pinkerton will have lead responsibility for overall program design. In this capacity, he will co-manage aspects of the project with the designated Program Manager, Tom Crooks.
- **Pilot Design** – Steve Hastie will have lead responsibility for designing the various pilot projects with the selected local governments.
- **Building Codes & Appliance Efficiency Standards** – Michael Scholand will serve as lead technical expert on building codes and appliance efficiency standards.
- **HVAC Measures** – Phil Toth will serve as lead technical expert on HVAC technologies, measures and programs.
- **Non-HVAC Measures** – Kabirr Faal will serve as lead technical expert on non-HVAC technologies, measures and programs.
- **Governmental Processes** – Laurie Park will provide assistance in evaluating existing local government rules and regulations and helping identify potential workarounds to cumbersome governmental processes which may inhibit the success of proposed programs.



- **Public Financing** – Dave Swank will provide advisory services in the areas of public and project financing, rates and long-term financial planning. He will also assist local governments selected for pilot programs in determining best fits of various financial structures within their debt capacity and risk tolerance.

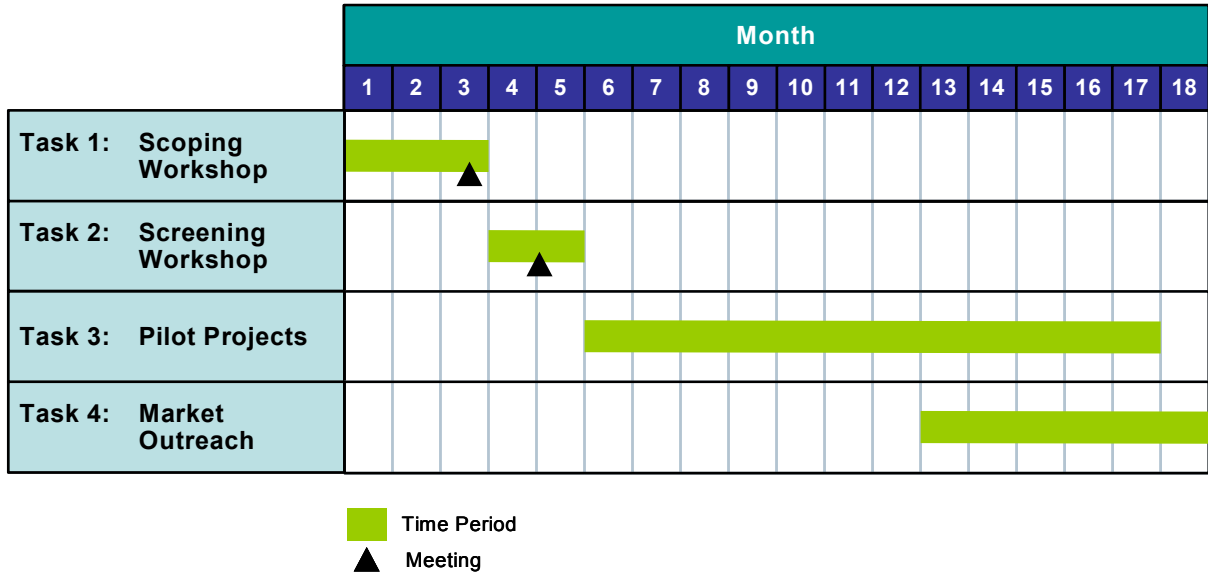
**Figure 4: Project Organization**



### G. Work Plan and Timeline for Program Implementation

As depicted in Figure 5, NCI proposes to hold the Task 1 Scoping Workshop within the first 3 months of contract execution, although this will be somewhat dependent on timing around major holidays. The Task 2 Screening Workshop and selection of pilot project communities will be completed over the following 2 months. We hope to launch the three Task 3 Pilot Projects five months after contract execution and conclude our work with the pilot communities 12 months later. Work on the Task 4 Market Outreach program will begin midway through the pilot projects and continue through the conclusion of the project, 18 months after contract execution.

**Figure 5: Project Schedule**



## Section III. Customer Description

### A. Customer Description

The primary “customers” for this initiative will be the cities, towns, counties, and other local government aggregates whose constituents take electric service from an IOU or who are acting as or considering becoming Community Choice Aggregators within IOU territory. The secondary customers will be their electricity consuming constituents, and particularly traditionally hard-to-reach residential and small commercial customers.

### B. Customer Eligibility

Task 2 of the proposed project will include development of a participant selection process, followed by interviews with interested agencies and then selection. Prospective agencies and their constituents must take electric service from an IOU. The project focus will be to locate at least one community within the service territory of each of California's three electric IOUs. Where possible the team will select participant communities with diverse climatic (costal, inland valley, desert. mountain), economic (urban commercial/industrial, rural agricultural, suburban residential, etc.) and demographic characteristics. Given these objectives, the goal will be to create templates used and useful to the broadest population of California's communities. The project team will work in concert with the CPUC and IOU staff to ensure the goals and objectives of each are included to ensure a successful pilot program.

As a further matter of eligibility, pilot jurisdictions desiring access to funding from the proposed administrative funding pool must provide a 50 percent in-kind or in cash match.

### C. Customer Complaint Resolution

Not applicable.

### D. Geographic Area

This program will give preference to opportunities that have the potential to increase electric reliability, alleviate transmission congestion and/or displace need for costly infrastructure upgrades (transmission, distribution &/or generation) through demand and energy reduction. In this context, the below documents and

others will be relied upon to determine California "hot spots" and geographical preference for this program:

1. California ISO letter to California Power Authority dated Jan. 2, 2003 identifying "reliability challenged" areas that would most benefit from additional peaking capacity.
2. 2003 California ISO Controlled Grid Study (in process; report expected spring 2004).
3. CEC Report 100-03-011 Upgrading California's Electric Transmission System: Issues and Actions, Aug 2003.
4. CEC Report 100-03-007F Electricity Infrastructure Assessment May 2003.
5. Results of CPUC proceedings I.00-11-001 Order Instituting Investigation into Implementation of Assembly Bill 970 Regarding the Identification of Electric Transmission and Distribution Constraints, Actions to Resolve Those Constraints, and Related Matters Affecting the Reliability of Electric Supply
6. Other authoritative and credible reports and analyses that may become available during the course of this program.

Currently available studies indicate that such opportunities exist in each of the electric IOUs service territories.

## Section IV. Measure and Activity Descriptions

### **A. Energy Savings Assumptions**

Not applicable.

### **B. Deviations in Standard Cost-effectiveness Values**

Not applicable.

### **C. Rebate Amounts**

Not applicable.

### **D. Activities Descriptions**

Measures and activities will be defined as a component of the proposed deliverables. After detailed evaluation of local governmental agencies and assessment of their potential energy efficiency delivery channels, the study team will document the approach, applicable measures, savings potential, projected energy savings and demand reductions, as well as planned measure persistence. These measures and activities will be mapped to existing programs to expand program participation or to recommend the planning and implementation of new measure specific programs as warranted.

## Section V. Goals

The ultimate purpose of the proposed project is to develop a comprehensive educational program that will help local governments more effectively learn about, choose among, overcome barriers to, and implement energy efficiency programs and policies. Success will be measured in our ability to produce a programmatic approach to stimulating local government activity can be replicated in many different jurisdictions. A significant intermediate performance goal will be to establish three pilot projects that will deliver significant energy savings through the establishment of energy efficiency programs and policies. We will not know the extent of the prospective savings until we launch the pilot projects, and the actual, measurable impacts are not likely to be known until well after the project is complete.

## Section VI. Program Evaluation, Measurement and Verification (EM&V)

NCI recognizes that evaluation of the success of our proposed program should be aligned with the project's two main goals — developing an energy efficiency program education and implementation prototype, and launching energy efficiency programs and policies in three pilot jurisdictions. As such, we propose to engage two different independent contractors to handle EM&V activities, and our budget includes allocations of \$30,000 and \$70,000 for EM&V of Outreach, Stakeholder and Pilot Design Processes and EM&V of Pilot Project Savings, respectively.

### ***Evaluation Objectives***

The overall objectives of the EM&V process for this program are:

- To gain independent and objective input from one or more peers to maintain a fresh and open perspective in the design and implementation of both the stakeholder process and the pilot projects.
- To provide the opportunity for interim assessments at key points in the program to allow for mid-course adjustments if warranted.
- To provide assurance to the CPUC and the IOUs that the findings and conclusions reached by the focus and pilot groups reflect the opinions of the program participants (i.e., the local governments), and not those of the consultant.
- To assure that the pilot projects are capable of producing meaningful and useful results.

### ***Evaluation Approach***

We expect that the approach to evaluation will be very different for the two basic project goals. Specifically, the EM&V of Outreach, Stakeholder and Pilot Design processes will be very qualitative in nature. EM&V of Pilot Project Savings will be more quantitative and will require a contractor conversant in all key aspects of energy efficiency program design, including policy, law (e.g., building codes), new construction and retrofit techniques, the state of the technology for various types of equipment (e.g., lighting, HVAC, electronic controls systems, etc).



### *Outreach, Stakeholder and Pilot Design Processes*

To assess the effectiveness of our initial outreach efforts, we would expect the EM&V contractor to identify salient characteristics of the various local governments participating in the stakeholder processes and focus groups compared with the criteria for selection. The objective will be to ensure participation by a sampling of local governments that represents the diversity of local energy requirements and characteristics in order to assure a comprehensive understanding of the full range of issues and concerns that should be considered in pilot project design.

We will welcome EM&V contractor participation in the workshops themselves to provide an independent opinion as to the comprehensiveness of the discussions, and the objectivity of our facilitation of the discussions. The EM&V contractor should provide a memorandum to the CPUC and the IOUs that describe the focus group make-up and discussions, and express an opinion as to the objectivity (and therefore, validity) of the findings and conclusions produced that will dictate pilot project design. We also expect the EM&V contractor to provide independent review of our pilot project design to assure that the target communities' interests are given proper consideration and treatment before moving to implementation.

Finally, the ultimate purpose of the proposed project is to develop an educational program that will help local governments more effectively learn about, choose among, overcome barriers to, and implement energy efficiency programs and policies. To measure our effectiveness in this area, we expect that the EM&V contractor will establish a baseline of existing energy efficiency programs and projects from which progress will be measured. The effectiveness of the pilot projects will be based upon the pilot communities' success in selecting among and implementing new programs and policies.

### *Pilot Project Savings*

The scope of the pilot projects that will be developed and implemented as part of the pilot project implementation process cannot be determined at this time. They may range from changes to local laws, regulations, policies and/or procedures (e.g., adoption of operational measures in municipal facilities, revisions to building codes, specification of certain types of lighting and/or HVAC in municipal facilities, etc.), to programs that target specific sectors or facilities, and/or maximizing available grants, subsidies and other sources of funding within the constraints of the local government's assets, resources, authority and risk tolerance. Ideally, the selected pilots will be comprehensive in scope and seek to develop an optimized program for

the selected local governments that maximize the energy savings potential through all practicable means.

Prior to pilot project implementation the EM&V contractor will document the local government's "baseline" profile of existing energy efficiency programs and measures, both for itself and for its targeted constituents. This will require qualitative and quantitative assessment of the potential magnitude of incremental energy savings attributable to specific elements of the pilot project, with a discussion as to which elements seem likely to have the most significant success/impact, and why. Conversely, elements that appear to have least likelihood of significant success/impact will have to be identified, as well. The EM&V contractor's observations will be considered in the final pilot project design so that corrections can be made prior to implementation, if deemed warranted.

EM&V of pilot project savings will require knowledge of impacts of a broad range of market transformation activities, understanding of ESPC contracts, appreciation for the potential effects of building codes, etc. NCI expects to be working with local officials to engage energy services and DSM project contractors who will be providing savings estimates. NCI will be reviewing those estimates but will also rely on the EM&V contractor(s) to confirm projected costs and benefits.

On completion of pilot projects, the EM&V contractor will provide independent verification as to which elements of the program were implemented successfully, which were not, and why. The assessment of the EM&V contractor will provide input to Task 4, production of a Prototype Community Energy Efficiency Workbook that will convey the lessons learned from these pilots and recommend successful strategies for effective energy efficiency program design and implementation.

#### ***Long Term Success Measures***

Ultimately, the success of the proposed project will be measured on the basis of the following major factors:

- The comprehensiveness of available programs identified for local governments.
- The increased awareness of California local governments about these options.
- The number of local governments that implement energy efficiency programs on the basis of the prototype and marketing outreach.

### **Potential EM&V Contractors**

We propose two candidate contractors to perform EM&V: Brown Vence & Associates and Ridge & Associates. Their qualifications to perform this type of work are described briefly below.

**Brown Vence & Associates (BVA)** has extensive experience evaluating the success of energy management projects and programs. This includes developing measurement and verification (M&V) plans, collecting and evaluating data, providing savings estimates, and identifying measures to improve project performance. Following are descriptions of 3 recent projects.

- Post-Installation Evaluation of Kern County Administrative Facilities on behalf of the California Energy Commission (CEC). BVA performed a study for the CEC to evaluate the success of a large energy-efficiency retrofit project that was implemented based on a previous BVA energy audit. The scope encompassed six Kern County public buildings with a total size of more than 800,000 square feet. BVA verified that equipment had been installed according to our initial recommendations and compared utility usage data pre- and post-retrofit. We interviewed the county project managers and installation contractors to determine what aspects of the CEC's assistance program could be improved. For buildings in which energy savings were less than anticipated, we identified possible reasons for the discrepancy, including in one case, incomplete commissioning of the new energy management system. Overall, we were able to report that the county was obtaining savings of 30 percent in the first year.
- Measurement and Verification Plan for Moscone Center for the City and County of San Francisco (CCSF). CCSF is implementing an energy efficiency and renewable energy pilot project at Moscone Center that is estimated to save 2 million kWh per year. BVA is working with CCSF to reach agreement on an M&V plan for verifying savings related to a performance contracting project at Moscone Center. The project encompasses energy efficiency retrofits and a rooftop solar photovoltaic system. As part of the plan development, BVA is helping to identify lighting circuits to be monitored and to develop a protocol for using the energy management system to collect data for baseline modifications.
- Measurement and Evaluation of the California Public Utilities Commission's (CPUC) Self Generation Incentive Program. In support of renewable energy resources such as solar, photovoltaic, wind, and biogas, the CPUC provided financial incentives to utility customers to install and utilize renewable energy conversion technologies. As part of the program, BVA was hired to provide monitoring and verification of the installed system. On behalf of the CPUC and as a subcontractor to RER, BVA is providing monitoring and verification services for 146 renewable energy conversion projects in California over a two-year

period. BVA's scope includes developing M&V program protocol, conducting site visits, ordering and installing M&V equipment, and gathering and evaluating data such as electrical and manual output over an extended period of time. We will prepare interim and final reports and recommendations.

**Ridge & Associates** has more than 20 years of experience conducting a wide variety of social science research. Dr. Richard Ridge has evaluated a wide variety of residential, nonresidential, and agricultural energy efficiency and conservation programs. His evaluations have always withstood the scrutiny of the CPUC allowing clients to justify their energy savings claims.

In 1992, Dr. Ridge represented Edison in developing the *Procedures for the Verification of Costs, Benefits, and Shareholder Earnings from Demand-Side Management (DSM) Programs* that set forth guidelines for evaluating DSM programs. During 1993, he also chaired the Statistical and Engineering Modeling Subcommittee that reported to the California Demand-Side Management Measurement Advisory Committee (CADMAC). After founding Ridge & Associates in 1993, he led the team of experts that developed an *Evaluation of Statistical and Engineering Models for Estimating Gross Energy Impacts* and the *Quality Assurance Guidelines for Statistical and Engineering Models*, both of which were published by the Association of Energy Services Professionals.

In 1998, he served as a co-manager of the study, *California Energy Efficiency Policy and Program Priorities* that was conducted for the California Board for Energy Efficiency. This study reviewed more than 200 programs and 60 programs in depth. Dr. Ridge, while an independent consultant, managed this research effort on behalf of Southern California Edison. In 2001, he conducted a meta-analysis of over 190 DSM evaluations conducted in California by the four investor-owned utilities from 1993 through 1998. The main focus of this effort was to explore historical trends in net-to-gross ratios and to examine any systematic bias in estimates of net-to-gross ratios associated with the various methods.

He has continued to focus on process and impact evaluations of large-scale residential and non-residential DSM programs and to provide consulting support to such clients as Southern California Edison, the Pacific Gas & Electric Company, the California Measurement Advisory Committee (CALMAC), San Diego Gas and Electric, the Southern California Gas Company, Kauai Electric, the Oregon Energy Trust, the Korea Energy Economics Institute, the New York State Energy Research and Development Authority, and the University of California.

## Section VII. Qualifications

### A. Primary Implementer

Navigant Consulting is a leading North American management consulting firm providing strategic, management, financial, engineering, information management, policy, and economic consulting services. NCI has extensive experience in California energy policy, regulation, markets and programs. Presently, we are managing complex “visioning” and stakeholder processes for several research and development programs managed by the California Energy Commission’s Public Interest Energy Research (PIER) division, and for the Local Government Commission’s exploration of the feasibility of Community Choice Aggregation (CCA) for cities and counties throughout California.

#### **California Experience**

NCI staff have played a key role in developing and implementing California energy efficiency and demand side management policy and programs for over 20 years. For example:

- During the recent California power crisis, NCI assisted the state's energy policymakers in developing and implementing innovative energy efficiency and demand side programs to mitigate risks of power outages due to shortages in energy supplies, as well as to reduce the adverse economic impacts of extraordinarily high prices in the energy spot market.
- Currently, in California, NCI continues to provide assistance to the state's energy policymakers [the Governor's Office, the California Energy Resource Scheduling (CERS) division of the state Department of Water Resources, the California Energy Commission (CEC) and the California Power Authority (CPA)] as part of the process of rebuilding the California energy industry and markets. In addition, NCI is assisting many cities and counties throughout the state in evaluating options for attaining energy self-sufficiency – and energy efficiency and demand side management are integral components of those options.
- In addition, the NCI team’s perspective includes analysis of long-term trends and uncertainties. For example, in the early 1980s, NCI assisted the State of California’s Department of General Services in developing its first-ever "Statewide Blueprint" identifying energy efficiency and renewable energy potential on state-owned lands and in state buildings. Members of the NCI team

have also assisted the federal government, especially the Department of Energy and the Department of Defense, in addressing similar energy issues.

- Presently, we are assisting CEC's Public Interest Energy Research (PIER) division in designing research and development programs for advancement of technology, tools and techniques for substantially improving energy efficiency in buildings.

### ***Strategic Energy Planning***

Of particular relevance to the project at hand, NCI staff have been working with the U.S. Navy for the past eight years to craft fleet-wide and base-specific strategic energy plans or "Energy Visions" for all major Naval installations on the Atlantic Coast. The aim of the Energy Vision program is to minimize energy costs and to prepare the Navy for future developments in regulation, energy use, and technology through the year 2020. The project began with a visioning exercise for Naval Base (NAVBASE) Norfolk that ultimately positioned the Base as the standard of effectiveness in energy management for the entire Atlantic Fleet. The Norfolk project produced five guiding principles of world-class energy management that have been and will continue to be applied to Naval installations around the world. One hallmark of the individual Navy Energy Visions has been the development of a long-term approach to energy procurement for each Base, including resolving issues such as the appropriate level of load aggregation, setting guidelines for seeking bids on energy efficiency projects and procurement contracts, and developing an information infrastructure that will allow informed decision-making in the future.

The Energy Vision process undertaken for the U.S. Navy is similar in nature to the one contemplated in this proposal. Specifically, we intend to convene a stakeholder process in which we poll the various local governments as to their resources and assets, their policies and goals, and their constraints and hurdles. We will then put all of these factors into the mix as we assist several local governments in leveraging their resources and assets in the design of comprehensive programs tailored to local needs and requirements to optimize energy savings for themselves and their constituents.

In addition to our extensive California and "energy visioning" experience, we have extensive involvement in several other key areas that are of relevance to the proposed project.

- Energy Efficiency Impact Evaluations. NCI staff have completed more than 70 energy efficiency impact analyses, including some that have been used to

support shareholder incentives and cost recovery in the states of California, Massachusetts, Indiana, Wisconsin, Georgia, and North Carolina.

- Customer Satisfaction Research. NCI, in a joint venture with JD Power Associates, developed the annual JD Power Utility Satisfaction study, including the first two residential surveys, the first C&I survey, and the UK satisfaction study. In addition, NCI has completed numerous other satisfaction surveys supporting utility marketing, energy efficiency, and customer service initiatives.
- Energy Efficiency Market Assessments. NCI is the leader in developing market assessments for end-use energy technologies. Our clients include utilities, manufacturers of end-use equipment, R&D institutions, venture capital firms, and government agencies (e.g. DOE, CEC, and NYSERDA). As such, we have extensive data and establish approaches that allow us to efficiently address the critical issues. NCI staff have completed more than 20 energy efficiency potential studies and more than 50 market evaluations of DSM programs. Currently, NCI staff is completing market assessments for high efficiency lighting and HVAC technologies for the U.S. Department of Energy (DOE).

### ***Featured Client Experience***

A sampling of energy efficiency program assistance provided to four clients: DOE, the State of California, Orange & Rockland Utilities, Inc. (O&R), and the Long Island Power Authority (LIPA) is provided below. These descriptions are followed by a listing of NCI clients for whom we have performed work in the areas of energy efficiency, demand side management and market assessments.

#### *U.S. Department of Energy (DOE)*

- Development of the FEMP Super-ESPC Program. NCI assisted DOE's Federal Energy Management Program (FEMP) in planning the rollout of its Super-ESPC (Energy Savings Performance Contracts) Program, which is now considered the primary means for achieving the Federal government's long-range energy reduction goals:
  - Reviewed data and assumptions used to estimate program goals and resource requirements.
  - Reviewed target markets, assumptions about ESPC project size and energy savings impacts, Super-ESPC market share, and assumptions about Federal energy use.
  - Identified ways to enhance implementation of energy efficiency measures at facilities exempted from Federal energy savings targets but offering significant energy reduction potential.

- Recommended modifications to original assumptions and approaches to improved data capture for future planning efforts.

A Presidential Executive Order, issued in June 1999, contained many of our recommendations and validated our findings. We later assisted in implementing the federal Super-ESPC program through development of marketing materials and also provided advice in making mid-course corrections.

- Residential Equipment Efficiency Standards. NCI has assisted DOE for the past five years in developing minimum efficiency standards for the residential central air-conditioning equipment rulemaking and residential furnace and boiler rulemaking. NCI provided both engineering and market analysis of the equipment that serves as the basis for the rulemaking. Further, DOE has relied on NCI to support the national laboratories (Lawrence Berkley and Pacific Northwest) in performing economic analyses. NCI also assessed the impact the minimum standards would have on manufacturers of such equipment.
- Commercial Air-Conditioning (AC) Equipment Efficiency Standards. NCI supported the DOE's commercial AC rulemaking effort to establish minimum efficiency standards for packaged unitary air-conditioning and heat pump equipment. NCI performed the engineering analysis that established the relationship between efficiency improvements and equipment costs. NCI completed product tear-downs (reverse-engineering), cost modeling, technology assessment, and system modeling. In addition, NCI supported the commercial building load simulation analysis and economic analysis being performed by the national laboratories and completed the manufacturer's impact assessment for the rulemaking.

#### *State of California*

- 20/20 Program Development, Monitoring and Evaluation. NCI assisted the Governor's Office in design, development and implementation of the 20/20 conservation program intended to help mitigate the risk of power outages.
- Demand Reserves Program. NCI assisted the California Department of Water Resources (CDWR) in negotiating a contract with the California Power Authority to purchase up to 500 MW of demand responsive load for peaking power needs and ancillary services. NCI also assisted CDWR in developing the measurement and verification protocols used to determine energy and capacity payments under this contract.
- Conservation Program Gap Analysis. NCI assisted the California Power Authority (CPA) in reviewing the wide range of conservation programs in California, their participation and end-use efficiency impacts. As part of this effort, NCI interviewed many diverse stakeholders to gain their perspective



regarding gaps in current programs. The results of this process provided a basis for determining priorities for energy efficiency financing by the CPA.

- Energy Conservation Program Impact Evaluation and Forecasts. NCI was charged with developing hourly short- and long-term forecasts of the net electricity requirements that CDWR would have to meet. A critical element of this effort was the effect of the \$250 million on-going conservation programs, plus the more than \$500 million of emergency conservation programs that the State funded in 2000 and 2001. NCI analyzed historical results (net impacts) from DSM programs in California to develop a forecast of expected program results for energy efficiency programs. NCI accurately forecasted the actual, unprecedented 7% decrease in electricity sales that occurred in 2001.

*Orange & Rockland Utilities, Inc. (O&R)*

NCI has provided energy efficiency program evaluation services to O&R for the past twelve years. At various times over this period, O&R has engaged NCI to measure the performance of its residential, commercial and industrial DSM programs. In a seven-year study that ended in 2002, NCI performed conservation savings persistence research in support of a DSM bidding program that installed compact fluorescent lamps in the homes of 7,000 residential customers. This study was the longest-running persistence measurement thus far in the U.S. Other assistance to O&R included:

- Program Impact, Process and Market Evaluations. Using an array of research techniques that included engineering estimates of program impacts, market transformation analysis, billing analysis, calibrated engineering analysis, free riders estimation, and primary market research, NCI successfully secured New York Public Service Commission (NYPSC) approval of O&R's evaluation results. NCI also completed benefit-cost analysis of the programs and provided recommendations for program changes based on the evaluation results. NCI also provided training of O&R staff.
- Performance Tracking System. NCI developed an innovative performance tracking system for O&R, called Performance Indicators. This system functions like a scorecard wherein key performance indicators (KPI's) are defined for each program, reported and analyzed on a quarterly basis. The KPI's included (1) internal operational measures (such as application cycle times and error flagging), (2) customer indicators (such as customer satisfaction with key program attributes), and (3) key installation data used in estimating/validating gross energy savings. This management approach encouraged the principles of early warning and continuous improvement in O&R's management of its DSM program portfolio.

- Program Evaluations. NCI evaluated the following programs for O&R:
  - Residential Room Air Conditioner Rebate
  - Residential Central Air Conditioner Rebate
  - Residential Water Heating Direct Install
  - Residential Lighting
  - Commercial Lighting
  - Commercial Air Conditioning
  - Commercial Water Heating
  - Interruptible Load Program
- DSM Tracking System. NCI designed and installed O&R's DSM tracking system. Prior to installing the system, each program manager kept his or her own files, in disparate formats. The tracking system, using Oracle, was designed to generate all application, inspection, and payment forms and processes so that data only needed to be entered once. The system also warehoused billing data for the program participants to facilitate billing analysis. The algorithms for estimating both gross and net impacts were built into the system (in tables that could be easily updated as changes occur) so that the system reports included program impacts as well as number of installations, and costs.

*Long Island Power Authority (LIPA)*

Since 1998, NCI has been assisting LIPA in its Clean Energy Initiative public benefits programs and its environmental program. This has included policy assistance, design of methods, implementation assistance, evaluation assistance, and reporting to LIPA management and the LIPA Board of Trustees. Following is a brief description of some of these programs.

- Evaluation of Energy Efficiency Programs. NCI staff trained LIPA evaluation staff in market transformation program theory and in evaluation strategies. We directed the efforts of subcontractors charged with designing programs to ensure that market transformation theory and evaluation needs were firmly embedded into program designs. We have also played a key role in evaluating Clean Energy programs, including specification of RFPs, review of proposals and selection of contractors, specification of key issues to be addressed and analysis/reporting approaches, review of deliverables, and synthesis and summary of study findings for LIPA Board members. Included in LIPA's Clean Energy program are resource acquisition, market transformation, load management, renewable energy and distributed generation initiatives.

- Market Potential Analysis. NCI performed a technical, economic and achievable market potential analysis with respect to Clean Energy resources in LIPA's territory. This included estimating the amount of savings that could be achieved from the entire range of residential and non-residential energy-efficient technologies. A proprietary market penetration model was used to forecast market acceptance.

### ***Other Relevant Project Experience***

- BC Hydro. An evaluation of impacts of information and educational programs included an assessment of a range of behavioral responses to improve efficiency levels in the home.
- Brazos Electric Power Cooperative. Developed a five-year strategic plan, which included program goals, implementation and marketing details, and budgetary requirements.
- COM/Electric. Identified/confirmed market barriers, developed market indicators, and established baseline market indicator levels for five market transformation programs.
- Dayton Power & Light. Estimated environmental and macroeconomic (employment, GSP, income) impacts and alternative environmental dispatch scenarios to support an extended DSM program to reduce use of coal.
- Electric Power Research Institute (EPRI) & International Energy Agency (IEA). Analyzed public policy objectives and energy efficiency program efficiency design in 15 nations for input to program design in restructured U.S. markets.
- Florida Energy Office. Analyzed macroeconomic impacts of alternative scenarios of DSM investment for Florida Public Service Commission for rulemaking supporting expanded DSM programs.
- Kentucky Utilities. Comprehensive DSM assessment including development of technical and achievable potential estimates.
- Maryland Department of Natural Resources/Baltimore Gas & Electric. DSM planning and program design for a collaborative DSM project which applied a team approach to screening options and designing detailed programs for implementation.
- Massachusetts Municipal Wholesale Electric Company (MMWEC). Investigated 20 DSM program concepts and developed DSM implementation plans for each of the 34 member utilities. Plans included target measures, eligible customers, applicable rates and incentives, and other marketing components. Targeted DSM options included high efficiency lighting, motors, adjustable speed drives, weatherization measures, and high efficiency new construction measures.

- Missouri Public Service. Conducted technical and economic potential analysis of 90 DSM measures from which 25 were analyzed for market potential and included in a detailed DSM plan.
- Multiclient DSM Study. For a group of U.S. electric utilities, examined innovative DSM efforts, including market transformation projects, throughout North America to inform utilities as to how to effectively promote energy efficiency in an increasingly competitive market.
- National Association of Regulatory Utility Commissioners (NARUC). Developed the NARUC guidebook on how to treat market transformation programs under different market conditions and industry restructuring scenarios through a comprehensive stakeholder process.
- New York State Utilities. Completed DSM plans for three New York utilities (Central Hudson Gas & Electric, New York State Electric and Gas, and Rochester Gas and Electric) in response to a regulatory directive to assess technical, economic, achievable and market potential. The analysis also included sensitivity analysis to assess the impacts of varying degrees of utility marketing.
- Northeast Utilities. Conducted an analysis characterizing the economic potential for energy efficiency by customer segment and end-use for Connecticut Light & Power and Western Massachusetts Electric Co., including consideration of more than 60 DSM measures and analysis of impacts of retrofits, natural replacement and lost opportunities.
- Orlando Utilities Commission (OUC). Developed a DSM plan for OUC that included selection and screening of DSM technology measures using OUC-specific avoided costs. The second phase entailed bundling technology measures, developing program concepts, estimating market penetration and analyzing cost-effectiveness of program designs.
- Pennsylvania State Utilities. Assisted three Pennsylvania Utilities: Duquesne Light, Philadelphia Electric and General Public Utilities (Pennsylvania Electric and Metropolitan Edison) in preparing DSM plans which included analysis of technologies and market potential.
- Public Service Company of Colorado. Screened 100 options of which 20 were selected for development of detailed programs.
- Southern Minnesota Municipal Power Agency (SMMPA). Investigated technical and economic potential of 75 DSM measures for SMMPA's 20 municipal utility members.
- Tennessee Valley Authority (TVA). Developed strategic marketing plans for residential, commercial and industrial sectors. Plan included a comprehensive situation analysis of the TVA system (7 districts, 160 distributors), including a

detailed assessment of distributor relations and competition in the wholesale market.

- Washington Water Power (WWP). DSM assessment included system-wide impacts across the various states served and a detailed assessment of 76 measures that were ultimately screened down to 20 options for program analysis.
- Wisconsin Statewide DSM Assessment. Conducted a statewide technical and economic potential analysis in conjunction with all of the state's primary electric utilities and the state utility commission. The study included development of a computerized database of over 200 DSM technologies. The database included technology cost, useful life, market share and energy and capacity load impact data. The analysis was completed for each of the market segments: residential, commercial, industrial and agricultural. These estimates now serve as the foundation of all technology impact estimates for each Wisconsin utility in their DSM plan filings.

### **B. Subcontractors**

No subcontractors are proposed for this project, other than the EM&V contractors identified in Section VI.

### **C. Resumes or Description of Experience**

The project organization structure is depicted in Figure 4. Below are brief descriptions of the qualifications of the Director-in-Charge, Rob Shelton, and the Program Manager, Tom Crooks, followed by summary biographies for other key staff.

**Rob Shelton, Director-in-Charge & Stakeholder Processes.** Mr. Shelton has extensive experience successfully facilitating complex processes to develop key stakeholder inputs to public and private strategic planning and technology management efforts. His major focus is integrating technology management into the strategy, organization, and operations of companies. Mr. Shelton is presently leading a number of critical projects for the California Energy Commission's Public Interest Energy Research (PIER) Division. One of the major products is a portfolio of research and development projects for PIER's Distributed Energy Resources (DER) Program. In addition, he serves as Program Manager for the overall PIER Technical Assistance program. In this capacity, he provides technical program management for projects in all PIER program areas (Systems Integration, Renewable Energy, Environmentally Preferred Advanced Generation, Industrial and Agricultural, and Buildings). Activities to-date include project management (schedule, budget, deliverables, subcontractors); project scoping and definition; project feasibility

evaluations; project due diligence; and pro forma development and evaluation for more than 25 separate research and development projects. Mr. Shelton has directed similar projects for a wide variety of clients, including the Electric Power Research Institute (EPRI), Microsoft, Chevron Texaco, Coca Cola, Compaq, and Toyota. He holds a B.S. in Chemical Engineering from Washington University where he also pursued graduate curriculum in technology management and policy. Mr. Shelton's work has been quoted and referenced in The Wall Street Journal, Associated Press, Chemical & Engineering News, Chemical Week, and Industry Week. In addition, he has been interviewed on CNN Financial News.

**Tom Crooks, Program Manager.** Mr. Crooks' 25 years experience in the energy industry includes research and development of distributed generation and renewable resource technologies, new product development, and facilitation of market transformation of new technologies. Formerly a senior manager of Demand-Side Management (DSM) programs for Southern California Edison, he possesses a comprehensive understanding of the technical, financial and programmatic approaches to energy-efficiency and conservation as well as load shifting and direct-load control peak reduction disciplines. Mr. Crooks has provided DSM program planning training to employees of electric utilities throughout the U.S., various foreign countries, and members of the World Bank. In the DSM planning arena, Mr. Crooks specified technology measures for prescriptive and customized DSM programs including efficiency requirements for end-use technologies based on standards for new appliances and building construction. He forecast the load reduction impacts of a broad array of DSM technologies including lighting, HVAC, building envelope, plug load, industrial process and pumping applications. He employed contemporary modeling approaches and techniques to simulate building performance and resulting composite load shapes. His program design skills include cost-effectiveness planning based on the avoided marginal cost of energy resources and demonstrating positive programmatic environmental impacts (reductions in CO, CO<sub>2</sub>, NO<sub>x</sub> and VOCs). Mr. Crooks holds a B.T., Diesel Power Technology - Industrial Process Division from the Oregon State Institute of Technology.

**M. Kabirr Faal, Non-HVAC Measures.** Mr. Faal is well versed in municipal energy efficiency programs. He held a number of managerial positions with the City of Pasadena, including Assistant General Manager (AGM)/Managing Director and AGM for Finance, Administration and Customer Services at Pasadena (California) Water and Power. There, his responsibilities included demand-side management, energy efficiency and water conservation. These functions were administered under

the broad categories of Residential and Commercial/Industrial Programs. Commercial and Industrial efficiency programs included Lighting, Control, HVAC, Water Heating, Refrigeration and Motor Efficiency. In addition, custom programs were designed for existing building improvement and new construction. These included occupancy sensors, daylight controls, energy efficient motors and office equipment, high efficiency air conditioning and chillers, fluorescent and high pressure sodium lighting, LED and fixture light conversions/retrofits. For customers with special needs, power quality, capacity, curtailable and cogeneration evaluation services were provided. Mr. Faal administered the rebate and financing programs to assist customers in the financing of efficiency programs. Additionally, he was one of the founders and charter director for the Financing Authority for Resource Efficiency of California (FareCAL). FareCAL is a joint powers authority (JPA) formed by several California municipal utilities for the purpose of developing low cost financing options for design and implementation of energy and water efficiency programs. Mr. Kabirr holds an M.A. Management, University of Redlands; B.A. Finance, California State University, Fullerton; a Certificate in Executive Management, University of Missouri; and has completed post-graduate (PhD level) courses in Executive Management, The Peter F. Drucker Executive Management Center, Claremont, CA.

**Stephen Hastie, Pilot Design.** Mr. Hastie brings a unique combination of energy-related marketing, research and communications experience to this project. He has 18 years of extensive experience in market and evaluation research, business case development, product development and rollout, project management, regulated and unregulated industries, and writing and production of marketing, advertising and informational materials. He has provided program design and evaluation services for a wide variety of public and private clients, including investor-owned and municipal electric and gas utilities throughout the U.S., the U.S. Department of Energy (DOE), the National Association of Regulatory Commissioners (NARUC), state energy agencies, and energy companies and agencies throughout Europe. In addition, he co-authored a book on passive solar homes that won praise both from Library Journal for its clarity and readability, and from top technical experts in the field for its comprehensiveness and accuracy. Mr. Hastie's extensive success conducting focus groups to develop targeted marketing and energy product/service delivery strategies will be invaluable to the development of innovative pilot programs for local governments. Further, his strong communications background will support pilot program implementation through effective education and outreach to the local governments' constituents. Mr. Hastie holds a B.A. Sociology from the University of Pennsylvania.

**Laurie Park, Governmental Processes.** Ms. Park has extensive direct experience implementing innovative energy programs within the constraints of governmental processes. While manager of the City and County of San Francisco's Hetch Hetchy Water and Power Division, Ms. Park directed a variety of City programs designed to quickly reduce energy consumption by City facilities through both operational measures and facilities retrofits. During the power crisis, Ms. Park implemented the Mayor's directive to immediately reduce energy consumption by City departments by 10%. In addition, she established and managed the Mayor's Energy Conservation Account (MECA) portfolio of energy efficiency projects. Under the MECA program, Ms. Park directed the design, development, funding and implementation of a variety of fast-track energy efficiency retrofits for City facilities. In order to minimize the frequency of rotating outages needed to keep power flowing on the SF Peninsula, Ms. Park also managed the City's participation in the California ISO's Demand Response Program in which City facilities reduced consumption by as much as 12 megawatts when necessary to avoid a power outage. Ms. Park holds an MBA from Golden Gate University and is a Certified Public Accountant in California.

**Stephen Pinkerton, Program Design.** Mr. Pinkerton has 25 years of comprehensive experience in the design, development and implementation of energy conservation and efficiency programs for a wide variety of public and private entities. His experience includes developing public and private facilities' energy savings performance contract (ESPC) projects, both for an energy services company (ESCO) and for ESCO customers. In addition, he has designed and managed energy conservation and alternative energy improvements for public schools and municipal buildings. His comprehension of program goals and requirements from the perspectives of both the customer and the service provider will be very valuable to the program design process as well as during pilot development and implementation. Presently, Mr. Pinkerton is working with the U. S. Navy to develop fleet-wide and base-specific long-range strategies for procuring and managing the use of energy and water resources. Specific projects include evaluating energy efficiency improvement potential and power/thermal plant configuration options at twelve major Atlantic Fleet bases, including evaluation of energy savings performance contract (ESPC) opportunities. Mr. Pinkerton holds an M.S. Degree in Technology and Policy from the Massachusetts Institute of Technology, a B.S. in Engineering from North Carolina State University, and a B.A. in Philosophy from East Carolina University.



**Michael Scholand, Building Codes & Appliance Efficiency Standards.** Mr. Scholand supports government, industry and private sector research and initiatives around the development of sustainable energy policies and practices. His work includes developing energy performance standards for commercial and residential equipment, as well as studying market barriers and transformation activities for energy efficient products. He has developed an energy savings scenario analysis for solid-state lighting and supported the publication of a national inventory of lighting technologies for the United States. Mr. Scholand is also assisting the U.S. Department of Energy (DOE) in revising the reporting guidelines of DOE's Voluntary Greenhouse Gas Reporting Program. Mr. Scholand holds a Masters in Civil and Environmental Engineering, and a double major Baccalaureate in Mechanical Engineering and Environmental Studies, all from Tufts University.

**David Swank, Public Financing.** Mr. Swank has 28 years of financial and rate s analysis in the utility industry. He has an extensive background in tax-exempt utility financing, financial forecasting and planning, rates and pricing, and public sector mergers/acquisitions. He has prepared independent consultant's reports supporting over \$27 billion of long-term debt financing for electric, natural gas, water, and wastewater projects. Mr. Swank assists clients with the development of financial forecasts and fiscal planning tools. His rates and pricing experience includes studies for electric, natural gas, water, wastewater, and district heating systems, and ranges from conventional cost-of-service analyses to design of incentives to encourage changes in usage behavior. Mr. Swank holds a B.S., Business Administration from Oregon State University. Mr. Swank's considerable expertise in all facets of municipal financing, financial planning and rates development will be very important in the pilot program phase as local governments seek to leverage creative financing mechanisms to support aggressive energy efficiency programs for themselves and their constituents.

**Phillip Toth, HVAC Measures.** Mr. Toth, a former Senior Analyst with Southern California Edison (SCE), has significant experience performing market assessments and targeting DSM products and services to specific regional populations within California. His experience in DSM-related programs includes energy efficiency/ DSM program market assessment and target marketing. One major project involved a market assessment analyzing and calculating market potential to determine the potential savings for a third-party initiative aimed at servicing room and central AC units in the Coachella Valley. For this project, he estimated the size of the "under-served" energy efficiency market in conjunction with the California Public Utilities Commission's requirement for all IOUs to target the under-served market. In order

to achieve program marketing cost savings, Mr. Toth identified segments of SCE's customer base most likely to own specific equipment (e.g., older air conditioners) or to exhibit certain behaviors such as a propensity to use rebate programs, use more electricity than regional norms, or have a pool on their property. He also identified areas/regions with above average new construction and identified the construction firm(s). Mr. Toth holds a B.S. Marketing from California State University, Chico.

**Cynthia Wooten, Local Government Marketing.** Cynthia Wooten is NCI's Community Choice Aggregation Demonstration Project Specialist. She initially approached the California Energy Commission for assistance in assembling a funding package that would off set costs of Base Case Feasibility analysis to local governments interested in pursuing the potential benefits of aggregation for their communities. In addition, she structured the process for the Demonstration Project with the NCI CCA Team, which includes contact with dozens of local governments, education and presentation of the Project and options, coordination of the Project with partners, monitoring the legislative and rulemaking process and maintaining contact with participants to facilitate a smooth implementation of each step of the work among 17 local government entities (at current count). She brings that experience to the Energy Efficiency Team as well as an exceptional combination of public and private sector experience. For 24 years Ms. Wooten served as an elected member of: the school district Board of Directors (8 years), city council (8 years), and the State of Oregon House of Representatives (8 years). For 11 years, she was a Senior Legislative Assistant and District Office Manager of the 4<sup>th</sup> Congressional District, OR. Her public service had a strong emphasis on the economy, environment and energy. After re-locating to northern California four years ago (being term limited from the Legislature), Cynthia succeeded as a Placement Agent, raising tens of millions of dollars in equity and debt for community and social venture investment groups, environmental technology and renewable energy companies and groups. After telecommunications deregulation in 1996, she consulted extensively in telecommunications, negotiating municipal franchise agreements, pole and conduit agreements and positioning for licensing of new Local Competitive Access Providers in 16 states and four countries. Ms. Wooten holds an Interdisciplinary Master's degree from the University of Oregon and completed special program work for Senior Executives at the John F. Kennedy School of Government at Harvard University.

## Section VIII. Budget

Our proposed budget is for a complete statewide program. Although we are submitting separate copies of the proposal for each of the three electric IOUs, we do not consider the project to be severable and ask that the budget be considered in its entirety, as well. Nearly all of the proposed budget can be identified as being devoted to information program elements, and nearly all of that is for consulting time. The remainder is for EM&V activity and for administrative support for local pilot jurisdictions. For the latter, it is impossible to know at this time the specific needs for local administrative funding, so we are asking to reserve a pool of money for use by the pilot communities to draw on with CPUC approval. Funding from the pilot pool will require 50 percent match and will be paid directly to the participating jurisdiction. Finally, in accordance with the proposal instructions, the time commitment by key staff is provided in the attached workbook. A summary budget table is provided in Figure 6 below.

**Figure 6: Summary Budget Table**

Budget Item	Dollars	Hours	Average Rate
Task 1 - Scoping Workshop	\$ 136,336	748	\$182.27
Task 2 - Screening Workshop	\$ 92,416	480	\$192.53
Task 3 - Pilot Projects	\$ 664,204	3384	\$196.28
Task 4 - Market Outreach	\$ 124,104	740	\$167.71
<b>Subtotal</b>	<b>\$1,017,060</b>	<b>5,352</b>	<b>\$190.03</b>
Travel Expenses	\$ 22,200		
Mileage	\$ 3,000		
Printing, Mailing & Other Expenses	\$ 10,000		
<b>Subtotal</b>	<b>\$1,052,260</b>		
EM&V Subcontractors	\$ 100,000		
Pilot Pool (3 @ \$75,000)	\$ 225,000		
<b>Total Cost</b>	<b>\$1,377,260</b>		

## Section IX. Endorsements

Navigant Consulting has discussed the proposed project with various cities, counties, consortia, and local government organizations, and received enthusiastic support. Entities that have expressed interest in participating in the project are listed below. Endorsement letters from the Local Government Commission and the County of Los Angeles are attached to this proposal. We have been assured that additional letters will be forthcoming as the proponents negotiate their way through their respective, lengthy local approval processes.

- Local Government Commission (letter attached)
- County of Los Angeles (letter attached)
- League of California Cities
- Southern California Cities Joint Powers Consortium, a Joint Powers Authority of 11 Los Angeles Basin cities
- City of Oakland
- City of Vallejo
- COVE Commission, the Joint Powers Authority of the Cities of Palm Desert, Indian Wells and Rancho Mirage
- City of Beverly Hills
- City of Pleasanton
- City of Long Beach
- City of Santa Barbara
- Southern California Association of Governments



**LOCAL GOVERNMENT COMMISSION**  
1414 K Street • Suite 600 • Sacramento, CA 95814 • (916) 448-1198

Board of Directors September 23, 2003

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City of Pleasanton

**Supervisor Harriet White**  
County of Placer

**Executive Director**  
Judith A. Corbett

Commissioner Susan Kennedy  
California Public Utility Commission  
505 Van Ness Avenue  
San Francisco, CA 94102

Dear Commissioner Kennedy:

The Local Government Commission is pleased to support the CPUC 2004-05 Energy Efficiency proposal of Navigant Consulting, Inc. The project will assist pilot communities with program implementation, and share the lessons learned broadly. This project also works to facilitate the utility-local government partnerships the CPUC is encouraging.

Local government is in position to be the link between utilities, program and service providers, nonprofit organizations and all classes of ratepayers. It has a unique relationship with its residents and businesses. It requires inclusiveness in planning and thereby "ownership" in the outcomes of its efforts. Local government has the infrastructure to communicate effectively with its constituents, and has credibility not afforded to other entities.

Navigant Consulting, Inc. is currently a partner of the Local Government Commission, the League of California Cities, the California State Association of Counties, the California Energy Commission and the US Department of Energy in a Community Choice Aggregation Demonstration Project working with cities, counties and Joint Powers Authorities to determine feasibility of alternative power procurement with incorporation of significant renewable resources.

While the project proposed here is not affiliated with the aggregation project, it is complementary to it and to other proposals that seek to increase local government capacity in the area of energy efficiency.

Sincerely,

G. Patrick Stoner  
Program Director



Dave Lambertson  
Interim Director

TELEPHONE: (323) 881-3939  
FACSIMILE: (323) 260-5237

# COUNTY OF LOS ANGELES

## Internal Services Department

1100 North Eastern Avenue  
Los Angeles, California 90063



*Enriching Lives*

September 23, 2003

Commissioner Susan Kennedy  
California Public Utility Commission  
550 Van Ness Avenue  
San Francisco, CA

Dear Commissioner Kennedy:

The County of Los Angeles is unique as a utility customer. The County has over 3,000 separate utility accounts spread across a large area and served by three major providers (Southern California Edison, the Gas Company, and the Los Angeles Department of Water and Power). In addition, the County has over one million residents living in unincorporated areas, outside the boundaries of the Los Angeles Department of Water and Power. These unincorporated areas are somewhat neglected as it relates to a comprehensive strategy for education and planning for energy efficiency and conservation goals. We support efforts that move customers to a future of reduced consumption with thoughtful, inclusive, coherent programs and services that consider our size and characteristics. The question is, how?

The Project Proposal of Navigant Consulting, Inc. is a needed attempt to look at galvanizing a broad spectrum of resources to organize action for local governments. Counties are often overlooked as entities, which provide leadership and overview of any given geographic area. We are prepared to collaborate with all other appropriate jurisdictions in order to reduce energy expenditures as much as possible for our own facilities through a more forward thinking energy efficiency plan. We will participate in activities that promote implementation of a planning process for local governments and special districts within our boundaries and provide assistance in the implementation of viable energy efficiency projects in order to meet the State's growing demand and improve air quality in our region.

The soundness, innovation, the equity inherent in this proposal, and the potential results and benefits available, comprise a thoughtful program for moving towards those goals. We support Navigant Consulting, Inc.'s proposal to bring all parties together to engage in best practices and implementation of energy efficiency programs and services. Thank you for your consideration of our support.

Very truly yours,

Howard Choy  
Division Manager  
Energy Management Division