

BEFORE THE CALIFORNIA ENERGY COMMISSION

In the matter of:

Comprehensive Energy Efficiency Program
for Existing Buildings (AB 758 Program)

Docket No. 12-EBP-1

**COMMENTS OF THE
LOCAL GOVERNMENT SUSTAINABLE ENERGY COALITION
ON
DRAFT ACTION PLAN FOR THE COMPREHENSIVE ENERGY EFFICIENCY
PROGRAM FOR EXISTING BUILDINGS**

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For THE LOCAL GOVERNMENT
SUSTAINABLE ENERGY COALITION

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I. INTRODUCTION

The Local Government Sustainable Energy Coalition¹ (“LGSEC”) appreciates this opportunity to provide comments on the California Energy Commission’s (“CEC”) *Draft Action Plan for the Comprehensive Energy Efficiency Program for Existing Buildings* (the *Draft Action Plan*), developed as part of the CEC’s implementation of Assembly Bill 758 (2009). LGSEC members are proud to have designed and implemented many of the projects and programs funded through the American Recovery and Reinvestment Act (“ARRA”) that now form the basis for Phase 1 of AB 758 implementation. We look forward to continuing this cutting-edge leadership and innovation in partnership with the CEC, as the CEC moves forward with the *Action Plan*.

Overall, the LGSEC finds the *Draft Action Plan* to be accurate in its overarching assessment and identification of pivotal needs (**Priority Areas**), specifically:

- Need for data to inform decisions at every level;
- Solutions (through Codes & Standards and other strategies) that drive consumers to permitted upgrades, uniformity of quality upgrades, and resulting advances toward energy efficiency goals
- Marketing, outreach and education (ME&O) plans predicated on a diverse program portfolio, and sector- and behavior-specific messaging delivered by implementer/stakeholder networks

¹ The LGSEC is a statewide membership organization of cities, counties, associations and councils of government, special districts, and non-profit organizations that support government entities. Each of these organizations may have different views on elements of these comments, which were approved by the LGSEC’s Board. A list of our members can be found at www.lgsec.org.

- Demonstration of energy efficiency co-benefits that establish new, meaningful value propositions connecting consumer priorities to energy efficiency, including public health benefits and property valuation
- Expanded approaches to workforce development and standards in the green and energy economies (with our recommendations for a more integrated role for energy efficiency contractors)
- Multiple pathways for residential property owners and tenants
- Reliability of tools and data-driven program and project assessment
- Remedies for the narrow programmatic options that currently exist for small and medium-sized businesses
- Increased advantage of public sector leadership, relationships and capacities
- Energy efficiency financing pilots and incentive mechanisms stimulate volume uptake in the marketplace, provide for glide-path projects, and/or deeper accumulated savings in energy efficiency

The LGSEC respectfully submits, however, that the *Draft Action Plan* will enjoy lasting, optimal success only if it address 4 critical needs (**Priority Needs**):

1. More clearly defined plans of action for each priority area
2. Enhanced cross-cutting of assets between priority areas, for example, leveraging new contractor business models with training, financing and data-mining. The *Draft Action Plan* identifies “potential stakeholders” for each Priority Area, which serves this recommendation. The LGSEC suggests taking this to the next step, and to orchestrate roles and relationships among stakeholders – including integrated roles of stakeholders in different but complementary Priority Areas – to adopt a “whole

- program” system approach to program and product development (e.g., cross-cutting training, financing, local government, and ME&O elements)
3. Programs should not simply reflect consumer attitudes, but prioritize consumer/market sector realities and potential. Profiling consumers for attitudes will invariably lead us back to early adopters and the top layer of the retrofit ready, but will not mine the marketplace any deeper. A rational on-ramp, moderate-income and/or “early investigator” program design is needed – one that aligns with financial and other limitations of consumers, but strategically primes that market for “first-phase” success and future expansion of energy efficiency toward whole-home upgrade(s)
 4. The plan is silent as to process. Current processes for development, design, stakeholder and analytical review and input, approval and piloting of programs are lengthy and mercurial. This engenders confusion, then apathy, among consumers, lenders and contractors. In particular, this has a chilling effect on banks and lending institutions, whom are likely to calculate that process uncertainties erode the financial justification for their participation.

We discuss these four recommendations below as embedded general propositions to Priority Areas, but regional energy networks (RENs) and local governments have developed these in far greater detail and – in certain cases – as cross-area, integrated proposals. Certain Priority Area elements, such as access to and security of data and effective multifamily models, are called out more extensively. We are available and prepared to provide greater specificity and background on all Priority Areas and elements to the California Energy Commission (CEC) and the

California Public Utilities Commission (CPUC), and look forward to finalization and successful implementation of the *Draft Action Plan*.

Lastly, local governments are already running programs in many of the areas identified as Priority Areas in the *Draft Action Plan*, yet these programs are not recognized in the *Draft Plan*. We hope through these comments to rectify that oversight.

II. Crucial Need for Data

The *Draft Action Plan* accurately captures the paramount importance of data about energy usage. Currently, energy usage data is not provided to local governments in a format that allows them to manipulate the data to evaluate program effectiveness, identify geographic areas or economic sectors of higher or lower energy usage and, by extension, evaluate progress toward local and state policy goals². The LGSEC has been actively participating in a working group process at the CPUC to accelerate the provision of these data. In the context of that proceeding, the LGSEC convened an internal data access and use committee which has developed an energy usage map that could also assist the CEC in its deliberations.

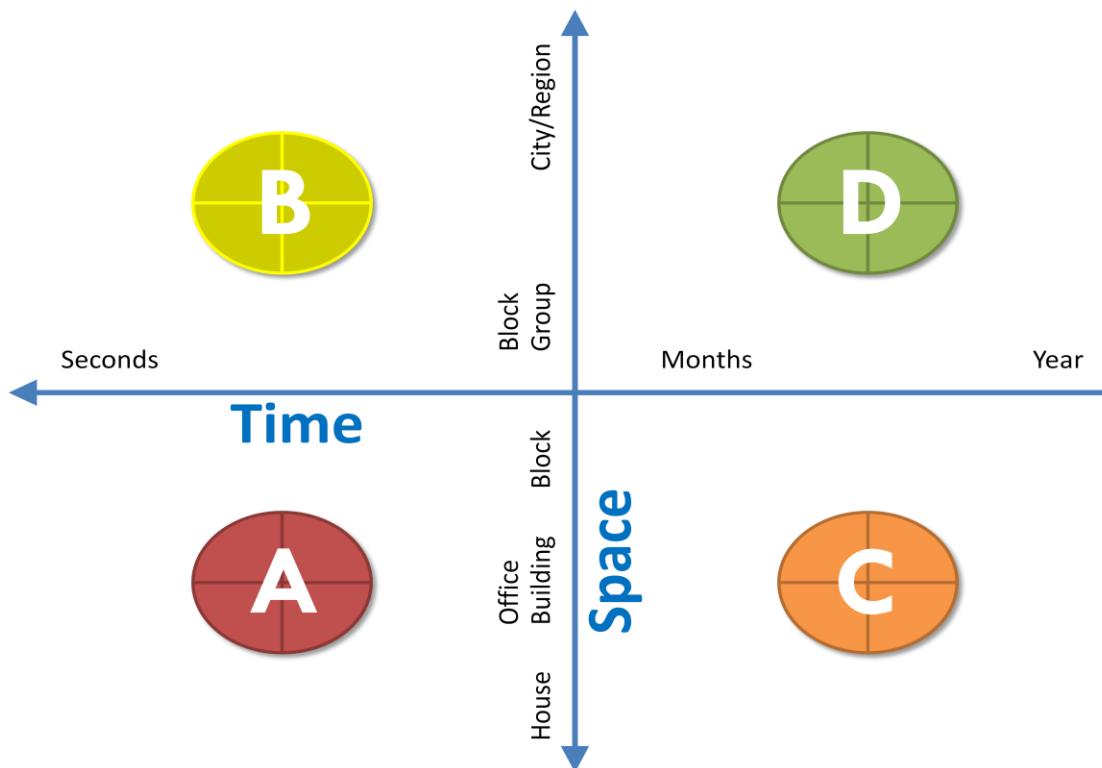
In the course of the CPUC working group meetings, the LGSEC recommended to participating stakeholders a map of Energy Data Access as a suggested framework to enable clear and consistent discussion of energy usage data. The sensitivity of energy usage data varies with resolution, both geographic and temporal. An effective public policy will weigh this sensitivity alongside other key public interests recognized and prioritized in California law and policy, including effective stewardship of ratepayer investments in energy efficiency, the energy resource loading order, public transparency, and greenhouse gas emissions mitigation. In

² This obstacle to data synthesis for successful program development and performance analysis, is not limited to energy efficiency goals alone; it also frustrates the highest application and output of funding related to climate mitigation and adaptation plans, land use planning, and other long-term statewide strategies and directives.

addition, clear communication is essential as public concerns are weighed in the context of relevant laws.

Members of the CPUC working group agree with the LGSEC that the following map be used, which divides energy usage data into four ‘quadrants’ of resolution, labeled A, B, C, and D:

Figure 1: Energy Data Access Map. Divides temporal and geographic aggregation/resolution of energy usage data into four quadrants.



	Specific location and small time interval	Geographic aggregation and small time interval	Specific location and large time interval	Geographic aggregation and large time interval
Quadrant Label				
Sensitivity	High Clearly personally identifiable, includes details of timing, and specific activities can be exposed.	Moderate Location is not personally identifiable.	Moderate Location is identifiable. Monthly (or annual) data masks timing of specific activities, such as startup or occupancy.	Low Not personally identifiable. Monthly or annual interval masks specific activities.
Public Policy Value	Limited Contains more data than necessary for uses other than academic research or services provided with consent.	Moderate Illuminates load shape, limited use in efficiency program delivery.	High Informs priorities for investment and service delivery.	High Essential for greenhouse gas emissions tracking and city planning.

	Specific location and small time interval	Geographic aggregation and small time interval	Specific location and large time interval	Geographic aggregation and large time interval
Quadrant Label				
Useful to Study	<ul style="list-style-type: none"> • Limits of demand response • Customer to DR program signals • Effect of building age & shell on DR • Impact of rate design (including Critical Peak Pricing) • Plug load management • Effect of weather on residential PV output 	<ul style="list-style-type: none"> • Effect of geographically targeted measures on load shape. (Example: Intensive appliance installation in a targeted city/zone vs. a “control” area) • Demand response program design 	<ul style="list-style-type: none"> • Effect of building characteristics on energy consumption (such as building age, shell, most recent permit, etc.) • Relate energy use to demographic trends such as occupant age, vulnerable population, linguistic isolation, proximity to cooling shelter for climate adaptation • Efficiency program effectiveness 	<ul style="list-style-type: none"> • Community greenhouse gas program impacts • Renewable resource planning • Effect of efficiency programs on community/neighborhood energy use.

	Specific location and small time interval	Geographic aggregation and small time interval	Specific location and large time interval	Geographic aggregation and large time interval
Quadrant Label				
Suggested Protection	<p>Access only via:</p> <ul style="list-style-type: none"> • Customer consent • Academic research with NDA and protocols similar to Census protocols • Opt-out notification? 	<ul style="list-style-type: none"> • City or County aggregation: Public data (as with CSI program) • Block-group (or largest scale vulnerable to geographic disaggregation): Available to EE/renewable energy service providers under NDA, or via user interface designed to limit potential. 	<ul style="list-style-type: none"> • Available to building owner or designated representative for compliance with AB1103, CPUC benchmarking order, or local energy efficiency program/ordinance. 	<ul style="list-style-type: none"> • Publicly accessible, published to the web, and updated annually.

The LGSEC recognizes that appropriate safeguards must be put in place and enforced. In considering specific use cases for energy data, it is helpful to consider into which quadrant each use case would fall. To the extent that parties (1) observe non-disclosure agreements and (2) are seeking data for monthly intervals (thus falling clearly into quadrants C and D), concerns about privacy violations should be significantly minimized.

The CEC should use whatever regulatory tools it has available to compel those entities who hold energy usage data – public and investor-owned utilities – to provide it to local governments who require data in order to comply with local and state mandates, performance

obligations, and energy, climate, and adaptation planning. Data must be provided in a format that can be manipulated. While in many instances monthly data will be sufficient, there may be circumstances where data is required on a more frequent basis, or there is a need to account for weather occurrences or other events that could impact energy use. Similarly, while in most cases it will be sufficient to obtain data at the census tract level, there may be circumstances where individual building data is needed. This is particularly true when examining program effectiveness.

Lastly, the LGSEC recommends adding the following as a new Key Initiative:

“Provide direction and resources to the utilities to provide consumption data to public agencies in support of public purpose programs using public funding within the existing regulatory structure and until a more streamlined process is developed via rulemaking or other regulatory framework.”

III. Permitting and Compliance

The *Draft Action Plan* outlines an ambitious vision for compliance and enforcement. The LGSEC appreciates the emphasis in the *Draft Action Plan* on assisting local governments, who are the primary entity responsible for making sure state and local codes are enforced. As was discussed at the June 24 workshop, it can be challenging to monitor constantly changing codes and new technologies. The *Draft Action Plan* correctly recognizes, at p. 25, that local governments will benefit from tools that help them take a more active role in ensuring compliance and potentially exceeding State standards.

Policy/Actions Recommendations:

- A. Look to Existing Systems (CEEPMS). On page 25, the *Draft Action Plan* states "To make permitting simpler and more convenient, California could make available to local jurisdictions a voluntary opt-in only permitting system to provide a low-cost, user-friendly approach to obtaining building permits associated with energy efficiency upgrades." The Southern California Regional Energy Network ("SoCalREN") currently is piloting the Community Energy Efficiency Project Management System (CEEPMS) software system, as well as expanding the program's application in additional cities. The CEEPMS program pairs building permit applications with items eligible for rebate in the IOU service directory. This system can be built to interface with an existing online permitting tool, but one of the efforts the SoCalREN is working on in this program cycle is to partner with an off-the-shelf online permitting system that offers a turn-key system to municipalities. This product and system has the potential to streamline processes, exploit economies-of-scale, and reduce timeframes and costs for contractors; and can easily fulfill the needs discussed in the *Draft Action Plan*.

- B. Prioritize Creative Measures to Level the Playing Field For Code-Compliant Contractors. In addition, LGSEC members have discussed a number of creative solutions to the challenge that proper permitting and standards imposes upon compliant contractors who have to compete with contractors who under-bid through non-compliance. Early suggestions, again, cross-cut Priority Areas and network the activities of implementers with other critical market players. Certain options fall more clearly under potential Mandatory Approaches. The LGSEC and the

SoCalREN are happy to help the CEC consider how these can be measured or expanded depending on the needs and authority of the state.

C. Suggest adding this as a new Key Initiative:

“Convene local and regional governments to determine their specific needs and obtain recommendations for widespread compliance and enforcement of existing standards.”

D. Add to Key Initiative: “Consider ratepayer support for credit enhancements and administration/management of attractive financing programs as “nonmonetary incentives” which motivate code compliance.”

Potential Quantification Targets under this Priority Area:

- A statewide 15% increase in the certification of specialty and/or union contractors under the Energy Upgrade California Program Brand (this is dependent upon implementation of home upgrade products that create market uptake and a meaningful role for specialty/union contractors under the Program)
- A statewide 10% increase in local permits issued in connection with energy efficiency retrofits, e.g., HVAC system replacements
- A statewide 10% in permitted upgrades to bring pre-existing equipment up to or beyond code specifications

IV. ME&O From the Perspective of a “Resource” Program

As an initial observation, the LGSEC advocates for an approach to Marketing, Education and Outreach (ME&O) on the order of partial-resource program/element. We propose that this

restructuring purposes a portion of ME&O funds with generating direct energy savings, and will motivate implementers to:

- Create “call-to-action” campaigns, not simply “awareness” programs
- Integrate ME&O with other program elements and cross-implementation by multiple stakeholders
- Develop new data metrics that model and map best practices and identify effective campaigns and practices
- Strategize and test effective campaigns with pilots that establish new “value-propositions” between energy efficiency and consumer priorities, e.g., improved human health environments and enhanced, competitive property values

Local governments have already deployed these methods with demonstrable success, e.g., through retail partnerships, special-opportunity exposures such as home shows, social media, grassroots promotions and “trusted” endorsements at the neighborhood and local levels, and consumer profiling. Also, a number of these efforts were cross-promoted through multiple stakeholder partnerships and tracked for impact. Through ARRA (the American Reinvestment and Recovery Act) investments, local governments combined these and other methodologies with performance-designed programs, and their results garnered a number of state and national awards and recognitions.³

Further, local governments have forged early expansion of the retinue of energy efficiency benefits and co-benefits through analytic projects exploring human health, green labeling, and property value enhancements, including:

³ In 2012, the County of Santa Clara’s Energy Upgrade California campaign received the national *Communicator Award of Excellence* from Communicator Awards, and the *Best Marketing Practice Award for Northern California* (California Center for Sustainable Energy). In 2013, the campaign received the national *Hermes Communicator Award of Distinction*; and was featured in the international trade publication, PR Week.

Energy Efficiency and Indoor Air Quality. The County of Santa Clara designed and completed an ARRA-funded, CEC-approved pilot to test the proposition that professionally-installed energy efficiency upgrades had a positive impact on indoor air quality and, by extension, human health. The County enrolled applicants solicited from a survey group of single-family homes licensed by the State as Family Day Care Home Providers⁴, and also screened by profiling candidates across specific building attributes (e.g., vintage, building type and construction, and location in relation to specific urban infrastructure features). Advanced energy efficiency upgrades were combined with pre- and post-retrofit laboratory testing of indoor air quality for the presence and levels of 6 different airborne pollutants (for example, CO₂, particulate matter pollution PM₁₀, and fungal/mold spores). Post-retrofit findings indicated reductions in all tested pollutants, e.g., for PM₁₀ by as much as 62%, for fungal/mold spores between 58%-94%, and for CO up to 91%-100%. The County then commissioned a study to evaluate the data and convert results into human health metrics, which quantified positive impacts, such as avoided emergency room visits and hospital stays, lost work days, morbidity factors, and reduced critical health events. Presently, the City of San Francisco is preparing a similar study using commercial building stock.

The Value of Green Building Labels for Existing Homes.

Making the significant and lasting reductions in residential energy use that AB 758 aims to achieve will require sustained, multifaceted interventions to motivate the public to invest in energy efficiency, including a strategy for market recognition of green and efficient homes.

⁴ The County specifically focused on single-family homes serving as Family Day Care Home Providers because these homes followed a pattern of continuous energy use, and housed an air-quality vulnerable population: children under the age of 10 (human respiratory systems are still developing until pre-adolescence), who are uniquely vulnerable to indoor air quality (IAQ) degradations and equally responsive to IAQ improvements..

Broader uptake of credible green labels for existing homes such as GreenPoint Rated, HERS II, LEED for Homes, and the U.S. DOE's Home Energy Score has the potential to create market transparency and enable the value of green building improvements and serve as a driver for investment in energy efficiency.

Green labels for existing homes can complement and build on other market transformation strategies such as incentives and financing; the intent would not be to replace more comprehensive assessments, but to allow easy market recognition of the value of a green home during real estate transactions. There is a growing awareness of the value of green homes: San Francisco and StopWaste funded an academic study that shows that green labeled homes in California sell at a premium of 9 percent on average.⁵

Policy/Actions Recommendations: LGSEC has identified the following market transformation strategies as most likely to support the objective of increasing home energy upgrades:

A. Calculate a Portion of Total ME&O Budgets as Resource Funds. The LGSEC would propose that a percentage of the total annual or per-cycle energy efficiency budget allocation for ME&O be dedicated to a “energy benefits & values” research and demonstration fund. Allocation of the fund could be structured in various ways, including application for funds similar to that for a grant program. This would foster continued partnerships among State energy agencies, implementers, research institutions and expert consultants, building science organizations, and consumer advocates and representatives.

⁵ “The Value of Green Labels in the California Housing Market” available: http://www.builditgreen.org/_files/Marketing/ValueofGreenHomeLabelsStudy_July2012.pdf

B. Assess ARRA-funded ME&O Programs. A number of ME&O programs were conducted under ARRA. As part of Key Initiative 1, an assessment of the scope and impact of these programs should be conducted.

C. Foundation-Building Between Building Officials and Property Appraisers and Inspectors. Inspections and appraisals intersect at an early “opportunity-point” (sale or transfer of property, remodeling, or rebuilding) for substantive energy upgrades. The LGSEC supports early engagement and convening of these parties as a primary step in institutionalizing energy efficiency as a premium in property valuation. Normalizing energy efficiency factors among inspectors and appraisers can migrate to and lend momentum to recognition of energy premiums among other real estate professionals. The Regional Energy Networks and other local governments will pilot these opportunities during the 2013-2014 Energy Efficiency Transition Period (the 2013-2014 Energy Program).

D. Engage and Educate the Real Estate Industry: The time of home purchase/sale is a key leverage point and real estate professionals are in a unique position to persuade home sellers to upgrade their homes to reduce the number of days on market and increase the sales price, and to help home buyers identify energy-efficient homes to purchase and to procure financing for energy-efficiency upgrades after purchase. There is a need to engage and educate real estate agents, home inspectors and appraisers on the value and benefits of green building.

E. Improve Information Transparency by Greening the MLS: Mechanisms are needed for rational information exchange. One approach that is likely to increase information transparency for the general public and real estate professionals is to include green

label information in the widely used MLS real estate listing service. Efforts to green the MLS during the ARRA SEP period progressed slowly because of the fragmentary nature of the Bay Area's MLS Boards⁶. A major push is needed to educate and provide technical support to local MLS organizations.

F. Test Inexpensive, Accessible Labeling Options: Green labels for existing homes were marketed to homeowners as part of Energy Upgrade California but were slow to gain acceptance in part because of the time and cost involved in obtaining the green label. This experience points to a need for a low-cost, accessible energy/green label that can be conducted in a single visit (at time of sale) or inexpensively added to the scope of an energy upgrade project. There is a need to conduct additional testing of low-cost labels in local markets, such as integrating the DOE's Home Energy Score into Energy Upgrade California projects and audit incentives.

Potential Quantification/Qualification Targets under this Priority Area:

- Develop uniform system for tracking influence or impact of ME&O on completed upgrades (this could dovetail with or complement the social benefit analysis currently underway)
- Increase training to real estate professionals, appraisers, and inspectors by 30% by 2016
- Increase green labeling certifications statewide by 30% by 2016

⁶ The SoCalREN is continuing an LA County ARRA pilot (a region with less MLS disaggregation) which provides outreach and training on energy efficiency, green building certification and comprehensive home upgrades for the purpose of valuing these in property valuation and identifying them in Multiple Listing Services.

V. Expanded Workforce Development

The LGSEC supports all Key Initiatives developed by the CEC under the *Draft Action Plan*. Under ARRA, local governments implemented specific elements under these Initiatives, most particularly, KI 3 under NR 4.1 (p. 36): “Provide training for nontechnical skills such as marketing and business management training, along with training on available financing products, to contactos and related professionals.”

Governments presently represented under the SoCalREN and BayREN developed “mentorship” programs under ARRA, that provided Energy Upgrade California Participating Contractors a series of interactive workshops with technicians and professionals in ME&O messaging, financing options, energy efficiency benefits and co-benefits, and “closing the deal” coaching, supplemented by marketing collateral that established the contractor as a “trusted diagnostician and professional” for consumers⁷ We believe that a report prepared by these governments for the CEC and the CPUC would be a valuable resource in implementation of the *Draft Action Plan*.

Policy/Actions Recommendations: We propose certain additional elements and modifications to the Key Initiatives:

- A. Many of the Key Initiatives for NR 4.1 and 4.2 were piloted under ARRA programs.

Local governments that conducted these pilots should provide a report to the CEC and CPUC indicating their scope and impact.

⁷ The “trusted diagnostician” and “house doctor” campaigns formed the cornerstone of Santa Clara County’s multiple award-winning ME&O campaign, and together with innovative program design and contractor mentorship program, is credited as a primary contributor to the County’s 43-48% conversion rate during ARRA.

B. NR 4.2, KI 2: This Key Initiative most directly addresses social equity, which is a critical objective of local governments in energy efficiency programs. Training for “entry-level, disadvantaged, and hard-to-reach populations” must, however, take into account that licensing is a potent asset toward career advancement and that many if not most contractor licenses issued by the California Contractor State Licensing Board require a high school degree or GED certificate. We recommend the CEC consider coupling lines of training under this KI with high school certification. Otherwise, the door to valuable apprenticeships could be closed to promising candidates.

C. Benchmarking and Auditing. As noted in the **Introduction**, the LGSEC urges a holistic, interactive approach to deployment and implementation of the Priority Areas under the Draft Action Plan. For example, here we refer to the CEC’s observation that only a fraction of the State’s relevant residential and nonresidential properties have been benchmarked or audited, and identified this as a market barrier, in part due to cost. We believe that contractor training and expansion of career pathways offer opportunities to provide substantive training in these areas free-of-charge, in return for post-certification services, e.g., a services-for-training (rather than tuition) system whereby graduates would perform professional whole-home audits for free or significantly discounted rates. This services-for-training payback arrangement would benefit consumers, complement ME&O, support whole-home contractor business models, and drive conversion rates for energy upgrades.

D. Develop Financing Models with Contractors. As an additional cross-cutting initiative, we propose an option for high-performing contractors to partner with

implementers to explore business models that expands the role of contractors from service agent to financing partner. Local governments have discussed these models with lending institutions over the past 18 months, and welcome the opportunity to discuss them in greater detail with the CEC.

LGSEC emphasizes that the opportunity to expand and train the energy efficiency contractor community comes with the obligation to create a market demand sufficient to support this expansion. This relies in great part on our collective ability and resolve to streamline program development, adoption and implementation processes, and to create a program portfolio that reflects consumer, lender, and contractor market realities (see **Conclusion**).

Potential Quantification Targets under this Priority Area:

- 15% increase in certification of specialty contractors as Participating Contractors under Energy Upgrade California during the 2013-2014 Energy Program

VI. Establish Multiple Pathways to Capture Stranded Residential Consumers and Market Sectors

The *Draft Action Plan* appropriate recognizes the tension between a whole building approach to energy retrofits, and the reality that many customers are not prepared to invest in a whole building approach, for a variety of reasons. It can sometimes take several years for customers to work through a “punch list” of energy projects, just as it may take them several years to remodel a home or building. Sometimes customers will invest further after an initial, low-risk positive experience. In all cases, successful programs rely on simplicity, a structure that

allows for timely implementation, and responsiveness to the discrete consumer market and contractor and lender business models. The LGSEC believes that a source of program tension is uncertainty that today's basic path customer will turn into tomorrow's advanced path customer. As the CEC develops implementation strategies, it should remain cognizant of consumer constraints and drivers, and the possibility of a long sales cycle among as yet untapped but substantial consumer base.

Under ARRA, local governments proved their skill and ability to design and launch highly-successful energy efficiency programs. Some examples of Single-Family Programs:

- Los Angeles County created “Flex Path” as an alternate to the underused Energy Upgrade California Basic Path model, resulting in over 1800 projects in less than a year. LA County focused on contractor mobilization in lieu of traditional ME&O, focusing on specialty contractors
- Los Angeles County also implemented a Green Labeling Rating Program under ARRA, which certified more than 600 buildings
- Santa Clara County’s ARRA-funded program matched simple whole-home audit incentives, a flexible program design, a highly-effective contractor mentorship program, and its award-winning ME&O campaign to generate nearly 400 Advanced Path upgrades in less than 5 months. Under ARRA, the Program’s conversion rate was 43% (of all audits resulted in an advanced upgrade). Using a subsequent State Award (and grant) for Innovative Program Design, the Program’s conversion rate increased to nearly 48%.
- The Sonoma County Regional Climate Protection Authority introduced the water-energy nexus pilot Pay-As-You-Save (PAYS®) to the West Coast, and in 8 months of implementation reached 4% of residential customers of the Town of Windsor's water utility. The pilot incents water and energy efficiency upgrades that are advanced by the water utility and repaid through an on-bill monthly surcharge. The program was designed to deliver combined water and energy cost savings that are significantly larger than the surcharge, driving immediate net savings to utility customers.

- The Western Riverside Council of Governments HERO (Residential PACE) Program has initiated or completed nearly 6000 energy upgrade projects through a partnership with equity investors. Again, the project design is flexible, responds to consumer needs and constraints, and utilizes responsible but streamlined documentation approval and tracking processes.
- emPowerSBC (Santa Barbara County) is a public-private partnership between the local government and lending institutions that provides residential consumers with low-interest loans, technical and advisory services, and full-program training to contractors. In 18 months, more than 3,000 customers have received Program services; and refunding of this ARRA pilot under the CPUC's 2013-2014 Energy Program is being used by Santa Barbara to expand the program to Ventura and San Luis Obispo counties.

Presently, program designs have created an artificial tension between the Advanced Path model and an on-ramp pathway intended to serve moderate-income property-owners or maiden efforts by consumers who may be positioned to install a whole-home upgrade in phases. The consequence of that tension seems to be an impulse to upsell the basic path customer to the greatest extent now. This direction also dissuades specialty contractors from taking a strong role in promoting jobs to customers that align with our energy programs.

Another key market opportunity lies in the **Multifamily Sector**. The Multifamily sector is referenced within the Action Plan through a very general commentary on low-income, rental housing and residential finance issues. The unique aspects of the multifamily sector, explicitly including market rate multifamily in addition to low-income multifamily, should be deliberately and more comprehensively addressed through mechanisms such as **developing appropriate and diverse finance products, enabling access to and disclosure of data, and promoting water efficiency improvements with energy efficiency programs.**

Multifamily finance products: Financing is necessary to “close the deal” for market-rate multifamily property owners, particularly for deeper retrofits. Local governments are best positioned to offer market rate multifamily financing pilots because they can:

- build upon existing program infrastructure to leverage investment in incentives, auditing/data collection, quality assurance and workforce development;
- integrate financing with technical assistance, incentives and other program services; and
- serve a broader portion of the market than low-income/subsidized housing and centrally metered properties

Multifamily energy efficiency financing, however, must address the following factors:

1. Owners are unlikely to utilize a supplemental energy efficiency loan with a lender other than their first mortgage holder. CEC should explore program models that use an open lender model in order to capture more first mortgage holders in the EE finance product offerings.
2. Low-income owners have a complex “stack” of financing where they leverage public funds & private capital through tax credits, bonds, subsidies, community development & commercial loans. CEC should explore program models that use rate-payer energy funding to directly supplement housing finance programs (eg; the State Treasurer’s Office Low Income Housing Tax Credit Program) already designed for multifamily properties and which have robust energy efficiency criteria.
3. Real Estate Investment Trust & Joint Venture market rate owners have their own finance structures which restrict their ability to add to their debt obligations, and often

times their equity investment in projects can be much shorter (eg; 3-7 years) than typical energy measure payback periods. CEC should explore whether shareholder or tax credit incentive mechanisms (rather than debt related products with pay-back criteria) are attractive to this sub-sector. Additionally, the PACE model which limits the debt obligation to the duration of property ownership addresses the short ownership timeframes, and should be considered potentially appropriate for this multifamily sub-sector.

4. Longer term strategies for multifamily finance should build upon national efforts (such as the Fannie Mae product offered to Multifamily properties in New York City) to include energy and water savings in loan underwriting criteria. Unfortunately, in California, the lack of whole-building energy performance data to guarantee savings to lenders is a major barrier to leveraging private capital. The on-bill repayment finance mechanism may be attractive to property owners, but does not currently address sub-metered properties. CEC should encourage creative strategies to enable repayment on tenant meters, like virtual net metering (VNM) to apply on-bill repayment to the tenant areas.

Whole-building aggregated data and disclosure: Data on multifamily whole-building energy usage is particularly difficult to obtain due to the complex metering configurations between owners and tenants. Lack of this data is a barrier to designing incentive programs, providing savings guarantees to potential lenders, improving software analysis tools, and to understanding effectiveness of upgrade opportunities.

Policy/Actions Recommendations:

- A. Efforts to improve data accessibility should include mechanisms for IOUs to share aggregate whole building energy usage data for multifamily properties that include common area and tenant-paid meters. The data should be made available to public agencies and each property's owners and managers.
- B. AB 1103 provisions should be extended to include segments of multifamily as a commercial building type (for example New York's commercial benchmarking ordinance applies to multifamily buildings that are 50,000 square feet or larger) in that the benefits of benchmarking, labeling, data access and disclosure apply similarly to the multifamily and commercial sectors.
- C. Add as a new Key Initiative: Support easily accessible and flexible financing programs using private capital for residential upgrade projects as a cost-effective solution
- D. Add as a new Key Initiative: Explore programs which model residential homes and upgrade potential at varying degrees of scale (i.e., model home types, designs) and provide this information to program administrators and contractors in addition to single home, upfront modeling requirements.
- E. **Water energy nexus:** Promoting water efficiency upgrades in conjunction with energy efficiency upgrades is particularly compelling in multifamily housing because 1) it is common for multifamily properties to be centrally metered for cold water, thus the property owner has a direct incentive to install water efficiency measures (split incentive less present) 2) water heating is a dominant energy use in multifamily buildings due to promotionally less energy spent on heating and cooling and water

efficiency can lead to water heating savings, 3) multifamily property owners may have incentives to market their units as green and could promote multiple benefits approach associated with green labeling. The ARRA funded PAYS on-water bill repayment pilot that coupled energy and water measures saw significant participation from multifamily properties. In addition to improving uptake in energy efficiency programs, water conservation results in upstream energy savings related to water treatment and conveyance.

VII. Benchmarks and Audits

Key to LGSEC's comments and recommendations in this Priority Area, is the distinction between tools and calibrations acceptable to and recognized by government agencies and those those will be recognized and functional for building owners and lenders. In the commercial realm, retrocommissioning involves large loans that the original mortgage-holder is unlikely to extend or approve without reasonable analytic assurance that the transaction will be, at the least, cost-neutral. High-level Investment Grade Audits provide this assure and granularity. If investments are to be made in additional tools, we caution that they be designed to respond not simply to governmental requirements, but to provide the data needed by building owners to consummate retrocommissioning financing. For this reason, we recommend adding to the Potential Stakeholders list, representation for banks and lending institutions.

Policy/Actions Recommendations: In addition, the LGSEC respectfully suggests that before funds are invested in new tools or initiatives, the following elements be considered or clarified:

- A. Intended Purpose and Application of New Tools: In general, benchmarking tools serve 3 purposes: 1) a statistical comparison of energy performance with other like buildings; 2) for building portfolio purposes, in that the building is benchmarked

against itself to track performance, or 3) for energy improvement simulations, for those tools with the capacity to benchmark against an energy simulation or modeling. While the latter would seem the most effective in setting the foundation for commercial building improvements, a recent California study⁸ It is critical to structure actions under this Priority Area to align with a specific outcome.

- B. The Current Commercial Building Energy Consumption Survey (or CBECS) Will Alter Existing Benchmarking Guidelines. EPA Portfolio Manager, the primary reference tool in benchmarking is calibrated pursuant to the most recent CBECS, which dates back to 2004 (using data from 2003), prior to a number of policy, technology, and standards improvements in energy performance. A new CBECS will be published in 2014, and is currently in the process a nationwide building audit effort that includes more than 12,000 buildings. Also, the 2014 CBECS will add more than 240 Primary Sampling Units. Moreover, the 2014 CBECS will include commercial buildings of less than 50,000 square feet (including even Laundromats and dry cleaners), which is identified in the *Draft Action Plan* as a critical gap. In any event, the LGSEC believes that some, maybe much, of the technical work anticipated under this Priority Area may be performed under the CBECS effort, and we encourage coordination with the U.S. Energy Information Administration to ensure that California's work is based on latest data, and that our respective efforts are complementary and not duplicative.

- C. Commercial Audit Incentives. Regarding the cost-challenges of audits for small and medium-sized businesses, the LGSEC also supports Santa Clara County's original

⁸ NMR Group, Inc. and Optimal Energy, Inc., *Statewide Benchmarking Process Evaluation, Volume 1: Report*. April 2012
http://www.calmac.org/publications/Statewide_Benchmarking_Process_Evaluation_Report_CPU0055.pdf

2013-2014 Program Implementation Plan proposal for ASHRAE II and/or Investment Grade Audit (IGA) rebates. The County proposed a model whereby 50% of audit costs were either rebated, or in the case of IGAs, advanced against an obligation to repay (either as part of the retrocommissioning loan and paid at the time the loan was enrolled, or if no recommission was undertaken, then by the building owner under convenient payback terms). A limited-term commercial audit rebate program serves two purposes: i) to stimulate uptake in the commercial market, and ii) to provide sufficient performance data (organized by building types) to develop building profiling guidelines that identify and provide per-measure data for classes of buildings according to energy savings potential.

- D. Edit Key Initiative 1 as follows: “Develop benchmarking tool(s) *and support existing tools in use* that are appropriate for the various segments of the commercial and public building markets (for example, large offices, small offices, restaurants, and retail).
- E. Add as new Key Initiative 4: Address issues associated with customer confidentiality related to compiling benchmarking data.

VIII. Small and Medium Commercial Buildings

The LGSEC agrees with the CEC’s thorough assessment of this complex, challenging, yet promising market sector. Under ARRA, a number of California governments piloted projects that sought to address existing market barriers specific to small and medium sized buildings and the relationship (sometimes transient) of tenants to these structures. In addition to the CEC’s observations in this Priority Area, we believe that as the economy rebounds, competition for

tenants in these spaces may drive building owners to undertake improvements, which can tapped for grafting-in of energy efficiency upgrades. The 2013 CBECS may also provide data germane to this market, and creative training-for-services “swaps” (see above in **Expanded Workforce Development**) may provide auditing solutions here as well. In addition:

Policy/Actions Recommendations

- A. Under ARRA, Los Angeles County conducted a market segmentation study of commercial buildings throughout the County to support PACE marketing, education and outreach efforts. This and other efforts conducted by ARRA recipients should be collected
- B. Pilots for implementing EE measures in small, medium commercial buildings should be done while promoting financing programs available to these sectors (e.g., on bill financing, non-residential PACE).
- C. Additionally, measures should be identified and proposed as a comprehensive upgrade. One strategy building owners should consider is “staging” bundles of measures so that the savings from the first set of implemented measures can be used to finance the next set of measures.
- D. Key Initiative 2 should include other “low hanging fruit” audits (i.e. lighting or other direct install measures) with the economizer assessment.
- E. Under Key Initiative 4, LA County’s ARRA experience is that the IOUs Quality Install and Maintenance programs were enhanced through incentivizing HVAC contractors to turn routine HVAC jobs into Whole Home Upgrades (EUCLA HVAC Contractor Pilot).

IX. Public Sector Leadership

The *Draft Action Plan* correctly recognizes public buildings represent a meaningful opportunity to gain energy efficiency savings, and that state, regional, and local governments can serve as transformative agents in this market. . In fact, local agencies have been serving this role, as demonstrated by the following examples:.

- For several years, the County of Los Angeles has used an electronic energy management information system (“EEMIS”), which allows the County to perform sophisticated benchmarking to track a building’s performance over time, and in comparative analysis against other like buildings. . The *Draft Action Plan* calls out the web-based B3 Benchmarking Program as a way to compare "a building's energy use to similar buildings in the same climate region". We recommend that the CEC also consider EEMIS. It can be expanded throughout the state, and could be more useful to public agencies for a number of reasons beyond benchmark comparisons and determining baseline efficiency projects. It would not make sense to create a new system when a perfectly good system could be adapted and expanded for much less costly to the state.
- Under the SoCalREN, a Community Energy Efficiency Project Management System (CEEPMS) software package is being developed which will automatically link existing online permitting systems to IOU rebate measures within permit applications. Under the SoCalREN, the CEEPMS has been available to all local governments in the SCE/Gas service territory.
- Under the SoCalREN, a Job Order Contracting program for public agency building projects launched in July of 2013 which will serve all of the joint SCE/Gas Company service territory. It will be combined with various public agency project financing programs.
- Beginning in 2006, The Association of Monterey Area Governments (AMBAG) implemented a countywide (21 municipal jurisdictions) benchmarking and introductory energy efficiency measures project, which has to date serviced more than 400 buildings public buildings. Phase 2 of the plan is underway, offering

customized upgrades for 40 buildings at present. The total program has served government facilities, schools, local airports, 3 waste water treatment plants, and other sites.

- Under its Government Operations Climate Action Plan, the County of Santa Clara adopted a plan similar to AMBAG's beginning in 2009. The County has presently served more than 50 buildings and sites through its capital improvement and energy upgrade programs, and coupled energy and water conservation measures with installation of nearly 6 megawatts of renewable energy generation, green infrastructure, and EV Charging Station installations.

Policy/Actions Recommendations:

A. Support Expansion of Local Government Regional Energy Networks. The two existing RENs represent roughly 60% of the State's population; however there are other government alliances in the form of JPAs, COGs, and otherwise, that are ideally positioned to be recognized as RENs, with acumen and expertise to design and administer energy efficiency programs. Where these government alliances meet the technical, skills, and operational criteria of the CEC and CPUC, they should be supported in submitted program implementation plans for consideration.

B. Revolving Loan Fund for Public Buildings. LGSEC is sensitive to indications that the State's Energy Regulatory Agencies are receding from programs that use ratepayer funds to serve as loan funds. In order to assure the highest, best and most responsible use of these assets, LGSEC's Financing Subcommitte has considered:

1. “Revolving structures” do not actually “spend” funds, but place them in a closed-system circulation. Assuming that financing structures under the control of the CPUC or CEC are established as evergreen or extended-term programs, these funds continuously return through the repayment process
2. A Public/Institutional Fund can be dedicated to those measures (e.g., building shell measures) with longer payback periods (defined here to include both

conventional financing payback periods, or the number of years necessary for accumulated annual energy savings to equal the loan amount plus interest and fees). Conventional lenders are less enthusiastic to fund these measures as they produce a different rate of return over time (incorporating the “time value of money” into their analysis). A public fund targeted to longer-term or “blended” return rate measures is a responsible, cost-effective and productive compromise that satisfies the priorities of all parties and ratepayers.

C. Demonstration and Comparative Analysis of Existing as well as New Tools. For example, the B3 Benchmarking tool may useful and resourceful, but the LGSEC encourages the CEC to work with local governments to demonstrate and evaluate systems, such as EEMIS, which are already in use.

D. Public Sector ME&O. Earmark specific funds for public sector energy efficiency outreach. Public sectors campaigns are different – they deal more with credibility, risk aversion, and fiscal responsibility. In addition, public sector campaign should include education and training for public staff persons, including how to translate and carry energy efficiency into their own communities.

X. **Financing**

Nearly simultaneous with this filing, the LGSEC has prepared its Opening Comments to the Proposed Decision Implementing the 2013-2014 Energy Efficiency Financing Pilot Programs (the 2013-2014 Financing Portfolio), and we will incorporate a number of comments and recommendations from those Comments here.

Most importantly, financing is the Priority Area the LGSEC calls out as the most (but not singularly) relevant to the Priority Needs listed above in Section I (Introduction) – specifically issues of process and the need for programs to reflect and align with practical market realities.

We feel these are essential to realization of the State's long-term energy efficiency goals. In addition, the LGSEC encourages the CEC and CPUC to open dialogue with implementers and stakeholders with the intent to develop a more long-term, sustainable financing plan that explores legislative options, incremental financing, and other partnerships.

Policy/Actions Recommendations

A. Support Local Government Critical Role in Financing Programs. As noted above, local governments have pioneered a number of energy efficiency financing programs, provided significant consultation to the CPUC's financing contractors, and a number of local government financing programs were incorporated into the Proposed Decision for the 2013-2014 Financing Portfolio. Further, local governments partner with banks and other lending institutions on a frequent and diverse basis, in the course of providing significant services to the public. In addition, local governments are structured and highly-suited to initiate and serve as the vessel for delivery of leveraged and incremental funding. It is not in the best interests of the State's long-term energy efficiency goals to stifle the innovation and productivity of local governments in this Priority Area.

B. Prioritize Testing Financing Mechanisms and Building Market Demand Over Building Financing Infrastructure. The LGSEC strongly supports the CPUC's plan to erect a statewide infrastructure for energy efficiency financing, and its members are eager to provide support and generate demonstrable returns to the CPUC's energy financing action plan. As we have stated in all filings throughout the 2013-2014 Financing Portfolio proceeding, we believe it is a more practical and cost-effective approach to platform pilot, assess and refine financing mechanisms, identify those

that excite the marketplace and overcome market barriers, and then match and build the infrastructure most effective for deployment of those resources. We do have some concern that the infrastructure itself has taken on the role of the greatest priority. Without adequately testing and establishing the right financing tools first, we may find ourselves with an infrastructure that is out-sized, incompatible, or less streamlined and tailored to the financing toolkit that ultimately best serves the State.

C. Develop Programs That Reflect Market Sector and Consumer Realities. The *Draft Action Plan* rightly observes that “Demand will drive financial innovation.” (p. 64) The LGSEC firmly believes that the build of demand is our primary and, chronologically, first duty. This requires clear product offerings, e.g., a basic on-ramp option for moderate-consumers and cautious newcomers, and an advanced path option for dedicated consumers which does not compete with or cannibalize the basic model. The LGSEC has considered a number of incentives (including non-monetary ones) targeted to move basic path consumers over time into whole-home retrofit undertakings. Incentives are not intended to be a long-term solution, but they “de-risk” early finance models, and facilitate the proof of concept necessary to stimulate scale, which will ultimately catalyze private equity development and engagement. Similarly, financing programs must be structured in a manner compatible with the business models and practices of its key partners. Lenders seek streamlined programs, offerings designed to generate strong public demand, an infrastructure for their investment that is complete and ready, and clear visibility into a robust pipeline of projects – in short, a program that honors the time value of money.

D. Improve Processes and Their Timelines, and Move Purposefully to Address Market

Barriers. This is a particularly sensitive issue in financing programs. The LGSEC has cultivated a number of significant lender relationships and maintains a strong network of whole-home and specialized, independent and unionized, contractor relationships. These two significant partners often struggle with processes that, under their business models, appear inefficient. For example, rolling cycles are essential to sustaining these alliances and continuity, consistency and reliability of programs. Timely development, review, assessment, approval and implementation of programs is of equal and vital importance.

Process may also be refined and directed purposefully at removing market barriers.

For example, in energy efficiency financing, our success would be enhanced if we could reverse or solve basic challenges, including:

1. The appraisal community does not consider value creation of retrofits
2. Limits to transaction comparables for efficient buildings
3. Lack of disclosure of building energy efficiency ratings and non-standard energy audits
4. Limited historical tenant demand

E. Convene Local Governments With the Greatest Energy Efficiency Financing

Experience. Local governments pioneered much of the State's energy efficiency financing programs to date, many through the American Reinvestment and Recovery Act (ARRA). For example, under ARRA Los Angeles County ran a successful Revolving Fund for Government Facilities Program that is fully subscribed (\$5

million) with retrofits and tracking underway; as well as an Energy Upgrade California Residential Flex-Path Program. It has recently rolled out an HVAC Reactive Measure Financing Program, and its Non-residential PACE program has over 40 applications with \$25 million in projects (1 project has been funded). Further, the County launched a Public Agency Master Lease Program (similar to CEC Local Govt loan program), which utilizes private financing). Additional examples are also described above (**Public Sector Leadership**). At present, local governments have been relegated to the status of “stakeholders” in financing proceedings, notwithstanding their strong support and paramount contributions to this effort. The RENs are independent designers and administrators who formally serve as implementers, and it is important that financing proceedings enlist the RENs in this role and capacity.

F. Track and Study Energy Efficiency Programs. A program or study should be developed and continuously maintained which tracks and compares the results of all financing programs; while considering that: some are supported completely with ratepayer funds, some are a combination of ARRA and ratepayer, and some use only private capital. As private capital programs grow (e.g. PACE and other private municipally backed programs), the State should centrally track all program details and results.

XI. Mandatory Approaches

. The LGSEC wishes to defer significant comment on Mandatory Approaches, in favor of more urgent needs as outlined in these Comments. At present, we do recommend that Key Initiative 1 under this Priority Area be modified to consider conducting the public workshop whether mandatory approaches are deemed necessary and feasible or not at the time. It is our position that the workshop will help determine if or what mandatory measures may be deemed necessary or feasible, and also stimulate ideas on how to balance mandates with public choice and capacity.

XII. Coordination and Oversight

To the extent the CEC establishes an oversight group, as described on p. 74, it should include local government representatives. The *Draft Action Plan* rightly recognizes the critical role of local governments in the success of AB 758 and names them as participants in any oversight body.

The CEC should also consider whether and how an AB 758 oversight group would interact with the many advisory groups and opportunities sponsored by the CPUC.

XIII. Conclusion

The progress under AB 758 is as impressive as the mission is daunting and essential. During development of the framework for implementation of the legislation, an increasing number of local governments have established background and expertise in energy efficiency

programs and policies. In addition, the role of local governments in Energy Efficiency Programs has evolved from stakeholder to implementer and administrator of independently-designed programs and initiatives. The LGSEC is confident that progress under AB 758 will continue to grow and deliver impact, together with the commitment and capacity of local governments to express a more valuable voice, and to serve as even more effective agents of transformation in energy efficiency.

Respectfully submitted,



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