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California Energy Commission
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Re: Docket Number: 12-EBP-1
1516 Ninth Street
Sacramento, CA 95814-5512
Via email to docket@energy.ca.gov



Comments of the California Center for Sustainable Energy regarding the Draft Action Plan for the Comprehensive Energy Efficiency Program for Existing Buildings

The California Center for Sustainable Energy (CCSE) is pleased to provide these comments in response to the AB 758 Draft Action Plan (“Action Plan”), released June 17, 2013. CCSE is a mission-driven 501 (c)(3) non-profit dedicated to accelerating the adoption of clean and efficient energy solutions in California. We have eagerly anticipated the implementation of AB 758 since its passage in 2009, and we are excited that the California Energy Commission (“Energy Commission”) is moving ahead with full deliberation. CCSE has been heavily involved with the ARRA funded AB 758 pilot programs, working with local governments, utilities and other stakeholders throughout Southern California to market and administer incentive programs, train contractors and expand workforce opportunities, and educate the public about the value of upgrading their home’s energy performance. We were pleased to see a great many lessons learned from these pilots already incorporated into the Action Plan, and we appreciate the opportunity to engage with the Energy Commission to provide further insight into the planning process for AB 758.

CCSE commends Lead Commissioner Andrew J. McAllister and Energy Commission staff for putting together a thoughtful, comprehensive assessment of current market needs and possible steps forward to address them. The Action Plan outlines myriad strategies and initiatives aimed at tackling the many thorny barriers to mass adoption of energy efficiency upgrades in existing buildings. CCSE recognizes that achieving deep and lasting energy savings in California’s existing building stock is both critical to meet AB 32 goals for reduced greenhouse gas (GHG) emissions and extremely difficult and resource intensive at the same time. With numerous efforts by various actors underway in California to achieve energy reductions in the built environment, the need has grown for focused and concerted leadership to substantially and definitively coordinate these activities and realize measurable achievement on the ambitious energy and

climate goals set out by the legislature and state agencies. We are encouraged by these steps from the Energy Commission to provide diligent and steadfast leadership in this undertaking under the mandate of AB 758.

CCSE has been impressed by the number and diversity of stakeholders engaging in discussion at the workshops held by the Energy Commission in late June, 2012. We expect there will be a great deal of well-informed comments for the Energy Commission to utilize in finalizing the Action Plan, and we look forward to working with stakeholders to build consensus on key issues going forward. With this in mind, CCSE focuses its comments on the following:

- Overall Goals and Metrics
- Data Reporting, Management, and Availability
- Utilize Existing Infrastructure for Implementation
- Marketing, Education and Outreach
- Workforce Training
- Real Estate Engagement
- Mandatory Approaches
- Gaps and additional Considerations

I. Overall Goals and Metrics

A first step in the development of any program is the identification of goals. CCSE appreciated the outline of goals the Energy Commission defined for the Comprehensive Energy Efficiency Program for Existing Buildings (CEEPEB) on pages 8-10. The identification of the ultimate goal being “to achieve meaningful energy savings in all building end uses”¹ is a helpful starting point as a concise core objective that supports Commissioner McAllister’s articulation of the program’s vision “that all Californians have access to an economically and environmentally sound built environment for themselves and for future generations.”

In its final draft of the Action Plan, we urge the Energy Commission to determine and state clearly what constitutes “meaningful” savings for the CEEPEB to measure. This step to quantify expected progress must be taken before considering metrics, cost-effectiveness criteria, evaluation, measurement and verification (EM&V), or any other aspects of program design, and it will enable the program to set achievable targets for its specific goals and measure success on all aspects of this ambitious effort. Furthermore, we ask the Energy Commission to very deliberately correlate the program’s quantitative goals with those contained in the AB 32 Scoping Plan. Pegging AB 758 targets to the energy efficiency goals of AB 32 is consistent with the spirit and letter of the legislation, which states that the purpose of the CEEPEB should be to realize “the significant energy savings and greenhouse gas emission reductions inherent in the state’s existing residential and nonresidential building stock.”²

¹ Draft Action Plan pg. 8

² Assembly Bill 758, Skinner, Section 1.(a)(1)

Though the high level goal of achieving energy savings and reducing GHG emissions may appear self-evident, an energy efficiency program for existing buildings focused specifically on these goals would in fact be a novel undertaking. Certainly there are and have been many programs and activities overseen by the CPUC that help to achieve these objectives; however, at their core, ratepayer funded programs exist to provide specific benefits to IOU ratepayers, namely cost savings from avoided infrastructure investment. The goal of avoiding the construction of new power plants and delivery infrastructure is a laudable one, but the policy framework that results from it is proving to be at odds with the task of achieving deep energy efficiency retrofits and meeting California's aggressive energy and GHG reduction goals.

For example, the cost-effectiveness methodology for current EE programs, which is based largely on avoided infrastructure costs, does not allow for the level of comprehensive savings in existing buildings envisioned in either AB 758 or the Long Term Energy Efficiency Strategic Plan (LTEESP), particularly in the residential and small commercial sector. The net-to-gross component further exacerbates the issue, barring incentives that bring buildings up to Title 24 compliance levels of efficiency and reducing the amount of claimable savings resulting from customer motives not related to energy savings through costly surveys administered months or years after a project is completed. Engaging customers and persuading and incenting them to undertake major EE projects is an extremely costly venture. If the state is serious about the goals laid out in the LTEESP as well as the energy efficiency targets contained in AB 32, a new approach to energy efficiency policy is required. This approach must be highly pragmatic, with a greater emphasis on overall energy savings than on parsing customer motives and holding firm to Title 24 as a baseline (in light of questionable compliance rates).

The AB 32 Scoping Plan anticipates 19.5 million metric tonnes CO₂e reduction in GHG emissions by 2020 from energy efficiency, translating to approximately 32,000 GWh of electric energy savings and 800 million therms of natural gas.³ Based on savings targets for the state's investor-owned utilities (IOUs), current investment in energy efficiency in California is currently achieving approximately 2,000 GWh annually, starting in 2010 (including claimed savings from codes and standards), or 1,200 GWh per year short of the average savings needed to meet the 2020 goal. This gap must be bridged, and the Energy Commission is well-positioned to lead the way, as it has for more than 3 decades with its highly successful Title 24 and Title 20 standards. We encourage the Energy Commission to align the goals of the CEEPEB with the portion of California's AB 32 GHG reduction commitment associated with energy efficiency. With this question decided, the Energy Commission can then turn to the task of designing an appropriate cost-effectiveness criteria and EM&V methodology.

Non-Energy Benefits

The issue of non-energy benefits (NEBs) is closely related to the discussion above. Through our experience with the ARRA-funded AB 758 pilots, a major lesson learned has been that customers who choose to undertake major home upgrades will not do so based solely on the

³ The California Air Resources Board. *Climate Change Scoping Plan: a framework for change*. December, 2008. P. 41

potential cost savings from reduced energy use. This is particularly true throughout California's temperate coastal climates, in which a significant percentage of the population lives. Rather, customers are retrofitting their homes in order to make them more comfortable and safe for their families to live in, as well as to save on energy costs. The Energy Commission must embrace this as an opportunity rather than a quandary, as it offers a reason for Californians to take the critical actions necessary for us to meet our climate goals. A pragmatic approach to program design will seek to understand and identify customer motivations for initiating EE projects and leverage them to maximize energy savings. This will also enable marketing, education and outreach efforts to more effectively speak to customers about the myriad benefits of upgrading their properties without the risk of negatively impacting cost-effectiveness evaluation studies, which is currently an issue with ratepayer funded methodologies.

NEBs also present interesting potential opportunities for partnerships that can assist the Energy Commission in tackling one of the most fundamental hurdles to implementing AB 758: the need for incremental funding sources to augment the restrictive ratepayer funds. While NEBs are of little value to agencies charged with regulating utilities and siting power plants, each NEB may represent a great deal of value to other agencies and actors throughout the state. For example, indoor air quality, which leads to reduced asthma rates and allergy complications, is potentially of great interest to the Department of Public Health and the EPA. CCSE encourages the Energy Commission to explore opportunities to partner with such agencies to bring additional resources to bear and leverage the synergies inherent in energy efficiency projects. As a crucial first step, NEBs should be economically quantified where at all possible. The Energy Commission can then identify relevant state and local entities with a specific interest in each NEB, and partnerships should hopefully result in opportunities for resource leveraging.

II. Utilize Existing Infrastructure for Implementation

With respect to the question of which entities are best positioned to lead the implementation of AB 758 efforts, we offer the following input. The Energy Commission rightly acknowledges the role local governments, public agencies, non-profits, and community-based organizations (CBOs) can play to facilitate development of a robust marketplace for energy efficiency alongside invested market providers such as utilities, contractors and manufactures and market participants such as building owners and real estate professionals. The AB 758 pilots funded under ARRA resulted in the development of critical program delivery infrastructure, both at the ground level and statewide. A network of local governments, non-profits, and CBOs delivered incentives, financing, workforce training, marketing, education, and outreach, contractor recruitment, stakeholder coordination, and many other services that will comprise the CEEPEB. Much of this infrastructure remains in the form of Regional Energy Networks (RENs) and other collaborative efforts on the part of local governments and their partners. As mentioned in the Action Plan, the Energy Upgrade California brand platform itself, developed to support the ARRA AB 758 pilots, is expanding under the guidance of CCSE in 2013-2014 to provide marketing, education and outreach support for all demand-side management efforts in the residential and small commercial sectors. This platform belongs to the State of California under

the joint leadership of the Energy Commission and the Public Utilities Commission and we urge the Energy Commission to use this infrastructure to support and implement the CEEPEB.

III. Data Reporting, Management, and Availability

CCSE commends the Energy Commission for identifying the availability, transparency, and quality of data as a key market driver and an area in need of much improvement in California. Ultimately, the success or failure of any retrofit program will hinge on the ability of contractors and other market actors to convince property owners to invest large sums of money into projects. This effort requires various detailed data sets at every step in the process. Marketing energy efficiency cost-effectively requires energy usage data to identify customers with the greatest potential for savings and, therefore, the greatest return on investment. Once potential customers are identified, highly accurate data regarding historical and current energy usage is needed to allow for a transparent evaluation of the investment decision a customer must make. After a project is completed, further data is necessary in order to evaluate the actual level of achieved savings as well as for customers to monitor their post-project energy performance and tangibly understand the benefits gained from their investment.

The availability of actionable data would produce a great number of benefits. A few of these include:

- **More efficient and effective program design and implementation:** program delivery is greatly improved when the right market actors readily have access to data that shows how, when, and where consumers are using electricity.
- **Support for innovation:** In recent years, countless industries have sprung up and/or greatly benefitted from access to data that may have once been considered mundane or unimportant. Innovative entrepreneurs are able to analyze, interpret and combine many data sets to create new products and services for customers. *California Solar Statistics*, a product of the California Solar Initiative program, has greatly expanded the market for rooftop solar and other related services and has driven a great deal of product innovation as well.
- **Improved EM&V:** Public availability of project level and aggregated data from demand-side management programs can stimulate in-depth analysis by third parties such as academic institutions, think tanks, national labs, and non-profits. Allowing this data to be independently analyzed by financially non-interested parties can bring added credibility to the process and reveal deeper insight into strengths and weaknesses of programs.

CCSE appreciated the many thoughtful comments heard at the June 24 workshop in San Francisco, during which data was discussed. We agree whole-heartedly with Commissioner McAllister regarding the incalculable value brought to the solar marketplace by California Solar Statistics (CSS), and we eagerly anticipate the launch of CA Energy Efficiency Statistics later this Fall. While this new database will likely prove highly valuable, the Energy Commission should

continue to push the envelope on data availability, ensuring that the marketplace has access to any and all data it possibly can while still maintaining a reasonable level of privacy.

IV. Marketing, Education, and Outreach

The Energy Commission correctly identifies marketing, education, and outreach (ME&O) as a critical need for the success of AB 758 efforts. As the steward of the Energy Upgrade California™ brand and coordinator of the statewide ME&O campaign, slated for launch under the auspices of the CPUC in early 2014, CCSE is actively working with staff at the CPUC, Energy Commission, IOUs, local governments, community-based organizations, and other stakeholders to build an integrated brand platform aimed primarily at residential and small business consumers to support their informed decision making related to demand-side energy management. We appreciate the direct engagement of Energy Commission staff in the process of transitioning the Energy Upgrade California brand from its beginnings as a whole-house retrofit program to the statewide umbrella brand for energy management. The brand belongs to the State of California under the joint leadership of the Energy Commission and the CPUC and is a shared resource for both agencies and their affiliated programs such as the CEEPEB and the statewide ME&O program.

The Action Plan rightly notes that businesses and consumers make decisions related to their energy consumption and efficiency expenditures based on a variety of criteria unique to their circumstances and values and in relation to their perception and value of full spectrum of perceived benefits provided—they do not see many of these choices as about energy specifically though energy savings is one benefit. Activating and influencing the consumer decision process is critical to CEEPEB success, and requires consideration in all aspects of program design. In private enterprise, the connection between product design and marketing and product education is well understood. If a product is not designed in a manner that is compatible with the needs and desires of customers, no amount of marketing can drive significant sales. However, energy efficiency (and demand-side management, broadly) programs in California oftentimes break with this principle with their design resulting from complex regulatory frameworks and often with little forethought given to how the program will be presented to the very customers whose participation is expected. CCSE urges the Energy Commission to carefully consider the role of marketing and the perspective of the customer in all implementation of the CEEPEB, and looks forward to supporting such consideration through Energy Upgrade California coordination.

Using all available data to understand the customer and successfully provide the right offer to the right target at the right time is another crucial marketing best practice and CCSE appreciates the Action Plan's emphasis on improving data availability and leveraging the insights it can provide to the full extent possible. Successful marketing, education and outreach will need to strike a balance between high-touch, hyper-local hand-holding approaches to educating Californians and marketing tactics that provide statewide scale and demand stimulation and both approaches require good data to be strategic, targeted and cost-effective.

CCSE is very supportive of the Energy Commission's emphasis on developing multiple pathways for property owners to participate in energy efficiency opportunities. These efforts will increase consumer choice and should better meet consumer needs. The relatively low uptake of ARRA-funded retrofit programs clearly demonstrated that the vast majority of homeowners are not prepared to invest tens of thousands of dollars at once into improving the energy performance of their homes. It is crucial that we find a way to engage homeowners on their terms with offerings that fit their budgets and appetite for savings, while continually educating them about and engaging them with further offerings going forward. Rather than expecting customers to take an all-at-once approach, we must put them on the road to incremental improvements that ultimately result in comprehensive energy upgrades over time. CCSE notes that marketing can play a key role in this effort. If appropriately wielded, marketing efforts can provide a platform on which to shape the way in which energy efficiency offerings are presented to customers. Multiple pathways can be developed through deliberately targeted ME&O efforts designed to lead customers on the optimal path for their current situation. We recommend the Energy Commission utilize Energy Upgrade California as a platform to pilot such approaches in collaboration with the Statewide ME&O program and other related efforts.

V. Workforce Training

CCSE agrees with the Energy Commission's assessment of workforce development as a key focal point for the successful delivery of high-quality energy efficiency projects. As BPI and HERS trainers, CCSE is keenly aware of the many excellent certifications and standards existing in the marketplace for contractors and other market actors. We caution the Energy Commission to ensure that any certifications or standards it may look to create be appropriately matched to the needs of the market. Certifications are not an end unto themselves, and both regulators and certification bodies must be acutely in tune with the way in which projects are marketed, closed, performed, and evaluated in order to ensure contractors are receiving skills training that is truly relevant to customers' needs. Furthermore, it is important that the value of such certifications be communicated more widely to consumers in order to maximize the value and equity of investing the time and resources into going through rigorous and sometimes expensive training regimens.

VI. Asset Ratings and the Real Estate Market

CCSE supports the Energy Commission's proposed initiatives to incorporate the value of Energy Efficiency in property valuation. This is no easy task, as current factors that impact the bulk of decision making for home buyers and real estate agents have little to do with the underlying energy performance of the physical structure being considered. There have been a number of efforts over the years to partner with the real estate agency at local and regional levels which have been met with limited success. The process is driven by a great many different actors with different agendas, and it becomes necessary to demonstrate the value of energy upgrades to all of them in order to be successful; for example, getting buy-in from just a realtor is not effective if the building inspector or developer is not similarly on board.

Incentivizing realtors may not have the desired impact, as their chief and overriding motive in a transaction is to sell the property. Rather, the Energy Commission may find it more useful to focus on education and outreach to the real estate community regarding the full suite of benefits that result from energy efficiency upgrades. Once this has been achieved, marketing support to the real estate industry as envisioned in the Action Plan could prove effective. Of primary importance to the incorporation of energy efficiency in property valuation is the need for standardizing asset ratings. The Energy Commission should move quickly to determine the future of the HERS rating system and decide whether to reform HERS or come up with a new standard, but the key need is for a well-established and universally-accepted rating system that the real estate community can come to understand and effectively communicate to their clients.

Furthermore, the Energy Commission should take note of shifts in the way consumers are shopping for homes. Increasingly, prospective home buyers are turning to non-traditional sources of information, such as Zillow and Trulia. That latter of these has actually already begun incorporating environmental performance data into its listings, and others will likely follow suit as buyers begin seeking out more and more data for themselves. The Energy Commission should take note of such developments and seek to leverage these new marketplace actors.

VII. Mandatory Approaches

Much is made of California's success in the realm of energy efficiency, and oftentimes such messages are delivered in the context of ratepayer funded IOU programs; however, a great deal of California's energy savings are attributed not to voluntary programs, but rather to our building and appliance standards. While voluntary efforts are key to meeting our AB 32 goals, the magnitude of energy efficiency savings needed to help meet those goals will require further regulatory action, as is explicitly envisioned in the AB 32 Scoping Plan.⁴ Voluntary programs to date have not produced results at nearly the scale needed to achieve the 40% energy use reductions in the residential sector called for in the LTEESP, and the current cost-effectiveness restrictions on ratepayer funds do not allow for the amount of support necessary to drive large-scale adoption of energy upgrades.

Mandatory disclosure of building energy usage can be instrumental in driving the marketplace for energy efficiency upgrades. Requiring reporting on energy performance and publicly disclosing that data (while addressing privacy concerns) could go a long way towards socializing energy usage as a factor in rental, lease, and purchasing decisions. The ability for customers to compare their energy use to others would provide extremely valuable information to customers that can motivate them to take action in a way that traditional marketing cannot. Furthermore, to the extent that such mandatory measures result in data that is available to the marketplace, innovative marketing and engagement strategies are sure to follow, making use of data analysis and statistical techniques to deliver energy efficiency in new ways.

⁴ The California Air Resources Board. *Climate Change Scoping Plan: a framework for change*. December, 2008. P. 42

Certainly the successful implementation of mandatory approaches will hinge on the success of voluntary pathways, and there must be an even distribution of “carrots” and “sticks” to drive the market in the desired direction without causing negative economic impacts or public backlash. CCSE supports the “glide path” concept as laid out in the Draft Action Plan on page 70, and we encourage the Energy Commission to review public comments on the October, 2012 workshops from the real estate community, which appear supportive of mandatory requirements that do not unduly burden the transaction process. Such support will be highly valuable moving forward with any mandatory approaches.

VIII. Gaps and Additional Considerations

CCSE commends the Energy Commission on the comprehensiveness of the Draft Action Plan and appreciates the work that went into its compilation. We do however note that the following topic areas were either missing from the plan, or may require further attention:

- **Draw from existing efforts around the country and state:** there are numerous initiatives, pilots, programs, and other activities targeting many of the same objectives as AB 758 that have been and are taking place throughout the state and around the country which the Energy Commission should draw from. This is true for many of the individual strategies outlined in the Draft Action Plan. We therefore strongly encourage the Energy Commission to take stock of existing efforts across the United States and the lessons learned from them before embarking on any of the individual initiatives identified in the Action Plan in order to avoid any proverbial reinventing of the wheel. The Energy Commission should also look beyond energy efficiency efforts to other clean energy sectors, such as solar, demand response, and behavior change, as there are many activities occurring in these spaces that can be translated to energy efficiency.
- **Contractor Participation:** In order to reach the absolute volume of retrofits needed to move the needle on energy efficiency in California, it is imperative that the contractor community be 100% bought into these efforts, as they will ultimately be the front-line sales force and implementers. Therefore, there must not only be a compelling value proposition for customers, but contractors must be given a reason to participate as well. Program design to date has arguably had the opposite effect. Complex and onerous processes associated with all steps of the process have kept the vast majority of contractors on the sidelines. Worse still, many once-participating contractors have walked away from retrofit programs, having invested a great deal of time and resources with little or negative perceived returns to their bottom lines. In the residential sector, we recommend that the Energy Commission look closely at the high volume low income retrofit programs for examples of successful contractor recruitment strategies. For example, through the federal Weatherization Assistance Program, local governments, community-based organizations, and other actors help develop a pipeline of project referrals for participating

contractors. In order to garner the level of buy-in required to get to scale, partnerships with the contractor community must go far beyond workforce education and training. The Energy Commission will need to enable on-the-ground implementers to provide a great deal of support services to the contractor community until a self-sustaining market is adequately established for energy upgrades. This will require giving such market actors wide latitude and flexibility to provide various market support services, such as audit incentives, contractor lead generation, contractor mentoring and technical assistance, and cooperative marketing opportunities

- **Plug loads:** Appliance plug load comprises up to 20% of electrical consumption in a given building, and this share is projected to grow as new consumer electronics continue to be introduced into the market. This will represent a growing challenge to meeting our energy goals, and the Energy Commission should consider incorporating a strategy to address it as part of AB 758 implementation.
- **Multi-family:** This customer sector is mentioned a number of times; however, no clear strategy emerges from the draft Action Plan to address this sector which, as the plan points out, makes up 30% of existing housing units.
- **Demand Response:** bundling demand response opportunities with energy efficiency offerings may help provide property owners the on-ramp they need to realize immediate monetary value in reducing their energy use that spurs them to take further steps towards a comprehensive retrofit.

IX. Conclusions

CCSE has been pleased to see forward momentum building around implementation of AB 758. We recognize the many challenges facing the Energy Commission as it seeks to define the scope of the Comprehensive Energy Efficiency Program for Existing Buildings, identify funding opportunities, and foster productive stakeholder engagement leading to tangible and positive results. We urge the Energy Commission to exercise its authority and take advantage of this opportunity to become the primary convening body for addressing energy efficiency policy and implementation in California. The Energy Commission has a great deal more latitude to take a longer view and a broader perspective than other regulatory bodies. This represents an invaluable asset that must be brought to bear if we are to have any hope of reaching our climate and energy goals for 2020 and beyond. We strongly encourage the Energy Commission to explore ways to incorporate both ratepayer funds and other incremental sources of funding, and we caution that while there are many existing energy efficiency programs administered by utilities, AB 758 implementation must not overly rely on them or view them as comprising any significant portion of the Comprehensive Energy Efficiency Program for Existing Buildings mandated by legislation. We appreciate the opportunity to provide these comments on the

Draft Action Plan for AB 758, and we look forward to actively working with the Energy Commission as it moves forward to develop and implement the Comprehensive Energy Efficiency Program for Existing Buildings under a new paradigm for California.

Sincerely,

A handwritten signature in black ink, appearing to read 'Sachu Constantine', with a stylized flourish at the end.

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