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*Comment Received From: Hanna Grene*

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*Docket Number: 15-IEPR-05*

**Comments of the Center for Sustainable Energy regarding the California Energy Commission's Existing Buildings Energy Efficiency Action Plan**

*Additional submitted attachment is included below.*



April 15, 2015

California Energy Commission  
1516 Ninth Street  
Sacramento, CA 95814-5512

Re: Docket Number: 15-IEPR-05

Dear Commissioner McAllister and Mr. Ismailyan:

The Center for Sustainable Energy® (CSE) thanks the California Energy Commission (Energy Commission) for the opportunity to provide these public comments regarding the *California Existing Buildings Energy Efficiency Action Plan*. CSE commends the Energy Commission for providing a strong vision with a clear map of activities to support increased efficiency in single-family, multifamily, commercial, and public sector buildings.

California must accelerate energy efficiency markets in order to meet the Governor's target to double the rate of efficiency savings in buildings by 2030. To meet this goal, we must overcome persistent barriers in each of our building markets and develop new and innovative strategies to accelerate the adoption of energy efficiency. CSE addresses these challenges in our comments with an emphasis on local government leadership, the need for statewide market transformation initiatives, and enhanced workforce, education, and training efforts.

CSE is pleased to engage with the Energy Commission on this important endeavor to advance energy efficiency in existing buildings in support of California's economic, energy, and climate goals.

Sincerely,

A handwritten signature in blue ink, appearing to read "Sachu Constantine".

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**Table of Contents**

**INTRODUCTION ..... 3**

**I. PROACTIVE AND INFORMED GOVERNMENT LEADERSHIP IN ENERGY EFFICIENCY ..... 4**

    1.2 Nonresidential Benchmarking and Disclosure ..... 4

    1.3 Building Performance Assessment Tools..... 6

    1.4 Uniform Energy Asset Ratings to Compare Building Properties ..... 6

    1.5 Building Efficiency Standards Development and Compliance ..... 7

    1.7 Local Government Leadership ..... 9

    1.8 Energy Efficiency as a Clean Distributed Energy Resource ..... 10

    1.9 Leadership: Existing Building Efficiency Collaborative ..... 10

**II. DATA DRIVES INFORMED DECISIONS..... 11**

    2.1 Modern, Accessible Data Resources..... 11

    2.2 Consumer-Focused Energy Efficiency ..... 11

**III. BUILDING INDUSTRY DELIVERS INNOVATION AND PERFORMANCE..... 12**

    3.1 Streamlined and Profitable Industry ..... 12

    3.3 High Performance Workforce and Education ..... 13

    3.4 Zero Net Energy Retrofits ..... 14

**IV. CALIFORNIANS RECOGNIZE AND BENEFIT FROM THE VALUE OF EFFICIENCY UPGRADES ... 14**

    4.1 Real Estate Value..... 14

    4.2 Marketing, Education, and Outreach ..... 15

**V. SOLUTIONS ARE ACCESSIBLE AND AFFORDABLE FOR ALL CALIFORNIANS ..... 18**

**CONCLUSION ..... 19**

**ATTACHMENT 1 ..... 20**

## **Comments of the Center for Sustainable Energy regarding the California Energy Commission's *Existing Buildings Energy Efficiency Action Plan***

### **INTRODUCTION**

The Center for Sustainable Energy (CSE; [www.energycenter.org](http://www.energycenter.org)) is a mission-driven nonprofit organization accelerating the adoption of clean and renewable energy technologies. Our role is to promote state, federal, and local sustainable energy investments, serving public agencies, as well as ports, transit agencies, regional energy partnerships, and others. We facilitate on-the-ground, clean energy market development projects that result in the adoption of energy efficiency, renewable energy, clean transportation, and energy storage technologies.

CSE works to improve energy efficiency in new and existing buildings through climate planning, policy development, strategic market intervention, program design and implementation, workforce education and training, marketing and outreach, and technical assistance. We offer the following resources and strategies to move the Energy Commission's strategies forward and jump-start activities in alignment with the *Existing Buildings Energy Efficiency Action Plan* (Action Plan).

- Support and assist local government efforts to adopt time-certain benchmarking and disclosure ordinances for nonresidential buildings.
- Help local governments lead with innovative programs and streamlined permitting for energy efficiency measures.
- Provide local building departments with training and on-the-job assistance with energy code and CALGreen compliance, including best practices for residential HVAC alterations.
- Train the workforce to provide high-quality, high-performance building upgrades.
- Map the way to zero net energy (ZNE) through an online [ZNE Roadmap](#) that steers cities and counties toward bigger, bolder strategies.
- Recommend and support the development of a centralized statewide online permitting portal.
- Educate, motivate, and activate California citizens through Energy Upgrade California®, the state's customer-focused energy education platform.

CSE addresses each of these approaches and the related Action Plan strategies in our comments. For more information, please contact Hanna Grene, Energy Efficiency & Building Performance Policy Manager, [hanna.grene@energycenter.org](mailto:hanna.grene@energycenter.org) or Lindsey Hawes, Building Performance Senior Manager, [lindsey.hawes@energycenter.org](mailto:lindsey.hawes@energycenter.org).

## I. PROACTIVE AND INFORMED GOVERNMENT LEADERSHIP IN ENERGY EFFICIENCY

### 1.2 Nonresidential Benchmarking and Disclosure

CSE supports the development of a statewide, time-certain nonresidential benchmarking and disclosure program for buildings above 50,000 sf gross floor area and notes that benchmarking has been shown to reduce operating costs for building owners, generate private investment in building upgrades, and create jobs.<sup>1</sup> We look forward to engaging with the Energy Commission as an active stakeholder to support the outreach, program development, and implementation of this market transformation strategy.

CSE will also continue to support the efforts of its local government partners to adopt benchmarking and disclosure ordinances in advance of and in alignment with the Energy Commission's statewide program. Through our work with local governments, CSE has noted that current restrictions on the availability of whole building data for building owners represent a significant barrier to the adoption of comprehensive local benchmarking ordinances. This is a key area where the Energy Commission could collaborate with the California Public Utilities Commission (CPUC), utilities, and local government stakeholders to ensure that building owners have access to monthly whole building data in order to comply with local and statewide benchmarking programs as well as monitor and reduce energy consumption.<sup>2</sup> The ability for building owners to access aggregated building level energy usage data from tenant meters is a critical step towards the creation of a successful statewide benchmarking program, and CSE encourages the Energy Commission to resolve this issue no later than Q1 2016.

ENERGY STAR® Portfolio Manager, the online measurement and tracking tool created by the Environmental Protection Agency (EPA), is used by 40% of commercial buildings across the country to benchmark energy and water consumption, as well as greenhouse gas emissions. The most useful information for the Energy Commission to collect through a custom Portfolio Manager reporting template is site energy use intensity (EUI), weather normalized source EUI, ENERGY STAR score (where applicable), total GHG emissions, total GHG emission intensity, electricity use, natural gas use, district steam use, and other fuel use in

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<sup>1</sup> Andrew Burr, Cliff Majersik, Sarah Stellberg, Heidi Garrett-Peltier. *Analysis of Job Creation and Energy Cost Savings From Building Energy Rating and Disclosure Policy*, March 2012.

<sup>2</sup> Research from the U.S. EPA's ENERGY STAR® program shows that buildings that consistently benchmark energy use reduce energy consumption by 7% on average.

[http://www.energystar.gov/ia/business/downloads/datatrends/DataTrends\\_Savings\\_20121002.pdf](http://www.energystar.gov/ia/business/downloads/datatrends/DataTrends_Savings_20121002.pdf)

addition to building information such as address, owner, property name, primary property type, year built, and gross floor area (ft<sup>2</sup>).<sup>3</sup> CSE suggests that the Energy Commission collect monthly energy and water use data and disclose annual energy and water consumption data through a public webpage with a searchable database. CSE notes that the Action Plan does not specifically address benchmarking and reporting of water consumption through EPA's ENERGY STAR Portfolio Manager measurement and tracking tool. CSE encourages the Commission to add monthly water consumption data to reporting requirements to enhance implementation of coordinated water/energy efficiency initiatives.

CSE also recommends that the Energy Commission develop a statewide Benchmarking Help Center that provides in-person and web-based training for building owners, managers, and interested stakeholders. The Benchmarking Help Center would also be available via email and a hotline number to answer questions well in advance of mandatory reporting deadlines. This strategy has been implemented in other jurisdictions with successful benchmarking and public disclosure ordinances, such as Washington, DC, Seattle, and New York City.

In Washington, DC and New York, the Benchmarking Help Center was operated by a non-governmental entity in coordination with local government. A nonprofit or academic operator of the Help Center positions it as a customer-oriented assistance provider and not as a regulator or enforcer. This has encouraged training attendees and advice-seekers to ask questions and get the assistance they needed to comply with benchmarking requirements as well as request information about energy upgrades to improve their buildings' energy performance scores.

Furthermore, the Energy Commission should anticipate the need for research, analysis, and publishing of findings based on benchmarking data and build this into its work plan. These activities, as well as case studies of high-scoring and most improved buildings, demonstrate the value of benchmarking and build momentum in preparation for mandatory reporting deadlines.<sup>4</sup>

Finally, CSE recommends that the Commission engage in a robust stakeholder engagement effort as part of prehearing and rulemaking activities for a statewide energy benchmarking

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<sup>3</sup> A full list of benchmarking disclosures for Washington, DC is available through <http://green.dc.gov/sites/default/files/dc/sites/ddoe/publication/attachments/BenchmarkDC%20Disclosure%20Glossary%202014.pdf>. Washington, DC requires reporting of monthly energy cost by fuel type but does not disclose this information to the public.

<sup>4</sup> Example case studies from the Institute for Market Transformation can be found at <http://www.imt.org/policy/building-energy-performance-policy/case-studies>.

program. Energy and water benchmarking are already best practices for the state's leading commercial real estate owners and managers, many of whom have been awarded ENERGY STAR Partner of the Year for continuous energy management and tracking using Portfolio Manager. These national leaders in energy efficiency—many of whom also report building energy use to comply with New York's Local Law 84 and 87, Washington, DC's benchmarking law, and report voluntarily to the Global Real Estate Sustainability Benchmark (GRESB)—can speak to the benefits of time-certain energy benchmarking and disclosure ordinances.

### **1.3 Building Performance Assessment Tools**

As an implementer of whole house rating rebate programs since 2011, and based on our experience helping contractors and home owners understand asset ratings to inform upgrades, CSE is encouraged by the upcoming Energy Commission rulemaking to align HERS II with industry best practices, scheduled for 2016. The state's transition to an oversight role will create a market opportunity for businesses to develop assessment tools that motivate customers to take the next step to improve energy performance, a key example of leveraging private capital to turn \$1.4 billion in ratepayer investments into \$8 billion. CSE supports movement toward a performance assessment tool that is simple and straightforward, and takes advantage of best practices and tools identified at the national level (e.g., DOE Home Energy Score).

CSE also supports a stronger articulation of the differences between performance assessments and asset ratings noted on page 46 of the Action Plan, as we have experienced market confusion about the use and value of these tools: "A clear need exists to distinguish residential performance assessments (to inform retrofit projects) from residential asset ratings (for property valuation), two important yet discrete elements of improving residential building energy efficiency."

### **1.4 Uniform Energy Asset Ratings to Compare Building Properties**

Asset ratings, if approached strategically through deep engagement and with buy-in from sector-specific real estate stakeholders, have the potential to significantly shift the importance of energy performance in property transactions.

CSE has been engaged with asset rating since 2011 starting with an AB 758 pilot with the County of San Diego and continuing today with the San Diego Regional Energy Partnership of local governments and the City of Berkeley. Based on our experience with the HERS II program, including providing nearly 1,000 whole-house rating rebates and performing research and analysis to determine if the DOE Home Energy Score can serve as a proxy for



HERS ratings, CSE supports the Energy Commission's strategy to reduce the energy modeling expertise needed by those who rate the energy performance of buildings.<sup>5</sup> In addition to reducing the time and expense needed to calculate asset ratings, it also opens up opportunities for existing businesses to expand energy efficiency services and creates jobs for unemployed or underemployed workers.

### **1.5 Building Efficiency Standards Development and Compliance**

CSE supports the Energy Commission's desire to "simplify the process needed to comply with BES [Building Efficiency Standards] for existing building upgrade projects" (p. 50). The gap between code compliance and existing buildings is growing larger – as are the opportunities to harvest the savings potential. Simpler processes will lead to an increase in compliance and an increased ability to track resulting energy savings.

CSE in coordination with Los Angeles County will soon publish *Residential HVAC Alterations: A Permit Compliance Overview and Best Practices Report*, in which we identify several ways to simplify the permit process for residential HVAC alterations.<sup>6</sup> These solutions also lend themselves to any alteration that does not typically require plan submittal, including water heater change-outs, and some residential solar PV installations. While CSE identified several best practices through our working groups and interviews with local building department staff and contractors, the need for a statewide permitting platform is most critical and stands to make the biggest impact on retrofit compliance.

CSE is currently participating in a stakeholder-driven process to determine specifications for a statewide HVAC alterations permit platform, coordinated by the Western HVAC Performance Alliance (WHPA) compliance committee and scheduled to conclude at the end of 2015. However, we feel the Energy Commission should not wait. CSE recommends expeditious selection of a service provider to develop and implement a uniform, statewide permit platform for residential HVAC alterations that communicates with HERS registries as part of a larger market transformation initiative to streamline permitting and increase code compliance for energy efficiency technologies that do not require plan checks. Such an effort should include a strong focus on education and outreach to building departments for their buy-in and guidance on development of a platform that is applicable to the users that would most benefit from the tool – namely the approximately 78 percent of building departments constrained by a lack of resources and unable to build and implement their

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<sup>5</sup> *Can the Home Energy Score Serve as a Proxy for HERS? An Analysis of Energy Asset Ratings in San Diego County*, prepared for the San Diego Regional Energy Partnership by the Center for Sustainable Energy, December, 2014. [http://energycenter.org/sites/default/files/docs/nav/programs/sd-regional-partner/hes\\_hers\\_analysis\\_sdrep\\_dec2014.pdf](http://energycenter.org/sites/default/files/docs/nav/programs/sd-regional-partner/hes_hers_analysis_sdrep_dec2014.pdf)

<sup>6</sup> Report is under review by Energy Commission staff as of the writing of these comments.

own online permitting systems as well as to contractors who currently bypass the compliance process altogether.

CSE recommends that the Energy Commission strive to simplify not only the process to comply with the standards, but the standards themselves. Based on our conversations with building department staff and contractors, Title 24, Part 6 is only a small piece of the building code pie, and stakeholders simply cannot keep the entire set of requirements in their heads or at their fingertips, especially when life-safety concerns are the top priority for building department staff and local government leadership.

CSE also suggests an increased focus on enforcement and consequences for non-compliance. Streamlined processes and simpler requirements will surely increase the number of compliant projects, and this must be matched with more enforcement to the permit desk, as there are a significant number of contractors with a long history of avoiding the process altogether. The Energy Commission should partner with the Contractor's State Licensing Board (CSLB) and statewide implementers to develop an enforcement and educational campaign that helps homeowners and contractors understand the liabilities associated with unpermitted work and places fines on noncompliant actors.

Finally, resources for local building departments are an element that is too little discussed in the Action Plan. Specifically, funding and staff resources are severely limited, making access to training a significant challenge. The amount of training necessary for building department staff to perform their duties is vast, and energy efficiency is only one component of that curriculum. Research has shown that compliance rates are higher in building departments with internal energy code expertise.<sup>7</sup> One way to build such internal capacity among building departments is via onsite training, in the model of an Energy Code Coach, which CSE has successfully implemented in Chula Vista. The Code Coach:

- Provides local building departments with customized training and on-the-job assistance with energy code and CALGreen compliance, including best practices for residential HVAC alterations. Increases capacity within the building department to better implement the BES and turn building department staff into energy compliance advocates.
- Provides assistance to the development community to help them navigate the standards and submit compliant projects on the first try.

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<sup>7</sup> BayREN Codes & Standards, PROP Final Report and Energy Code Resource Guide, April 2015.

- Facilitates a better relationship between building department staff and permit applicants, bringing attention to shared barriers and complimentary solutions that lead to win-wins for both sides of the permit desk.

CSE also encourages discussion of other ongoing training methods that build internal capacity in local building departments over time, extending the Code Coach model.

### **1.7 Local Government Leadership**

CSE is pleased to see a strong emphasis on the role of local governments as leaders on the path to efficient buildings in the Action Plan. CSE is also pleased that the Energy Commission recognizes the limited resources available to local governments and plans to address this issue by allocating ARRA funds to support the Local Government Challenge. CSE urges the Energy Commission to leave no stone unturned when searching for additional funds to meet the minimum \$20M per year necessary to allow the program to flourish. In the meantime, CSE will continue to support local governments as they pursue:

- Early adoption of nonresidential benchmarking and disclosure programs (as noted in **1.2 Nonresidential Benchmarking and Disclosure**)
- Innovation in building permitting systems and more rigorous code enforcement (addressed in **1.5 Building Efficiency Standards Development and Compliance**)
- Aggressive efficiency improvements for jurisdiction-owned buildings – leadership by example
- Map the way to ZNE through an online ZNE Roadmap that steers cities and counties toward bigger, bolder strategies (see **3.4 Zero Net Energy Retrofits**)<sup>8</sup>

The Local Government Challenge creates a laboratory of ideas where local governments can access existing reports and research as well as share best practices and lessons learned. With the many reports and local government resources already available and in development, CSE suggests that the Energy Commission consider launching the Local Government Challenge website in 2015 to build momentum early.

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<sup>8</sup> Zero Net Energy Roadmap for Local Governments, <http://energycenter.org/zne>.

### **1.8 Energy Efficiency as a Clean Distributed Energy Resource**

Market transformation initiatives<sup>9</sup> are a critical tool to unlock the deeper energy savings in existing buildings that are necessary to reach California’s climate goals and realize Governor Brown’s goal of a 50 percent improvement in energy efficiency.

Coordinated, statewide market transformation initiatives can help address many of the strategies discussed in this Action Plan, such as accelerating the adoption of energy efficient technologies, understanding and addressing code shortfalls, and realizing the benefits of statewide, time-certain energy benchmarking and disclosure.

CSE supports the creation of a third-party statewide Market Transformation Administrator, the CalMTA, as proposed in Senate Bill (SB) 765 (Wolk) as a new entity to implement market transformation initiatives in alignment with AB 758 goals.

Many statewide markets have overlapping regulatory responsibility and a third-party statewide administrator can also serve as a bridge between the Energy Commission and CPUC—and engage with the Existing Building Efficiency Collaborative—to ensure that efforts are truly statewide.

### **1.9 Leadership: Existing Building Efficiency Collaborative**

The Action Plan addresses the importance of coordination across agencies to maximize and learn from complementary efforts. It calls for establishment of an Existing Building Efficiency Collaborative (EBEC), with members from the Energy Commission, CPUC, Integrated Systems Operator, Air Resources Board and additional state agencies leading the energy efficiency charge.

CSE supports this effort to coordinate across agencies and suggests that AB 758 personnel and EBEC representatives make a point to meet with existing groups that address barriers to widespread adoption of existing building efficiency. One example is the Compliance Issues Advisory Group (CIAG), an effort of the IOU Statewide Codes & Standards team. Groups like the CIAG, comprised of industry representatives with real-world experience implementing and complying with often-unrealistic policies, will provide much-needed perspectives to help the Energy Commission and other leaders provide oversight that is realistic, actionable, and meaningful to a large number of stakeholders.

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<sup>9</sup> Market transformation is an intervention strategy, rather than a policy objective, that is “designed to induce sustained increases in the adoption and penetration of energy efficient technologies and practices through structural changes in the market and in behaviors of market actors,” as defined in *Guidance on Designing and Implementing Energy Efficiency Market Transformation Initiatives*, page 2.

## II. DATA DRIVES INFORMED DECISIONS

### 2.1 Modern, Accessible Data Resources

As discussed in **1.2 Nonresidential Benchmarking and Disclosure**, ensuring that building owners have access to whole-building energy and water consumption data is critical to the success of both local and statewide time-certain benchmarking and public disclosure programs. This core issue should be addressed as soon as practical to ensure that local governments realize the full benefits of benchmarking ordinances, and the Energy Commission can move forward with stakeholder engagement and program development without this barrier to implementation.

CSE was an active participant in the Smart Grid proceeding at the CPUC (R.08-12-009) where we pushed for customer data to be made available to program administrators and implementers to inform program design and targeted initiatives, as proposed in Strategy 2.1.6 (Public-Facing Energy Efficiency Program Information). Customer data – aggregated to an appropriate level or anonymized to protect customer privacy – on energy consumption, utility program participation, and technology diffusion will provide valuable information to technology developers, energy program administrators, planners, researchers, regulators, consumers, and policymakers. We note that this balance was struck with the California Solar Statistics database and can be struck with a similar tool that provides energy efficiency project data by census block.

### 2.2 Consumer-Focused Energy Efficiency

CSE supports a customer-focused approach to energy efficiency that allows customers to adopt energy efficiency measures—and other demand-side management technologies—over time through simple, logical, and transparent processes. In particular, CSE is encouraged by the Action Plan’s emphasis that customers should have access to “multiple pathways...to choose between single measures, multiple measures, comprehensive measures, or renewable self-generation projects.”

Energy Upgrade California<sup>®</sup>, the statewide energy efficiency brand administered by CSE, aims to build long-term relationships with consumers as a trusted resource, directly and through regional and community based partners, so that Californians make better energy management decisions at trigger points over time. (See **4.2 Marketing, Education, and Outreach**) We support the Action Plan’s recognition that the consumer path must include flexibility to pursue an optimized set of the various energy management opportunities available to consumers at certain key decision points, rather than requiring them to invest in an arbitrary bundle of programs or actions all at once or in rigid order of adoption. We

recommend guiding customers in the right direction, allowing them to pursue the path toward ZNE that suits their needs over time.

We also note that these opportunities should be integrated across ratepayer-funded (investor-owned and municipal) energy efficiency programs, and other demand-side management technologies, so that customers are aware of and have the right incentives to adopt multiple solutions at once or over time. We support the development of databases to establish baselines and quantify the actions that customers take often outside of programs, such as homeowner-installed weatherization, and quantify actual performance rather than relying solely on projections of performance. We agree that such databases are essential for ensuring that the Action Plan contributes to our greenhouse gas emissions reductions goals.

On a related note, we agree with the approach under Strategy 2.2.2, which would expand behavior programs and leverage current and expected innovations made possible with access to AMI data. We note that Energy Upgrade California's upcoming energy management tool is capable of integrating disaggregated data from other companies, providing the capability to track the performance of consumers who create Energy Action Plans through the tool. While CSE is not currently funded by the Energy Commission for this work, additional funding would enable us to offer this tool and other behavior programs to customers statewide—beyond the current scope of IOU ratepayers.

With respect to Strategy 2.2.4 (Building/Portfolio Cohorts), CSE welcomes the opportunity to participate in such a pilot program. However, we would need a separate funding allocation to participate in the marketing, education, and outreach for the pilots. We also strongly recommend inclusion of Energy Upgrade California in the design of the pilots to ensure coordinated statewide implementation of ME&O for the pilots.

### **III. BUILDING INDUSTRY DELIVERS INNOVATION AND PERFORMANCE**

#### **3.1 Streamlined and Profitable Industry**

Contractors and service providers need consistent regulation and enforcement to develop profitable business models. Furthermore, they need assurance that quality work is valued by customers and required (and enforced) by building departments. Market friction, which reduces profitability and increases project costs, is driven by uncertainty—such as confusing and time-consuming permitting requirements and poor code enforcement—and must be addressed to ensure that energy efficiency providers are competing in a fair and transparent market. Rather than more rigorous regulation, these systemic issues are best addressed through local government funding and engagement (see **1.7 Local Government**

**Leadership)** and statewide market transformation initiatives (see **1.8 Energy Efficiency as a Clean Distributed Energy Resource**).

These efforts, combined with Strategy 3.1.2 (Industry Partners Program), will ensure that industry actors have access to shared best practices and resources, opportunities to provide input on targeted market transformation strategies, and confidence that their local government counterparts are engaged in efforts to create smoother, faster transactions.

### **3.3 High Performance Workforce and Education**

CSE commends the Energy Commission for recognizing the importance of developing a high-performance workforce to support the implementation of AB 758. We have several comments to help strengthen this section of the Action Plan.

The examples of specialty services becoming routine (Strategy 3.3.6) should include a focus on advanced lighting controls. The California Advanced Lighting Controls Training Program (CALCTP) is an excellent example of collaboration across the industry to raise the bar for workforce quality in the design, installation, acceptance testing, and operation of advanced lighting controls systems. The CALCTP certification is currently recognized for the purposes of Title 24 acceptance testing, but there is an opportunity to expand the deployment of all four CALCTP certifications (some are still in development) at different points in the lifecycle of the lighting controls system, enforced through code requirements and/or incentivized through taxpayer or ratepayer funds.

Regarding Section 3.3.3 High Performance Curriculum, CSE suggests focusing instead on leveraging and adding to the Department of Energy's Job Task Analyses for advanced energy efficiency jobs in the building and construction trades.<sup>10</sup> Developing standardized curriculum is a long, cumbersome and expensive process, and one curriculum is not applicable throughout the various training and educational pathways available in the state (e.g., apprenticeship, community college, industry association, private colleges, etc). Common Job Task Analyses recognized by and with input from the Energy Commission will give training providers standard blueprints from which to develop curriculum at the entry, mid, and advanced levels. They are also easier to update than a full curriculum, particularly as demand-side management technologies advance. Code compliance could be woven into

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<sup>10</sup> The Department of Energy has existing Job Training Analyses for residential (<http://energy.gov/eere/wipo/guidelines-home-energy-professionals-accredited-training>) and commercial (<https://www4.eere.energy.gov/workforce/projects/workforceguidelines>) energy professionals. These guidelines can serve as the foundation and framework for expanded Job Training Analyses that meet the needs of the California market.

each phase of training, with emphasis on the particular tools and standards needed for the professional to succeed in the California market.

We strongly agree that embedding marketing and business training into more technical training programs is a critical component of developing a workforce that is able to sell energy efficiency in the market. Once again, comprehensive Job Task Analyses should identify duties, tasks, and KSAs (Knowledge, Skills and Abilities) pertaining to business development, customer acquisition, and other administrative and entrepreneurial competencies so that these are taught in workforce education and training programs in the different trades.

### **3.4 Zero Net Energy Retrofits**

CSE is currently engaged in efforts to support local governments in adopting ZNE goals and ordinances. As discussed in section **1.7 Local Government Leadership**, CSE developed a ZNE roadmap and accompanying report, *Zero Net Energy Buildings: How California's Local Jurisdictions Can Lead the Way*,<sup>11</sup> to encourage local governments to officially adopt ZNE goals ahead of state timelines, create a ZNE task force, and streamline permitting among other best practices.

In addition to focusing on government buildings, as discussed in Strategy 3.4.1, CSE also recommends a focus on creating toolkits and funding opportunities for ZNE affordable housing retrofits. Cap & Trade funds could be used to retrofit a select group of multifamily, affordable housing buildings across the state to meet ZNE standards and use this opportunity to develop design guidance, case studies, and financing models—aligning Strategies 3.4.2, 5.7.2, and 5.7.3.

## **IV. CALIFORNIANS RECOGNIZE AND BENEFIT FROM THE VALUE OF EFFICIENCY UPGRADES**

### **4.1 Real Estate Value**

As the Energy Commission works with industry agents to make energy efficiency appraisals a standard practice (Strategy 4.1.3), there is an opportunity to develop statewide standards for including a suite of demand-side management technologies and measures (e.g., distributed generation technologies, EV charging stations, energy storage, efficient

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<sup>11</sup> Prepared for the San Diego Regional Energy Partnership by CSE, [http://energycenter.org/sites/default/files/docs/nav/policy/research-and-reports/zero\\_net\\_energy\\_buildings\\_sdrep\\_sept2014.pdf](http://energycenter.org/sites/default/files/docs/nav/policy/research-and-reports/zero_net_energy_buildings_sdrep_sept2014.pdf).



appliances, and efficient construction) in the inspection and appraisal process for both residential and nonresidential properties.

As the Energy Commission moves towards Strategy 4.1.4, Property Listings, CSE recommends the creation of both upstream and downstream incentives to encourage private, for-profit MLS providers and real estate agents to add energy features to listings, based on the statewide standard list of demand-side management technologies and measures.

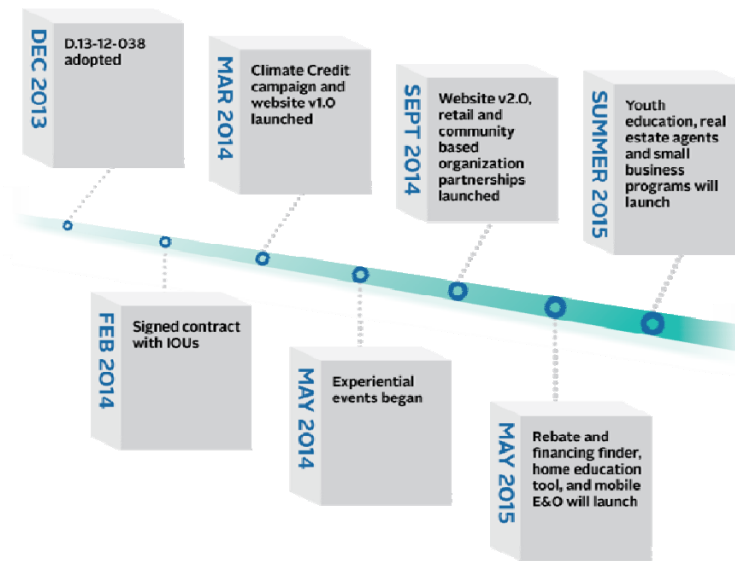
CSE is in favor of starting with pilots of energy asset ratings to get feedback from California appraisers and leasing agents and notes that any evaluation program needs to fit into the business model and perspective of the appraiser to ensure market uptake.

#### **4.2 Marketing, Education, and Outreach**

In May 2012, the CPUC directed<sup>12</sup> CSE to administer and implement Energy Upgrade California, the statewide market transformation initiative to integrate marketing, education and outreach (ME&O) for California residents and small businesses for energy management actions and opportunities, including energy efficiency, demand response, and distributed generation, among others. In December 2013, the CPUC provided implementation direction for CSE to launch Energy Upgrade California in 2014 as a comprehensive social marketing effort with paid, earned, and social media and robust education and outreach channels, including retail engagement, grants and training to community-based organizations, youth enrichment outreach, strategic partnerships, and a website that features content about a broad array of energy management topics. Since then, California agencies have leveraged the statewide brand and campaign for other purposes, including the California Climate Credit education and outreach campaign in March and April 2014, the ME&O for seven energy efficiency financing pilot programs, and the upcoming pilot for the Cool California Challenge.

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<sup>12</sup> D.12-05-015, *Decision Providing Guidance on 2013-2014 Energy Efficiency Portfolios and 2012 ME&O*.

**Table 1: Timeline of Energy Upgrade California**

Educating, motivating, and activating California residents and small businesses to take action to manage their energy use is an essential market transformation effort for meeting California’s goals. Since market transformation requires years of commitment,<sup>13</sup> the achievements of the Energy Upgrade California campaign over the last twelve months are remarkable. As coordination with California agencies, the utilities, and the Regional Energy Networks (RENs) continues to improve over time, we expect greater synergies and greater gains in 2015 and 2016.

#### Energy Upgrade California Campaign Accomplishments as of March 2015:

- Website – 549,000 unique visitors to date
- Social media – 35,000 Facebook fans
- Paid media – 519,780,000 impressions to date
- Digital media – 298,000,000 impressions to date, and 0.07 click-through rate
- Earned media – 1,581 story placements
- Retail – 13 partners, 531 events, and 11,166 engagements
- Community-based organizations – 75 partners, 125 events, and 23,363 engagements

<sup>13</sup> “Market transformation initiatives are best aimed at attempting to create structural change in narrowly defined markets. As such, the relevant timeframe is not a first year set of benefits and costs, nor even the costs and benefits measured in a single portfolio or program cycle. Market transformation can take anywhere from two to ten years to be fully effective, and the administrative costs of market transformation initiatives occur early – they are “front-loaded,” with measurable impacts potentially a year or more away.” Ralph Prael, Ken Keating, consultants to the California Public Utilities Commission, *Building a Policy Framework to Support Energy Efficiency Market Transformation in California*, December 2014.

CSE strongly supports the Action Plan's cross-agency approach to ME&O and proposed leading role for Energy Upgrade California. We agree that there is a need for a concerted effort to align statewide ME&O across agencies and that Energy Upgrade California, the State's brand and statewide ME&O program for residential and small business energy management, should be responsible for leading and coordinating the marketing, education, and outreach under this Action Plan.

In addition, CSE recommends that the Energy Commission increase coordination and collaboration with the California Air Resources Board. The Plan states, "[I]nking efficiency to climate goals and electric system operations also requires coordination with the California Air Resources Board and Independent System Operator, respectively." We find that this also applies to coordination of statewide ME&O efforts and further encourage the Energy Commission to also work closely with the Water Resources Board to ensure that water efficiency, in addition to climate issues, is addressed through collaborative efforts.

Regarding Strategy 4.2.1, CSE notes that Energy Upgrade California already has much of the infrastructure needed to coordinate with utilities and partner with community leaders. Energy Upgrade California has seventy-five community-based organization partners (see **Attachment 1**), and has been building partnerships with real estate agents, financing institutions, and other trusted messengers for the statewide and energy efficiency financing pilots ME&O. These valuable tools, partnerships, and channels can be leveraged to support AB 758 implementation.

However, significant additional funding would be needed for Energy Upgrade California to successfully support true statewide ME&O and AB 758 implementation, as discussed in the Action Plan. Because the Action Plan covers regions outside of the CPUC-regulated electric and gas territories, this funding should not come solely from the customers of those regulated utilities. Moreover, Energy Upgrade California should receive funding from other sources because, as the State's brand, it can take responsibility for educating, motivating, and activating residents and small businesses to take actions to save water and meet other pressing needs beyond the electric and gas power systems. We applaud the Energy Commission's steps in this direction, and we encourage the Energy Commission to work with other California agencies to further integrate Energy Upgrade California with its other ME&O efforts.

## **V. SOLUTIONS ARE ACCESSIBLE AND AFFORDABLE FOR ALL CALIFORNIANS**

Efficiency is first in the loading order for energy investment and should be a key element of any customer pathway to ZNE. However, as referenced throughout these comments, CSE has found that customers do not take action according to the prescribed loading order, but rather take action based on various trigger points in their lives related to finances, house repairs and remodels, and appliance upgrades and replacements. With this in mind, energy efficiency opportunities (and related marketing, incentives, and contractor messages) must be built into flexible pathways for customers to adopt demand-side management solutions over time. Financing models must do the same and allow for energy efficiency technologies, efficient home upgrades, energy storage, and solar (PV and thermal) to be installed through funding mechanisms with longer terms and lower rates than have been seen to date.

One example of flexible financing is Renovate America's national Home Energy Renovation Opportunity (HERO) program for energy efficiency financing, which covers a broad range of energy and water efficiency measures such as ENERGY STAR appliances, duct sealing, solar PV, and low-flow water fixtures. CSE is currently working with the California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA) to create attractive financing products that allow customers to adopt a series of energy efficiency—and other demand-side management—technologies and measures over time. In CAEATFA's Petition for Modification, submitted to the CPUC for consideration in March 2015, they stated, "borrowers taking loans for solar improvements may be more likely to increase their project size and add on efficiency measures if they can secure loans with better terms." CAEATFA's California Hub for Energy Efficiency Financing (CHEEF) products, per CPUC Decision D.13-09-044, not only dictate what eligible energy efficiency measures (EEEMs) can qualify for credit enhancements from the CPUC, but that no distributed generation measures can be included in the project at all, if it is to be a part of the loan, for the residential and small business market sectors. This is a clear demonstration of a lack of flexibility causing complex messaging requirements, which may turn off certain market segments that are overwhelmed by the process to begin with.

Through our work with both energy efficiency and renewable energy financing programs, CSE has seen an opportunity to combine energy efficiency solutions with financing for solar projects to reduce the perceived risk from private sector financing institutions and secure more attractive loan terms for customers. CSE has also found that the array of financing products and providers – PACE, utilities, local governments, etc.—is confusing for customers as well as contractors looking to connect potential clients with necessary funding. To alleviate this confusion, CSE recommends that all energy efficiency financing products be hosted on a single website for customers, contractors, and business owners, such as the

Energy Upgrade California website, that promotes the entire marketplace rather than any one product. This online marketplace, along with decision-making tools that connect financing information with customers' Energy Action Plans, is in development and is expected to be fully functional by the end of Q2, 2015.

CSE also supports the creation of the finance and project performance database, Strategy 5.1.2, to inform future financing programs and eventually bundle projects into portfolios that can be securitized and rated by a credit agency, making them highly attractive to institutional investors.

Finally, through our work with local governments to encourage the expansion of PACE financing as well as education and outreach to real estate agents, we have started to see pushback from the mortgage industry on PACE loans with only an estimated 65% of loans transferring to new homebuyers. This can be attributed to a lack of understanding on the part of the mortgage industry and a perception of risk associated with the Federal Housing Authority's continued prohibition on purchasing new mortgages with PACE liens. CSE has actively advocated for the expansion of both commercial and residential PACE programs throughout the state and sees this early, although growing, reaction against this important financing tool as a threat to its continued uptake. We therefore encourage the Energy Commission to consider adding targeted outreach to financial institutions and lenders on the PACE Loss Reserve program to the Action Plan to ensure that the mortgage industry understands the protections the state has put in place to mitigate risk for lenders.

## **CONCLUSION**

CSE appreciates the opportunity to provide these comments on the draft of the *California Existing Buildings Energy Efficiency Action Plan*. We look forward to working with the Energy Commission and stakeholders to refine and implement these strategies to harvest the greatest energy savings potential available to the State and cut building energy use 17% by 2030.

**ATTACHMENT 1**

**Energy Upgrade California® Community Outreach Ambassador Program  
2014-15 Ambassador Map**

