DOCKETED

Docket Number:	15-IEPR-05
Project Title:	Energy Efficiency
TN #:	204311
Document Title:	Nancy Skinner Comments: Comments on Existing Buildings Energy Efficiency Action Plan submitted by UC Davis Energy Efficiency Center
Description:	N/A
Filer:	System
Organization:	Nancy Skinner
Submitter Role:	Public Agency
Submission Date:	4/22/2015 3:33:16 PM
Docketed Date:	4/22/2015

Comment Received From: Nancy Skinner
Submitted On: 4/22/2015
Docket Number: 15-IEPR-05

Comments on Existing Buildings Energy Efficiency Action Plan submitted by UC Davis Energy Efficiency Center

Additional submitted attachment is included below.

April 21, 2015

To: California Energy Commission

Re: Comments on AB 758 Draft Plan

From: Nancy Skinner, Alan Meier, Ben Finkelor, Siva Gunda
UC Davis Energy Efficiency Center

Thank you to the Commission and staff for the many stakeholder meetings and the significant time devoted to the development of the draft plan. There are many promising elements: the recognition that government, state government in particular, must be a leader with the buildings it owns and operates, and that the private sector and financial markets must be engaged and tapped if we intend to deliver on our building efficiency goals, stand out. Within the government leadership goal mandating that utilities procure energy efficiency as California has with renewable energy generation and storage we identify as particularly promising.

Overall, however, we find the Plan may be too broad in its scope. The efficiency improvement or energy use reduction goal is, in and of itself, not too ambitious but the number and range of strategies described may dilute achieving the intended outcome. Further refinement on targeted and more granular strategies may improve achieving outcomes.

Overall the plan has less action points than we had hoped. It emphasizes developing better information and providing better access to that information to as many parties as possible: building owners, tenants, utilities, private sector finance entities, realtors, appraisers, efficiency service providers, contractors, more. While we appreciate the necessity to engage all sectors and activate market forces, and recognize that the level of investment needed to transform California's buildings will require significant private sector buy in, we are concerned that the message of the plan appears to be 'let's inform everyone on everything and they'll do the right thing'.

The reliance on assembling more information and providing better access

to information may not be enough to produce the outcomes the State needs to reduce overall building energy use. The emphasis on actions that result in more and better information may result in expenditures on the information related activity that leave less investment available for the actual energy use reduction.

While there is good evidence that, for example, the programs in Washington DC and New York City that require benchmarking and disclosure of energy use by large commercial buildings have resulted in building upgrades being undertaken and efficiency improvements achieved, other information strategies outlined may have costs that would be better directed at activities that will actually reduce the building's energy use. Ranking the information related actions in a way that illustrates those with the greatest potential for short and long term energy use reduction could assist in prioritizing implementation of plan elements.

The Plan's stated building energy use reduction goal is to achieve a 17% reduction from 2014 levels compared to the projected building energy use expected by 2030. While the goals and strategies cover almost all aspects of energy use in buildings and building sectors, the plan lacks estimates on the relative quantity or percent of efficiency improvement the CEC expects to achieve from each goal or outlined strategy. This makes it impossible to determine whether Plan elements will achieve the stated goal, or what the relative weight of any one goal or strategy is over another vis a vis achieving the desired 17% building energy use reduction outcome.

Without estimates on the relative energy use reduction value, either short, long term or both, of the various information related strategies, it is difficult to assess whether the investment might be better spent on actual energy use reductions.

The lack of an estimated amount or even the relative weight of expected efficiency improvement associated with the goals or strategies also makes it difficult to measure outcomes. The strategies and milestones are neither prioritized nor tied to quantifiable or estimated energy use reduction. Instead, the milestones describe such things as 'Uniform energy asset rating approaches are established" or "More extensive financing

mechanisms for low income property owners and tenants are available to offset upgrade costs". This leaves the possibility that the milestones could be achieved without a corollary achievement of energy use reduction.

The abstract states that the plan is a 'roadmap to activate market forces', however, it is not clear that market forces will be activated in such a way as to ensure delivery of the desired outcome. We hope the Commission will in its final revision use the opportunity to propose specific regulations or actions within the Commission's jurisdiction that would result in more than dissemination of information.

In particular we find that the Plan lacks specifics on how to address 'high-users' or 'high uses'. Just as the Plan recommends mandating benchmarking by large commercial buildings, might there be a significant energy use reduction gain from requiring certain categories of buildings to undertake specific cost effective upgrades due to, for example, high energy use per square foot or vintage of HVAC or other system. As the Plan indicates the largest per cent of energy use in multi-family buildings is space and water heating, how much energy use reduction might be achieved from strategies targeted solely, specifically at these two uses? Similarly we know that among single family homes there is a small fraction that are responsible for a disproportionately large amount of total residential energy use. Saving energy is likely to be easier (and cheaper) with specific strategies targeting high users than less granular strategies.

The data included in the report makes clear that the largest percent of growth in residential building energy use is plug load. How much, for example, would early retirement of specified appliances achieve in reducing this growth? Given the rapid growth expected in plug loads (MELs) new, creative strategies are needed to reduce growth and save energy. This may involve working with new partners that have more links to the MELs products. For example, Apple, Google, Comcast, and Amazon are involved—even if indirectly--in purchases of most electronics products. Special relationships might be forged since many of these firms are California-based.

Much of the Plan focuses on energy savings. This is understandable, yet

increasingly obsolete as we move towards absolute levels of emissions. Now is the time to begin stating goals in absolute terms, that is, achieving absolute energy use targets for homes, commercial building categories, refrigerators, etc. By adopting this perspective, the CEC, the PUC, and the utilities, will find it easier to focus on saving energy and less on deciding if it arises from free riders or other programmatic abstraction.

In sum the plan would greatly benefit from 3 key additions:

• Inclusion of estimate of expected energy saving outcome from each goal, strategy. What amount of efficiency improvement does the Commission expect to achieve from each goal/strategy. Estimate could be expressed relatively, e.g.: Goal 1 accounts for 25% of estimated reductions with strategies ranked in order of projected reduction outcome.

• More concrete action points that CEC, CPUC, other agencies will take to achieve specific outcomes. Plan inspires less confidence with the seeming reliance on activity by disparate players to achieve desired results.

• More granular strategies that target high uses, high users, or result in higher outcomes with lowest effort. For example concrete action that targets expected growth in plug loads, targets the small fraction of single family homes with highest per square foot energy use, targets particular typologies, vintages or other characterization of commercial buildings that exhibit highest energy use, targets space and water heating the largest energy uses in multi-family buildings; or for example in the compliance arena where plan recognizes that large percent of HVAC system replacements and energy upgrades are done without permit, what aspect of enforcement/compliance improvement would result in highest outcome?

Comments specific to individual Goals, Strategies:

Goal 1 Government as Leader
Overall we felt this Goal might be enhanced by the inclusion of what might be thought of as symbolic actions that while having strong symbolism also

have a concrete result. By way of illustration, symbolic actions that might be worth considering are:
• 0% of outdoor lighting on public buildings/spaces would be on during daytime hours by 2017;
• 0 incandescent bulbs will be used in government/public buildings by 2017.

These are illustrative but addition of symbolic goals might create a visual success story and specific outcomes.

Strategy 1.1
Recommend adding: Conduct Building Audits of all state government buildings

Strategy 1.5
Recommendation: This strategy acknowledges that the rate of pulling permits for HVAC replacement and building upgrades is abysmally low, more granularity in this area would be beneficial. What efficiency gains would be made if 50% more permits were pulled? Would efficiency gains come mostly from increased compliance in single family, multi family or commercial? Emphasis should be placed on what building sector or building activity would achieve most efficiency improvement if permits were taken and compliance achieved. Recommend considering a pilot program with local governments – that streamlined the specific aspect/permit process with most opportunity for reducing building energy use, or provides direct funding to the local government to increase compliance with that activity. Might also consider setting concrete goals, e.g.; 80% compliance on X achieved by x year, after conducting a baseload compliance survey.

Strategy 1.6
Plugloads are expected to account for 69% of growth in building electricity consumption. What percent of the efficiency improvement represented by the Plan's reduction goal would be achieved if plugload growth was cut in half, or cut by 75%? Given the significance of plugload growth in overall building energy consumption than seems reasonable for the Plan to delineate more concrete actions aimed at reducing this growth, for example CEC will accelerate replacements of x, y and z appliances and by year X will have achieved a specific efficiency improvement. We also recommend

CEC consider directing a significant portion of EPIC funding toward this challenge.

Strategy 1.7
Recommend including: Building Audits be conducted of all local government buildings

Recommend further identification of where improving specific compliance (e.g.: HVAC replacement, or roof replacement, for example) and in what building sector (single family, commercial, multi-family) would result in large energy use reductions. Once identified, consider providing direct funds to improve compliance for those specific activities.

Strategy 1.8
Strongly support utility procurement of energy efficiency, might consider something comparable to an EEPS (Energy Efficiency Portfolio Standard). Legislature has required the CPUC to consider mandating the purchase of storage within the Utilities overall procurement action which is now being done and has increased the availability and use of grid wide energy storage. Specifying a quantity of energy efficiency within the utilities generation procurement will result in utility meeting quantitative efficiency improvements to offset purchase of need for generation.

Goal 2.1
Require all incentive/rebate program recipients to grant ongoing access to energy utility data for the State of California – to be used for calculating project cost and saving data, and conducting policy analysis, research, EM&V, etc.

Goal 3
Strongly support tying energy efficiency rebates to energy efficiency improvement achieved.

Strategy 4.1.3
Support the inclusion of energy use data, and value of energy in real estate appraisals.

Goal 5: Efficiency Accessible and Affordable for All Californians
Overall we recommend considering this goal include specific energy use reduction outcomes being placed on activities where state or ratepayer funds are providing significant technical or financial support. Some examples below,:

Strategy 5.1.3
Support pilots to integrate PACE/CAEATFA with on bill repayment, credit enhancements and other innovative financing

Strategy 5.2
Recommend CEC requiring state supported PACE programs to include an energy efficiency component. State ensuring loan loss for PACE programs provides an entree to integrating efficiency improvements with solar, other renewable installation

Strategy 5.5 Revolving Loans
Recommend that State direct the various funds now dedicated to help finance public building energy efficiency upgrades (for example, C&T, Prop 39) to a revolving loan fund rather than direct grant. Transitioning these funds to revolving loans, even if at no or very low interest will enable funds to be reinvested, increasing number of efficiency improvements and extending reach of the investment.