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BGA comment on Doubling Energy Efficiency

Additional submitted attachment is included below.

Commissioner Andrew McAllister
California Energy Commission
Dockets Office, MS-4
Re: Docket No. 18-IEPR-07
1516 Ninth Street
Sacramento, CA 95814-5512

RE: Comments on 2018 IEPR Commissioner Workshop on Doubling Energy Efficiency Savings

Dear Commissioner McAllister and Commission staff:

The BlueGreen Alliance respectfully submits these comments on the 2018 IEPR Commissioner Workshop on Doubling Energy Efficiency Savings. The BlueGreen Alliance strongly supports SB 350's goal of doubling statewide energy efficiency savings by January 1, 2030. It is critical, however, to ensure that the actions taken to meet this goal deliver real energy savings, not paper savings that never actually materialize. This requires ensuring that energy efficiency measures are installed by a qualified workforce. There are significant lost energy savings opportunities that are stranded in buildings when energy efficiency construction work is not properly performed. These lost energy savings from poorly installed energy efficiency measures are a barrier to meeting the SB 350 energy efficiency goals.

To address this issue, the California Energy Commission's 2016 Existing Building Energy Efficiency Action Plan adopts a goal to ensure that a "certified, high performing workforce" will be used to deliver energy efficiency retrofits, "thereby transforming efficiency incentive work from a low-cost bidder framework to a lowest-cost qualified bidder framework." To achieve this goal, the Action Plan recommends adopting contractor and workforce standards into energy efficiency program requirements.

The California Public Utility Commission's recent decision approving the utilities' Energy Efficiency Program Business Plans initially proposed workforce standards for HVAC and lighting control programs, but unfortunately deleted these standards at the last minute. As a result, our state energy efficiency programs are going to continue their policy of providing subsidies for low quality work. This is backwards. California needs to reward contractors that invest in a skilled and trained workforce if it is going to achieve its energy saving goals.

Blue Green Alliance Interest

The BlueGreen Alliance unites America's largest labor unions and its most influential environmental organizations to identify ways today's environmental challenges can create and maintain quality, family-sustaining jobs and build a stronger, fairer economy.

The BlueGreen Alliance's efforts center on the need to develop commonsense solutions to our environmental challenges in a way that creates and maintains quality, family-sustaining jobs across the economy. Our staff and supporters design public policies, perform research, and run

public education and advocacy campaigns to advocate for practical solutions; facilitate dialogue between environmentalists, union members and other stakeholders; and educate America's labor union members and environmentalists about the economic and environmental impacts of climate change and the job-creating opportunities of environmental protections.

As part of these efforts, Blue Green Alliance joined with 14 environmental, energy, educational, labor and environmental justice organizations to form the Coalition for Energy Efficiency (CEE) in order to review and reach consensus on energy efficiency policy issues. CEE successfully reached consensus among its diverse cross-section of stakeholders to recommend reasonable and feasible workforce standard requirements that could be adopted to ensure energy efficiency measures are installed correctly to achieve expected energy savings.[1] These consensus recommendations are set forth below.

The Need for Workforce Standards

Currently, California investor owned utilities (IOUs) rely on the inclusion of general requirements to use licensed contractors and compliance with code, safety and building permit requirements to ensure proper installation of energy efficiency measures. However, these requirements fail to ensure proper installation of key energy efficiency measures. Studies show that these general requirements are not, and have not been, sufficient to ensure quality installation by adequately trained workers.[2]

Poor installation of ratepayer-subsidized energy efficiency measures is a pervasive problem and can result in energy savings losses of up to 50%.[3] A study for the California Energy Commission reported that up to 85% of replacement HVAC systems are installed or designed incorrectly, resulting in substantial unrealized energy savings.[4] Ratepayer-funded studies have also found

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[1] The members of CEE that reached consensus on these proposals included: (1) BlueGreen Alliance; (2) Sierra Club California; (3) California Community Colleges Chancellor's Office; (4) the Coalition for Clean Air; (5) Joint Committee on Energy and Environmental Policy; (6) Coalition of California Utility Employees; (7) IBEW-NECA California State Labor Management Cooperation Committee; (8) the California Labor Federation; (9) Western States Council of Sheet Metal, Air, Rail and Transportation Workers; (10) California State Pipe Trades Council; (11) Operating and Stationary Engineers, locals 39 and 501; (12) Avery Energy Enterprise; (13) Cal SMACNA (California Association of Sheet Metal and Air Conditioning Contractors, National Association); and (14) SCOPE LA.

[2] Donald Vial Center for Employment in the Green Economy, Workforce Issues and Energy Efficiency Programs: A Plan for California's Utilities (2014) at pp. 32-34, 47 and Appendix 2B [available at http://laborcenter.berkeley.edu/workforce-issues-and-energy-efficiency-programs-a-plan-for-californias-utilities/].

[3] Donald Vial Center for Employment in the Green Economy, Workforce Issues and Energy Efficiency Programs: A Plan for California's Utilities (2014) at pp. 32-34, 47 and Appendix 2B [available at http://laborcenter.berkeley.edu/workforce-issues-and-energy-efficiency-programs-a-plan-for-californias-utilities/]; California Energy Commission, Strategic Plan to Reduce the Energy Impact of Air Conditioners (June 2008), CEC-400-2008-010 at p. 5 (poor quality installation of cooling systems results in a 20-30 percent increase in energy use).

[4] Donald Vial Center for Employment in the Green Economy, Workforce Issues and Energy Efficiency Programs: A Plan for California's Utilities (2014) at pp. 32-34 and Appendix 2B [available at

high rates of errors in installations of lighting control systems by workers without lighting-control specific training and certification.[5]

Despite the current availability of training paths that provide the skills needed to install these measures correctly, studies show, for example, that workers installing ratepayer-subsidized HVAC systems rarely have training and skill needed to ensure proper installation. Utility Energy Efficiency Business Plans have found that the majority of HVAC technicians in California are not even aware of basic national standards for work quality and that this results in "high failure rates for job performance on routine tasks."[6]

Unfortunately, utility energy efficiency programs do not require contractors to employ properly trained and qualified workers. When workforce standards are not required, contractors have a disincentive to invest time and money into training their workers since they are competing with contractors who can undercut their bids by using lower skilled and lower paid workers.

Recommendation

We believe that to meet SB 350's energy efficiency goals, energy efficiency programs need to start imposing workforce standards requirements in conjunction with those programs. Blue Green Alliance supports imposing workforce standards for energy efficiency measures receiving incentives of any size where safety and performance requires skilled installation. To start with, workforce standards should focus on very large projects and on HVAC and lighting control installations. Studies show that HVAC and lighting control systems regularly fail to achieve expected energy savings when they are installed by untrained and unqualified workers.

The following workforce standards for energy efficiency work have been proposed by the CEE:

Skilled and Trained Workforce for Large Projects
For large projects that receive substantial ratepayer funding (e.g., $20,000 or more in incentives), CEE recommended ordering all energy efficiency programs contracts to require the use of a "skilled and trained workforce" as defined by the Public Utilities Code Section 388.2 and already required for state energy retrofit work.

This proposal builds on existing requirements and provides for energy efficiency measures to be installed by a workforce that includes a minimum percentage of apprentices, apprenticeship program graduates and journeyman. State-certified apprenticeship programs are the most successful example of industry-developed training that provides workers with the skills necessary to install energy efficiency measures correctly and safely. Apprenticeship program

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http://laborcenter.berkeley.edu/workforce-issues-and-energy-efficiency-programs-a-plan-for-californias-utilities/].

[5] Donald Vial Center for Employment in the Green Economy, Workforce Issues and Energy Efficiency Programs: A Plan for California's Utilities (2014) at pp. 32-34, 47 and Appendix 2B [available at http://laborcenter.berkeley.edu/workforce-issues-and-energy-efficiency-programs-a-plan-for-californias-utilities/].

[6] SCE Energy Efficiency Business Plan 2018-2025 at p. 63; SDG&E Energy Efficiency Business Plan 2018-2025 at p. 216; PG&E Business Plan, Residential Appendix at p. 30.

training curricula has been developed and refined over many decades and includes specific training on energy and water efficiency measures. HVAC apprenticeship training programs, for example, are developed based on the knowledge, skills and abilities ("KSAs") necessary to correctly install HVAC systems so they function properly and safely. Apprenticeship training also offers the advantage that it has already been independently reviewed and approved by the California Division of Apprenticeship Standards. Furthermore, the Division of Apprenticeship Standards approves both union and non-union apprenticeship programs.

Because of its effectiveness and existing state-oversight, apprenticeship training is a common requirement for many types of projects that seek to ensure quality installation. Most relevantly, *Public Utilities Code section 388.2 already requires the use of a skilled and trained workforce for state energy retrofit work*. The Section 388.2 skilled and trained workforce provisions ensure proper installation by requiring the workforce to include a minimum percentage of installers that have completed relevant certified apprenticeship training programs.

HVAC Measures

All heating, ventilation and air conditioning (HVAC) energy efficiency measures installed, subsidized, or paid for out of a program administrator's (PA) energy efficiency program portfolio shall be installed by workers with five or more years of experience or apprentices currently enrolled in or having completed a federal or California state apprenticeship program. In addition, all workers shall either: (A) have industry-recognized certification or credentialed training specific to installation of the technology being installed, or (B) be enrolled in or have graduated from an applicable apprenticeship program that has either been approved pursuant to Section 3075 of the Labor Code or approved pursuant to the apprenticeship regulations adopted by the United States Secretary of Labor.

Advanced Lighting Measures

All downstream and midstream advanced lighting control installation, modification, or maintenance measures installed, subsidized or paid for under a PA's energy efficiency portfolio shall be installed by workers that have been certified by the California Advanced Lighting Controls Training Program.

Evidence from six IOU-funded studies demonstrated CALCTP training for installers of lighting controls not only increased energy savings, but also increased actual customer cost savings in the range of 10-30 percent.[7] In addition, requiring CALCTP-Installer certification is consistent with the ratepayer-funded 2016 Lighting Control Training Assessment Study.

[7] See Donald Vial Center for Employment in the Green Economy, Workforce Issues and Energy Efficiency Programs: A Plan for California's Utilities (2014) at pp. 32-34, 47 and Appendix 2B [available at http://laborcenter.berkeley.edu/workforce-issues-and-energy-efficiency-programs-a-plan-for-californias-utilities/].

CALCTP was the only certification that provided a comprehensive certification program that included hands-on labs working with components from multiple manufacturers.[8] CALCTP advanced lighting control installer training and certification program was developed by industry stakeholders including manufacturers, labor, contractors, academics, *and the IOUs*.[9] CALCTP-Installer training is easily accessible and widely available across the state to both union and non-union workers and is offered by Community Colleges, utility Energy Centers and apprenticeship training centers.[10]

HVAC Code Compliance Requires Creation of an HVAC Sales Registry

In addition to workforce standards, permit compliance needs to be addressed in order to meet SB 350 energy efficiency goals. The majority of HVAC retrofits are installed without a permit, and thus without compliance with title 24 HERS testing and acceptance testing requirements. Systems installed without a permit are more likely to be installed by unqualified, untrained personnel and are more likely to run inefficiently. The solution is to start tracking sales of HVAC units through a registry that verifies the units have pulled the proper permits and passed the proper title 24 inspections. Studies have estimated that improved permit compliance of HVAC systems alone could result in several hundred megawatts of energy savings alone.

Blue Green Alliance appreciates the opportunity to comment on how to achieve California's aggressive energy efficiency goals.

Sincerely,
JB Tengco.

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[8] ASWB/ODC, Lighting Control Training Assessment Study (April 8, 2016) at p. 80 [Available at http://www.energydataweb.com/cpucFiles/pdaDocs/1458/Lighting%20Controls%20Training%20Assessment%20Report_2016-02-29_Final.pdf].

[9] See https://www.calctp.org/what-calctp; see also Comments of CALCTP on RTR for the Lighting Controls Training Assessment (ASWB and ODC, Calmac ID #SCE0392.01).

[10] See https://www.calctp.org/what-calctp; see also Comments of CALCTP on RTR for PG&E Dimming Ballast and CALCTP Midstream Trial Assessment (TRC, ED Work Order #2030a, Calmac ID #PGE03057.02).