

**Federal Register
Environmental Protection Agency**

**Clean Energy Incentive Program
Docket ID: EPA-HQ-OAR-2015-0734**

**Comments Respectfully Provided By:
Efficiency First
Home Performance Coalition¹**

December 15, 2015

Thank you for the opportunity to submit these comments on EPA's proposed Clean Energy Incentive Program ("CEIP") on behalf of the Home Performance Coalition (HPC), a non-profit 501c3 that advances policy change through policymaker education, stakeholder engagement, research, trainings and conferences for companies, businesses and other stakeholders in the home performance industry, as well as Efficiency First (EF), the national association for companies in the home performance industry, whose members are energy efficiency contractors and companies in all 50 states that advocate for public policy to ensure residential energy efficiency is a part of our energy and climate solutions and works for industry.

Specifically, the Home Performance Coalition and Efficiency First provide these comments in response to:

- (1) Elements of the EPA's Proposed Federal Plan and Model Trading Rules ("Proposed Federal Plan") for the Clean Power Plan ("CPP") that address the CEIP²;
- (2) EPA's October 21, 2015 "Clean Energy Incentive Program Next Steps" document, which requests stakeholder input on a variety of core issues related to the design of the CEIP³; and
- (3) EPA's November 2015 "Clean Energy Incentives Program," which offers questions and related issues about which EPA is seeking input and ideas⁴.

¹ These comments are being submitted on behalf of the Efficiency First and the Home Performance Coalition. They do not reflect the views of any individual member of the either organization's board, nor do they reflect the views of associations or companies at which those Board members work.

² *Federal Plan Requirements for Greenhouse Gas Emissions From Electric Utility Generating Units Constructed on or Before January 8, 2014; Model Trading Rules; Amendments to Framework Regulations; Proposed Rule*, 80 Fed. Reg. 65979. October 28, 2015 [hereinafter "Proposed Federal Plan"].

³ "Clean Energy Incentive Program Next Steps." U.S. Environmental Protection Agency. October 21, 2015. http://www2.epa.gov/sites/production/files/2015-10/documents/ceip_next_steps_10_21_15.pdf [hereinafter "CEIP Next Steps"].

⁴ "Clean Energy Incentives Program: Questions and related issues about which EPA is seeking input and ideas." U.S. Environmental Protection Agency, November 2015. <http://www2.epa.gov/sites/production/files/2015-11/documents/ceip-stakeholdercalls-attachment-november2015.pdf> [hereinafter "CEIP Questions"].

These comments focus exclusively on EPA’s proposed design for the CEIP. The Home Performance Coalition and Efficiency First will submit additional comments on the additional aspects of the Proposed Federal Plan as well as the Evaluation, Measurement, and Verification Guidance by the Comment Deadline in January 2016.

The Home Performance Coalition and Efficiency First want to applaud the Administration for recognizing the additional benefits of energy efficiency and the need to incentivize energy efficiency. While energy efficiency is the quickest, cleanest, and cheapest means of addressing America’s carbon emissions, the up-front costs associated with making these advanced investments leave most of the energy efficiency potential untapped. In fact, according to the American Council for an Energy-Efficient Economy (ACEEE), homeowners can save 25–35% on their energy bills over the next 15 by “implementing cost-effective efficiency improvements.”⁵ With 36% of America’s electricity use in the residential sector⁶, it is imperative that the reduction of residential energy consumption be a part of clean power plan compliance pathways.

HPC and EF will provide the following in our comments:

- I) Recommendation for how EPA should distribute “matching” allowances under the CEIP to recognize energy efficiency as an equivalent resource with renewable energy;
- II) Recommendation that EPA adopt a broad definition of “low-income communities;”
- III) Recommendation that EPA expand types of energy efficiency resources that are eligible for the CEIP;
- IV) Clarification request and recommendation regarding the use of CEIP for states under a mass-based federal plan for carbon reductions; and
- V) Clarification request and recommendation regarding the EM&V requirements for eligible projects, requirements for M&V reports of quantified MWh, and requirements for verification reports from an independent verifier.

We respectfully urge EPA to carefully consider these recommendations to ensure that residential energy efficiency receives due consideration in the CEIP.

I) Recommendation for how EPA should distribute “matching” allowances under the CEIP to recognize energy efficiency as an equivalent resource with renewable energy.

⁵ “America’s Abundant, Untapped Energy Efficiency Resource.” American Council for an Energy Efficient Economy (ACEEE). March 21, 2011. <http://aceee.org/sites/default/files/pdf/fact-sheet/Basic%20EE%20Fact%20Sheet.pdf>

⁶ *Annual Energy Outlook 2015 with Projections to 2040*. U.S. Energy Information Administration. April 2015. Page A-18, Table A-8 notes 1,391 billion kilowatt hours (kwh) in residential electricity consumption out of 3,836 billion kwh in total electricity consumption in 2013 (the real date of the report).

As EPA has acknowledged in the CPP that the electric system is inherently interconnected - a MWh of renewable generation is just as likely to offset a MWh of fossil fuel-fired generation as a MWh of energy savings. A solar panel placed on a home that produces the same energy as could be saved from an energy efficiency retrofit of the same home would provide the same carbon savings value to the climate.

According to the International Energy Agency, \$300 billion was spent on energy efficiency in 2011 by companies and governments in 11 countries⁷. The IEA notes that the investment saves more in emissions of carbon dioxide than all the spending on renewables. According to IEA, the energy the countries studied have avoided using since 1974 thanks to energy efficiency measures is now equivalent to two-thirds of annual consumption. In this study, energy efficiency showed the largest percentage improvement in the residential sector, where energy usage was reduced by an absolute 5% from 2001 levels among the countries analyzed. When isolating the impact of efficiency (taking into account autonomous usage increases) energy use fell 14% lower than the 2011 usage levels would have been.⁸

As a result of the equivalent benefit to the climate from energy efficiency and renewable energy, we believe that the same number of ERCs should be allocated from clean generation from either energy efficiency and renewable energy.

II) Recommendation that EPA adopt a broad definition of “low-income communities”⁹

HPC and EF strongly support an inclusive definition of “low-income community” that recognizes the many different types of energy-efficiency programs and measures that can deliver benefits and cost savings to low-income communities. Specifically, HPC and EF believe that the term “low-income community” should capture demand-side energy efficiency projects and measures in: (1) all residences, businesses, and infrastructure located in low-income communities; and (2) low-income households, even if they do not end up falling within the geographic boundary of a designated low-income community (however EPA ends up demarcating such boundaries).

HPC and EF support giving states flexibility in regards to the definition of low-income communities. Each state should be allowed to determine where their respective low-income communities are; many already administer programs in those communities based on the greatest need for financial incentives and support. For each qualifying community, demand-side energy efficiency measures implemented at all residences, businesses, and infrastructure located within that community should qualify for double CEIP credit.

⁷ *Energy Efficiency Market Report 2014, Executive Summary*. OECD/IEA. 2014
<https://www.iea.org/Textbase/npsum/EEMR2014SUM.pdf>

⁸ *Energy Efficiency Market Report 2014, Executive Summary*. OECD/IEA. 2014
<https://www.iea.org/Textbase/npsum/EEMR2014SUM.pdf>

⁹ This recommendation is in response to EPA’s question “What definition(s) of ‘low-income community’ should be required for eligible energy-efficiency (EE) projects?” from EPA’s November 2015 “CEIP Questions” (first bullet point).

In addition, HPC and EF believe that the definition of “low-income community” should include, but not be limited to, the low-income communities as defined by the Weatherization Assistance Program (“WAP”). WAP, 10 C.F.R. § 440.3, defines “low-income” as income in relation to family size that is at or below 200 percent of the federal poverty level.¹⁰ Also, some states have funded income-qualified programs that help low-income families using broader income standards than WAP, for example: household incomes of up to 80% of area median income (AMI) or state median income. These efforts should be encouraged and counted for CEIP purposes. In addition, eligibility can be based on whether “cash assistance payments have been paid during the preceding twelve month-period under Titles IV and XVI of the Social Security Act or applicable State or local law.”¹¹ HPC and EF believe that EPA should not only include those who have been pre-qualified for WAP but also devise a list of “pre-qualifying” federal programs that would qualify a low-income household for eligibility under the CEIP. Allowing low-income households to qualify under these criteria will help to reduce additional paper work burdens placed on low-income families, contractors, and programs, that may otherwise serve as a barrier to their accessing the benefits of energy efficiency retrofits.

HPC and EF support the inclusion of low-income households outside of targeted “communities.” By including low-income households and individuals within the CEIP definition of “low-income community,” EPA can (1) ensure that low-income households are not penalized just because they end up falling on the wrong side of a community boundary line and (2) continue to fulfill the objective of providing double credit in those places that can least afford, but most need, to lower electricity bills. It is important to remember that energy efficiency helps to make homes more affordable for the occupants and thus provide multiple benefits to society and are particularly valuable to low-income homes.

EPA should confirm that demand-side energy efficiency measures and programs that serve both low-income and non-low-income communities will be eligible for the CEIP. Energy efficiency programs may serve a diverse range of households and communities and may not be dedicated solely to the implementation of demand-side energy efficiency in low-income communities. HPC and EF believe that in a given state, such programs and measures should be allowed to demonstrate that a certain proportion of their program serves low-income communities or households and should receive double CEIP credit for that work.

¹⁰ 10 C.F.R. § 440.3. The WAP also allows the Secretary to establish a higher level if certain criteria are met. For the current federal poverty guidelines see *Annual Update of the HHS Poverty Guidelines*, 80 Fed. Reg. 3236 (January 22, 2015), available at <http://www.gpo.gov/fdsys/pkg/FR-2015-01-22/pdf/2015-01120.pdf>.

¹¹ 10 C.F.R. § 440.3. See also U.S. Department of Energy Weatherization Program Notice 15-3 “Poverty Income Guidelines and Definition of Income” (February 19, 2015), available at http://waptac.org/data/files/Website_docs/Government/Guidance/2015/WPN-15-3-PIGS.pdf.

III) Recommendation that EPA expand types of energy efficiency resources that are eligible for the CEIP¹²

The CPP provides that demand-side energy efficiency “projects” implemented in low-income communities can generate CEIP credits.¹³ In the Proposed Federal Plan preamble, EPA states that demand-side energy efficiency “measures” will also be eligible. The terms “demand-side energy efficiency,” “projects,” and “measures” are not defined. Accordingly, HPC and EF urges EPA to broadly define these terms.

EPA’s use of the term “demand-side energy efficiency” should encompass the full range of demand-side energy efficiency measures recognized in the CPP. EPA should allow the full range of demand-side energy efficiency projects as long as the demand-side energy efficiency project in question *reduces* demand for electricity from the grid.

As noted above, energy efficiency is a tremendous resource that has barely been tapped; and it is also vital that *residential* energy efficiency be given an equal chance to participate. Without the appropriate definitions, residential energy efficiency may be discounted as being too difficult to organize and aggregate. However, unlike commercial and industrial building or power plants, Americans LIVE in their homes. As noted before, energy efficiency can be a critical element in keeping American housing affordable, especially for lower-income households. HPC and EF argue that it is imperative to the overall success the Clean Power Plan that residential communities be a significant part of of the CEIP so that more Americans can play a direct role in determining their clean energy future.

Importantly, energy programs that provide incentives for homeowners to undertake residential retrofits – from insulation and air sealing, to HVAC replacements, to home energy management device installations, to geothermal heat pumps¹⁴, to lighting and fenestration upgrades – should be eligible for ERCs under the CEIP. These programs will save more than electricity and its associated carbon emissions. The carbon savings will be compounded by the savings from gas, wood, and heating oil that will also be saved from home retrofits (even when aimed at electricity hogs like poor insulation and air sealing for air conditioning)¹⁵. Furthermore, these programs will lead to energy bill

¹² Answer Question: “Criteria for eligible projects, including those for EE projects implemented in low-income communities” from EPA’s November 2015 “Clean Energy Incentives Program.”

This recommendation is in response to EPA’s question “What criteria should be used to define...eligible EE projects implemented in low-income communities?” from EPA’s November 2015 “CEIP Questions” (second bullet point).

¹³ *Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units*, 80 Fed. Reg. 64661. October 23, 2015. (to be codified at 40 C.F.R. § 60.5737).

¹⁴ Geothermal heat pumps (GHPs) use the constant temperature of the earth as the exchange medium instead of the outside air temperature to significantly increase efficiency. This often-overlooked technology should be included in the CEIP. More information on GHPs is available on the U.S. Department of Energy website at <http://energy.gov/energysaver/geothermal-heat-pumps>

¹⁵ “Bringing on the Boom and Beating the Bust,” National Home Performance Council. http://www.homeperformance.org/sites/default/files/nhpc_white-paper-bringing-on-the-boom_20130430.pdf

savings; and to the extent that CPP-related compliance costs fall to consumers, the energy saved from home retrofits will help to off-set financial pain while making homeowners more comfortable and healthier in their homes¹⁶.

HPC and EF recommend that EPA look at the Department of Energy (DOE) and EPA joint State and Local Energy Efficiency Action (SEE Action) Network and its September 2015 Residential Working Group publication “A Policymaker’s Guide to Scaling Home Energy Upgrades”¹⁷ that outlines the immediate strides that states could make to significantly increase the amount of energy efficiency that can be gained from programs based on state policy changes. Many of these policies are not in place because the states and utilities do not have the incentive to reduce energy and carbon emissions. The Clean Power Plan will provide the mandate, and the CEIP could create the incentive, to dramatically change the way we address residential energy efficiency.

IV) Clarification request and recommendation regarding the use of CEIP for states under a mass-based federal plan for carbon reductions.

HPC and EF strongly support the eligibility of demand-side energy efficiency under either a rate-based or mass-based Federal Plan. There has been some misunderstanding about the ability for a state under a mass-based plan to use the CEIP. HPC and EF request that EPA provide clarity by clearly stating that mass-based states are, without question, eligible to utilize the CEIP.

The proposed regulatory text is inconsistent with the rest of the proposed Federal Plan regarding the eligibility of demand-side energy efficiency activities in low-income communities to receive allowances from the CEIP set-aside. HPC and EF request that EPA confirm that energy efficiency implemented in low-income communities are eligible for CEIP allowances under the mass-based Federal Plan.

Several sections of the proposed Federal Plan regulatory text explicitly provide that energy efficiency projects implemented in low-income communities will be eligible under both the mass-based and rate-based Federal Plan.¹⁸ For example, proposed 40 C.F.R. § 62.16231 (mass-based) and 40 C.F.R. § 62.16431 (rate-based) provide that EPA will administer the CEIP on behalf of states for which it has promulgated a Federal Plan, and that EPA will issue early action allowances/ERCs to demand-side energy efficiency implemented in low income communities. The preamble to the Proposed Federal Plan

¹⁶ Ibid

¹⁷“A Policymaker’s Guide to Scaling Home Energy Upgrades.” SEE Action Residential Working Group. September 2015.

https://www4.eere.energy.gov/seeaction/system/files/documents/Residential%20Policymakers%20Guide_093015_v2.pdf

¹⁸ Federal Plan 40 CFR 62.

also explicitly states that such projects would be eligible under either the rate-based or mass-based Federal Plan.¹⁹

However, proposed 40 C.F.R. § 62.16235(e)(3) appears to exclude energy efficiency projects from eligibility for the CEIP under the mass-based Federal Plan.²⁰ Specifically, proposed 40 C.F.R. § 62.16235(e)(3)—which describes the qualifying criteria for allowances from the CEIP set-aside—states that “[a]ll categories of resources other than those listed in paragraphs (e)(3)(iii)(A) and (B) of this section, and all provisions of this subpart relating to such resources, are not available or applicable in States where this subpart has been promulgated as a federal plan” Paragraphs (e)(3)(iii)(A) and (B) refer to metered onshore wind and solar, while paragraph (e)(3)(iii)(C) refers to demand-side energy efficiency. This section thus appears to exclude energy efficiency from eligibility for the CEIP set-aside. HPC and EF requests that EPA revise this portion of the regulatory text to make it consistent with all other parts of the proposed Federal Plan and to make it clear that energy efficiency implemented in low-income communities is eligible for the CEIP under the mass-based Federal Plan.

We understand that there may be complications related to the administration of energy efficiency programs. While the EPA does not have extensive experience running energy efficiency programs, that should not be a reason to limit energy efficiency’s role in the CEIP in any way. We recommend that CEIP should be allowable in the federal plan and if the energy efficiency programs of the CEIP are not able to be overseen by the state, that EPA should work in conjunction with DOE to ensure that there are allowable energy efficiency programs. DOE has significant expertise – both in terms of technical knowledge and experience – in administering and overseeing national- and state-level energy efficiency programs and policies. DOE administers the appliance standards program, issues review standards, EM&V protocols, as well as administering and overseeing the Weatherization Program and the Federal Energy Management Program. EPA simply does not have this same level of expertise or bandwidth when it comes to running energy programs or measuring energy efficiency savings.

V) Clarification request and recommendation regarding the requirements for eligible energy efficiency projects, requirements for M&V reports of quantified MWh, and requirements for verification reports from an independent verifier²¹.

Residential energy efficiency retrofits face unique challenges to participation in carbon markets. Energy efficiency will always have the challenge of the counterfactual – it is

¹⁹ Federal Plan 40 CFR 62

²⁰ Federal Plan s 40 CFR 62

²¹ This recommendation is in response to EPA’s question “What should be the evaluation, measurement and & verification (EM&V) requirements for eligible projects; the requirements for M&V reports of quantified megawatt-hour (MWh); and the requirements for verification reports from an independent verifier?” from EPA’s November 2015 “CEIP Questions” (third bullet point).

impossible to know exactly how much energy would have been used had the energy efficiency project not taken place. However, thanks to new technologies and best practices we can increase the accuracy of energy efficiency upgrade predictions, and utilize new home energy management technologies to boost data collection.

HPC and EF recommended in our original comments on the Clean Power Plan²² that EPA work with DOE to develop a national working group responsible for developing recommendations regarding appropriate EM&V protocols for the residential sector to ensure they are transparent, market-supported and flexible. This working group can ensure that EM&V standards continue to evolve towards greater accuracy and flexibility as well as more streamlined and less intrusive collection and application of data at a time when technology is rapidly improving both the availability of data, and the techniques for creating value from that data.

HPC and EF recommend that EPA ensures that the mix of approved EM&V approaches include options for both the use of methods to verify savings, such as bill analysis, and credentialed predictions from approved energy modeling tools. Energy efficiency predictions have made tremendous strides in accuracy over the last five years. Software tools with access to historical energy data and the utilization of new standards²³ can predict energy savings for residential retrofits with increasing accuracy. Recent studies have shown that with software and standard tools energy efficiency can significantly increase the accuracy of measurement and therefore should be included in the CEIP the EM&V methodology for verification of savings.²⁴

We understand the need to assure that energy savings are real, particularly under rate-based CPP compliance and for issuance of incentive ERCs or allowances under the CEIP. However, the desire for rigorous EM&V must be balanced with the need to avoid costly and cumbersome paperwork and processes that can and will be a barrier to energy efficiency investments. As a result, we fear that states that opt for mass-based targets and, thus, do not need to include EM&V in their state compliance plans, may be required to demonstrate to EPA their establishment of EM&V processes and systems at the level required for rate-based compliance pathways in order to participate in a mere two-year program. We strongly recommend that EPA allow states to employ existing EM&V processes and practices under the CEIP.

²² EPA-HQ-OAR-2013-0602-23543 (posted December 9, 2015), available at

<http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2013-0602-23543>

²³ For example the BPI-2400 standard (“BPI-2400-S-2012 Standard Practice for Standardized Qualification of Whole-House Energy Savings Predictions by Calibration to Energy Use History” or “Delta Standard”). BPI-2400 specifies a process for the calculation of standardized predicted savings: the difference (delta) between the modeled energy usage before and after an upgrade using approved building energy use simulation software. The process uses actual home energy bills to predict savings and provides a set of standardized operating conditions to be used in the final calculation of predicted savings. More information on BPI-2400 is available at http://www.bpi.org/Web%20Download/BPI%20Standards/BPI-2400-S-2011_Standardized_Qualification_of_Whole_House_Energy_Savings_Estimates.pdf

²⁴ “Home Performance with ENERGY STAR Realization Rate Attribution Study.” NYSERDA and Performance Systems Development (PSD). February 2014. <http://psdconsulting.com/wp-content/uploads/2014/11/NYSERDA-PSD-Ex-Post-Application-of-BPI-2400-Standard-to-Senate-Committee.pdf>

HPC and EF believe that these emerging EM&V approaches should also be included and encouraged in the CEIP as they can demonstrate improvements in the quality and accuracy of savings whole house predictions. By leveraging existing tools, software accreditation systems and data aggregation technologies, greater consistency between predicted and realized savings can be established. Many of these best practices have been documented by DOE in the Home Performance with Energy Star Program, and the Home Performance Coalition (formerly the National Home Performance Council) has published best practice guidelines.²⁵

HPC and EF further recommend that the CEIP allow EM&V billing analysis approaches that incorporate interval and other data from advanced “smart” meters and other “smart grid” and “smart home” devices. This data has the potential to make the quantification of savings from energy efficiency measures considerably more accurate and valuable, for example by allowing a more precise disaggregation of heating, cooling and other loads than the most common methods currently in use.

There are also emerging areas of program design that use actual billing data to measure achieved savings.²⁶ While this is in the conceptual stage now, utilities in California, under the direction of the California Public Utilities Commission and guided by recently-passed state legislation, are developing new approaches for delivering energy savings to pilot this year. These pilots will use various software tools to compare post-project data with pre-project baselines and apply calculations to determine savings for projects and portfolios of projects. Should the pilot be successful in measuring energy efficiency, EPA guidelines should be flexible enough now to allow such methods to be used for future energy efficiency EM&V compliance²⁷.

Finally, HPC and EF respectfully remind EPA that it is important that carbon savings be included as a goal of state energy efficiency programs, and once done, this will help to advance critical monitoring criteria. As the SEE Action Network EM&V Working Group has noted: “evaluation of energy efficiency programs should support the policy goals of the programs. Thus, understanding policy goals, and the context in which the programs are being implemented, affects program evaluation”²⁸. Once the state energy efficiency programs incorporate carbon savings into their goals, this will assist in both the EM&V and the determination of cost-effectiveness²⁹.

²⁵ See the reports outlined on the HPC website <http://www.homeperformance.org/policy-research/resources/reports> that document best practices for home performance policy and programs.

²⁶ “Residential Energy Efficiency 2.0: A Market-based Approach to Residential Energy Efficiency.” Prepared for Efficiency First New York. August 18, 2014. <https://salsa.wiredforchange.com/o/6062/c/8380/images/EFNYResEE20.pdf>

²⁸ “Energy Efficiency Program Impact Evaluation Guide.” SEE Action Evaluation, Measurement, and Verification Working Group. December 2012.

²⁹ For further information on how cost-effectiveness testing and EM&V need to utilize carbon goals and assist in 111d compliance see http://www.homeperformance.org/sites/default/files/hpc_nesp-unleashing-energy-efficiency_201410.pdf

Finally, in order to ensure that accurate information regarding carbon emission reductions from qualified energy efficiency projects is accurately tracked and accounted for, EPA should support or contribute to the development of an energy efficiency project registry. EPA has already indicated in the proposed Federal Plan that it would consider facilitating the development of a national project registry for this purpose. Although a broad, national energy efficiency registry does not exist today, many of the fundamental elements for such a registry are already in place as a result of states' experience with renewable portfolio standards and renewable energy certificates (RECs) tracking.

The proposed National Energy Efficiency Registry (NEER) project, being led by the State of Tennessee and funded by a Department of Energy grant could prove to be an extremely useful platform for this activity. We look forward to being actively engaged in the NEER development stakeholder process, and encourage EPA to participate as well.

An energy efficiency registry will allow states to ascertain all of the verified efficiency-related CO₂ reductions that have occurred in the state during the applicable compliance timeframe. This tool will allow states to view the sum total of registered energy efficiency projects as they make annual allocation decisions. A reliable energy efficiency registry can catalog verified CO₂ reductions for state and federal officials and is essential to any effort to simplify and encourage the use of efficiency-related CO₂ reductions for CPP compliance.

Conclusion

HPC and EF thank the EPA for this opportunity to provide comment on the CEIP. This important program has the opportunity to help transform the way that save energy in this country and give homeowners the opportunity to be a part of American's clean energy solution.