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Arthur N. Marin, Executive Director

November 26, 2014

Gina McCarthy, Administrator
U.S. Environmental Protection Agency
EPA Docket Center
Mail Code 28221T
1200 Pennsylvania Avenue, NW
Washington, DC 20460
Attn: Docket ID No. EPA–HQ–OAR–2013–0602
Via Email: a-and-r-docket@epa.gov

Re: Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units

Dear Administrator McCarthy:

The Northeast States for Coordinated Air Use Management (NESCAUM) offer the following comments on the U.S. Environmental Protection Agency's (EPA's) Proposed Rule *Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units* [79 FR 34830-34958 (June 18, 2014)]. NESCAUM is the regional association of state air pollution control agencies representing Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont.

These comments reflect the majority views of NESCAUM as a state membership organization. Individual NESCAUM member states may submit separate comments regarding issues specific to that state's circumstances, which may differ from the NESCAUM states' majority consensus. Some NESCAUM states are members of the Regional Greenhouse Gas Initiative (RGGI), and may choose to use RGGI as a compliance mechanism. The nine states participating in RGGI submitted comments on the proposed rule on November 5, 2014.[1]

NESCAUM recognizes that EPA engaged states early in the rule development process and incorporated state input into the proposed rule. NESCAUM urges EPA to continue engaging states as it responds to comments and finalizes the rule. In particular, NESCAUM urges EPA to work with states on developing a final rule that establishes carbon pollution reduction requirements appropriately reflecting state circumstances, and neither penalizes early actors nor rewards late actors. We advocate for cohesion in how targets are set and how compliance might be achieved in order to maintain the effectiveness of the rule.

[1] RGGI States' Comments on Proposed Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 79 FR 34830; available at: http://www.rggi.org/docs/PressReleases/PR110714_CPP_Joint_Comments.pdf.

NESCAUM's comments focus on the role of energy efficiency (EE) and renewable energy (RE) in the proposed rule. We support the ability for states to collaborate on multi-state plans, which may provide flexibility for EE and RE planning. Similarly, we urge EPA to make EE and RE attractive compliance options for states submitting individual plans. We provide examples of how states have already used EE and RE to reduce energy demand, positively affect local economies, and improve air quality. We also discuss how EPA considered EE and RE as it developed the state rate-based goals and how EPA proposes states use EE and RE as compliance mechanisms.

These comments do not reflect consideration of the Notice of Data Availability (NODA) released by EPA, as the NODA was released after NESCAUM had developed consensus positions on the proposal.

1. The guidelines should include all four building blocks

The carbon pollution guidelines should acknowledge the considerable role of EE and RE in reducing energy demand and air pollution, and should thus include all four building blocks proposed by EPA. We concur with EPA's determination that "the most cost effective approach to reducing GHG emissions from the power sector under CAA section 111(d) is to follow the lead of numerous states and not only to identify improvements in the efficiency of fossil fuel-fired EGUs as a component of BSER, but also include in the BSER determination the EGU-emission-reduction opportunities that states have already demonstrated to be successful in relying on lower- and zero-carbon emitting generation and reduced electricity demand."[2]

1A. EPA should include energy efficiency (building block four)

EE has long helped in meeting energy demand in the United States. The American Council for an Energy Efficient Economy (ACEEE) estimates that, since 1970, about three-quarters of the new demand for electricity has been met by EE rather than energy generation.[3] At least 25 states have voluntarily adopted and funded long-term binding energy efficiency resource standards (EERS).[4] These standards help states reduce power demand, thereby reducing generation, providing economic, environmental, and public health benefits.

The preamble from EPA cites several strong examples of state successes with EE programs. For instance, Arizona adopted an EERS in 2010 requiring investor-owned utilities to achieve cumulative electricity savings of 22 percent by 2020. In 2012, Arizona attained annual electricity savings greater than its goal for the year, and achieved annual net benefits to consumers in

[2] *Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units*, 79 Fed. Reg. 34830-34958 (June 18, 2014), at 34850.
[3] *The Long-Term Energy Efficiency Potential: What the Evidence Suggests*, American Council for an Energy-Efficient Economy, (Jan. 11, 2012); available at: http://aceee.org/research-report/e121.
[4] *State Energy Efficiency Resource Standards (EERS)*, American Council for an Energy-Efficient Economy, (Apr. 2014); available at: http://www.aceee.org/files/pdf/policy-brief/eers-04-2014.pdf.

excess of $200 million.[5] Vermont established Efficiency Vermont, which operates as an EE power plant, and charged it with providing all reasonably available, cost effective EE. Efficiency Vermont has achieved annual savings of 1.66% of the state's electricity sales at a cost of $0.041/kilowatt-hour (compared to average electric supply costs of $0.084/kilowatt-hour). From its 2013 EE investments alone, the State projects lifetime economic value to the State of $60 million.[6]

1B. EPA should include renewable energy (building block three)

Twenty-nine states have renewable portfolio standards (RPS), and nine others have RE goals.[7] Many states have already made great strides towards their RE standards and goals. For example, Texas exceeded its RPS requirements well ahead of schedule. In 2005, the State established a RPS requirement of 10,000 MW of RE capacity by 2025.[8] In part due to the increasingly favorable economics of renewable energy technologies, Texas reached this requirement 15 years ahead of schedule, developing 10,000 MW of renewable generation capacity by 2010. Since then, Texas has continued deploying renewables, with over 12,750 MW of wind capacity to date.[9] Last year, wind power provided nearly 10 percent of generation in ERCOT, the electricity system that serves most of Texas. Massachusetts has used financial incentives, such as renewable energy credits, net metering, and long-term contracts, to quickly ramp up RE production.[10] Massachusetts' solar capacity has grown from 1.64 MW in 2007 to 687 MW in 2014. Installed wind capacity has grown from 1.64 MW to 107 MW in these same years.[11]

1C. Multi-pollutant benefits of EE and RE

As EE and RE programs reduce demand on fossil fuel-fired generation, states can achieve reductions in the emissions of greenhouse gases, criteria air pollutants, and hazardous air pollutants. This is particularly true on high electricity demand days that often coincide with poor air quality.[12] The preamble to the proposed rule mentions Connecticut's success at including EE/RE projects, such as high efficiency air conditioners, compact fluorescent lighting, combined

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[5] *Energy Efficiency*, Arizona Public Service Company 2012 Demand Side Management Annual Progress Report, (Sept. 5 2014); available at: http://www.aps.com/en/ourcompany/aboutus/energyefficiency/Pages/home.aspx
[6] *Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units*, 79 Fed. Reg. 34830-34958 (June 18, 2014), at 34850.
[7] *Renewable Portfolio Standard Policies - September 2014*, Database of State Incentives for Renewables & Efficiency (DSIRE), (Sept. 2014); available at: http://www.dsireusa.org/documents/summarymaps/RPS_map.pdf
[8] *The Texas Renewable Energy Industry*, Office of the Governor, (2014); available at: http://governor.state.tx.us/files/ecodev/renewable_energy.pdf.
[9] *WINDExchange: Installed Wind Capacity*, U.S. Department of Energy: Energy Efficiency & Renewable Energy (Aug. 5, 2014); available at: http://apps2.eere.energy.gov/wind/windexchange/wind_installed_capacity.asp.
[10] *Installed Solar Capacity in Massachusetts*, Massachusetts Department of Energy Resources, available at: http://www.mass.gov/eea/docs/doer/renewables/installed-solar.pdf
[11] *Installed Wind Capacity in Massachusetts*, Massachusetts Department of Energy Resources; available at: http://www.mass.gov/eea/docs/doer/renewables/installed-wind.pdf
[12] *AVoided Emissions and geneRation Tool (AVERT*), Environmental Protection Agency. (accessed October 2, 2014); available at: http://epa.gov/avert/.

heat and power (CHP), and solar photovoltaic installations, in its criteria pollutant state implementation plan (SIP).[13]

2. EPA should improve areas of the proposed rule to ensure its effectiveness

2A. Consider alternatives to using EIA Form 861 for baseline EE data

We are concerned about the baseline EE data relying on EIA Form 861, which collects information provided by EE program administrators. For example, in Massachusetts, data from Northeast Utilities (one of the State's two largest utilities) are not included for 2012, significantly under-counting incremental EE. This not only underestimates the baseline in Massachusetts, but suggests that the 1.5 percent target based on state best practices may not take into account all data and is therefore lower than it should be.[14] ACEEE's annual state ranking report provides annual incremental EE savings that better reflect the experiences of some NESCAUM states compared to EIA Form 861.

EPA (EIA-861) EE as a % of electric retail sales vs. ACEEE 2013 state ranking report (Nov 2013)[15]

RGGI State	EPA (EIA 861) % of retail sales in 2012	ACEEE Electricity EE savings % of retail sales in 2011
VT	2.19%	2.12%
MA	0.94%	1.43%
CT	1.05%	1.32%
NY	0.93%	1.25%
RI	0.78%	1.25%
ME	1.96%	1.05%
NJ	0.03%	0.69%
NH	0.48%	0.64%

2B. EPA should quantify "evaluated savings" and adjust EE targets if necessary

While EPA's proposal uses the term "net savings," there is no common definition of "net" used across the United States. EPA should finalize a definition of "net" based on evaluated savings, including savings from spillover and free ridership beyond business as usual. Because the environment sees the benefits of the total energy savings (whether or not due to spillover or free ridership effects), the total evaluated savings of EE should be credited in the 111(d) framework.

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[13] *Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units*, 79 Fed. Reg. 34830-34958 (June 18, 2014), at 34887.
[14] See GHG Abatement Measures TSD, 5-33.
[15] *The 2013 State Energy Efficiency Scorecard*, American Council for an Energy-Efficient Economy (ACEEE), (Nov. 3, 2013); available at: http://www.aceee.org/research-report/e13k., Table 14; note ACEEE data are from 2011 vs. 2012—we would expect this to be have a conservative effect.

For this reason, Massachusetts expects to change its Global Warming Solutions Act (GWSA) compliance tracking to include such total evaluated savings (including free ridership and spillover).[16] The basis upon which EE savings are measured for compliance should match the basis upon which the EE target is set. Adopting a compliance approach based on total evaluated savings would therefore require a corresponding adjustment to the level of the EE target used to calculate state goals. In general, an EE approach measured on an evaluated savings basis (which includes spillover and free rider effects) yields a higher MWh value than the same EE approach measured using a "net" basis (which does not include these effects). To account for this difference in accounting, the proposed EE target—which was set on the basis of "net" measurements—should be recalculated using evaluated savings.

2C. EPA should support early ramp up of EE

EPA should consider means of incentivizing a greater degree of early action to ramp up EE investments in advance of the 2020 compliance period, and recognize the work that states have already done to invest in EE. Because the building block four target is based on annual incremental levels of EE, states may choose not to begin implementing EE measures until the start of the compliance period. Based on the assumptions that early, "low-hanging fruit" actions are less expensive than subsequent actions and have limited availability, states that have not yet started investing in EE may delay implementing new EE programs until the compliance period to reach the incremental MWh targets set by EPA for 2020 and beyond. Delaying is also incentivized by the expiration of savings attributed to EE measures installed at an earlier point in time. Such delays would show the same annual emissions rate during the compliance period, but would lead to fewer cumulative real emissions savings.

NESCAUM, whose member states have proven the many benefits of ongoing, cost-effective EE savings, encourages EPA to structure building block four in the final rule in a way that will incentivize earlier investments in EE. For example, in building block three this issue is diminished by setting a cumulative target for renewable energy generation rather than an incremental target.

3. All benefits of EE and RE programs should be credited

Of the four building blocks, the EE and RE components hold the greatest long-term promise for reducing carbon pollution. The rule as currently proposed may lead to the undercounting of EE programs by allowing states to only receive credit for energy savings and emissions reductions realized in-state. Although this may be aligned with how EE targets are set, undercounting of EE benefits may result in states pursuing less effective and shorter-term carbon reduction measures. In the State Plan Considerations Technical Support Document, EPA provides alternatives that would allow states to receive credit for all energy savings and emissions reductions from EE, including an administrative adjustment, a tradable credit approach, and an EPA regional review

[16] The measurement basis for GWSA tracking is distinct from the Massachusetts Department of Public Utilities' approval for rate payer-based program evaluation methods.

of EE effects.[17] Carefully crafting the rule to avoid undercounting (as well as prevent double-counting) may lead to states more fully implementing EE measures, which will have the greatest long-term climate benefits extending beyond the time horizon of this rule.

As proposed, EPA allows states to receive credit for all RE programs implemented by a state, regardless of whether energy savings and emission reductions attributable to these RE programs occur out-of-state. We question how the proposed approach avoids double-counting. EPA names renewable energy credits (RECs) as a potential mechanism for tracking energy savings and emission reductions from RE and preventing double-counting. We ask that EPA clarify how RECs might be used for this purpose.

4. Building block three reductions should be based on economic RE potential

Building block three (i.e., RE) reductions are an important component of the guidelines. We appreciate that EPA developed both a proposed and an alternative approach for consideration and comments. In crafting this building block, EPA should leverage what is known about the economic potential of different renewable energy resources and the potential for regional energy markets to meet this economic potential. For states without an RPS, basing RE targets off the RPS of neighboring states may significantly under-represent the state and regional potential. For states with an RPS, basing RE targets off the RPS of neighboring states may significantly over-represent the state and regional potential. The alternative approach put forth by EPA is not subject to this concern. In the alternative approach, EPA combines state-specific RE technical potential assessments with a methodology to determine state-specific economic potential by RE category.

If EPA were to adopt the alternative RE approach, NESCAUM suggests two adjustments to this approach to further enable all states to realize the full extent of cost-effective RE implementation. First, rather than averaging the development rates of the top 16 states, EPA could instead rely on an average of the top five states for each technology; this would more than double the benchmark development rates for both utility-scale solar and onshore wind.[18] The second step of EPA's proposed alternative methodology would still ensure that only the economical renewable generation potential in each state is counted. Second, even with the above suggested modifications, the alternative RE proposal results in a renewable energy target for 12 states that is less than the actual renewable energy generation reported by these same states in the 2012 baseline year.[19] In recognition of this technical limitation of the proposed alternative methodology, EPA should implement a "floor" derived from a conservative historic ten-year

[17] *Technical Support Document (TSD) for Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units: State Plan Considerations,* Environmental Protection Agency. (June 2014); Docket ID No. EPA-HQ-OAR-2013-0602.
[18] There would be no impact on the benchmark development rate for geothermal, as only 5 states reported geothermal generation in 2012.
[19] AL, CT, DE, FL, GA, LA, MA, MD, NC, SC, TN, and WA.

national compound average growth rate for renewable resources as reported by the U.S. Energy Information Administration's Annual Energy Outlook 2014.[20]

Although it is not our preferred approach, if EPA continues with its proposed methodology for establishing building block three targets, it should consider the following concern. EPA's proposed methodology is based on the nominal RE generation requirements in state RPS, but most state RPS pertain only to a portion of electric load.[21] EPA is likely to receive comments requesting that building block three targets be based on the effective level of RE in state RPS, rather than the nominal level. If EPA were to make such a change, building block three RE targets would be reduced. We would not support such a change where the result is less than the achievable economic RE potential in the state.

5. The annual incremental electricity savings rate to meet the 2030 EE building block target is already being achieved by states

The annual incremental savings target rate of 1.5 percent is a reasonable estimate of the savings that can be achieved at reasonable costs by states and within a reasonable timeframe. As noted in the proposed rule, "twelve leading states have either achieved, or have established requirements that will lead them to achieve, annual incremental savings rates of at least 1.5 percent of the electricity demand that would otherwise have occurred."[22] For example, Arizona intends to achieve cumulative electricity savings of 22 percent by 2020, representing an average annual target of 2.4 percent.[23]

In this light, the EE building block approach taken to set the 2030 goals should not be changed under an alternate approach as it captures attainable energy saving goals informed by a broad range of state successes across the country. EPA proposed that annual incremental electricity savings from demand-side EE programs be reduced from 1.5 percent to 1.0 percent under the alternate set of goals. NESCAUM does not support such a potential change. As proposed by EPA, the 2025 alternate set of state-specific goals for the EE building block is a low bar, and its

[20] Data included in the AEO 2014 full report reveals that renewable energy generation experienced a 3.38 percent compound average growth rate (CAGR) nationally for the ten-year period ending in 2012; a 4.15 percent CAGR between 2005 – 2012; and a 4.34 percent CAGR between 2005 – 2014. Recognizing the range of historic national CAGRs depending on the corresponding baseline years, and recognizing that geographic variations of the CAGR may exist, including a "floor" equivalent to a conservative 3 percent CAGR applied to a state's 2012 renewable energy generation baseline would ensure that all states are attributed a renewable energy target under the preferred alternative building block three methodology that is greater than the existing renewable generation capacity of that state. *See Annual Energy Outlook 2014 with Projections to 2040*, U.S. Energy Information Administration (April 2014), at data for Figure ES-5; available at: http://www.eia.gov/forecasts/aeo/pdf/0383(2014).pdf.

[21] *DSIRE RPS Data Spreadsheet - RPSspread042213.xlsx*, Database of State Incentives for Renewables & Efficiency (DSIRE) website (accessed September 3, 2014); available at: http://www.dsireusa.org/rpsdata/RPSspread042213.xlsx.

[22] *Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units*, 79 Fed. Reg. 34830-34958 (June 18, 2014), at 34872.

[23] *The 2013 State Energy Efficiency Scorecard*, American Council for an Energy-Efficient Economy (ACEEE), (Nov. 3, 2013); available at: http://www.aceee.org/research-report/e13k.

carbon pollution reduction potential does not reflect what is already achievable. EPA recognizes that the alternate set of goals "may underestimate the extent to which the key elements of the four building blocks … can be achieved rapidly while preserving reliability and remaining reasonable in cost."[24] NESCAUM believes that if the alternate approach is to be an option, widespread past state successes with EE demonstrate that it is reasonable to expect states can achieve annual incremental electricity savings of 1.5 percent by 2025.

6. EPA should clarify its requirements for states in demonstrating compliance

6A. Consistent evaluation, measurement, and verification (EM&V) approaches

Quantifying and characterizing energy savings and carbon pollution reductions from EE and RE programs are complex tasks, in particular because meaningful reductions from EE and RE programs require implementation of many small measures. For each measure, realistic and transparent assumptions about average energy savings, usage, and lifespan will be needed. States with long-standing, robust EM&V practices, such as Connecticut and Massachusetts, should be referenced in developing national guidelines.[25] However, it should be noted that even states with robust tracking of EE programs may need to revise EM&V practices. For example, three states, Connecticut, Vermont, and California, arrive at drastically different EM&V results from similar EE programs based on the assumptions used for EM&V in each state.[26]

Regional and national efforts are currently underway to develop a framework and protocols for consistent quantification of EE program savings, including the Northeast Energy Efficiency Partnership's (NEEP's) EM&V Forum, Department of Energy's Uniform Methods project, the State and Local Energy Efficiency Action Network's EM&V workgroup, and the Pacific Northwest Regional Technical Forum.

NESCAUM supports the set of baseline criteria for a national EM&V platform outlined in comments submitted by NEEP and other EE stakeholders (Joint EE Stakeholders). These baseline criteria include the need for consistent methodologies, consistent and documented data sources, transparent assumptions, annual reporting, and third-party verification. NESCAUM encourages EPA to publish EM&V guidelines before release of the final rule and give stakeholders, including DOE and state public utility commissions, the opportunity to provide input and feedback before the guidance is finalized.

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[24] *Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units*, 79 Fed. Reg. 34830-34958 (June 18, 2014), at 34898.
[25] See: http://energizect.com/about/eeboard/evaluationreports for information on EM&V in Connecticut. See: http://ma-eeac.org/results-reporting/ for information on EM&V in Massachusetts.
[26] *Evaluation Measurement and Verification Challenge Fact Sheet: The Importance of Evaluating Energy Efficiency Program Effectiveness,* Alliance to Save Energy, (March 26, 2013); available at: https://www.ase.org/resources/evaluation-measurement-verification-challenge.

6B. Enforceability of EE and RE programs should not be a barrier

EPA should specify the extent and limits of enforceability of demand-side EE and RE programs, noting that these programs do not occur at permitted facilities and are often implemented by utility regulators and other entities not typically regulated under the Clean Air Act. In particular, EPA should include provisions that entities are only accountable for administering EE and RE programs as specified in state plans, and not for achieving the estimated energy savings or emissions reductions, which are approximations based on historic dispatch and are dependent on a dynamic, interconnected power supply. EPA should provide guidance on how programs will need to be adjusted or new programs added to compensate if estimated energy savings and emissions reductions are not achieved.

6C. Demonstrating energy savings and emissions reductions from EE and RE should not be required for mass-based states

States adopting mass-based goals should be able to demonstrate compliance through emission monitoring at regulated facilities. These states should not be required to quantify the impacts of EE and RE programs, or make such EE and RE programs federally enforceable.

6D. EPA should allow states to use EE programs that are less well-established for compliance

EPA should allow for smaller-scale, less well-established EE to be used for compliance. Examples of these types of programs include utility and state building energy efficiency programs, building codes, and programs that seek to alter consumer and building occupant behavior.[27] States could bundle the estimated energy savings or carbon pollution reductions from a portfolio of EE and RE programs to achieve significant reductions with the understanding that some programs underperform while others overperform. A discount factor could also be used to account for uncertainty of the performance of programs with less well-established EM&V protocols. This type of bundling or portfolio approach has been successfully applied by states in the past to obtain criteria pollutant SIP credit.[28]

The use of EE programs with less well-established EM&V in compliance scenarios should be subject to the following caveats:

1. The amount of credit should be discounted according to the level of uncertainty inherent in the underlying EM&V method.
2. States should be capped to a certain maximum amount of total credit for programs that are subject to significant discounting of credits as described above in 1.
3. States using these programs should be actively refining and improving EM&V for these programs to reduce uncertainty and ensure that use of these programs result in real reductions from the subject units.

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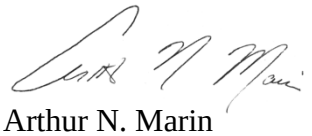
[27] *Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units*, 79 Fed. Reg. 34830-34958 (June 18, 2014), at 34921.

[28] *Guidance on Incorporating Bundled Measures in a State Implementation Plan,* Environmental Protection Agency. (August 2005); available at: http://www.epa.gov/ttn/oarpg/t1/memoranda/10885guideibminsip.pdf.

4. If EPA allows for the inclusion of less well-established EE programs, EPA should increase the Building Block 4 target accordingly, considering the uncertain results of such programs as described in the preceding bullets.[29]

If you would like any additional information or have questions regarding these comments, please contact Brian Keaveny (*617-259-2021 or bkeaveny@nescaum.org*) and Allison Guerette (*617-259-2012 or aguerette@nescaum.org*) at NESCAUM.

Sincerely,



Arthur N. Marin
Executive Director

cc: NESCAUM directors
David Conroy, Cynthia Greene, EPA Region 1
John Filippelli, Richard Ruvo, EPA Region 2
NESCAUM EE & AQ Workgroup
NESCAUM Attainment Planning Committee

[29] As noted in the proposed rule, "If we were to capture the potential for additional policies, such as the adoption and enforcement of state or local building energy codes, to contribute additional reductions in electricity demand beyond those resulting from energy efficiency programs, we could reasonably increase the targeted annual incremental savings rate beyond 1.5 percent." *Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units*, 79 Fed. Reg. 34830-34958 (June 18, 2014), at 34872. Given that the results of such less established programs are uncertain, if EPA increases state EE targets to include their results, EPA should do so conservatively and cap additions in parallel with bullet number two.