



*National Association of
State Energy Officials*

Industrial Energy Innovation Working Group

Comments on Docket ID: EPA-HQ-OAR-2015-0199, 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.

40 CFR Parts 60, 62, and 78.

64966 Federal Register/Vol. 80, No. 205/Friday, October 23, 2015

I. Introduction

The NASEO Industrial Energy Innovation Working Group (the Working Group) is pleased to provide comments to assist EPA in the design of the Federal Implementation Plan. We take no position on the merits or legality of the Clean Power Plan (the Plan). Our purpose is to urge that in all aspects of implementation by EPA and the states, agencies pursue least cost approaches in order to both maximize the benefit and reduce the cost of lowering greenhouse gas emissions and accomplishing the goals set out in the Plan.

a) About NASEO

The National Association of State Energy Officials (NASEO) is an organization representing the 56 State and Territory Energy Offices. State Energy Offices are agents of change – advancing practical energy policies and supporting energy technology research, demonstration, and deployment. In partnership with the private sector, the state energy offices accelerate energy-related economic development and enhance environmental quality through energy solutions that address their citizens' needs and enhance national energy security.

While NASEO has not taken a position on the appropriateness of EPA's Clean Power Plan, the organization works to ensure states have maximum flexibility in responding to the rule, and assists states which choose to develop compliance approaches.

b) About The NASEO Industrial Energy Innovation Working Group

The NASEO Industrial Energy Innovation Working Group is a diverse group of leading manufacturers and trade associations for whom the sustainable use of energy is

both an economic value and a business opportunity. The group includes energy intensive manufacturers and developers and suppliers of energy efficient products, services and technologies. We are leaders in innovation in efficient manufacturing, and/or products and services. We share a common interest in assuring that energy of all types is used sustainably and at the lowest possible cost to consumers. Following is a list of members:

- American Chemistry Council
- American Forest & Paper Association
- American Wood Council
- BASF
- Dow
- Ingersoll Rand
- Knauf Insulation
- North American Insulation Manufacturers Association
- National Electrical Manufacturers Association
- Schneider Electric
- CHP Association

**NASEO Industrial Energy Innovation Working Group
Examples of Members’ Energy Efficiency and Greenhouse Gas Performance**

Organization	Energy Efficiency Accomplishments	Greenhouse Gas Performance
American Chemistry Council ¹	Since 1974, the business of chemistry has reduced energy consumption by more than half (based on unit per output), part of an ongoing commitment to sustainability.	The business of chemistry develops the products that reduce greenhouse gas emissions for consumers and manufacturing facilities alike. For every ton of CO ₂ emitted in manufacturing the products of chemistry, two tons of CO ₂ emissions are saved.
American Forest & Paper Association ²	<p>Since 2005 improved energy efficiency led to a reduction in purchased energy of 8.8 percent, nearly reaching their 2020 goal of a 10 percent reduction five years early.</p> <p>On average, about two-thirds of its members’ energy needed for forest products production comes from the use of carbon-neutral biomass.</p>	Since 2005 members’ greenhouse gas emissions have been reduced by 14.5 percent — nearly reaching their 2020 goal of 15% five years early.

¹ <http://www.americanchemistry.com/Innovation/Energy>

² http://www.afandpa.org/docs/default-source/one-pagers/2014_sustainabilityreport_final.pdf?sfvrsn=0

	Ninety-seven percent of the electricity its members generated is through Combined Heat & Power.	
The American Wood Council	Member companies met almost 75 percent of their energy needs from renewable, carbon neutral biomass energy in 2012.	The greenhouse gas reduction benefits of using biomass manufacturing residuals for energy by the wood products industry are equivalent to about 24 million tons of carbon dioxide. This is equivalent to removing approximately 4.6 million cars from the road each year. The current inventory of wood structures in the U.S. is estimated to store 1.5 billion metric tons of carbon, which is equivalent to 5.4 billion tons of CO ₂ .
BASF ³	By using CHP technology, BASF is able to meet around 70 percent of its electricity demand and saved nearly 13 million MWh of fossil fuels in 2014, compared to conventional electricity and steam generation.	In 2014 alone, CHP at BASF was responsible for 2.4 million metric tons worth of prevented carbon emissions.
Dow ⁴	Dow's manufacturing energy intensity, measured in BTU per pound of product, has improved approximately 39 percent since 1990, saving the Company more than 6,000 trillion BTUs. 110 trillion BTUs of annual absolute energy reduction since 2005.	As a result of its energy efficiency efforts, Dow has avoided over 320 million metric tons of greenhouse gas emissions from operations since 1990. Dow's insulation products in service offset more than six times its own CO ₂ emissions from operations on an annual basis.
Ingersoll Rand ⁵	In 2014 introduced its bold Climate Commitment that addresses the unsustainable global demand for energy resources and the resulting impact on the environment. Through this Commitment launched a new line of products called EcoWise that maintain or improve energy efficiency through innovative design and are compatible with next-gen low GWP refrigerants. The company continues to identify opportunities to lower energy consumption and increase efficiency for its customers and in its facilities and fleet around the world.	Since announcing its Climate Commitment in 2014, the actions taken so far have avoided approximately 1.5 million metric tonnes of CO ₂ e globally, which is the equivalent of the CO ₂ emissions from the energy used in more than 206,000 homes and more than 1.6 billion pounds of coal burned.

³ <https://www.basf.com/us/en/company/sustainability/environment/energy-and-climate-protection.html>

⁴ <http://www.dow.com/en-us/science-and-sustainability/sustainability-reporting>

⁵ <http://company.ingersollrand.com/ircorp/en/discover-us/sustainability/our-climate-commitment.html>

Knauf Insulation	In the average life of a building insulation saves over 1500 times the energy used in its manufacture.	Insulation has one of the biggest impacts on reducing greenhouse gases, cutting carbon dioxide emissions by up to 780 million tons globally each year, which is equivalent to the annual electricity use of over 90 million homes.
NAIMA ⁶	Fiber glass, rock wool, and slag wool insulation products installed to code levels in single-family homes save more than 100 times the amount of energy used to manufacture those products over a 20-year period.	If code-level insulation was put in all homes in North America, the insulation would help avoid 2 trillion pounds of carbon dioxide emissions every year.
NEMA	The National Electrical Manufacturers Association (NEMA) represents nearly 400 electrical, medical imaging, and radiation therapy manufacturers. The combined industries account for more than 400,000 American jobs and more than 7,000 facilities across the U.S. Domestic production exceeds \$117 billion per year. The industry is at the forefront on electrical safety, reliability, resilience, efficiency, and energy security.	
Schneider Electric	Schneider Electric (SE), a global specialist in energy management and automation, has achieved 13% reduction in energy consumption in its own facilities since 2011, and with ISO50001 certification being deployed globally, it now covers 30 per cent of Schneider Electric's industrial sites. The company helps customers achieve better energy and process efficiencies in their cities, businesses, plants, buildings, and homes. It helps industrial facilities participate in Superior Energy Performance and achieve ISO 50001 certification, on average gaining 11.7 percent in energy savings in the process in the United States.	SE is committed to greenhouse gas emissions reductions, and has recently joined the White House Business Act on Climate pledge. Since 2011 it has, among other things, avoided 220,000 tons of CO ₂ in energy consumption, transportation and site emissions and reduced water intensity of most water intensive sites by 23 percent. By the end of 2017 it has committed to avoid 120,000 ton of CO ₂ through end-of-life products; Zero waste to landfill in 100 industrial sites; and to invest €10 billion over 10 years on R&D in innovation in sustainability.
CHP Association ⁷	Combined heat and power (CHP) is on-site electricity generation that captures the heat that would	CHP can be utilized as a GHG reduction method because its efficiency means that less GHG are emitted in the electric

⁶ ICF analysis prepared for NAIMA

⁷ <http://www.epa.gov/chp/what-chp>

	<p>otherwise be wasted to provide useful thermal energy. By putting this thermal energy to use and avoiding distribution losses, CHP systems can achieve efficiencies of over 80 percent, compared to 50 percent for grid-supplied electricity and an on-site boiler.</p>	<p>generation and heat generation process. Due to the efficiency of combined heat and power systems, CHP emits less GHG than traditional separate power and heat generation. Installing just 40 GW of additional CHP would save energy users \$10 billion a year, 1 quadrillion Btu, and 150 million metric tons of CO₂e annually.</p>
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II. Principles For Effective Least Cost Compliance

a) Reinforce That Energy Efficiency Is A Valid Compliance Tool

We urge the EPA to reinforce that energy efficiency—end-use as well as in generation and transmission and distribution (T&D)—is a valid and acceptable compliance approach under the Clean Power Plan (CPP), and to include energy efficiency as an eligible compliance option under the proposed federal plan (under both rate and mass bases). We also urge this for combined heat and power (CHP) and waste heat to power (WHP).

While various parts of the CPP rule and its associated materials (rule preamble and technical support documents) favorably note energy efficiency as often the most cost-effective and beneficial emission mitigation approach, there remains uncertainty and confusion among some state officials and other stakeholders as to the standing and “credibility” of energy efficiency.

This is prompted in part by EPA’s exclusion of end-use energy efficiency as a “building block” for Best System of Emission Reduction (BSER) determination, despite the building blocks being irrelevant to compliance approaches (i.e., states may use all, some, or none of the building blocks in any proportion to achieve compliance). Importantly, EPA’s exclusion of energy efficiency as an eligible resource for emission rate credits (ERCs) under the proposed federal plan rate-based implementation approach is of great concern.⁸ Not only would energy efficiency be excluded as a compliance approach in states that operate under the federal plan but some states looking to the federal plan as a model may then exclude energy efficiency from their state compliance plans. This may not be the intent but could very well be the effect of energy efficiency’s omission from the federal plan, and could result in states forsaking least-cost, beneficial energy efficiency compliance opportunities based on the impression that EPA may have less confidence in energy efficiency. We also note similar concerns regarding the exclusion of several renewable energy categories (such as biomass energy) and combined heat and power (CHP) from the proposed federal plan.

⁸ 80 FR 64990-91

While we acknowledge that end-use energy efficiency is included as an eligible resource in the proposed model trading rules, we urge inclusion of end-use energy efficiency, T&D efficiency measures (such as conservation voltage reduction), CHP (including waste-heat-to-power), and additional renewable energy categories (e.g., biomass) as allowable and creditable approaches under the federal plan. We also seek clear, unambiguous reinforcement of energy efficiency's validity and, indeed, benefits as compliance options. And, as noted below, we suggest that EPA develop or endorse model plan approaches (whether formally in plans or as "complementary" measures).

b) Allow The Broadest Possible Suite Of Energy Efficiency Measures

Building on the preceding comments, we seek broad eligibility of end-use energy efficiency, T&D efficiency measures, and CHP as well as a range of distributed renewable energy, including biomass, systems as eligible and creditable options under the CPP, including under the model trading rules and under the federal plan.

Even beyond the exclusion of end-use energy efficiency, CHP, and various renewable energy forms from the proposed federal plan, the proposed trading rule's enumeration of certain technologies, techniques, and programs to the exclusion of others may reduce consideration of and impede technological advance and innovation for the unmentioned approaches. We are concerned that air quality regulators and other stakeholders will interpret the enumerated approaches as "preferred" and unmentioned approaches (for example, low-income weatherization, above-code building programs, non-ratepayer industrial energy efficiency) as either administratively (e.g., for plan approval purposes) or technically "risky."

While the rule cannot cite all pertinent existing nor predict future potential technologies, programs, and approaches, it can make more clear that approaches listed in the rule and its preamble are non-exclusive options. EPA through rule and preamble language supplemented by more in-depth separate technical support documents and memoranda can signal to states the eligibility of other options and approaches that further the rule's objectives of reducing existing covered EGU CO₂ emissions.

b.1) ...Including Federally Funded or Supported Measures

Further, we seek explicit confirmation that federally supported (whether by funding, tax credit, or other means) energy efficiency programs, projects and measures can count for issuance of emission rate credits (ERCs) generally under the CPP (in rate-based states) and that those meeting Clean Energy Incentive Program (CEIP) low-income and other pertinent criteria be deemed eligible for ERCs or allowances (as appropriate) under the CEIP.

There has been some confusion as to the eligibility of federally supported programs (such as the low-income Weatherization Assistance Program that blends federal with

non-federal funding, energy efficiency and renewable energy projects at federal facilities and in federally-assisted housing) to “count” under the CPP. Some have claimed that federal support precludes states counting such emission reductions.

Whether and what proportion of funding is federal should not be relevant so long as emissions reductions beyond a baseline occurs. These emissions reductions would automatically be measured at covered electric generating unit stacks under the mass basis, so these emissions reductions should also “count” under the mass basis. Assuming that mass and rate goals should be reasonably commensurate then that should count under rate plans as well.

If federal support was deemed to matter and to disqualify programs and measures from “counting” then arguably that would apply to production and investment tax credits for renewable energy projects or even tax preferences given to utilities for both energy supply and efficiency expenditures. This approach is not the intent of the rule and it presents impractical implementation barriers for states.

Also we note that EPA purposely avoided the Clean Air Act Section 110 term “additional” in the list of requirements for creditable/countable emission reductions under the CPP, instead using the term “non-duplicative,” which is defined as not having more than one state count the same emission reduction.

Our reading of the rule and the law, agreed to by some EPA officials in discussions, is that there is nothing in the rule that precludes federally supported measures (energy efficiency, renewable energy, or others) from being issued ERCs in the CPP. This should also apply to ERCs or allowances issued under the CEIP.

- c) Assure a Level Playing Field between Energy Efficiency and Renewable Energy
Commensurate with preceding comments, we seek a level playing field in EPA’s (and states’) treatment and consideration of energy efficiency and renewable energy in the federal plan and model rules as well as under the Clean Energy Incentive Program (CEIP). Again, as noted, omission of energy efficiency, CHP, and some renewable energy categories from the proposed rate-based federal plan is a significant concern.

We recognize that some renewable power generation options are easier to measure directly (e.g., metering solar, hydroelectric, and wind power generation) than other renewable energy generation technologies and end-use efficiency. However, there are established EM&V methodologies and new approaches (both protocols, such as the Department of Energy’s Uniform Methods Project, and technologies, such as building energy management systems and data analytic tools) that permit adequate quantification of energy savings or alternative generation. Also, such approaches need not be highly burdensome to energy efficiency project owners and implementers.

To concerns that may be expressed about the accuracy and reliability of energy efficiency EM&V and actual energy savings impacts, we note growing experience with energy efficiency, the integrity of energy efficiency as a reliable and valued resource to grid operators (for instance, ISO-New England's Forward Capacity Market and PJM's Reliability Pricing Model) and public utility commissions, and increasing energy savings performance contracting (ESPC) markets that offer guaranteed savings. Further, we also note that EPA and state air quality regulators accept for Clean Air Act Section 110 State Implementation Plan (SIP) purposes less certain quantification of mobile and area source measures and emission impacts.⁹

d) Allow States to Employ Least Cost Approaches to Compliance and build on State Programs (E.g. EERS, Building Codes, Performance Contracting, Weatherization/Retrofits and Financing)

We support wide flexibility for states to achieve their emission targets through approaches that best comport with their particular contexts. We thank EPA for providing multiple state plan pathway options, including choice of mass- or rate-based targets, use of subcategorized or blended rates, a "state measures" option, "trading ready" and other multistate compliance approaches, and a variety of technical options for emissions abatement.

While we are pleased that energy efficiency and CHP compliance options are available under the CPP, we reiterate the above noted concerns that energy efficiency and CHP can be disadvantaged under the proposed rules. Growing number of studies point to end-use energy efficiency providing least-cost "resource" to the grid. For instance, Lawrence Berkeley National Laboratory found utility ratepayer energy efficiency programs costing 4.6¢ per kWh saved, significantly less than any supply side option.¹⁰ ESPCs, building energy codes, and other program and policy approaches deliver cost-effective energy savings while also avoiding emissions and supporting electric system reliability through reducing demand on grid resources.

The point is that energy efficiency is often a least-cost electric resource as well as an emission compliance approach while delivering reliability and other benefits. To the extent possible EPA rules and supporting documents should recognize and support existing and emerging state energy efficiency programs and policies, including recognizing existing EM&V and other processes that have been demonstrated at the state level. State energy efficiency resource standards (EERS) and related utility

⁹ If mobile (transportation control) and area source measures can be recognized and credited under Sec. 110 SIPs given emissions uncertainties, atmospheric chemistry complications, and weather variabilities, where direct public impacts are at stake, then evaluation of electricity savings (and concomitant CO₂ emissions avoidance) from energy efficiency should be significantly easier to accept. Further, even continuous emissions monitors (CEMs) upon which permit compliance depends are allowed to exhibit as much as 20 percent tolerances (40 CFR Part 60, Appendix B).

¹⁰ Figure includes both utility and participant costs. Ian M. Hoffman, Gregory Rybka, Greg Leventis, Charles A. Goldman, Lisa Schwartz, Megan Billingsley, and Steven Schiller, 2015, "The Total Cost of Saving Electricity through Utility Customer-Funded Energy Efficiency Programs: Estimates at the National, Sector and Program Level," Lawrence Berkeley National Laboratory, <http://emp.lbl.gov/sites/all/files/total-cost-of-saved-energy.pdf>

savings target programs, ESPC programs, building energy codes, industrial energy efficiency and CHP implementation, low-income weatherization programs, above-code construction, and local “stretch” energy codes are among a diverse set of policies and programs that can support CPP compliance.

e) Minimize Impact On Natural Gas Price And Volatility

We recognize natural gas-fueled generation as a critical tool for reducing the carbon intensity of power generation and helping achieve CPP compliance. However we also recognize the importance of stable natural gas supplies and prices not only for power generation but also for direct residential, commercial, and industrial end-uses and as a critical material feedstock for a number of industries. Accordingly, we do not support regulatory or other steps taken to artificially constrain the supply of natural gas. A robust, growing supply will help ensure stable natural gas prices, avoiding the volatility that is so harmful to American manufacturing.

Growing EGU use of natural gas offers emission benefits relative to the current national generation fleet. Other low- and non-carbon generation and end-use efficiency measures will be necessary to assure the goals are met and that strong fuel diversity is maintained.

Fuel diversity in the power sector mitigates risks of supply and price shock to power and end-use natural gas fuel and feedstock users. We view energy efficiency and distributed resources such as CHP as strengthening energy reliability, affordability, and energy price stability needed for our industries to effectively compete internationally and provide jobs and income to the communities in which we operate.

f) Simplify Approvable Compliance Pathways Across States As Much As Possible/ Approve Model Plans To Facilitate State Implementation And Standardization

We recognize that whether or not specific energy efficiency policies, programs, and measures must be included in state CPP compliance plans depends on the compliance pathway a state may choose. Significant detail may be required under the state measures approach. Under other mass-based options in which all compliance obligations are on covered EGUs, they may not need to be in the state’s compliance plan but may be viewed as “complementary” policies and measures. And under rate-based options, EM&V related provisions will need to be included.

We suggest that EPA and its regional offices apply as simple and streamlined processes as possible in reviewing and approving state compliance plans, and that there be assurance of consistency across regions in such processes and criteria for plan approval. We recommend that EPA indicate, on a non-exclusive basis, models and templates that could be approved as part of state measures plans or be viewed favorably as complementary measures supporting an approvable state plan. For

instance, NASEO developed example plan language¹¹ and the American Council for an Energy-Efficient Economy (ACEEE) has developed several templates.¹² Further, we understand that the National Association of Clean Air Agencies (NACAA) is developing pertinent materials

III. Program Design

a) A Standardized Registry Is Needed.

EPA should recognize that states or private entities may choose to develop or participate in a voluntary registry to establish a transparent data repository of energy efficiency projects or activities. EPA should support or contribute to the development of such a registry.

A registry would provide clear attribution and ownership of energy savings and support trading of ERCs or allowances as in states that choose to allow such trading. It would assure credibility of savings and emissions reduction claims (including avoiding the risk of double-counting savings); provide transparency on EM&V methods used; be valuable for simplifying and encouraging the use of energy efficiency as a CPP compliance approach; and support state tracking of energy efficiency related savings and emissions reduction to help improve programs and policies for CPP compliance and beyond (e.g., criteria air pollutant management, electricity reliability and resource planning, and comprehensive state energy planning).

b) No Bias against Either Rate- Or Mass-Based Programs.

The Proposed Model Rules

The Agency has proposed two model trading rules, one mass-based and one rate-based, to provide states with two detailed options that could be used to satisfy the requirement for a state compliance plan for the Clean Power Plan (CPP).

We recommend that EPA finalize both approaches, one rate-based and one mass-based, in order to provide states with maximum flexibility and assistance in compliance plan development. It is inconsistent for the Agency to propose two forms of the emission standards (one rate-based and one mass-based) and propose two model rules but then indicate that it might finalize a single model rule. This is also contrary to statements from EPA Administrator Gina McCarthy, who emphasized a partnership with the states as “co-regulators,” and putting EGUs and states “in the driver’s seat”.

The Proposed Mass-Based Model Rule

¹¹ NASEO Energy Efficiency Strategies for Clean Power Plan Compliance: Approaches and Selected Cases Studies (July 2015)
<http://111d.naseo.org/Data/Sites/5/media/documents/naseo-ee-for-cpp-2015-aug-20.pdf>

¹² <http://aceee.org/topics/section-111d-clean-air-act>

A mass-based trading program establishes an “aggregate emissions limit” that specifies the maximum amount of emissions authorized from affected EGUs included in the program, and creates allowances that authorize a specific quantity of emissions. The total number of allowances created equates to the emissions budget or the aggregated emissions limit expressed in terms of short tons of emissions.

Each facility with affected EGUs in the program must surrender allowances equal in number to the quantity of the emissions of its affected EGUs during the compliance period. A facility with affected EGUs may buy allowances from, or transfer or sell allowances to, other affected EGUs or other entities that participate in the market.

In the proposed mass-based model rule, EPA proposes a particular allowance allocation distribution scheme and basic rules related to the trading and disposition of allowances by market participants. Under the proposal, the vast majority of allowances would be given free to affected EGUs based on historical generation and updated over time based on output. A smaller portion of allowances would be given to achieve two particular purposes: (1) to provide credit for early action before the first compliance period through the Clean Energy Incentive Program (CEIP) and (2) to prevent leakage. EPA proposes to give states, including states under a federal plan, the option of determining their own allowance allocation formula.

EPA Should Fully Credit CHP, WHP, and Industrial Energy Efficiency

By generating and using both heat and electricity from a single fuel source, CHP lowers emissions and increases overall fuel efficiency – allowing utilities and companies to effectively “get more with less.” CHP can operate at greater than 70 percent fuel efficiency. As a consequence, CHP can produce electricity with roughly one-quarter the emissions of an existing coal power plant. Waste heat to power (WHP) can generate electricity with no additional fuel and no incremental emissions. Due to its scale, a single CHP or WHP investment can achieve significant emission reductions, and should qualify for allowance allocations. These emission reductions are realized whether excess power produced is sold to the grid or used entirely on site for self-supply (also called “behind the meter” generation).

To fully credit these resources under a mass-based approach, there are at least four options: allowances could be auctioned with proceeds directed toward this purpose; allowances can be directly allocated to new, incremental use of these resources; a special allowance set aside for these resources can be created; and/or the proposed set-aside for leakage can be expanded to include these resources. We recommend that the Agency choose one or more of these options to fully credit CHP, WHP, and other forms of both utility and non-utility efficiency.

Direct allocation has several advantages compared to set-asides. It treats eligible projects the same as affected units for purposes of receiving allocations and does not require project-based applications to secure allowances. A set-aside is comprised of a reserved pool of allowances established at the beginning of a compliance period. Owners of eligible resources must then

apply for allowances, subject to a limit on the size of the set aside. To institute a set-aside, the state (under a state compliance plan) or EPA (as applicable under a federal compliance plan) must determine up-front the size of the set-aside pool which may be too large or small to adequately incentivize all eligible activities. A direct allocation does not require the same up-front determination.

While we prefer direct allocation of allowances over set-asides, we have identified several recommendations to improve allocation of allowances using set asides. First, allowances under the renewable energy or other set-asides should be allocated to all eligible projects. The number of allowances awarded to each eligible project would be proportional to the emissions reduction achieved by the project. Second, once a project has been established as eligible for the set-aside, it should receive the allowance allocation annually for a finite period, e.g. 10 years. This would incentivize continued development of new projects and limit dilution of the set aside allocation over time.

EPA Should Fully Credit Third-Party, Demand-Side Energy Efficiency Programs

We also recommend that EPA clarify that end-use energy efficiency actions, as well as “behind the meter” generation by a third-party, can be used to meet a state’s compliance obligations under any type of state or federal plan.

We recommend that the Agency provide guidance and models outlining methods states could use to incentivize energy efficiency in a mass-based plan. As just noted, options include auctioning a portion of the allowances and using the proceeds to advance clean energy such as building energy efficiency, or direct allocation of allowances to energy efficiency providers.

We recommend that EPA provide additional guidance on what projects and programs can qualify for “double credit” under the CEIP.

We recommend that EPA provide guidance on how states can expand the CEIP through allocation of allowances to reward energy efficiency, while still comports with the already-established CEIP requirements.

In all of these recommendations, the Agency should provide full credit for “above-code” programs. These are programs that exceed traditional minimum building codes such as the International Residential Code (IRC), International Building Code (IBC), International Mechanical Code (IMC), the International Energy Conservation Code (IECC), and standards such as ASHRAE 90.1. The Industrial Energy Innovation Working Group of the National Association of State Energy Officials (NASEO) submitted a description and list of such programs to the Agency as a public comment on this proposed rulemaking. We recommend that the Agency specify that these programs meet its requirements for eligible energy efficiency programs under the CPP.

EPA should provide guidance to states regarding the value of EM&V for energy efficiency in a mass-based plan.

EPA Should Ensure Efficiency in the Allowance Market

EPA proposes that a state covered by the federal plan can determine its own approach to distribute allowances, and believes that state allocation has important merits. The EPA would distribute allowances in a state if the state does not choose to do so.

We support EPA's proposal to allow each state, including states under a mass-based federal plan, to determine its own allowance allocation under a mass-based approach.

The Proposed Rate-Based Model Rule

EPA proposes, as one model rule option, rate-based emission standards (*i.e.*, the emission standard approach) for affected EGUs. EPA proposes to apply the subcategorized emission rates. These rate-based emission standards are consistent with, and would satisfy, the degree of emission rates for affected EGUs to meet during the plan performance periods. An affected EGU would demonstrate compliance by achieving a stack emission rate less than or equal to the rate-based emission standard or by applying emission reduction credits (ERCs), acquired by the EGU, to its measured stack emissions rate. (An ERC is a trade-able compliance unit representing one MWh of electric generation, or reduced electricity use, with zero associated CO₂ emissions.) The application of ERCs by an affected EGU to comply with an emission standard has been determined in the final Clean Power Plan section VIII.K of the final emission guidelines.

EPA Should Not Reduce State Flexibility under the Federal Plan

Eligible ERCs are more expansive under the proposed model rule than under the proposed federal plan. The proposed federal plan allows ERCs for certain eligible resources (on-shore utility-scale wind, utility-scale solar photovoltaics, concentrated solar power, geothermal power, new nuclear units and capacity uprates at existing nuclear units and must be metered, and utility-scale hydropower) as long as the resource provides generation data from a revenue quality meter. The proposed model rule expands this list of eligible resources to include qualified biomass, waste-to-energy (biogenic portion), non-affected CHP, and demand-side EE and demand-side management measures that can be quantified on the basis of ex post savings. Eligible resources under both the federal plan and the model rule must affect reduced electricity generation on the electric grid.

The EPA proposes to limit the inclusion of ERC types in the federal plan for the following stated reasons. These technologies, with the exception of nuclear, are part of the quantification of RE performance rate under the federal plan. These RE technologies are also expected to be able to deploy on an economic basis during the compliance period, as discussed in the final EGs (see section V.E.6 of the final EGs). These technologies also provide the simplest and most timely path for EM&V implementation under a federal plan, because they can use their existing

metering infrastructure to quantify generation and submit it for ERC issuance. A concern unique to federal plan implementation is the need for an ERC issuance process that can be implemented in a streamlined manner across many jurisdictions in the time frame allowed by the federal plan while still assuring a rigorous EM&V process. By limiting eligibility to measures that can be directly metered, a feasible federal plan process for ERC issuance across a potentially large number of jurisdictions is ensured. This approach would allow for easier determinations of compliance with the requirements for EM&V proposed in section IV.D.8 of this preamble below (see also section VIII.K.3 of the final EGs).

We concur with the inclusion of these proposed measure types in the federal plan and the model rule. However, we believe the federal plan should not limit itself to these eligible resources and should be expanded to include CHP (as described below), WHP, industrial energy efficiency, biomass energy, carbon capture and storage (CCS), and third-party demand-side energy efficiency (including above-code energy efficiency programs). Furthermore, this expanded list of eligible resources should be the same in both the model rule and the federal plan to provide as many compliance options as possible to affected EGUs. We believe any emission reduction measures should be presumptively eligible under both the rate-based model rule and the federal plan if they otherwise meet the eligibility requirements in the final guidelines and final EGs.

EPA Should Fully Credit CHP, WHP, and Industrial Energy Efficiency

With respect to CHP, the proposed model rule for a rate-based emission-trading program includes an accounting method for determining the ERCs from non-affected CHP units. EPA suggests that this accounting method could be a “presumptively approvable accounting approach.” EPA seeks comment on the proposed accounting method.

We appreciate the opportunity to comment, as we believe that the proposed approach significantly undervalues CHP’s emission benefits and thus fails to create an adequate incentive for increasing investment in CHP. An alternative approach would more accurately account for the CO₂-free MWhs generated by CHP, while still creating an appropriate incentive for new projects.

EPA could use actual EGU emission rates as the reference rate, based on actual data from regulated EGUs from the previous calendar year. Under this approach, EPA could either define state-specific reference rates or calculate a national reference rate. We recommend that EPA adopt this approach in both the rate-based model trading rule and the rate-based federal plan.

Another CHP issue involves transmission line and distribution (T&D) losses. We believe both the model rule and federal plan should eliminate any ambiguity surrounding the line-loss credit. EPA should explicitly clarify that this credit applies to CHP because the phrase “demand-side EE programs,” does not necessarily encompass CHP. Moreover, EPA should clarify that the credit applies to all affected CHP units – regardless of size. All non-affected CHP units that serve on-

site end-use electricity loads, not just those with capacities of 1 MW or less, should be allowed to account for the avoided T&D losses in the calculation of ERCs.

EPA Should Fully Credit Third-Party, Demand-Side Energy Efficiency Programs

We recommend that EPA clarify that end-use energy efficiency actions by a third-party can be used to meet a state’s compliance obligations under any type of state or federal plan.

We recommend that the Agency provide simple and straightforward guidance on how states can take credit for energy efficiency programs and policies in a rate-based plan. Specifically, EPA should provide acceptable models for common energy efficiency programs and policies that would be presumptively approvable, and provide simplified approaches to evaluation measurement and verification in a rate-based plan.

We recommend that EPA provide additional guidance on what projects and programs can qualify for “double credit” under the CEIP.

We recommend that EPA provide guidance on how states can expand the CEIP through allocation of allowances to reward energy efficiency, while still comporting with the already-established CEIP requirements.

We recommend that the Agency provide straightforward guidance on how states can take credit for energy efficiency programs and policies in a rate-based plan.

In all of these recommendations, the Agency should provide full credit for “above-code” programs. These are programs that exceed traditional minimum building codes.¹³ A number of above-code programs are discussed in more detail below. We recommend that the Agency specify that these programs meet its requirements for eligible energy efficiency programs under the CPP.

The Proposed Federal Plan

EPA must develop, implement, and enforce a federal plan to cover existing electricity-generating units (EGUs) located in states that do not have an approved plan. The Agency proposes two different approaches to a federal plan: (1) a rate-based trading approach and (2) a mass-based trading approach. EPA also proposes two model rules (rate-based and mass-based) that states could use in developing their implementation plans. Despite developing both of these model rules, however, the Agency intends to finalize a single approach—*i.e.*, either a rate-based or a mass-based approach—in all promulgated federal plans for particular states in order to “enhance the consistency of the federal trading program; achieve economies of scale through a single, broad trading program; ensure efficient administration of the program; and

¹³ Model building energy codes such as the International Residential Code (IRC), International Building Code (IBC), International Mechanical Code (IMC), the International Energy Conservation Code (IECC), and the ASHRAE 90.1 standard are usually the basis of state and local codes

simplify compliance planning for affected EGUs.” EPA solicits comment on the choice of approach (rate-based or mass-based) under the federal plan.

The pros and cons of rate-based vs. mass-based are such that a clear preference depends crucially on the criteria and also the state(s) of interest. Therefore, at this time, we are not indicating a preference on whether EPA should take a mass-based approach or a rate-based approach in its federal plan. We do offer comments about the design of a federal plan under either approach, and these comments were detailed previously in this document with the proposed model rules.

The Agency proposes a federal plan that offers reduced flexibility for states compared to the proposed model rule (i.e., the scope of the eligibility of ERC resources under the rate-based federal plan is more limited than under the rate-based model rule).

We oppose the more limited range of options available to states under the proposed federal plan. Such an inconsistency is at odds with the Agency’s stated goal of providing maximum flexibility for the states in CPP implementation. Affected EGUs should have as many options as possible to keep compliance costs low and minimizing potential rate increases on consumers. While we recognize the need to finalize a federal plan that can be immediately applicable to any state, we do not see any reason to limit the options available to an affected EGU for compliance purposes simply because it happens to be located in a state that does not have an approved state compliance plan under the CPP. The Agency should make every effort to provide a similar and robust set of options to affected EGUs under both model rules and the federal plan.

We recommend that the final federal plan expand the list of eligible resources to include CHP, WHP, industrial energy efficiency, and third-party, demand-side energy efficiency (including above-code programs) and fully credit such resources. Our preferences with respect to the design of a mass-based or rate-based model rule, detailed in previous sections of this document, are applicable to the mass-based or rate-based federal plan.

IV. Industrial Renewable Energy and Industrial Energy Efficiency

Industrial Renewable Energy

Certain members of the NASEO Working Group generate and/or use renewable energy in their manufacturing operations and some sell excess power to the grid. Other members manufacture products or sell services that help manufacturers make renewable energy an important part of an overall energy management plan. While we recognize that there are many kinds of renewable energy generated and used by industry (e.g., biogas from agricultural products,

geothermal, wind, solar, landfill gas), we focus our comments below on woody biomass and wind as ~~that is~~ the predominant types of renewable energy used by industry. Renewable resources should be eligible resources for inclusion in the federal plan and model rules and could be used by EPA (in a federal compliance plan) or a state EPA (in a state compliance plan) if consistent with a principle of least cost compliance.

a.) States Should Encourage the Purchase of Large Blocks of Renewable Energy.

Some manufacturers have contracted to purchase large blocks of renewable energy for use in their production facilities. For example, the Dow Chemical Company has purchased 300 MW of wind energy in Texas for its production facilities in Freeport and LaPort, TX. Buying large blocks of renewable energy should be encouraged by states as it makes large scale renewable energy investment more reliable while providing generators large scale single source purchase contracts that help establish clean power price levels by securing predictable, long term use of large blocks of renewable energy. In the case of companies like Dow that manufacture their own power on site this has the added advantage of allowing large investment scale renewables to be offered as another option in addition to single source internal power production.

b.) Include Biomass Energy as a Compliance Option.

Qualified biomass may be considered an eligible renewable energy resource under both rate-based and mass-based plans in the final CPP. However, biomass energy is not included as a qualifying fuel in the proposed Federal Plan. Further, EPA did not include biomass as a compliance option under the mass-based model trading rules. Only the model rate-based trading rule has a provision that allows for qualified biomass energy to be a compliance option. EPA should explicitly include biomass energy in all of the final federal plans and model rules.

The final CPP includes a requirement that only "qualified biomass" can be used as a compliance option. If the final plan retains a requirement for "qualified biomass", then it also should retain the approach in the proposed Federal Plan to specify a list of pre-approved qualified biomass fuels (e.g. forest derived industrial byproducts as well as biowastes).

Qualifying biomass should also include roundwood where the growth rate of forests are greater than or equal to harvest levels on a broad regional scale, consistent with the four regions of USDA's Forest Inventory and Analysis program.

Industrial Energy Efficiency (IEE):

The industrial sector, which includes manufacturing, mining, construction, and agriculture, has significantly reduced its energy use; nonetheless it accounts for roughly one-third of all end-use energy demand in the United States and remains the largest energy user in the U.S. economy.

Therefore, reductions in industrial energy consumption of this magnitude, whether delivered through ratepayer or private-sector initiatives, create an enormous opportunity to contribute to state compliance with the CPP. Importantly, savings associated with private-sector delivered IEE can provide benefits under any approach adopted by states, significantly reduce emissions of GHGs, and provide states with low-cost compliance options that can contribute in a meaningful way to compliance with 111(d) goals.

States Should Strengthen Opportunities Industrial Energy Efficiency

To help meet their EE policy goals, states are increasingly looking to tap the large cost-effective resource potential in U.S. industry. Industrial energy efficiency, delivered through the use of an energy management systems, provides a way for companies to measure and verify their private-sector delivered IEE savings. One example is the Department of Energy's Superior Energy Performance program which facilitates organizations' ability to meet the target-setting, reporting, monitoring, and verification requirements for an approvable compliance pathway. Companies also have developed or adopted other environmental management systems to meet these requirements. Ensuring that the nation's industrial sector (and manufacturing base in particular) remains competitive by encouraging the elimination of wasteful energy spending is a key public policy goal that can bolster local economies, create jobs, and make states attractive destinations for industry.

With appropriate incentive, we believe that the CPP and the CEIP can drive greater market activity in all third-party delivered energy efficiency projects and help states and EPA reduce the carbon intensity of the power sector more quickly and cost-effectively.

V. Non-Utility Programs

Allow Credit for Above-Code Energy Efficient Buildings

This section recommends the use of "above code" programs as a potential compliance pathway for state clean power plan submissions.

The term "above-code" is used to describe programs that exceed traditional minimum legal building codes in place in states and localities. Most building codes are based on model codes such as the International Residential Code (IRC), International Building Code (IBC), International Mechanical Code (IMC), the International Energy Conservation Code (IECC), and the ASHRAE 90.1 standard. This discussion that follows notes a number of above-code programs that reduce energy consumption that are well known to the marketplace. Although the list is not all inclusive it serves as a good basis for states to examine the potential options and benefits of utilizing above code programs for their power plan compliance.

ENERGY STAR

One of the most widely recognized names in rating programs in the United States is ENERGY STAR. One of the advantages of ENERGY STAR is its multiple facets covering new residential construction, residential retrofits, commercial buildings, and industrial plants.

- *Residential (ENERGY STAR for Homes)* - Verification of a home's energy efficiency by a third-party organization is mandatory for earning the ENERGY STAR certification. There are two paths to certify a home to ENERGY STAR. The Prescriptive Path is based on a predefined package of improvements, while the Performance Path is based on a customized package of upgrades. The National Program Requirements define the mandatory requirements that apply to both the Prescriptive and Performance Paths.
- *Commercial (ENERGY STAR for Commercial Construction)* - Buildings must achieve a score of 75 or higher using ENERGY STAR's Portfolio Manager Tool. This must be verified by a Licensed Professional (Professional Engineer or Registered Architect) to be eligible for ENERGY STAR certification. The Licensed Professional must verify that all energy use is accounted for accurately, the building characteristics have been properly reported (including the square footage of the building), and that the building is fully functional in accordance with industry standards.
- *Industrial (ENERGY STAR Plant Certification)* – When obtaining ENERGY STAR Plant Certification a Professional Engineer must certify that the information used to calculate the plant's Energy Performance Indicator (EPI) score of 75 or higher is correct. In addition, the plant must undergo an EPA environmental compliance screen.
- *Home Improvement with ENERGY STAR* – A residential retrofit program designed to standardize above code deep energy retrofits at the state and local levels, the program is designed to be implemented by contractors either through state utility programs or within the private sector through energy efficient contractors. The program is a test in, test out program that allows for tracking of actual energy saved and is currently in use by several utilities.

In all cases the recommendation for the EPA and states to consider utilizing the ENERGY STAR program is the program's emphasis on testing, third-party review, and compliance screening which ensures that the claimed energy savings is realized. This provides the integrity needed for states to claim savings. Residential 3.0 ENERGY STAR programs aim to save 15% more energy than that of the 2009 IECC. A 3.1 version is being developed for use where the 2012 and 2015 IECC are adopted. The Commercial and Industrial programs aim to ensure that these buildings are in the top quartile in energy efficiency performance.

ASHRAE Standard 189.1 & International Green Construction Code (IgCC)

It was recently announced that ASHRAE 189.1 *Standard for the Design of High-Performance, Green Buildings except Low-Rise Residential Buildings* and the International Code Council (ICC) International Green Construction Code (IgCC) will merge into one document. The most recently published versions of these above code programs are ASHRAE Std. 189.1-2013 and the 2015 IgCC. It is expected that they will merge and result in a combined ASHRAE Std. 189.1 document in late 2016.

ASHRAE Std. 189.1 is developed using the American National Standards Institute (ANSI) approved consensus process. The new merged standard will be coordinated with the ICC family of codes and ASHRAE Std. 90.1 resulting in a uniform *above code* green standard for commercial buildings.

Currently the 189.1 standard improves the efficiency of commercial buildings by 10% over the 2012 International Energy Conservation Code for commercial buildings and is designed as an overlay to minimum building codes giving states an easy to adopt product that is designed to work hand in hand with their other state codes.

One of the advantages of this program is that it is administered by code officials who are already involved in the construction process. This would keep cost lower for the builder/owner.

ASHRAE Std. 100

ASHRAE Std. 100 Energy Efficiency in Existing Buildings addresses the performance of existing buildings and provides the means and methods to reduce their energy consumption. This standard provides a means to address the multitude of buildings that exist today. ASHRAE Std. 100 can be used by local, state and federal officials and utility companies for tax incentive, rebate and other programs.

The Standard analyzes existing building performance and sets energy use targets based upon building type, occupancy and climate zone. In addition to complying with the energy target requirement, the standard requires development of an Energy Management Plan and an Operation and Maintenance Plan to prevent the building's energy performance from deteriorating over time.

ICC 700 National Green Building Standard (NGBS)

ICC-700 is applicable to low and high rise residential construction. It is a green building standard for new construction and remodeling projects. The International Code Council, the National Association of Home Builders (NAHB), and ASHRAE teamed up to develop this standard through a consensus process and received approval from the American National Standards Institute (ANSI). Like the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) program, ICC 700 includes a points system for achieving different levels of energy efficiency and green attributes. While the 2008 and 2012 ICC 700 versions were

based on the 2006 IECC, the new version to be published in 2016 is based on the 2015 IECC. The lowest awarded level is intended to result in a 15% improvement in energy efficiency. ERI – Energy Rating Index (ERI) is a home rating code compliance option. The ERI compliance option calculates an efficiency index. This third party executed program can be used for above code validation. The essential factor is understanding which number represents an above code home. The 2015 IECC includes code requirements and maximum scores that range from 51-55 depending on the climate zone in which the home is located. So long as the requirements of the 2015 IECC Section R406 are met, ERI can be used as an above code program for the 2009 IECC and previous versions of the code.

City or Municipal Above Code Programs

Cities that have established above code programs could and should be used as compliance programs for the state CPP. Municipal programs such as the one in Dallas, TX are good examples. The City of Dallas initiated a green building program as part of a strategy to attain the Dallas Green Building Task Force’s vision that “Dallas is Carbon Neutral by 2030 and is the Greenest City in the US.” the Dallas green building program is intended to improve air quality, reduce water use, and improve transportation and land use through green building strategies. Many of the goals of the Clean Power Plan the goals and vision of these municipal green building programs and should be under consideration for approval.

Compliance to CPP State Plans

All programs are national and therefore should be universally considered for compliance. Most have a third party verification requirement so insure the savings and several could be tied directly to use of energy codes for compliance driving even further carbon reductions as an overlay to the state energy code.

Other Non-Utility Programs

As discussed above, in addition to programs to promote building energy efficiency, there are numerous other non-utility end-use energy efficiency and renewable energy programs or measures that can help states implement their programs consistent with a principle of least cost compliance. For example, we have discussed above a broad category of non-ratepayer industrial energy efficiency and CHP and WHP. Other examples include Energy Service Companies (ESCOs) and energy management systems. EPA should clearly recognize and fully credit in the federal plan and model rules these energy efficiency programs and measures.

VI. Clean Energy Incentive Program (CEIP)

The working Group wishes to associate itself with the comments on this subject filed separately by the National Association of State Energy Officials (NASEO) on the design and

implementation of the Clean Energy Incentive Program (CEIP) under the Clean Power Plan (CPP), **Docket No. EPA-HQ-OAR-2015-0734**¹⁴

Specifically:

- a) The Working Group supports the use of geographically-based and household-based definitions of “low income community.” This flexibility will afford opportunities for energy efficiency beyond the boundaries of individual households, and can include commercial and industrial energy efficiency projects and measures in the designated low income community, where the environmental and energy benefits inure to the entire community.
- b) EPA should expressly state that federally funded and supported energy efficiency activities, weatherization and energy efficiency investments in public and assisted housing qualify for the CEIP.
- c) Combined heat and power and waste-heat-to-power should be CEIP-eligible energy efficiency approaches. The definitional inconsistency between energy efficient and low-emission energy sources should be reconciled to allow for inclusion of all appropriate measures.
- d) Recognize all forms of renewable energy, including geothermal, hydroelectric, wave/tidal power, and biomass.
- e) Evaluation, measurement and verification (EM&V) requirements under the CEIP should be simple and cost-effective to encourage maximum participation. EPA should allow states to rely on their existing EM&V processes and procedures under the CEIP, including use of existing Technical Reference Manuals, the International Performance Monitoring and Verification Protocol (IPMVP), and deemed savings resources. EM&V matters are addressed in the CPP rule, the proposed Federal Plan and Model Trading Rules, and in draft EM&V Guidance.

Respectfully Submitted,



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On Behalf of the NASEO Industrial Energy Innovation Working Group

¹⁴ Comments of the National Association of State Energy Officials (NASEO) to the U.S. Environmental Protection Agency (EPA) to provide feedback on the design and implementation of the Clean Energy Incentive Program (CEIP) under the Clean Power Plan (CPP), Docket No. EPA-HQ-OAR-2015-0734. December 14, 2015