CEIP Design Details: Excerpts on CHP and WHP


The following is a collection of excerpts from the docket on the U.S. Environmental Protection Agency’s (EPA) proposed Clean Energy Incentive Program (CIEP) design details, with an emphasis on combined heat and power (CHP) and waste heat to power (WHP). The full docket can be found online [here](#).

Excerpts include materials from:

Advanced Energy Economy (AEE), Alliance for Affordable Energy (AAE), Alliance for Industrial Efficiency (AIE), American Chemistry Council (ACC), American Council for an Energy-Efficiency Economy (ACEEE), American Forest and Paper Association (AF&PA) and American Wood Council (AWC), American Gas Association (AGA), American Petroleum Institute (API), American Public Power Association (APPA), Arizona Electric Power Cooperative, Inc. (AEPco), The Business Council for Sustainable Energy (BCSE), Edison Electric Institute (EEI), Emerald City Collaborative (ECC), Enentiv Energy, Indiana Department of Environmental Management (IDEM), Kansas City Board of Public Utilities (Kansas City BPU), Keystone Energy Efficiency Alliance (KEEA), Large Public Power Council (LPPC), National Association of State Energy Officials (NASEO), National Council for Air and Stream Improvement (NCASI), National Electrical Manufacturers Association (NEMA), Ormat Technologies, Inc., Pennsylvania Department of Environmental Protection (Pennsylvania DEP), Public Service Commission of Wisconsin (PSC Wisconsin), Southern Company, and Union of Concerned Scientists (UCS)

Summary:

More than 25 different organizations addressed combined heat and power (CHP) and/or waste heat to power (WHP) in their comments on the proposed Clean Energy Incentive Program (CEIP) design details. The remarks from this diverse group of state agencies, public utility commissions, gas & electric utilities, trade associations, nonprofits, and other non-governmental organizations are indicative of the broad recognition of the benefits of combined heat and power technologies. Generally, the comments call on EPA to:

- Define CHP as a demand-side eligible energy efficiency measure (AEE, AAE, AIE, ACEEE, AGA, API, APPA, BCSE, ECC, IDEM, Kansas City BPU, KEEA)
- Provide an example of CHP that serves a public purpose and benefits low-income communities for states to consider (AAE, AIE, ACEEE)
- Clarify and expand the eligibility of low- and zero-emitting resources to generate ERCs (AIE, NASEO)
- Calculate ERCs and allowances in the same way (AIE, ACEEE)
- Justify non-zero-emitting criteria (AF&PA and AWC, ACEEE)
- Consider the benefits of CHP & WHP, e.g. relatively short lead times, electric reliability (AIE, EEC, NASEO, NEMA, PSC Wisconsin, Southern Company)
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Advanced Energy Economy (AEE)
AEE advocates for CHP to be added to the list of demand-side eligible energy efficiency measures since “CHP improves end-use energy efficiency and can particularly benefit institutions like hospitals and multifamily housing units.” (19)

Alliance for Affordable Energy (AAE)
AAE applauds EPA for its work with the Department of Housing and Urban Development (HUD) to implement the HUD CHP initiative which promotes the use of CHP in multi-family units. “Including CHP as an eligible energy-efficiency measure for the CEIP would complement the EPA/HUD CHP initiative and provide additional opportunity for CHP growth in low-income communities.” (4)

Projects such as the CHP systems at Glenside Homes by the Reading (Pennsylvania) Housing Authority and New Bedford (Massachusetts) Housing Authority “illustrate the potential economic benefits CHP projects can deliver to low-income communities.” (4)

Multi-family affordable housing sites “present a significant opportunity for CHP installation” and there is “great potential and interest” in Louisiana. AAE asks EPA to “provide an example of CHP that will serve a public purpose and benefits low-income communities for states to consider.” (5)

Alliance for Industrial Efficiency (AIE)
AIE believes that the broad language in the renewable energy (RE) preamble creates confusion and could be misconstrued to extend to low-income energy efficiency projects. “We urge EPA to clarify that the ‘zero-emitting’ restriction is limited to RE projects only, and does not extend to low-income community energy-efficiency projects. AIE does not believe the EPA intended to extend the “zero-emitting” criterion to low-income community projects. “The CEIP should be consistent with the Clean Power Plan (CPP) and allow clean and efficient CHP to serve as an eligible compliance option. To do so, EPA should confirm that the CEIP is not limited to demand-side energy efficiency and that CHP as a low-emissions technology is an eligible measure under the CEIP.” (2) “CHP projects fulfill the criterion that technologies have relatively short lead times.” (3)

The CEIP should recognize the incremental emission benefits of CHP systems. “We recommend that EPA extend the accounting considerations outlined in the final emission guidelines (e.g., calculating a CHP unit’s incremental CO2 emissions rate compared to a reference CO2 emissions rate) to the CEIP so that emission rate credits (ERCs) and allowances are calculated in the same way.” (2)

The CEIP should include industrial energy-efficiency projects such as CHP and WHP. “EPA should clarify that industrial projects in low-income communities are also eligible for CEIP awards and provide an example of CHP that serves a public purpose and benefits low-income communities for states to consider.” (5)
American Chemistry Council (ACC)
The ACC believes that the CEIP should enable the regulated community to implement the least-cost compliance strategies to ensure our global competitiveness. “Any effective, least-cost compliance program must be anchored by natural gas and supplemented by other cost-effective strategies, like CHP and energy efficiency.” (1)

In its current form, the CEIP will not result in least-cost compliance options for regulated utilities and their customer because it “unquestionably discriminates against natural gas combined cycle (NGCC) and CHP by denying NGCC and CHP from qualifying for allowance set asides.” Instead, it will “have a detrimental impact on electricity producers and consumers.” (1) To prevent this, “EPA should recognize and allow all fuels and technologies that generate real emissions reductions and provide reliable power to be eligible to generate allowances or credits during the period of the CEIP.” (2)

American Council for an Energy-Efficient Economy (ACEEE)
Since CHP both lowers emissions and increases efficiency, “CHP would therefore seem to qualify as an eligible low-income community demand-side EE project.” ACEEE requests that “EPA clearly define CHP as a technology eligible to receive credit for serving low-income communities as defined by the state, and provide an example of CHP that serves a public purpose and benefits low-income communities for states to consider.” (6)

ACEEE recommends that EPA extend to the CEIP “the accounting considerations outlined in the final EGs (e.g., calculating a CHP unit’s incremental CO2 emissions rate compared with a reference CO2 emissions rate) so that ERCs and allowances are calculated the same way.” (8)

American Forest & Paper Association (AF&PA) and American Wood Council (AWC)
AF&PA and AWC state that non-zero-emitting resources such as CHP provide important greenhouse gas reductions. “EPA has not justified the zero-emitting criteria, and it should be removed from the CEIP.” (5)

American Gas Association (AGA)
CHP has long been recognized as an important energy-efficient technology. EPA has not explained why this important form of energy efficiency should be excluded from eligible low-income community energy efficiency projects, while electric appliances and equipment that cause far greater grid demand and emissions would be allowed to qualify.” (8)

The EPA provided no response to December 2015 comments submitted regarding CHP direct use. “AGA urges EPA to include both natural gas CHP and direct use as examples of eligible low-income community energy efficiency projects and to enforce its original CEIP goal to promote affordable energy efficiency in low-income communities that results in early emissions reductions from affected EGU.” (3)
American Petroleum Institute (API)
API states that EPA needs to determine whether demand-side energy efficiency technology should be eligible to receive credits. “If EPA takes that approach, combined heat and power operations should be eligible to receive incentives under the program.” (4)

American Public Power Association (APPA)
APPA believes that CHP and WHP should be CEIP-eligible energy efficiency approaches. “CHP provides energy efficiency benefits at or near the site of energy demand, but is instead construed as low-emission power generation rather than being a form of end-use energy efficiency.” These definitional matters can have an adverse impact on the CEIP’s objective to advance energy efficiency in low-income communities. (14)

Arizona Electric Power Cooperative, Inc. (AEPCO)
AEPCO urges the EPA to expand the renewable technologies that qualify for RE allowances and ERC generation. “It is illogical to create an incentive to construct wind turbines or solar generation in an area ill-suited for those types of projects.” (9)

“CEIP-eligible projects should be designed flexibly to accommodate different affected EGUs, should allow a range of utility opportunities, and should include sensible measurement and verification of energy savings.” CHP and WHP should be considered because they save overall energy and reduce emissions. (9)

The Business Council for Sustainable Energy (BCSE)
EPA should explicitly mention CHP as a demand-side energy efficiency measure. “Not including a broader list of options could create uncertainty in the states as to whether direct use natural gas or combined heat and power are eligible, and states will be less likely to take advantage of their carbon reduction potential.” (6)

Edison Electric Institute (EEI)
EEI believes that a federal rate-based plan should not limit the number of ERCs that could be generated for compliance and end-use efficiency projects such as CHP and WHP should be allowed to qualify for ERCs. “Given the volume of ERCs that would be required in order for affected EGUs to comply with the subcategorized emission rate standards, limiting the availability of ERCs could have a significant impact on compliance costs.” (38-39)

Self-generation projects, such as CHP and WHP, “may have lower emissions than affected EGUs and can replace generation from affected EGUs.” Nonetheless, EEI notes that such self-generation is not necessarily zero-emitting resources. “EPA should ensure that any ERCs issued to these sources reflect their actual emissions.” (44)
Emerald City Collaborative (ECC)
ECC states that omitting CHP and WHP as CEIP-eligible energy efficiency approaches can adversely impact the CEIP reduction objectives. “Such omission can also impede realization of other important benefits, such as to energy reliability, which can have serious implications for public safety, security, and health. This was illustrated abundantly by the impacts (and mitigation of impacts at CHP-equipped facilities) of Superstorm Sandy and other events.” (3)

CHP and WHP should be included as CEIP-eligible end-use efficiency approaches based on the date the proposal is finalized. “Allowing an earlier eligibility date would provide additional early action incentive that can yield earlier and greater total emissions reductions.” (4)

Encentiv Energy
As a means to overcome the “historic economic, logistical, and information barriers to implementing demand-side EE programs in low-income communities,” Encentiv recommends that EPA include high-efficiency CHP as a CEIP-eligible low-income energy efficiency compliance measure. (3)

Indiana Department of Environmental Management (IDEM)
IDEM opposes a CEIP program that excludes CHP as a resource eligible to receive allowances or credits. “States should have flexibility to draw on available local resources to award projects with early action credits or allowances to smooth the transition in complying with the CPP in later years of the program.” (2)

Kansas City Board of Public Utilities (Kansas City BPU)
In response to EPA’s request for comment on the inclusion of CHP and WHP in the federal plan, “BPU favors the widest range of inclusion (assuming all eligibility requirements are met) in the federal plan.” (17-18)

Keystone Energy Efficiency Alliance (KEEA)
KEEA recommends the EPA “include high-efficiency CHP systems as eligible low-income EE compliance measures.” (7)

Large Public Power Council (LPPC)
LPPC says that EPA should clarify and expand the eligibility of low- and zero-emitting resources to generate ERCs. “For states under a Federal Plan, EPA should issue ERCs to all resources that are eligible under the Model Trading Rule,” including CHP. (31)
National Association of State Energy Officials (NASEO)
NASEO asks that EPA clarify eligibility criteria and “explicitly recognize” CHP and WHP as allowable energy efficiency measures under the Low-Income Community Reserve matching pool. (4)

NASEO also highlights the fact that CHP technologies can aid low-income communities by providing enhanced energy efficiency, reducing emissions, and improving energy reliability in the event of extreme storms such as Superstorm Sandy. They “urge EPA to include CHP and WHP serving low-income communities as CEIP-eligible approaches under the end-use efficiency category.” (5)

National Council for Air and Stream Improvement (NCASI)
NCASI writes that CHP systems firing qualified biomass fuels meet the four criteria that EPA lists for eligible RE technologies and go on to say, “we recommend that the Renewable Energy Reserve (RER) be expanded to include this renewable energy technology.”

National Electrical Manufacturers Association (NEMA)
“NEMA urges EPA to treat both energy efficiency and renewable energy equally under the CEIP.” (4) A modern grid is able to recover more quickly from extreme weather outages and maximize the efficiency, reliability and affordability of electricity. New grid technologies such as combined heat and power (CHP) contribute to lower emissions and economic growth. (3)

Ormat Technologies, Inc.
Ormat urges EPA to “add WHP to this list of eligible generation technologies. WHP is baseload, carbon-free electricity source.” Ormat argues that WHP satisfies all four of the criteria the EPA requested comments on; it is zero-emitting, essential to longer-term climate strategies, requires investment and deployment lead time of relatively shorter duration, and counteracts the potential shift in investment from RE to natural gas in the lead up to the start of the interim performance period. (2-4)

Additionally, Ormat highlights the enormous deployment potential for WHP in the United States and discusses their own successful application of WHP. (3)

Pennsylvania Department of Environmental Protection (Pennsylvania DEP)
“DEP supports the expansion of the types of projects which are proposed to be eligible for the CEIP and encourages EPA to allow all projects that meet verified lesser emitting generation, such as Biogas or Combined Heat and Power and other energy savings projects which commence commercial operation (prior to when) to be eligible for CEIP.” (1)
Public Service Commission of Wisconsin (PSC Wisconsin)
“EPA should expand the list of CEIP-eligible RE technologies to include all zero- and low-emitting resources that are eligible for ERCs under a rate-based plan.” Specifically, PSC Wisconsin writes that EPA should include CHP and WHP as these low- and zero-emitting technologies require relatively short lead times and would counteract any potential shift from RE to natural gas. (5-6)

Southern Company
Southern Company writes that EPA should be consistent with the CPP and allow all CPP-eligible resources to qualify for CEIP allowances or ERCs, including non-affected CHP and WHP. Southern Company also pointed out that EPA’s treatment of lead times is inconsistent and if a lead time of four years or less is a prerequisite characteristic for CEIP-eligibility, then the Agency should also allow CHP. (25-27)

Union of Concerned Scientists (UCS)
UCS encourages EPA to further expand resource eligibility to include CHP projects, “where these resources have a similar ability to generate economic and potential environmental benefits for low-income communities.” (6)