



The Alliance for Industrial Efficiency

ADVANCING COMBINED HEAT AND POWER (CHP) UNDER THE CLEAN AIR ACT

EPA is undertaking a number of Clean Air Act rulemakings, which provide a valuable tool for advancing industrial energy efficiency and Combined Heat and Power. This fact sheet provides background on these opportunities.

Cross State Air Pollution Rule

The Cross State Air Pollution Rule (CSAPR) (formerly known as the “Clean Air Transport Rule”) regulates sulfur dioxide (SO₂) and nitrogen oxide (NO_x) emissions from power plants in the Eastern United State.¹ The rule was originally set to take effect on January 1, 2012, but on December 30, 2011, the D.C. Circuit ordered EPA to delay implementation, pending oral arguments scheduled for April 2012.² In the interim, the Clean Air Interstate Rule (CAIR), which the D.C. Circuit rejected in 2008,³ is in effect. Given the speedy hearing schedule, stakeholders believe the delay is likely to be brief.

- EPA notes that end-use energy efficiency is an “important component of achieving emission reductions from the power sector while minimizing associated compliance costs.”⁴
- Under CAIR, states could set aside emissions allowances for energy efficiency in their implementation plans. While CSAPR does not require set asides, states may choose to set aside emissions allowances for energy-efficiency projects for any or all of the regulated pollutants.⁵ States may choose to give these set asides to industrial CHP generators who can then sell them to utilities or auction allowances to utilities and use the revenue to finance energy-efficiency projects.
- EPA acknowledged it may provide additional information for states on set asides as needed.⁶
- CSAPR allocates allowances based on historic heat input but allows states to develop output-based standards to meet emissions limits in their implementation plans.

Maximum Achievable Control Technology (MACT) for Industrial Sources

The MACT Rule establishes technology-based standards for industrial emissions controls based on the best performing (top 12%) similar facilities in operation. EPA finalized the Boiler MACT rule in March 2011, but simultaneously issued a notice of reconsideration of certain aspects of the rule. EPA published its proposed changes to the Boiler MACT in December 2012. The new rule reflects earlier comments on a number of issues—including work-practice standards for limited-use major source boilers, certain emissions limits, and boiler fuel sub-categorization.

- While CHP and WHR will not independently lower emissions of the regulated pollutants to comply with the Rule, facilities may convert to natural gas and then add CHP.
- The Proposed Rule clarifies that the installation of CHP and WHR can support a request for a one-year compliance extension.⁷
- The Proposed Rule provides an output-based standard as an alternative compliance mechanism. This means emissions can be based on both thermal and electric output.

New Source Performance Standards (NSPS)

NSPS limit emissions at all industrial sources in a given category. Separate NSPS are issued for each category, such as power plants and refineries.⁸ NSPS is generally less demanding than BACT and requires use of Best Demonstrated Technology (BDT), which considers cost, energy, and environmental impacts.⁹

- NSPS for GHG based on total energy output, rather than fuel input, would set standards for industries that would recognize the efficiency benefits of CHP.
- EPA should recognize that CHP and WHR are adequately demonstrated and cost-effective technologies.

Best Achievable Control Technology (BACT) for Greenhouse Gases

BACT is a top-down five-step control technology selection process set by the EPA under the Clean Air Act. It determines which technologies must be considered to control the emissions of a regulated pollutant. States then apply the standard to individual sources to determine what is feasible on a case-by-case basis. EPA issued BACT guidance for states and industries for greenhouse gases (GHGs) that went into effect on January 1, 2011. This guidance applies to new and modified sources.

- EPA recognizes energy efficiency can qualify as BACT and explicitly identifies CHP/WHR as available control technologies in both the GHG Guidance and accompanying white papers. Specific determinations will be made by state regulatory authorities on a case-by-case basis.
- Output-based standards encourage energy efficiency. Traditional “input-based” regulations set emission limits based on the amount of fuel used (e.g., pounds of pollutant per million BTUs). Output-based limits are expressed as emissions per unit of useful energy output (e.g., pounds per megawatt hour). EPA’s GHG BACT guidance recommends that states use an output-based standard—making energy efficiency a more attractive compliance option.

State Implementation Plans

The Clean Air Act sets federal limits for National Ambient Air Quality Standards (NAAQS) for criteria pollutants (ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide and lead), which states satisfy through State Implementation Plans. In 2004, EPA issued guidance to encourage states to incorporate energy efficiency into their SIPs,¹⁰ though few states have done so.

- EPA could issue guidance directing states to include CHP in their SIPs.
- Other measures included in a SIP, such as state Renewable Portfolio Standards (RPS), Energy Efficiency Resource Standards (EERS), or feed-in tariffs could be written to include CHP. As of March 2009, 13 states have RPSs that identify CHP or waste-heat recovery as a renewable resource.¹¹

¹ US EPA, Cross State Air Pollution Rule, <http://www.epa.gov/airtransport/>

² *EME Homer City Generation, L.P. v. EPA* (Dec. 30, 2011 order available online at: <http://epa.gov/airtransport/pdfs/CourtDecision.pdf>; Jan. 28, 2012 briefing schedule available online at: <http://epa.gov/airtransport/pdfs/TRBriefingSchedule.pdf>).

³ *State of North Carolina v. EPA*, 531 F.3d 896 (D.C. Cir. 2008).

⁴ US EPA, “Federal Implementation Plans: Interstate Transport of Fine Particulate Matter and Ozone and Correction of SIP Approvals,” 76 Federal Register 48208, 48319 (August 8, 2011) (<http://www.gpo.gov/fdsys/pkg/FR-2011-08-08/pdf/2011-17600.pdf>).

⁵ 76 Federal Register 48319 (August 8, 2011).

⁶ 76 Federal Register 48319 (August 8, 2011).

⁷ 76 Fed. Reg. 80598, 80671 (Dec. 23, 2011) (Table 10).

⁸ US Electronic Code of Federal Regulations, “National Emissions Standards for Hazardous Air Pollutants for Source Categories” 40 CFR Part 63 (http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=/ecfrbrowse/Title40/40cfr63_main_02.tpl).

⁹ US EPA, “BCES: Module 7: Regulatory Requirements—Title V: Operating Permits”, <http://www.epa.gov/apti/bces/module7/title5/title5.htm>

¹⁰ US EPA, “Guidance on State Implementation Plan (SIP) Credits for Emission Reduction from Electric-Sector Energy Efficiency and Renewable Energy Measures,” (Aug 5, 2004) (http://www.epa.gov/ttncaaa1/t1/memoranda/ereeerem_gd.pdf).

¹¹ US EPA, “Renewable Portfolio Standards: An Effective Policy to Support Clean Energy Supply.” (http://www.epa.gov/chp/state-policy/renewable_fs.html).