



January 14, 2016

North Carolina Division of Air Quality
1641 Mail Service Center
Raleigh, North Carolina 27699-1641

Re: Comments on the adoption of proposed rules to implement standards of performance for carbon dioxide (CO₂) emissions for existing electric utility generating units (EGUs) under Clean Air Act Section 111(d)

Dear Ms. Sheila Holman:

The Alliance for Industrial Efficiency (hereinafter, “The Alliance”) appreciates the opportunity to comment at this early stage on North Carolina’s proposed Clean Power Plan (CPP) state compliance plan. The Alliance is a diverse coalition that includes representatives from the business, environmental, labor and contractor communities. Our national membership includes more than 20 contractors and businesses based in North Carolina alone. Among these are Stromberg Metal Works in Raleigh, the largest sheet-metal firm in the country; McKenny’s in Charlotte, the largest mechanical contracting firm on the East Coast; and K-Flex USSA, LLC in Youngsville. We are committed to enhancing manufacturing competitiveness and reducing emissions through industrial energy efficiency, particularly through the use of clean and efficient power generating systems, such as combined heat and power (CHP) and waste heat to power (WHP).

North Carolina’s state compliance plan relies exclusively on heat rate improvements at affected electric utility generating units (EGUs) to reduce emissions of carbon dioxide. We believe the state should adopt a system-wide approach to compliance and would like to take this opportunity to highlight energy efficiency as the easiest, fastest, and most cost-effective compliance tool available to help North Carolina achieve its emission reduction goals.

We strongly urge the Department of Air Quality to consider industrial energy-efficiency options, particularly combined heat and power (CHP) and waste heat to power (WHP), for inclusion in the state’s plan as opposed to an exclusive heat-rate improvement approach.

I. Industrial Energy Efficiency Offers a Cost-Effective Option for Clean Power Plan Compliance

The U.S. Environmental Protection Agency (EPA) has confirmed that states can use industrial efficiency as one way to meet their emissions targets under the Clean Power Plan.¹ Indeed, energy efficiency should be the cornerstone of a least-cost compliance strategy. Industrial energy efficiency represents not only an opportunity for achieving significant, low-cost emissions

¹ See, e.g., U.S. EPA, Oct. 23, 2015, 80 Fed. Reg. 64662, 64666, “Final Rule: Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units” (“Each state will have the opportunity to take advantage of a wide variety of strategies for reducing CO₂ emissions from affected EGUs, including demand-side EE programs and mass-based trading...”); U.S. EPA, August 20, 2015, “FACT SHEET: Energy Efficiency in the Clean Power Plan” (<http://www.epa.gov/cleanpowerplan/fact-sheet-energy-efficiency-clean-power-plan>).



reductions, but also a means of supporting in-state jobs, economic competitiveness, and improved energy reliability. By including policies that advance industrial efficiency in its plan, North Carolina will strengthen its manufacturing base, promote economic growth, increase grid reliability, and reduce emissions while lowering everyone's electric bills.

We urge North Carolina to focus on industrial energy efficiency because the industrial sector is one of the sectors with the greatest potential for saving both energy and money. The industrial sector, which includes manufacturing, mining, construction and agriculture, accounts for roughly one-third of all end-use energy demand in the United States and continues to be the largest energy user in the U.S. economy. Studies have estimated that up to 32 percent of industrial energy use could be saved through cost-effective efficiency measures.² Further, as states and power companies look to meet GHG emissions reductions under the CPP, efficiency remains the least-cost resource and accordingly serves as the lowest cost compliance option identified by EPA in the proposed rule,³ and on a national basis, industrial energy efficiency programs have the lowest cost of saved energy than any other end-use sector.⁴

By adopting industrial energy-efficiency measures, North Carolina will cut its manufacturing costs, make its manufacturers more competitive in international markets, and create jobs. Efficiency measures designed to improve a facility's energy productivity enable manufacturers to reduce costs, increase competitiveness and insulate themselves from volatile energy prices in the future. Industrial efficiency technologies such as CHP can be twice as efficient as the separate generation of thermal energy and electricity, which significantly cuts costs for businesses. What's more, manufacturers can reinvest the money they save on energy to expand production and hire more employees. Industrial efficiency offers economic benefits society-wide, helping to postpone or eliminate the need for expensive generation and transmission investments, and keeping energy costs down for all consumers.

II. CHP Offers Environmental, Economic, and Reliability Benefits

By generating both heat and electricity from a single fuel source, CHP dramatically lowers emissions and increases overall fuel efficiency – allowing utilities and companies to effectively “get more with less.” CHP can operate using more than 70 percent of fuel inputs. 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.

EPA recognizes these benefits. In fact, the Clean Power Plan final rule highlights CHP's thermal efficiency,⁵ notes that CHP and WHP are eligible for ERCs, and exempts most industrial CHP

² U.S. DOE, June 2015, “Report to Congress: Barriers to Industrial Energy Efficiency,” at iii (http://www.energy.gov/sites/prod/files/2015/06/f23/EXEC-2014-005846_6%20Report_signed_v2.pdf).

³ Jeff Hopkins, May 2015, “Modeling EPA's Clean Power Plan: Insights for Cost- Effective Implementation” (<http://www.c2es.org/publications/modeling-epas-clean-power-plan-insights-cost-effective-implementation>).

⁴ Aden, Nate, et al., 2014, “Beyond Lighting: The Role of Industry Programs in U.S. Ratepayer-Funded Energy Efficiency.”

⁵ U.S. EPA, Oct. 23, 2015, 80 Fed. Reg. 64966 at 64996, “Proposed Rule: Federal Plan Requirements for Greenhouse Gas Emissions From Electric Utility Generating Units Constructed on or Before January 8, 2014” (“CHP units are typically very thermally efficient”).



systems.^{6,7} Elsewhere, the preamble to the final rule acknowledges that “CHP units are low-emitting electric generating resources that can replace generation from affected EGUs.”⁸ EPA has recognized the value of CHP as a proven cost-effective technology to reduce greenhouse gas emissions by providing technical assistance to large energy users through the Combined Heat and Power Partnership, exempting most industrial CHP units from regulation under the 111(b) rule,⁹ and by issuing awards to various CHP ENERGY STAR[®] projects in recognition of their emissions reductions.¹⁰ Upon awarding several industrial facilities for their investments in CHP, Administrator McCarthy explained, “The CHP technology offers a strategy to help meet the goals of the President’s Climate Action Plan for a cleaner power sector while boosting the efficiency and competitiveness for many U.S. manufacturers.”¹¹

CHP and WHP can be effectively utilized in both a rate-based and a mass-based plan, so will be an appropriate compliance option regardless of which path North Carolina ultimately adopts. Under a rate-based plan, CHP and WHP installations at industrial facilities can offset the higher emission rates of affected EGUs. The CPP explicitly provides that CHP and WHP installations can sell ERCs to the utility in exchange for that benefit.¹² The revenue from ERC sales can offset the cost of CHP and WHP installations, encouraging private investment in these projects.

Under a mass-based plan, revenues from state auctions of emission allowances to owners of affected EGUs can be used to underwrite the cost of industrial efficiency investments, including CHP and WHP. Alternatively, some emission allowances can be set aside and given to industrial owners and operators who agree to undertake industrial energy efficiency projects or install CHP or WHP systems. These “set aside” allowances can be auctioned or otherwise monetized to provide revenue to offset the cost of these projects and programs, thus encouraging private investment in these emission-reduction strategies.

III. CHP Potential in North Carolina

There is significant opportunity in North Carolina to implement CHP. Currently, the state has 72 CHP sites, generating 1,555 megawatts of clean and efficient power.¹³ It is estimated that North

⁶ *Id.* at 64902 (“Electric generation from non-affected CHP units may be used to adjust the CO₂ emission rate of an affected EGU”).

⁷ *Id.* at 64953, §60.5850, “What EGUs are excluded from being affected EGUs?”

⁸ *Id.* at 64902.

⁹ U.S. EPA, 80 Fed. Reg. 64510, 64532, October 23, 2015, “Standards of Performance for Greenhouse Gas Emissions From New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units; Final Rule.”

¹⁰ U.S. EPA, “Combined Heat and Power Partnership: Winners of the 2015 Energy Star CHP Award” (<http://www.epa.gov/chp/award-winners>).

¹¹ U.S. EPA, Sept. 30, 2014, “Press Release: EPA Honors Manufacturers with ENERGY STAR Award” (<http://yosemite.epa.gov/opa/admpress.nsf/d0cf6618525a9efb85257359003fb69d/41a49d0a9fa717d985257d63004f5b7f!OpenDocument>).

¹² U.S. EPA, Oct. 23, 2015, 80 Fed. Reg. 64662 at 64902, “Final Rule: Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units” (“Electric generation from non-affected CHP units may be used to adjust the CO₂ emission rate of an affected EGU, as CHP units are low-emitting electric generating resources that can replace generation from affected EGUs.”); and at 64902 (“WHP units that meet the eligibility criteria under section VIII.K.1 may be used to adjust the CO₂ emission rate of an affected EGU”).

¹³ U.S. DOE Combined Heat and Power Installation Database, <https://doe.icfwebservices.com/chpdb/state/PA>.



Carolina has 4,402 megawatts of technical and commercial potential.¹⁴ This technical potential indicates that North Carolina has a tremendous opportunity for CHP implementation.

IV. Conclusion

Despite the many benefits of industrial efficiency, a number of barriers impede greater adoption, including the internal competition for capital that often undervalues efficiency investments, utility business models that dis-incentivize utilities to fully promote industrial efficiency and CHP, and information barriers that make it harder for manufacturers to make informed decisions.

As North Carolina develops its Clean Power Plan compliance strategy, we urge you to consider strong complementary policies that address these hurdles to full deployment of all cost-effective energy efficiency in the industrial sector, and provide programs and incentives that reflect the true value of efficiency. Such policies will further allow power companies to meet compliance obligations under the CPP in a cost-effective manner. We hope that you will seize the potential for industrial efficiency in North Carolina's holistic approach to Clean Power Plan compliance so that your state can strengthen industry, increase grid reliability, and cost-effectively reduce emissions.

Thank you for the opportunity to comment.

Sincerely,

Jennifer Kefer, Director
Alliance for Industrial Efficiency

¹⁴ Bruce Hedman, Anne Hampson, and Ken Darrow, American Gas Association, The Opportunity for CHP in the United States, May 2013, (https://www.aga.org/sites/default/files/legacy-assets/Kc/analyses-and-statistics/studies/efficiency_and_environment/Documents/The%20Opportunity%20for%20CHP%20in%20the%20United%20States%20-%20Final%20Report.pdf).