

## Overview

On December 20, 2012, the U.S. Environmental Protection Agency (EPA) finalized the reconsideration process for its Clean Air Act pollution standards **National Emissions Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters** (known as Boiler Maximum Achievable Control Technology (MACT)). This rule applies to large and small boilers in a wide range of industrial facilities and institutions. The U.S. Department of Energy (DOE) is offering technical assistance to ensure that major sources burning coal or oil have information on cost-effective clean energy strategies for compliance, including combined heat and power, and to promote cleaner, more efficient boilers to cut harmful pollution and reduce operational costs.

## Background on Standards for Boilers and Process Heaters

On December 2, 2011, EPA released proposed amendments to previously released rules on **Emissions Standards for Boilers and Process Heaters and Commercial/Industrial Solid Waste Incinerators**. EPA initially issued final rules for these units in March 2011, setting standards to cut emissions of hazardous air pollutants, such as mercury, dioxin, and lead. At the same time, EPA also announced its intent to reconsider those standards under a Clean Air Act process that allows additional public review and comment, and ensures full transparency in its rulemaking.

Through the reconsideration process, EPA addressed additional technical issues that arose from earlier public comment and provided the public additional opportunity to comment on measures in the final rules that were not in the original proposed rules. EPA

stated in the final rule that existing sources will have 3 years from issuance of the final reconsideration rule to implement the new requirements, and if needed, may request an additional year.

## Expected Impact on Facilities and Institutions

EPA estimates that less than 1 percent of the 1.5 million boilers in the United States would need to meet emissions limits under the reconsidered rules. EPA estimates that about 183,000 are covered by the **Area Source Boiler Rule** (40 CFR part 63 subpart JJJJJ) and are located at small sources of air pollutants, such as hotels, hospitals, and commercial buildings. Of these, over 99 percent will need only to conduct periodic tune-ups, and some will also need to perform a one-time energy assessment. The remaining less than 1 percent (about 600 coal-fired boilers) are required to meet specific emissions limits.

EPA also estimates that approximately 14,000 boilers would be covered by the **Major Source Boiler MACT Rule** (40 CFR part 63 subpart DDDDD) and are located at large sources of air pollutants, such as refineries, chemical plants, and some institutional facilities, such as universities. All of these major source boilers will be required to conduct periodic boiler tune-ups, and

approximately 12 percent (about 1,650 boilers) primarily fired by coal, oil and biomass, will be required to meet specific emissions limits. These boilers using coal or oil may consider switching to natural gas as a compliance strategy and may consider natural gas combined heat and power.

## Resources

“Financial Incentives Available for Facilities that are Affected by the U.S. EPA ‘National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters: Proposed Rule’” written by ICF International for U.S. DOE: [eere.energy.gov/manufacturing/states/pdfs/incentives\\_boiler\\_mact.pdf](http://eere.energy.gov/manufacturing/states/pdfs/incentives_boiler_mact.pdf)

For DOE Boiler MACT Technical Assistance: [eere.energy.gov/manufacturing/distributedenergy/boilermact.html](http://eere.energy.gov/manufacturing/distributedenergy/boilermact.html)

U.S. EPA Emissions Standards for Boilers and Process Heaters and Commercial/Industrial Solid Waste Incinerators: [epa.gov/airquality/combustion/](http://epa.gov/airquality/combustion/)



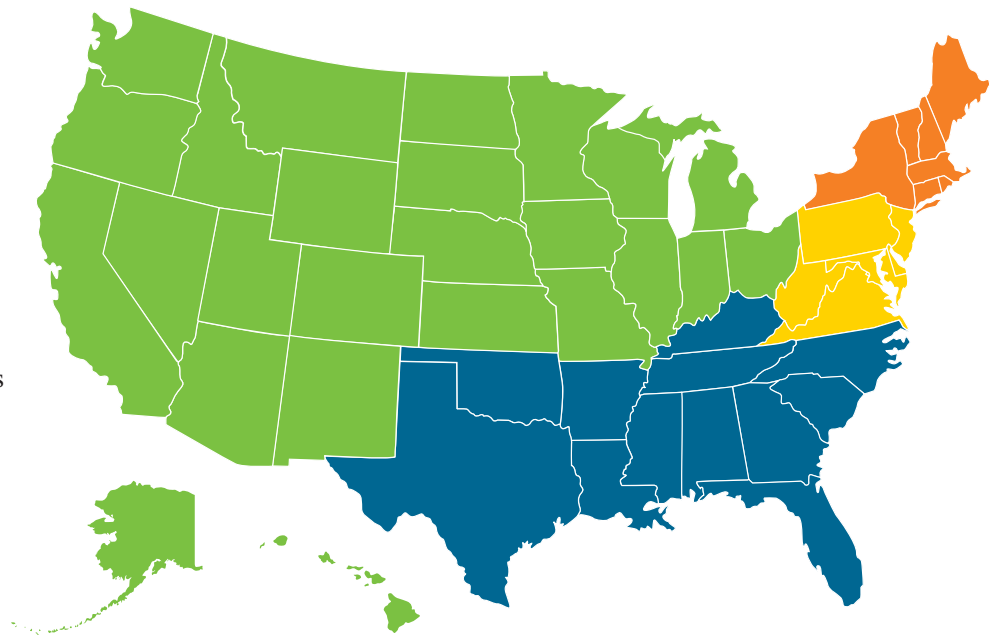
## Assistance for Major Source Industrial Boilers and Process Heaters

DOE is providing major sources burning coal or oil with information on cost-effective clean energy strategies for compliance. DOE currently provides technical information on clean energy options to industry through its regional Clean Energy Application Centers. DOE is supplementing this effort by providing site-specific technical and cost information to the major source facilities currently burning coal or oil. DOE will visit these facilities using coal and oil to discuss strategies for compliance, including combined heat and power, as well as provide information on potential funding and financing opportunities. DOE has been piloting this technical assistance effort in Ohio since March, 2012, working with the Public Utilities Commission of Ohio.

These clean energy strategies can be considered along with investments in pollution controls to comply with the standards in the rule. Facilities that make use of this technical assistance can potentially develop strategies to comply with the regulations while adding to their bottom line. One strategy is natural gas combined heat and power, which is cleaner, more energy efficient, and can have a positive economic return for the plant over time.

In addition, there are boiler tune-up and energy assessment requirements in the Boiler MACT rule for certain types of sources. The boiler tune-up requirement can save facilities energy-related costs and the energy assessment requirement will identify additional energy and cost savings. DOE will provide information on financial incentives available at the local, state, utility and federal levels to assist facilities with the costs of boiler tune-ups and/or energy assessments.

## Clean Energy Application Center Contacts for Boiler MACT Technical Assistance



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### Additional Resources

- U.S. DOE Clean Energy Application Centers:  
[eere.energy.gov/manufacturing/distributedenergy/ceacs.html](http://eere.energy.gov/manufacturing/distributedenergy/ceacs.html)
- Read more about improving boiler and steam system efficiency on the Advanced Manufacturing Office website:  
[eere.energy.gov/manufacturing/tech\\_deployment/steam.html](http://eere.energy.gov/manufacturing/tech_deployment/steam.html)
- For other information about DOE Boiler MACT Technical Assistance, contact Katrina Pielli, U.S. DOE, [katrina.pielli@ee.doe.gov](mailto:katrina.pielli@ee.doe.gov)

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