Harmonizing Emissions: A Case for Clean Air, Carbon Reduction and Economic Growth

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At the Air and Waste Management Associations (A&WMA) meeting on April 2-3, 2008, in Washington DC, the Environmental Protection Agency (EPA) expressed the need for harmonization between whatever carbon reduction policy is adopted by the United States with existing pollution emission regulations under the Clean Air Act (CAA). The goal of this harmonization is to allow industry to reduce greenhouse gas emissions and improve air quality without causing a new layer of compliance requirements that are in direct conflict with existing regulation.

For example, the EPA established the MACT standards(1) for the wood products industry that requires mills to reduce their hazardous air pollutants (HAPs) by 90% or more by October 1, 2008. If a mill achieves MACT standards by installing a thermal oxidizer, the use of thermal oxidation technology increases the mill's carbon footprint significantly with the CO2 generated by the combustion of natural gas to burn off the HAPs. This could put the mill in direct conflict with a Federal CO2 reduction requirement.

As the Federal government adopts legislation such as the Lieberman-Warner Americas Climate Security Act, the carbon reduction requirements imposed on the wood products industry may have a direct financial to a mill based upon its choice of pollution abatement requirement for MACT compliance. Because it chose to use a thermal oxidizer to meet the MACT requirement, the mill may then have to purchase carbon offsets to meet a carbon reduction requirement.

Fortunately, technologies are available today that can reduce HAPs without increasing CO2 and other greenhouse gas precursors. Biological filtration processes–such as Bio•Reaction's bio-oxidation system–utilize microbes to digest HAPs, providing an ultra low carbon alternative to the use of thermal oxidizers for burning off HAPs.

In addition to a more ecologically viable alternative to thermal oxidation, additional benefits are achieved through significantly lower operating costs – by burning less natural gas. With fluctuating energy costs, the use of less natural gas will save money in operations each month.

This proven technology is being employed by various industries, in addition to the wood products industry, and is the bridge that provides the "harmony" between a carbon reduction policy and the CAA.

What the EPA should do now to help businesses comply is to provide the requirements that industry must meet. Identifying these requirements would facilitate adherence by industry, and allow the market to provide the solutions to meet them.

(1) In 1999, the EPA established Maximum Achievable Control Technology (MACT) standards for hazardous waste incinerators, hazardous waste burning cement kilns, and hazardous waste burning lightweight aggregate kilns. These standards were released under joint authority of the Clean Air Act (CAA) and Resource Conservation and Recovery Act (RCRA) and limited emissions of chlorinated dioxins and furans, other toxic organic compounds, toxic metals, hydrochloric acid, chlorine gas, and particulate matter.

Several rulings occurred over subsequent years addressing these standards, and on October 12, 2005, the EPA finalized national emission standards for hazardous air pollutants (NESHAP) for these hazardous waste combustors (HWCs): hazardous waste burning incinerators, cement kilns, lightweight aggregate kilns, industrial/commercial/institutional boilers and process heaters, and hydrochloric acid production furnaces.

The historical timeline and background information for Maximum Achievable Control Technology (MACT) for Hazardous Waste Combustors is available at http://www.epa.gov/epaoswer/hazwaste/combust/finalmact/cmb-noda-hpg2.htm

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