



WASTE-TO-ENERGY IS AN INSIGNIFIGANT SOURCE OF DIOXIN

Dioxin is a term ascribed to a family of 210 different organic compounds, all of which contain carbon, chlorine, hydrogen and oxygen. Studies indicate that exposure to some forms of dioxins at high enough doses may cause adverse health effects including cancer.

Concern over dioxin led the U.S. Environmental Protection Agency (EPA) to undertake the task of researching and writing a major scientific report entitled, *"Exposure and Human Health Reassessment of 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (TCDD) and Related Compounds."* This report is commonly referred to as the EPA dioxin reassessment.

The report explains that dioxin occurs as a by-product of combustion and a variety of manufacturing processes that involve high-temperature operations. Dioxins can be formed in the emissions of vehicles such as trucks or buses and even charcoal grills. It also can be formed naturally, by forest fires and volcanic eruptions. Dioxins have been found in clay deposits dating back millions of years. According to EPA, the uncontrolled burning of residential trash, or "backyard barrel burning" is the largest source of dioxins to the environment in the United States.

EPA also explains that because dioxins from natural and man-made sources have been widely distributed throughout the environment, almost every living creature, including humans, has been exposed to dioxins.

The potential for harmful effects of some dioxins was not recognized globally until the late 1980s. Since then, major efforts to reduce dioxin emissions to the environment have been directed at controlling most of the known industrial sources of dioxin. With respect to the waste-to-energy industry, EPA ensures strict dioxin controls through implementation of federal Maximum Achievable Control Technology (MACT) regulations. Modern waste-to-energy plants combust municipal solid waste at temperatures of 2000°F (which destroys most dioxins) and utilize sophisticated pollution control equipment to further reduce emissions to meet EPA's stringent requirements.

Test results from waste-to-energy facilities nationwide demonstrate that emissions of dioxins are well below EPA's MACT regulations. In fact, the emissions test data show that dioxins are now found at levels barely detectable by the most sophisticated instrumentation. In 2002, EPA estimated that the total annual dioxin emission rate from all waste-to-energy facilities in the U.S. was less than 12 grams of dioxin (as Toxic Equivalent or TEQ), in comparison to 550 grams TEQ emitted by backyard barrel burning.

Waste-to-energy facilities successfully achieve continuous compliance with stringent environmental standards while generating about 2,700 megawatts of power – enough power to meet the energy needs of more than two million homes – while at the same time safely dispose of nearly 30 million tons of garbage annually.