

Comparison of Air Emissions from Waste-to-Energy Facilities to Fossil Fuel Power Plants

Jeremy K. O'Brien, P.E.

SWANA

1100 Wayne Avenue – Suite 700

Silver Spring, MD 20910

(704) 906-7269

jobrien@swana.org

The SWANA Applied Research Foundation's FY2005 Waste-to-Energy Group identified the need for a public information document that compares the air emissions from waste-to-energy facilities to those of conventional fossil fuel power plants. This paper is based on a research report that was prepared by SWANA in the course of developing the public information document.

INTRODUCTION

The SWANA Applied Research Foundation's (ARF) Year 4 (FY2005) Waste-to-Energy (WTE) Group identified the issue of comparing emissions from WTE facilities to those of conventional fossil fuel power plants as one of high importance to the group.

Three public-sector solid waste authorities supported the SWANA ARF's FY2005 WTE Group. Each of these organizations made a "penny per ton" funding commitment to the conduct of collective applied research in the WTE area.¹ A listing of the three WTE Group subscribers is provided in Table 1.

The following description of this topic was submitted by Gary Forster of the Lancaster County Solid Waste Management Authority.

"the one topic that seemed to have the best potential for being useful to persons in the industry would be the comparison of emissions from a modern WTE facility to those from the three most common sources of fuel for energy generation: coal, oil, and natural gas. The emissions comparison could be done on a pound of pollutant emitted per megawatt-hour generated or something similar to that. In our interactions with the public (on tours and during presentations), we are frequently asked how our industry fares, on an emissions/environmental basis, in comparison with the other three. It would be nice to have a handy reference to be able to consult in these instances."

This paper is based on a report that was developed by the SWANA Applied Research staff to summarize the findings of recent research, as well as currently available data and published information, regarding the comparison of WTE emissions with those of traditional power plants.

TABLE 1
SWANA ARF FY 05
Waste-To-Energy Group

Jurisdiction	Contact	Title
Southeastern Public Service Authority	Ron Angus	SPSA Power Plant Manager
Lancaster County Solid Waste Authority	Gary Forster, P.E.	Environmental Engineer
Three Rivers Solid Waste Authority	Colin Covington	General Manager