

## APPLYING LESSONS LEARNED FROM WASTE-TO-ENERGY FEASIBILITY STUDY PROJECTIONS TO CONTRACT RENEWALS, EXPANSIONS AND NEW PROJECTS

Jonathan S. Bilmes, PE, QEP, Executive Director  
Susan F. Hemenway, Solid Waste Analyst  
Bristol Resource Recovery Facility Operating Committee  
43 Enterprise Drive  
Bristol, Connecticut, 06010  
Tel: 860.585.0419  
Fax: 860.585.9875  
Web Site: [www.brrfoc.org](http://www.brrfoc.org)

### ABSTRACT

A majority of today's operating waste to energy plants were developed in the 1980s. In order to finance these facilities, comprehensive feasibility reports were required that assessed the engineering and financial feasibility of the projects. The Bristol Resource Recovery Facility Operating Committee (BRRFOC) commissioned two such reports; in 1985 when the project was initially financed and again in 1993 when the initial bonds were refunded. Key assumptions were made in the 1985 and 1993 reports regarding energy prices, landfill costs, inflation, member tonnage, recycling rates, changes in law and plant operations. Despite the enormous changes that have occurred in the waste to energy industry over the past 20 years, BRRFOC's member community tipping fee has consistently outperformed projections. In fact, due to BRRFOC's financial track record, a 2005 refinancing was successfully marketed to financial institutions without an independent economic study. This paper will compare and contrast the 1985 and 1993 projections and assumptions to actual performance. The information provided will assist decision makers contemplating contract renewals, expansions or new waste to energy projects determine what sensitivity analyses, if any, need to be included in the feasibility report.

### INTRODUCTION

Established in 1988, the Bristol Resource Recovery Facility Operating Committee (BRRFOC) administers an integrated solid waste disposal program for 14 Connecticut cities and towns with an estimated population of 320,000 (Figure 1). The BRRFOC's integrated waste management system includes: public education on source reduction; source separation, recycling, household hazardous waste and e-waste collections through its sister agency, Tunxis Recycling; and a waste-to-energy facility in Bristol, Connecticut (owned by Covanta Bristol Inc), which safely and efficiently burns approximately 650 tons of solid waste daily, reducing the volume of waste in member communities by 90% and producing enough electricity to serve about 15,000 homes. In addition, since our Board is comprised of Mayors, Selectmen and Town Managers, we also represent the direct interests of our taxpayers, both residential and commercial.

### ACTUAL TIPPING FEES VS PROJECTED

Comprehensive feasibility studies were conducted in 1985, when the initial bonds were sold and again in

1993 to support an advance refunding of the 1985 bonds. The 1985 and 1993 feasibility studies were conducted by nationally recognized engineering firms with substantial experience in solid waste. Both studies comprehensively examined the project, predicted member community tipping fees under several scenarios and, coincidentally, were the exact same length (61 pages). As Figure 2 below demonstrates, actual tipping fees paid by the member communities have consistently outperformed the projected tipping fees under the "base case" scenario<sup>1</sup>. This paper will examine several key assumptions that were made in 1985 and/or 1993, and the impact of those assumptions on project economics, i.e. member community tipping fees. This information will be valuable to those planning new projects and expansions.

<sup>1</sup> It is the intent of the authors to analyze, *not* critique or criticize the 1985 and 1993 feasibility reports. Both feasibility reports were rigorously analyzed and vetted by numerous parties to the transaction.