

Energy Efficient Pollution Control

David C. Smith
Evergreen Engineering, Inc.

Abstract

The addition of VOC and HAP control devices to a composite board plant's press vents and dryers is becoming a common requirement. Incineration technology (RTOs and RCOs), the benchmark for this pollution control application, is expensive to use, partially because of its high associated thermal energy and electrical power costs.

A variety of new, low energy abatement technologies are now emerging. The most popular of these are biological systems, which are now being offered in a variety of configurations. While these systems generally have much lower thermal energy requirements than incineration systems, their electrical power demands may still be quite high. A model has been developed which can be used to easily compare the total thermal and electrical energy costs of various pollution control systems. Several different technologies and configurations are examined.

VOC and HAP abatement decisions should be approached from a "total system" perspective rather than be based simply on the selection of a particular control technology. The existing level or particulate control, the availability of open space for the installation, and the capacity to deal with wastewater, are all significant factors that influence the total energy impact of a new system.