Waste Minimization - Part of the Environmental Solution
Great American Insurance Group, Loss Prevention Safety Topic

Waste minimization is fast gaining recognition as a means of dealing with the nation’s hazardous waste problem and other forms of environmental pollution. Opportunities exist throughout industry for waste minimization.

What is waste minimization?
Waste minimization is comprised of source reduction and recycling. Source reduction is defined as any activity that reduces or eliminates the generation of waste at the source, usually within a process. Recycling is defined as the recovery and/or reuse of what would otherwise be a waste material. When conducting a waste minimization assessment, all waste streams (air emissions, wastewater, solid wastes) should be considered. The transfer of pollutants from one medium to another should not be considered as a waste minimization process.

What are the Incentives?
• Attractive economics (reductions in waste treatment and disposal costs, savings in raw material costs, reduced operating costs, etc.).
• Increasing regulatory compliance (including landfill disposal regulations, reporting requirements, and permit requirements for waste treatment).
• Reduced liability (including liability for environmental problems and workplace safety).
• Improved public image and environmental concern.

Waste minimization assessment procedure
The following waste minimization procedure provides a step-by-step program to understand a facility’s processes and wastes, identify options for reducing waste, and determine which of the options are technically and economically feasible to implement.

• Recognize need to eliminate waste.
• Planning and organization—obtain management commitment, set assessment program goals, organize assessment program task force.

• Assessment phase—collect process and facility data, amortize and select assessment targets, select people for assessment teams, review data and inspect site, generate options, screen and select options for further study.
• Feasibility analysis phase—complete technical and economic evaluations, select options for implementation.
• Implementation—obtain funding, install necessary equipment, implement control procedures, evaluate performance.
• Successfully implemented waste minimization projects.

Waste minimization techniques
• Source reduction
  • Product changes—substitution, conservation, change in product composition.
  • Source control—input material changes (material purification and/or substitution), technology changes (process, equipment, piping, layout, automation, operational settings), operating practices (procedural measures, loss prevention, management practices, waste stream segregation, material handling, reduction scheduling).
• Recycling (onsite and offsite)
  • Use and reuse—return to original process, raw material substitution for another process.
  • Reclamation—process for resource recovery, process as a by-product.