

This estimate is based on a survey of the capital investment needs for waste disposal facilities recently conducted by the APWA in 47 communities and the findings of the previous analyses. The amounts of these capital investment demands are estimated to be as follows: \$1.420 billion for collection equipment and storage and maintenance facilities, \$340 million for sanitary landfills including land and equipment and \$660 million for incinerators.

(a) *Factors Taken into Account in Making This Projection*

Excepting salvage operations such as hog feeding and composting, it is common to all disposal methods that, in one form or another, solid wastes have to be returned directly to the natural environment by acceptable means. The space requirements vary according to the method used and are as follows:

TABLE XIII.—*Land requirements for selected refuse disposal methods*

Disposal method	Percent reduction of volume of raw refuse	Population served annually by 1 acre-foot	Acre-feet required annually for each 10,000 population
Open dump (raw, mixed refuse)-----	0	412	24.2
Open dump with burning, scavenging, and casual compaction-----	15	487	20.5
Sanitary landfill-----	50	1,430	7.0
Incineration-----	90	2,080	4.8

Source: U.S. Public Health Service; APWA; and various waste disposal planning studies.

However, land required for waste disposal facilities is also in demand for many other more attractive uses in the metropolitan and urban centers. This, coupled with higher costs through an increase in the hauling distances to landfills, is judged to create a strong demand for modern incinerators during the next decade.

The \$660 million investment need for incinerators includes an allowance of from 3 to 5 percent of this amount for land acquisition. The need for replacement of obsolete facilities is estimated to amount to 40 percent of the presently installed 82,000 tons daily, 24-hour incinerator capacity. Almost 30 percent of the existing capacity is estimated to have been built prior to 1941. Calculated at a construction cost of \$6,000 per ton of daily, 24-hour capacity, this capital investment would add 109,000 tons of daily capacity to the present total capacity, whereas 33,000 tons of daily capacity would be eliminated because of obsolescence. Thus, the 1975 installed incinerator capacity is estimated at 158,000 tons per 24-hour day of operation. In support of this estimate it might be mentioned that a manufacturer of incinerator equipment forecasts, for 1975, an incinerator capacity of 120,000 to 145,000 tons per day. However, this forecast is based on a normal expansion of the demand and does not provide for stepped-up Federal activities in this field.

In estimating the sanitary landfill capital investment needs it is assumed that open dumps will be eliminated wherever feasible. However, inert waste materials, such as incinerator ash and certain demolition wastes, do not require sanitary landfills for adequate disposition. Furthermore, open dumps tend to be smaller in area than sanitary landfills. Thus a number of open dumps will not be converted to sanitary landfills but will be used for the disposal of inert