Building a Waste-to-Energy Facility in Branfield

Branfield is a city that is in Spring County and that has a current population of 100,000. It is still growing. Within the next few years, Branfield's municipal solid waste (MSW) disposal will reach a crisis level. The current landfill is nearing its holding capacity and is expected to close in about 2 years. MSW service rates have been steadily rising because of increases in tipping fees at the landfill. The cost to dump 1 ton of garbage at the landfill has gone up 40 percent in the past year because of the lack of space. The next available landfill is 30 miles away, and its tipping fees are even higher than those of the local landfill. To try to reduce the amount of waste sent to the landfill, Branfield instituted a recycling program several years ago. The program uses curbside pickup of recyclables that are then taken to a recycling facility in a neighboring county. This program has been incredibly successful and has reduced the amount of waste by 20 percent. However, this 20 percent decrease in the waste taken to the landfill is not enough to greatly extend the capacity of the landfill. Residents of Branfield will have to work with officials to create a solution to their MSW crisis.

The Spring County Solid Waste District, which is the committee overseeing waste management for Branfield, is looking at alternatives to solve the problem in Branfield and in other areas of the county. Committee members have held several meetings with the state Department of Natural Resources to look at possible options. They have also spoken with the EPA to find out the most current, cost-effective, and environmentally sound methods of MSW disposal. Several town meetings have been held with garbage haulers, recycling organizations, and interested citizens to understand their opinions and concerns. The committee has also met with companies that represent state-of-the-art WTE facility design and landfill construction. During these meetings, several options were presented, but the committee chose to focus on two: a new landfill and a WTE facility. The dilemma is whether they should focus on building only a new landfill or a WTE facility, or whether they should build a WTE facility and a new landfill.

The first option is to build a new landfill. The officials from the Solid Waste District have surveyed the county to find a potential site, but are having difficulty finding a parcel of land that is large enough and has the correct soil composition. In addition, the usual "Not-in-My-Back-Yard (NIMBY)" attitude exists, where residents do not want the new landfill near their homes or property, even though they know that the county needs a landfill. It is estimated that a new landfill will reach capacity in approximately 20 years given current population growth and waste production rates.

The second option is to build a WTE facility to help extend the capacity of the current landfill. A proposal to build it on an old railroad yard owned by Branfield would provide easy access to the facility by use of highways and trains. In addition, Branfield can sell the energy it produces from combustion to the municipal power company. The site could be used as a recycling collection and distribution center for the county. This site would be closer than the current recycling center, so the collection fees would be lower. Additionally, with access to railway service, recyclable materials could be transported to manufac-

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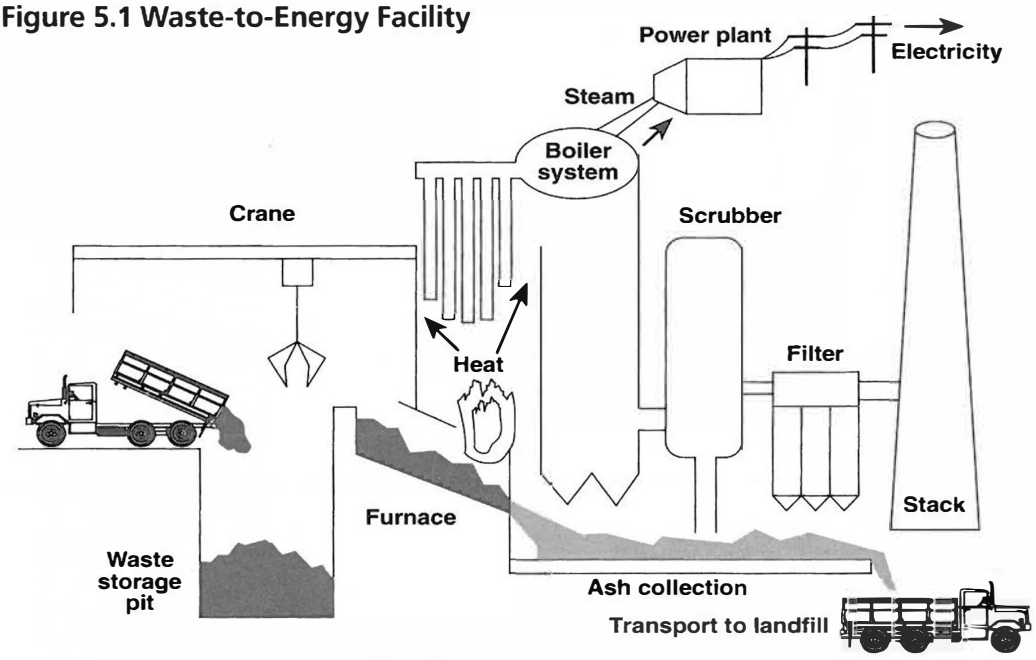
turers easily. Concerns exist about pollution resulting from the combustion process, as well as a strong NIMBY attitude among local residents near the site. The ash from combustion still must be disposed of in a landfill. Ash from WTE facilities is tested to determine whether or not it is toxic. If it is not toxic, it can be discarded in a regular MSW landfill. If it is toxic, it must be transported to a hazardous waste landfill. Finally, concerns exist about the cost of building the facility.

The third option combines the use of a WTE facility and building a new landfill. Because a site is already available for a WTE facility, plans to build it can be started. Because no suitable site for a new landfill is available, the WTE facility can reduce the bulk of the waste going to the current landfill thereby extending its capacity while a site for the new landfill is found. Additionally, the WTE facility can greatly extend the capacity of the new landfill beyond the predicted 20-year period. The NIMBY attitude among residents may be doubled by this option with people opposing the landfill and the WTE facility. The expense will be greater for this option because both a landfill and a WTE facility will need to be built. However, this combined approach may be a better long-term solution than the other two options.

Figure 5.1 Waste-to-Energy Facility



Source: U.S. Environmental Protection Agency, *The Municipal Solid Waste Factbook, Ver.3.0* U.S. EPA Office of Solid Waste, Washington, DC: 1996: www.epa.gov/osw