

2022 Oral Presentation Problem Statement

Current Issue: Waste to Resources

Scenario: Designing a Comprehensive Local Solid Waste Management Plan

Based on a report by Solid Waste Environmental Excellence Protocol (SWEEP), over the next five years, total landfill capacity in the U.S. is forecast to decrease by more than 15%. This means that only 15 years of landfill capacity will remain. However, in some regions it could be only half that. Hazardous Waste is an ever present issue with the prevalence of toxic materials in the waste stream and limited facilities available. Compounding the dilemma of reduced landfill capacity availability is the ban of recyclable scrap export by China. Until recently, more than 20% of recyclables generated in the U.S. have gone to China. Much of the cause for this ban is the contamination of recycling streams with unacceptable materials, where as much as 1 in 4 items placed in recycling bins in the U.S. is not suitable for recycling.

In addition, according to the USDA 40% of food cultivated and grown in the United States is wasted. Totaling over \$285 billion a year in losses, wasted food takes up approximately 24% of landfill volume which is the #1 landfill input according to the US Environmental Protection Agency. Wasted food also uses 14% of all fresh water, 19% of fertilizer and 18% of the cropland space used to produce all food consumed in the U.S. At the same time, about 13% of Americans are food insecure (ReFED).

You are a large County located 1.5 hours outside of a major metropolis. Your County is roughly 1/3 rural, 1/3 suburban, and 1/3 urban. The County's resources are already limited. Your State has a mandate for Planning Units (i.e. Counties in the State) to develop Local Solid Waste Management Plans. The State has also recently passed a law where large food waste generators (chain restaurants, food processors, supermarkets, etc.) must develop a plan to donate excess edible food and transport inedible food scraps to composting facilities beginning on January 1 of next year. Your nearest landfill is 75 miles away over the border in the next state, but only has 10 years left on its permit to accept materials from out of state. There are currently no food scraps composting facilities in the County however there are a small number of municipal and privately owned yard waste processing facilities. There is also one major food bank on the eastern portion of the County, however it is far and relatively inaccessible from most urban areas.

Your County is charged with developing a proposal to develop a comprehensive Local Solid Waste Management Plan to present to the County Executive who will then report the plan to the Governor. At minimum, your proposal should cover the following items:

- Describe an effective outreach and education strategy address for the above scenario?
- How will your plan inform and/or coordinate with solid waste generators such as schools, businesses, commercial and industrial facilities?
- How will your plan coordinate with and/or employ the services of MSW landfills, hazardous waste collection services, end markets for recyclable material, emergency feeding programs?
- How will your plan assess existing infrastructure and equipment and how will it assess and implement new infrastructures and technologies?
- How will it deploy resources to support where there are gaps and stimulate the development of new infrastructure?
- How will your plan coordinate with neighboring Counties?