

County of Los Alamos

Food Waste Composting Feasibility Project

January 20, 2022



AGENDA

- Technologies Evaluation
- Facility Costs
- Environmental Impact Analysis
- Collection methods
- Collection Costs
- Next Steps

Technologies Evaluation

- Windrow composting
- Aerated Static Pile (ASP)
- Covered Aerated Static Pile (CASP)
- In-vessel composting
- Anaerobic Digestion
 - Dry AD
 - Wet AD*

Criteria	Technology Score				
	WINDROW COMPOSTING	ASP COMPOSTING	CASP COMPOSTING	IN-VESSEL COMPOSTING	DRY ANAEROBIC
	Total Score	Total Score	Total Score	Total Score	Total Score
A. TECHNOLOGICAL CRITERIA	54	55	58	63	53
Status of technology	10	10	10	10	10
Space required for technology	2	2	2	2	2
Years of operating history	8	8	8	8	4
Feedstock Material	16	16	16	16	12
Manure accepted	1	1	1	1	1
Biosolids accepted	1	1	1	1	1
Quantity of water required	2	2	2	2	2
Power requirements	3	1	1	3	1
In compliance with Federal and State emission and other regulations	8	8	8	8	8
Potential to emit Odors	3	3	6	6	6
Potential to attract Wild Life / Vector	0	3	3	6	6
B. FINANCIAL CRITERIA	29	23	19	13	9
Capital costs (total including permitting, site improvements, equipment)	8	8	4	4	0
Unit operating cost	6	3	3	0	0
Tipping fee (based on reference facility(ies))	6	3	3	0	0
By-Product revenue	3	3	3	3	3
Markets for By-Products	6	6	6	6	6
TOTAL	83	78	77	76	62

Environmental Impact Analysis

Criteria	Rating Scale (potential level of adverse environmental impact)	Point Scale (0 - 2) ^{1, 2}	Weight
POTENTIAL ENVIRONMENTAL IMPACTS			
Odors	High	2	4
	Medium	1	
	Low	0	
Sensitive Receptors (e.g., residents, schools, hospitals)	High	2	4
	Medium	1	
	Low	0	
Attraction of Wildlife and/or Vectors	High	2	3
	Medium	1	
	Low	0	
Pathogen Generation	High	2	3
	Medium	1	
	Low	0	
Water Consumption	High	2	3
	Medium	1	
	Low	0	
Surface Run-Off	High	2	3
	Medium	1	
	Low	0	
Air Quality/Dust Control	High	2	3
	Medium	1	
	Low	0	
Greenhouse Gas Emissions Reductions Using U.S. EPA WARM (high emission reductions = low adverse environmental impact)	High	2	3
	Medium	1	
	Low	0	
Energy Consumption	High	2	3
	Medium	1	
	Low	0	
Noise	High	2	3
	Medium	1	
	Low	0	

Criteria	COMPOSTING TECHNOLOGY			
	WINDROW COMPOSTING	ASP / CASP COMPOSTING	IN-VESSEL COMPOSTING	DRY ANAEROBIC
	Score	Score	Score	Score
POTENTIAL ENVIRONMENTAL IMPACTS				
Odors	8	4	0	0
Sensitive Receptors (e.g., residents, schools, hospitals)	8	8	4	4
Attraction of Wildlife and/or Vectors	6	3	0	0
Pathogen Generation	3	3	3	0
Water Consumption	3	3	3	0
Surface Run-Off	6	6	3	0
Air Quality/Dust Control	3	0	0	0
Greenhouse Gas Emissions Reductions Using U.S. EPA WARM (high emission reductions = low adverse environmental impact)	0	0	0	0
Energy Consumption	0	6	6	3
Noise	3	3	0	0
TOTAL SCORE	40	36	19	7

Facility Capital Costs (estimated)

	WINDROW	ASP	IN-VESSEL	AD
SITE IMPROVEMENTS	\$800,000	\$1,500,000	\$1,600,000	\$2,500.,000
EQUIPMENT	\$1,200,000	\$1,500,00	\$4,200,000	\$4,900,000
TOTAL	\$2,000,00	\$3,000,000	\$5,800,000	\$7,400,000

Collection Options



Collect in Existing
Carts/Container



Collect in New, Separate
Cart/Container



Drop-off collection

Residential Collection Options

Food in Waste Cart

- Loose, No Composting (Existing System)
- Bagged, In Cart

Food in Green Waste Cart

- Loose
- Bagged, in cart

Food in Separate, New Cart

- Loose
- Bagged, in cart

Drop-off Site

- Eco Station
- Overlook Park

Commercial Collection Options

Food in Waste Container

- Loose, No Composting (Existing System)
- Bagged, In Container

Food in Separate, New Container

- Loose
- Bagged, in container

Collection Costs Estimates

- In progress
- Based on County budget inputs
- Includes capital costs for equipment, vehicles, fuel maintenance, and labor
- Does not include savings from collection/material reductions from other programs
- Scenarios assume bags to be provided by County
- Scenarios assume 100% participation rate

Next Steps

- Complete Cost Model
- Prepare Summary Table
 - Technologies
 - Siting
 - Environmental Impacts
 - Costs
- Prepare Draft Report with recommendations