



Saving Money through Composting

*If you are paying more than **\$30/ton**
to dispose of organic wastes
and disposing of more than 3 tons/day,
You could be saving money
for your organization right now
using the Earth Flow Composting System*



Earth Flow - Stainless Steel Vessel

The Earth Flow is an automated composting system that turns your organic wastes (e.g., food waste, animal manure) into a valuable soil amendment for your landscapes. The Earth Flow's integrated mixing, aeration and moisture systems optimize the thermophilic composting process.

The following is an illustration of how the Earth Flow composting system could save your organization money in off-site disposal and soil amendments costs.

For this financial analysis, we considered two Earth Flow system design options.

- Option A – EF-5010 Stainless Steel Vessel (50' x 10'). This system features a stainless steel vessel and a greenhouse roof enclosure.
- Option B – EF-5010 Site-Built Vessel (50'x 10'). This system features a concrete floor/walls and a hoop house roof enclosure.

This analysis assumes the equipment is financed over 5 years with an interest rate of 8%. It also assumes a 1:1 recipe by weight for food waste/landscape waste mixes.

Results of Analysis

Table 1 presents total costs per blended ton of inputs (assuming a minimum of 3 tons/day of biodegradable inputs and a 14-day retention).



Earth Flow - Site-Built

Table 1. Earth Flow Cost Breakdown

Estimated Costs (based on a 5-year depreciation)	<u>Option A: Stainless Steel</u>	<u>Option B: Site-Built</u>
Capital Equipment	\$30/ton	\$19/ton
Infrastructure, Freight, Installation, Set-Up	+ 5/ton	+ \$5/ton
Finance Charges (8% interest over 5 years)	+ <u>\$9/ton</u>	+ <u>\$6/ton</u>
Subtotal:	\$44/ton	\$30/ton
Operations & Maintenance Costs	+ \$15/ton	+ \$15/ton
Less Soil Amendments Savings/Sales	- <u>\$15/ton</u>	- <u>\$15/ton</u>
Total Costs:	\$44/ton	\$30/ton

Table 1 demonstrates that the Earth Flow can be a smart financial investment when:

- Your avoidable disposal costs (costs divertable from disposal to composting) are above **\$30/ton** **and**
- You have more than 3 tons/day of total biodegradables (including bulking agent, e.g., landscape waste).

Headquarters

5350 McDonald Ave.
Bainbridge Island, WA 98110
Tel 206.319.7102

The Earth Flow Can Save You Money (page 2, continued)

Table 2 shows how these total costs decrease as the throughput in the Earth Flow is increased and material is transferred into secondary covered aerated pile composting (under hoop house, these costs are included in calculations). If you have larger volumes to compost, total costs on a per ton basis could drop to as low as \$20/ton.



Table 2. Impact of Retention Time in Earth Flow on Total System Costs

Total Volume Inputs/Day	3 tons/day	4 tons/day	5 tons/day	6 tons/day
Retention in Earth Flow	14 days	10 days	7 days	5 days
Option A. Stainless-Steel	\$44/ton	\$39/ton	\$35/ton	\$30/ton
Option B. Site-Built	\$30/ton	\$29/ton	\$26/ton	\$20/ton

Table 3 provides examples of projected annual savings for different disposal costs. For instance, if your current avoidable disposal costs are \$40/ton and the Earth Flow total costs are \$30/ton, your savings/ton would be \$10/ton and your projected annual savings would be \$10,950.

Table 3. Projected Annual Savings by Disposal Cost (assuming Total Costs of \$30/ton, 3 tons/day of feedstocks)

Current Disposal Costs/Ton	\$40/ton	\$50/ton	\$60/ton	\$70/ton
Projected Savings/Ton	\$10/ton	\$20/ton	\$30/ton	\$40/ton
Projected Annual Savings	\$10,950/yr	\$21,190/yr	\$32,850/yr	\$43,800/yr

Notes on Analysis

- Assumes retention times in the Earth Flow of less than 14 days require that the compost would exit the Earth Flow and go into a second-stage aerated pile composting within a hoop house.
- Assumes potential savings in costs are based on the aggregate disposal costs of all biodegradable inputs. In particular, bulking agents may have different disposal costs than primary feedstocks.
- Assumes the organization sells the finished compost or uses the compost on-site to avoid soil amendment costs. We estimate the value of compost at \$15 per blended ton of inputs (\$15/yard of finished compost).
- Assumes systems are run according to Green Mountain Technologies best management practices.
- Features included complete odor control and leachate catchment.
- Infrastructure and set-up costs do include concrete pad, electrical hook-up, freight, crane delivery, installation, testing & commissioning, training, travel expenses and on-going customer service.
- Operations and maintenance costs include operations labor, maintenance labor and materials, electrical/water usage and annual product testing.
- Costs do not include land, permitting, road building, excavation, auxiliary structures, grinding, shredding or screening.

About Green Mountain Technologies

At Green Mountain Technologies, we're all about composting. Since 1992, we've been dedicated to helping forward-thinking organizations reduce their environmental footprint, save money and produce top quality compost. We are committed to making composting an easy, affordable and successful undertaking for organizations of any size. We are passionate about composting because it saves money, eliminates waste, builds soil fertility, protects water and reduces greenhouse gas emissions.

Headquarters

5350 McDonald Ave.
Bainbridge Island, WA 98110
Tel 206.319.7102

www.compostingtechnology.com