MRF FINANCIAL PRO-FORMA MODEL SUMMARY

The financial pro-forma model provides an estimate of the costs, benefits, and net cost to a MRF to add flexible plastic packaging to their incoming material stream. RRS developed the pro-forma so that it can be adjusted to model this scenario for any MRF in the US. The key variable inputs to the model include operational characteristics of the MRF being modeled, such as inbound and outbound tonnage, staffing, operations and maintenance; as well as key financial variables, such as landfill tipping fees in the region, material sales revenue per ton, and capital and operating expenditures.

The results of the model are highly sensitive to two variables:
1) landfill tipping fees
2) revenue per ton from sales of the recovered flexible packaging.

The sample MRF Summary that follows demonstrates a realistic scenario for a large single stream MRF in a region of the U.S. with higher than average landfill tipping fees due to higher than average land values and the community's interest in diverting material from landfill. Revenue per ton is conservatively estimated at $10/ton because the end markets for this material are under development and unstable. In this scenario, the net cost to process the material becomes around $2/ton. This cost is on par with addition of other materials found in single stream recycling systems.

If the scenario changes to a region with lower than average landfill tip fees, the net cost increases to closer to $3/ton.

A more costly scenario occurs when there are lower than average tip fees and no mechanical recycling markets. In this instance, the net cost increases to almost $4/ton until better markets can be found.

Materials Recovery for the Future

Addition of Flexible Packaging		Facility Baseline	Changes from Addition of FP	Facility Totals with FP Added
Total Inbound Tonnage	A)	123,300	2,400	125,700
	B)		2% Increase	
Outbound Tonnage				
Fiber Tonnage	C)	67,000	0	67,000
Container Tonnage	D)	44,000	0	44,000
FP Tonnage	E)	0	3,000	3,000
Residue	F)	12,000	(300)	11,700
Building Area	G)	70,000	0	70,000
Number of Employees	H)	65	(4)	61
Capital Cost	I)	$19.10 M	$2.84 M	$21.94 M
Revenue Summary - Baseline		Amount	Notes	
Annualized Capital Cost	J)	$1.46 M		
Annual Operating Cost	K)	$5.07 M		
Annual Revenue from Material Sales	L)	$14.28 M		
Residue Tipping Fee	M)	($0.93 M)		
Annual Net Revenue (Cost)	N)	$6.82 M	(Line L + Line M) - (Line J + Line K)	
Capital + Operating Cost/Ton	O)	$53	(Line J + Line K) / Line A	
Average Revenue Per Ton (net of residue tipping fee)	P)	$108	Line L / Line A	
Net Revenue (Cost) Per Ton	Q)	$55	Line V - Line U	

Revenue Summary - With FP		Amount	Notes	
Annualized Capital Cost	R)	$1.74 M	Includes annualized addition of $2.835 million (Line I) in capital equipment	
Annual Operating Cost	S)	$5.03 M	Includes savings from reduced sorter labor and added costs from higher throughput	
Annual Revenue from Material Sales	T)	$14.32 M	Includes estimated revenue of $10/ton on sorted FP	
Residue Tipping Fee	U)	($0.88 M)	Includes reduction in residue tip fees from FP not disposed as residue	
Annual Net Revenue (Cost)	V)	$6.67 M	(Line T + Line U) - (Line R + Line S)	
Capital + Operating Cost/Ton	W)	$54	(Line R + Line S) / Line A	
Average Revenue Per Ton (net of residue tipping fee)	X)	$107	(Line T + Line U) / Line A	
Net Revenue (Cost) Per Ton	Y)	$53	Line X - Line W	
Net Benefit (Cost) Per Ton to MRF with FP Added	Z)	($2)	Line Y - Line Q	

For more information about the pro-forma model or to apply this tool to a specific MRF in a community interested in recycling this material, MRFF collaborative members should contact Susan Graff, sgraff@recycle.com.