

10 Financial Analysis

The financial analysis of a potential Biomass/RDF Facility for Rock-Tenn is somewhat complex in that it not only includes a new power plant at Rock-Tenn but considers the use of the Newport Facility to provide the basic fuel needs at Rock-Tenn and also the potential continuation of RDF to the Xcel combustion plants. In addition, biomass fuel from a new C&D processing facility is considered.

There is potentially new debt associated not only with the Rock-Tenn Biomass/RDF Facility, but also with the purchase of the Newport Facility, potential expansion of the Newport Facility, and construction of the C&D processing facility.

The operating costs at the Newport Facility are not linear, there are economies of scale as more MSW is processed. There are unknowns associated with the economics of the Xcel combustion plants. The potential steam and electrical energy sales rates per unit are not yet established. Finally, the tipping fee that is marketable in the future is not fully known.

To address these variables and provide a methodology to assess the financial impact of different scenarios, Foth & Van Dyke developed a Life-Cycle Financial Analysis covering the anticipated debt service period for the Rock-Tenn Biomass/RDF Facility (assumed to be 20 years from start of operations). The Financial Analysis addresses each of the potential components of the system. It is broken down into four basic tables as follows:

- ◆ Table 1 – Material Flows
- ◆ Table 2 – Fuel Production
- ◆ Table 3 – Power Plants
- ◆ Table 4 – Summary

Table 1 – Material Flows covers the material categories delivered to and produced from the Newport Facility, C&D wastes delivered to and outputs from the C&D waste processing facility, and finally the fuels consumed and resulting products from the Rock-Tenn Biomass/RDF Facility.

Table 2 – Fuel Production covers the capital and operating costs associated with fuel production at the Newport Facility and the C&D processing facility along with any offsetting revenues associated with recycled materials. The Net Annual Costs are shown along with the Net Cost per Ton.

Table 3 – Power Plants covers the capital and operating costs associated with the Rock-Tenn Biomass/RDF Facility. Table 3 projects the revenue offsets from steam and electrical sales. The Net Annual Costs for the facility are shown.

Table 4 - Summary provides a summary of waste flows, fuel costs, and Rock-Tenn related costs and offsetting revenues. It shows the impact of different tipping fee rates and a projection of any system costs not covered by the various revenues sources. These costs need to be offset in some

manner. For comparison purposes only, the unmet costs are shown as a potential Processing Payment per ton of MSW.

The first Life-Cycle Analysis establishes the Base Case projection which is followed by 3 different Sensitivity Analyses that build on the Base Case and in some instances on previous sensitivities.

10.1 Base Case Analysis – RDF from Newport

As a place to begin, the Base Case is based on an assumption that RDF from the Newport Facility is used as the Rock-Tenn fuel source. The Xcel combustion plants are not included in the Base Case analysis. As shown in the Financial Analysis sheets (provided in Appendix B of this report), Table 1 – Material Flows shows 486,000 tons of MSW Received at Newport with the corresponding material flow outputs as shown in Section 7, Table 7-1 of this report. The material flows are held constant in future years (i.e., they do not fluctuate up or down).

It should be noted that the first year of operation of this system is in 2011 as that is currently the first year of potential operation of the Rock-Tenn Biomass/RDF Facility considering the permitting and construction schedule.

Table 2 – Fuel Production shows the projected capital and operating costs at the Newport Facility. The Purchase Cost amortization is based upon escalating the estimated purchase cost from Section 5.1.4 by 3 percent per year from 2006 to 2010, with another 5 percent added for financing transaction costs. The resulting total is amortized at 6 percent interest for 20 years with the first annual payment starting in 2011. The operating costs are taken from Table 5-1 of the report, but escalated at 3 percent per year (non-compounded). The Contract Operator cost estimate is based upon a 40 percent markup of labor costs by a private operator. The Revenue Offsets are based upon \$800 per ton for aluminum and \$25 per ton for ferrous, both times the projected tons. The Revenue Offsets are not projected to escalate by 3 percent per year.

Table 3 – Power Plants shows the projected capital and operating costs at the Rock-Tenn Biomass/RDF Facility. The Capital costs included were provided as developed by the St. Paul Port Authority in the CREBs Application. The payments start slowly in 2010 with full scale payments starting in 2012 and continuing over 20 years. The operating costs are based on Table 6-6 escalated at 3 percent per year (non-compounded). The Revenue Offset for steam sales is based on an initial rate of \$6.00 per mlb in 2006, escalated at 3 percent per year, and electricity at the \$0.0387 plus cents per kwh, escalated at 3 percent per year.

Table 4 - Summarizes the MSW Received, Net Annual Fuel Costs, Net Annual Rock-Tenn Costs for a Net Annual System Cost prior to tipping fee revenue. The Base Case starts with the current year \$34 per ton tip fee escalated at 3 percent per year to 2011 which then equals a tip fee of \$39.10 per ton. The Summary Table shows that in 2012, the first full year of operation and debt service, the projected MSW Processing Payment Per Ton is \$42.18 per ton.

10.2 Sensitivity 1 – Revised Steam, Electric, and Tip Fee Rates

This sensitivity, Revised Steam, Electric, and Tip Fee builds on the Base Case by changing the revenue rates for each of these items as follows:

- ◆ Steam from \$6.00 per mlb to \$6.50 for year 2006
- ◆ Electricity from \$0.0387+ per kwh to \$0.05 for year 2006
- ◆ Tip Fee from \$39.10 in 2011 to \$55 in 2011

The comparative result of these changes is to reduce the projected MSW Processing Payment down to \$21.59 per ton in 2012 (down from \$42.18 per ton in the Base Case). These changes in steam and electric rates provide enough annual revenue that increases in future revenues at 3 percent per year outstrip the annual increases in expenses such that the projected processing payment per ton decreases over time.

10.3 Sensitivity 2 – Expanded Newport – Both Rock-Tenn and Xcel Plants

This sensitivity, Expanded Newport with both Rock-Tenn and the Xcel plants in operation builds on Sensitivity 1 and includes expanding the permitted capacity of the Newport Facility. Table 1 – Material Flows shows the MSW tonnage at 892,700 tons per year, the MSW required to fully load RDF at Rock-Tenn and both Xcel plants. No C&D wastes are processed in this scenario. The RDF flows to the Xcel plants are not shown because the costs and revenues associated with the Xcel operations are pro-rated out of the rest of this Life-Cycle Analysis (the Xcel economics are not publicly available and therefore, this financial analysis focuses only on the Rock-Tenn pro-rated parts of the system).

Table 2 – Fuel Production provides the estimated costs associated with making the RDF for Rock-Tenn. The Purchase Cost amortization is pro-rated to the portion of the RDF used attributable to Rock-Tenn. The expansion cost of Newport is calculated by escalating the estimated capital cost developed in Section 5.1.5.1 (\$45,620,000) from 2006 to 2010 and adding another 5 percent for financing related charges. This amount is then amortized at 6 percent interest for 20 years. All the Newport Expansion debt service is charged against the Rock-Tenn RDF. The remaining Newport Facility operating costs are pro-rated based on the amount of RDF required for Rock-Tenn versus the Xcel plants. The only other line item not pro-rated is the RDF Transport cost which is just the haul costs to Rock-Tenn. The hauling costs to the Xcel plants would be attributable to them. The Revenue Offsets are also pro-rated.

In Table 3 – Power Plants, the Rock-Tenn Biomass/RDF Facility costs are unchanged from Sensitivity 1.

Table 4 – Summary, shows that the comparative result of these changes is to reduce the projected MSW Processing Payment in 2012 down to \$19.94 per ton. This occurs primarily due to the economies of scale at the Newport Facility achieved by more than doubling the MSW Received.

The economies of scale more than offset the added debt service associated with the Newport Facility Expansion.

10.4 Sensitivity 3 – C&D Processing, Partially Expanded Newport, Both Rock-Tenn and Xcel

This sensitivity adds the C&D processing facility to the fuel mix while maintaining the operation of both the Rock-Tenn and Xcel combustion facilities. Table 1 – Material Flows shows the permitted capacity at the Newport Facility to be 750,000 tons per year with 739,000 tons of MSW Received and the same percentages of other material flows as previous analyses. The remaining fuel needs for the system are met from the C&D processing facility providing an assumed 125,000 tons per year of biomass fuel.

Table 2 – Fuel Production shows costs and revenue offsets for both the Newport Facility and the C&D processing facility. For the Newport Facility, the purchase costs are pro-rated based on the percentage of RDF used. The Newport Expansion cost was simply divided in half since the expansion needs to be only 250,000 tons per year rather than 500,000 tons per year. All the expansion cost is attributed to Rock-Tenn.

In Table 3 – Power Plants, the Rock-Tenn Biomass/RDF Facility costs are unchanged from Sensitivity 1. No Xcel combustion plant costs are included as these are unknown and the financial analysis pro-rates Xcel fuel production costs out of the analysis.

In Table 4 – Summary, it shows the comparative result of these changes is a Processing Payment for both MSW and C&D wastes in 2012 of \$26.55 per ton, up from Sensitivity 2. Replacing the RDF fuel with C&D biomass fuel results in a higher overall system cost. This occurs despite the fact that C&D processing costs per ton are lower than MSW processing cost per ton at the Newport Facility. The reason the system cost is higher is because significantly less fuel is recovered from the C&D waste stream (the fuel recovery rate from processed C&D is assumed at 50 percent versus the fuel recovery rate from MSW Processed is 87.7 percent based on historical operating experience). If it is possible to recover a higher percentage of C&D wastes as fuel, it would lower the landfill disposal related operating costs at the C&D processing facility and improve the projected economics of this potential approach.

10.5 Summary

There are many variables that will affect the economics of this potential waste processing and energy recovery system, including basic structures of future business relationships. For example, NRG is pursuing the sale of their resource recovery system assets, including the Newport Facility. The new owner could contract with the Rock-Tenn Biomass/RDF Facility operator to purchase fuel resulting in revenue offsets to MSW processing rather than steam and electrical revenues. Nevertheless, the financial analysis covers the “system” costs/revenues and relates them to the key revenue sources of energy (steam and electricity or fuels) and waste disposal (tipping fees and processing payments). The financial analysis provides an approximation of what energy revenues and disposal costs could be expected in such a “system.”

Table 10-1 provides a summary of some of the key points in the Base Case and 3 Sensitivities. Foth & Van Dyke offers four key observations.

Table 10-1 Financial Analysis Comparisons

Scenario	Base Case	Sensitivity 1	Sensitivity 2	Sensitivity 3
Fuel Source	Newport RDF	Newport RDF	Newport RDF	Newport RDF & C&D Biomass
Combustion Plants	Rock-Tenn	Rock-Tenn	Rock-Tenn & Xcel	Rock-Tenn & Xcel
Net cost per R-T MSW ton 2011 ¹	\$50.12	\$50.12	\$48.64	\$51.59
Net cost per R-T C&D ton 2011 ¹	NA	NA	NA	\$39.24
Steam price/mlb	\$6.00	\$6.50	\$6.50	\$6.50
Steam revenue 2011 ²	\$13,168,788	\$14,266,187	\$14,266,187	\$14,266,187
Electric price/kWh	\$0.038719564	\$0.050000000	\$0.050000000	\$0.050000000
Electric revenue 2011 ²	\$2,831,023	\$3,655,804	\$3,655,804	\$3,655,804
MSW tip fee 2011 ²	\$39.10	\$55.00	\$55.00	\$55.00
C&D tip fee 2011 ²	NA	NA	NA	\$25.00
MSW processing payment 2012 ³	\$42.18	\$21.59	\$19.94	\$26.55
C&D processing payment 2012 ³	NA	NA	NA	\$26.55

¹ Net processing cost per ton in 2011.

² Year 2011 is the first year of operation.

³ Year 2012 is the first year of full Rock-Tenn plant debt service (all costs online).

- ◆ Based on projected costs and revenues, the system appears to continue a need for some “subsidy” either in Processing Payments or excess electricity revenues.
- ◆ To get the subsidy in the \$20 per ton range requires an MSW tipping fee at approximately \$55 per ton, steam sales at \$6.50 per mlb and up, with electrical revenues at \$0.05 per kwh.
- ◆ Expanding the Newport Facility and fueling both Rock-Tenn and the Xcel plants has the lowest projected per ton cost under current assumptions.
- ◆ Using C&D biomass raises the system cost based on current fuel recovery assumptions.

In addition, it should be noted that for each \$0.50 increase in the starting price for steam from Rock-Tenn equates to a projected \$2.31 per ton decrease in the projected processing payment per ton. Also, for each \$0.01 increase in the starting price for electrical sales, the projected processing payment is reduced by \$1.54 per ton. Finally, for every \$1 increase in the starting tip fee, the processing payment is reduced by \$1.03 per ton (the dollar for the tip fee and the assumed 3 percent per year escalation built into the financial analysis).