

## Shared Costs

All the costs noted within this section are shared on an 11/14 basis for Durham and 3/14 for York.

## Capital Costs

Capital costs (\$2008) are summarized below.

<b>Capital Cost Items</b>	<b>Total (\$2008)</b>
<b>Required Basic Items</b>	
Hard Costs	
Site Development	7,136,000
Buildings	14,976,000
Processing Equipment	2,632,000
Ash Storage	2,210,000
Power Block Equipment	84,734,000
	<u>111,688,000</u>
Soft Costs	
Contingency	22,338,000
Engineering/Cont Observations	10,722,000
Permitting	804,000
Surveying and Soils Report (est)	67,000
Construction Management	5,361,000
	<u>39,292,000</u>
<b>Subtotal</b>	<b><u>150,980,000</u></b>
<b>Recommended Optional Items</b>	
Allowance for District Heating Capability	
Incremental Costs for Extraction Turbine	2,560,000
Heat Exchanger and Onsite Piping	1,229,000
Piping to Customers	650,000
Subtotal for District Heating	<u>4,439,000</u>
Full EU Compatibility	1,536,000
Dioxin Sampling	180,000
Contingency Odour Control Enhancement	2,048,000
Allowance for Enhanced Architectural Features	9,000,000
Viewing Gallery	1,024,000
Education Center	512,000
Contingency for Site Improvements	10,200,000
Differential Costs for System Redundancy	17,699,000
<b>Subtotal</b>	<b><u>46,638,000</u></b>
<b>Recommended Base Case</b>	<b><u>197,618,000</u></b>

## Operating Costs

Operating costs (\$2008) are summarized below.

Operating and Maintenance Cost Items	Total (\$2008)
<b>Required Basic Items</b>	
Labour	2,941,000
Annual Maintenance & Repair	2,159,000
Major Repair and Replacement Cost	996,000
Utilities & Reagents	1,559,000
Rolling Stock O&M Cost	112,000
Miscellaneous Cost	787,000
	<u>8,554,000</u>
Property Tax to Clarington	968,000
Process Residual Haul & Disposal	4,264,000
Profit and Contingency	1,702,000
	<u>6,934,000</u>
<b>Subtotal</b>	<b>15,488,000</b>
<b>Recommended Optional Items</b>	
Allowance for District Heating Capability	
Incremental Costs for Extraction Turbine	92,000
Heat Exchanger and Onsite Piping	11,000
Piping to Customers	13,000
Subtotal for District Heating	<u>116,000</u>
Full EU Compatibility	472,000
Dioxin Sampling	81,000
Contingency Odour Control Enhancement	33,000
Allowance for Enhanced Architectural Features	187,000
Viewing Gallery	125,000
Education Center	13,000
Contingency for Site Improvements	-
Differential Costs for System Redundancy	400,000
<b>Subtotal</b>	<b>1,427,000</b>
<b>Recommended Base Case</b>	<b>16,915,000</b>

## Revenue Assumptions

Electricity revenue is assumed to be \$0.08 / kWh and is based on pricing proposed in the draft Clean Energy Standard Offer Program.

Recyclable revenues are assumed as presented below. Please note that these revenues are not inflated and remain flat throughout the forecast period.

- Aluminium @ \$2700/tonne (.076% of waste); and
- Ferrous @ \$270/tonne (2.6% of waste).

No revenues have been assumed for GHG credits or from District Heating / Cooling customers.

## Start of Construction and Operations

The timing of cash flow assumes a Construction Start in June 2010 and beginning of operations in April 2013. The operating term is 25 years. It should be noted that this schedule:

- Differs from the proposed EFW schedule as it presents a 'worst-case' scenario; and
- The actual start for construction and operating would be as provided by the Preferred Vendor.

### **Payments to Preferred Vendor During Construction**

The payments during construction are assumed to occur at three milestones. It is assumed that the Private Vendor will finance its obligations between performance payments using an interest rate of 6.5%. The final number of milestone payments will be defined in the design-build-operating contract and are expected to be between 5 and 6; therefore, the assumptions noted above are conservative.

### **Waste Forecast**

The Regions' waste forecast noted above is combined with 20,000 tonnes per year from York Region. The capacity of the EFW is 140,000 tonnes – in years where the forecasted waste is below this capacity, it is assumed that additional waste from other sources will be deposited at a disposal fee (tipping fee) of \$55 / tonne (\$2008) which is not inflated annually. This fee which is consistent with local commercial assumptions. In years where waste exceeds the capacity, diverted waste is disposed using Other Ontario Landfill assumptions.

### **Process Residual Haul and Disposal Costs**

For rejects (0.8% of waste input), haulage costs are \$28.16 / tonne (EFW to Warwick, 32 tonne trailer) and disposal costs are consistent with Other Ontario Landfill options.

Bottom ash haul and disposal (23.4% of waste input) costs are assumed to be total of \$75.00 per tonne based on a split of \$23.47/tonne for Haulage (EFW to Warwick, 40 tonne trailer) and a disposal cost of \$51.53/tonne – this cost is based on similar commercial arrangements and reflects that this waste is cheaper than typical waste because it is more compact, does not leach and has uniform consistency.

Fly ash haul and disposal (4.03% of Waste Input) is classified as environmentally hazardous waste and is assumed to cost \$300.00 per tonne (\$100.00 for haulage + \$200.00 for disposal).

It should be noted that bottom ash may be used as a pavement aggregate in the future. York and Durham can explore establishing a program for possible use as a pavement aggregate (10 yrs +/- allowing some time for research and integration), which provides the opportunity for future cost savings.

### **Construction Inflation**

Construction inflation has been assumed to be 4% per year over the construction period. It is based on an assessment of the Toronto construction material and labour market.

### **Currency Assumptions**

For capital costs that originate in \$US, the value of the Canadian dollar to the US dollar is assumed to \$0.98, as of the date of the original cost estimate provided by HDR Engineering (March 28, 2008).

### **Commodity Taxes**

PST is assumed to be covered in cost estimate, while GST is not included as it is a flow-through expense.