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RECOMMENDATION OF PREFERRED VENDOR FOR DURHAM YORK ENERGY FROM WASTE FACILITY

The Solid Waste Management Committee recommends the adoption of the recommendations contained in the following report dated April 30, 2009, from the Commissioner of Environmental Services and the Commissioner of Finance.

1. RECOMMENDATIONS

It is recommended that:

1. Council approve Covanta Energy Corporation as Durham and York Regions' preferred vendor under Request for Proposals RFP 604-2008 issued on behalf of the Regions' and approved by Durham Council on April 22, 2009 to enter into a stand-alone Early Works Agreement at a cost not to exceed \$428,875 as York Region's share according to the terms of the Memorandum of Understanding.
2. Council authorize staff to work with Durham Region staff to negotiate with Covanta Energy Corporation the terms of the agreement for Design, Build and Operation of the energy from waste facility. Staff will report back on these negotiations. Staff will also report back with a recommendation on executing the agreement for Design, Build and Operation of the energy from waste facility following Ministry of the Environment approval of the Environmental Assessment.
3. Council authorize the following consulting contracts/extensions within the existing approved energy from waste facility component of the 2009 Solid Waste Management Business Plans and Budgets shared with Durham Region according to the terms of the Memorandum of Agreement:
 - a. Up to a total of \$400,000 as York's share for the Regions' technical consultant HDR Corporation in support of Early Works tasks and continued project technical oversight and advice; and,
 - b. Up to \$600,000 as York's share for Environmental Assessment consultant Genivar/Jacques Whitford to complete the Environmental Assessment process, including Environmental Assessment and Environmental Protection Act site and technology specific studies and documentation Environmental Assessment and Environmental Protection Act approvals process.

2. EXECUTIVE SUMMARY

York is a leader in recycling and diversion in the Province, projecting 59% diversion in 2009 through significant successes in the Blue Box program and securing long term contracts for composting Source Separated Organics. The program is optimized through the four levels of the Waste Management Hierarchy. After reducing, reusing, and recycling, we must focus our efforts on recovery of energy through sustainable residual waste management options.

In June 2005, York and Durham Regions established a partnership to seek local solutions to responsibly manage residual waste. Considerable time, money and resources have been invested to progress to where we are today. Durham and York are entering the final stages of completing an individual Environmental Assessment and recommending Covanta as the preferred vendor for the Early Works phase for design, build, and operation of an energy from waste solution.

An extensive site selection process was conducted and identified a site in Clarington, located near Osbourne Road and Highway 401 in Durham Region, as the preferred location for a proposed energy from waste facility. The preferred site was endorsed by both Councils.

A competitive procurement process for vendor selection and Environmental Assessment proceeded on parallel tracks to expedite delivery of this critical project. A fairness consultant provided oversight throughout the process to ensure fairness and consistency and to ensure the evaluation process adhered to the pre-determined evaluation criteria.

Five vendors were prequalified through a Request for Qualification process and we have proceeded to the Request for Proposal stage to select a contractor to design, build, operate and maintain the energy from waste facility. Four proponents responded including: Covanta Energy Corporation, Green Conversions Systems LLC, Wheelabrator Technologies Inc., and Urbaser SA.

A multi-disciplinary team evaluated the four proposals. The team consisting of Durham and York Region staff received support from technical consultants HDR Corporation, and financial consultants Deloitte & Touche LLP during deliberations. In order to ensure confidentiality and to maintain the integrity of the process, all staff and consultants involved in the process signed confidentiality agreements.

Technical evaluation focused on providing the best technology and the highest level of environmental protection achievable. Evaluators unanimously agreed that Covanta achieved the highest aggregate score and also achieved the highest score in each individual assessment category; technical, project delivery, and cost and commercial elements of the Request for Proposal.

York's interest in energy from waste enhances security, diversification and stability of the Region's long range waste management program. York and Durham will share equally the costs related to completion of the Environmental Assessment Study and pre-engineering costs associated with procurement and obtaining Certificates of Approval. York has agreed to the principle of sharing 50% of Environmental Assessment and pre-design engineering costs estimated to be \$1,430,000 and 21.4% of capital costs following successful completion of Early Works, estimated to be \$52,450,000.

3. PURPOSE

This report presents a description of the evaluation process, financial and technical considerations followed by staff, and a recommendation for Council to approve Covanta Energy Corporation as the preferred vendor to commence a stand-alone Early Works contract to assist with completion of the Environmental Assessment. Concurrently, Durham and York staff will jointly negotiate with Covanta to finalize details of a Project Agreement to Design, Build and Operate the energy from waste facility. Following these negotiations staff will report back to Council with a recommendation on entering into a contract with Covanta. The Project Agreement to Design, Build and Operate the energy from waste facility would not be executed until Ministry of the Environment approval of the Environmental Assessment has been received. The project schedule as currently defined anticipates that this will occur in January 2010.

4. BACKGROUND

A business case analysis of the Durham York energy from waste project was prepared by Deloitte & Touche LLP. The business case analysis reflects York Region's perspectives and interests to participate in the project, building upon a similar business case analysis prepared by Deloitte & Touche for Durham Region in 2008. The following outlines the sustainability and commercial viability methodologies used to analyse the energy from waste business case.

York Region's Sustainability Strategy

York Region has established a sustainability strategy in order to integrate the values of the economy, the environment and community into its business planning and decision making processes. The following is the core rationale supporting York's Sustainability Strategy:



“...The Sustainability Strategy is intended to provide an integrated, innovative and long-term view. In this way, we can fully evaluate our decisions and strengthen our environment, economy and communities. To achieve this, the seemingly inconsequential choices of everyday life, as well as our important long-term decisions require a different level of awareness.” (York Region, Sustainability Strategy, Towards a Sustainable Region. Adopted by Regional Council in November 2007)

The principles of York’s Sustainability Strategy have provided a foundation for decision making in every aspect of York’s involvement in the energy from waste project.

Towards a more Sustainable Solid Waste Management System

In progressing towards increased long-term sustainability, York’s integrated waste management hierarchy as illustrated below in Figure 1 encourages:

- 1) **Reduction** of packaging and improved handling options to prevent waste generation.
- 2) **Re-use** of products and materials to maximize their useful life.
- 3) **Recycling** of materials to reduce consumption of new raw materials.
- 4) **Recovery** of energy and recyclable materials to minimize reliance on landfills.

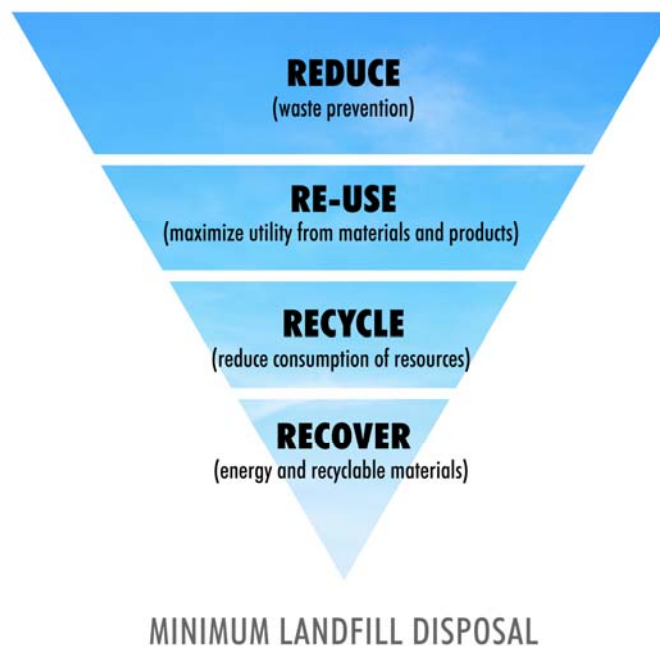


Figure 1: York Region’s Sustainable Waste Management Hierarchy

This inverted pyramid emphasizes that primary sustainability benefits result from expending greatest efforts at the top of the hierarchy in preventing generation of waste at source. Through leadership and advocacy efforts with other municipalities, government agencies and stakeholders, York is working to shape waste management policies and to advocate for extended producer responsibility for products and packaging. York also conducts frequent events with re-use partners including Habitat for Humanity and has integrated a re-use module into our new Community Environmental Centres.

York has a Joint Waste Diversion Strategy, developed with its nine local municipalities, which endorses recycling as a fundamental diversion activity. York and the local municipalities cooperate in development of education programs to increase public participation in diversion programs and to raise awareness of sustainable consumer choices.

York is a leader in recycling and diversion, projecting 59% diversion in 2009 through its successful Blue Box program and contracts for composting of Source Separated Organics and Leaf and Yard wastes. Opening of Community Environmental Centres, starting in 2009, will provide greater opportunity for public participation in diversion of waste materials.

Although energy from waste technologies are not formally recognized as “diversion” by Waste Diversion Ontario at this time, consistent with its sustainability strategy York has committed to recovery of materials and energy from the majority of its residual waste stream. The Dongara Pelletization Plant in Vaughan provides a local solution facilitating recovery of energy from waste by converting residual waste materials into fuel pellets.

The proposed energy from waste facility aligns with York’s sustainability strategy

In completing York’s business case analysis Deloitte & Touche evaluated the energy from waste project in the context of the nine sustainability principles defined by York and it was concluded that the “...*Energy From Waste proposal is strongly aligned with the Region’s Sustainability Strategy.*”

Consistent with comments received from the public during the course of the Durham-York Environmental Assessment study, top priority has been placed on protection of human health and the environment. During development of the Request for Proposals and associated technical specifications, the project team focused on the theme of sustainability realized through establishing industry leading standards for environmental performance, energy efficiency and water conservation. Technical performance requirements for the energy from waste facility incorporate emission criteria that surpass Ontario’s existing limits in *Guideline A-7: Combustion and Air Pollution Control Requirements for New Municipal Waste Incinerators* and the European Union limits.

The Environmental Assessment study includes an initial generic health impact assessment perspective and a considerably more rigorous examination of site specific and technology specific human health and ecological impact. As further assurance, the energy from waste Request for Proposal includes requirements for proven, advanced technology for air pollution control and monitoring as well as stipulating financial contractual provisions to reward operations that further reduce emissions providing a tangible incentive for on-going achievement of performance excellence. This financial incentive to pursue operational excellence is reinforced by Regional ownership of the facility to ensure that the primary community-based objective of protection of human health and the environment remains top priority.

The evaluation criteria established for selection of a preferred energy from waste proposal placed a higher priority on environmental and performance considerations than on financial factors. The energy from waste solution reduces overall carbon emissions by providing electrical generation using wastes that would otherwise produce methane in a landfill. Shorter haul distances, compared with Michigan based solutions further reduce carbon emissions and operation of a facility in Durham provides local employment.

In future phases, hot water from process cooling may be used to provide district heating to development in the Clarington Energy Park, offsetting the requirement for individual natural gas heating and providing an additional source of revenue. Realizing the potential for future recycling of bottom ash as a gravel substitute in construction would further increase diversion from landfill disposal and reduce costs.

York partners with Durham to seek sustainable solutions for residual waste

On June 23, 2005, Council agreed to partner with Durham Region to undertake an Individual Environmental Assessment (IEA) to study residual waste management options for the two Regions. The Environmental Assessment evaluated a wide range of technology options for residual waste management and selected energy from waste as the preferred approach. On June 22, 2006, Council approved the identification of two thermal waste treatment technologies, mass burn incineration and pre-processing waste before gasification/incineration as the preferred waste management alternatives. Staff were directed to proceed with the next step in the Individual Environmental Assessment project.

Site selection process including public consultation identifies Clarington as the preferred location for a proposed energy from waste facility

Extensive consultation has been undertaken at major steps and decision points in the Environmental Assessment study and reflect the values and priorities of the public and various stakeholders. On March 29, 2007, Council adopted a short-list of potential sites for an energy from waste facility as part of the Durham York Residual Waste Environmental Assessment Study.

On September 25, 2007, evaluations of a short-list of sites was presented to the Joint Waste Management Group, which initiated the public and government agencies consultation process on the selection of a preferred site for the energy from waste facility. The siting component of the Environmental Assessment included evaluation and weighting of a wide variety of local considerations for candidate properties in both Regions.

The Clarington 01 Site, located near Osbourne Road and Highway 401 in Durham was selected as the preferred location for an energy from waste facility based on a relative balance of advantages over disadvantages in comparison to other candidate sites. On January 24, 2008, Council approved the Clarington 01 site in Durham Region as the preferred location for the Durham / York energy from waste facility for submission to the Ministry of the Environment as part of the Individual Environmental Assessment (IEA).

Durham and York entered into a partnership to complete Environmental Assessment and develop Request for Proposal

On July 12, 2007, the procurement process began. Durham Purchasing, on behalf of Durham and York Regions, issued RFQ 601-2007 requesting potential thermal treatment process vendors to submit statements of qualification and descriptions of their project team and proposed facilities. An evaluation team consisting of Legal, Purchasing and Technical staff from both Regions reviewed the submissions. On January 24, 2008, Council endorsed a short-list of pre-qualified vendors of thermal waste treatment technologies and the subsequent issuance of a Request for Proposals by Durham Region for the design, construction and operation of a thermal waste treatment facility subject to Durham Council's approval.

On August 22, 2008, Durham Purchasing sent a request for proposals to the five vendors pre-qualified through the RFQ process:

- i. Covanta Energy Corporation
- ii. Green Conversions Systems LLC (formerly WRSI/DESC Joint Venture; Fisia Babcock Environmental GmbH; Kiewit Industrial Company; Morgan Stanley Biomass LLC; Babcock & Wilcox)
- iii. Veolia Environmental Services Waste to Energy Inc.; AMEC/Black & McDonald
- iv. Urbaser SA
- v. Wheelabrator Technologies Inc. (A Waste Management Company)

Competitive procurement process for vendor selection and Environmental Assessment proceeded on parallel tracks

In order to complete the Environmental Assessment process, Durham and York needed to identify and retain a vendor and incorporate the proprietary Core technology elements from their proposed energy from waste facility with the site specific evaluations required to support the Environmental Assessment submission. If York and Durham Councils both approve Covanta as the selected vendor, the vendor will assist the Regions' consultant in completing the Environmental Assessment submission and, following submission, commence design work to support Certificate of Approval submissions for the proposed facility.

Following approval of the Environmental Assessment by the Minister of the Environment and granting of the Certificates of Approval, Covanta can then begin detailed design, procurement and construction work.

On August 22, 2008, Durham's Supplies and Services Branch issued a "Request for Proposal, for Design, Construction, Operation and Maintenance of an energy from waste facility" to the five pre-qualified Vendors on behalf of Durham and York.

On October 23, 2008, Council endorsed the principles for evaluation of proposals for the design, construction and operation of the proposed Durham York energy from waste facility.

Durham Purchasing extended the original closing date for submissions from January 15, 2009 to February 19, 2009 to accommodate vendors' requests for additional time due to the complexity of the project. Four proponents responded:

- i. Covanta Energy Corporation
- ii. Green Conversions Systems LLC
- iii. Wheelabrator Technologies Inc. (A Waste Management Company)
- iv. Urbaser SA

5. ANALYSIS AND OPTIONS

EVALUATION PROCESS

Evaluation pre-planned and rigorously monitored to assure fairness

Based upon current best practice and considering the magnitude and complexity of the project, the entire Request for Proposal process was subjected to rigorous due diligence rules and procedures consistent with common best practices applied by major provincial and federal infrastructure procurement agencies across Canada to ensure integrity and an ability to withstand any challenge of impropriety.

KPMG provided oversight throughout the process including the evaluation to ensure fairness, consistency and that the evaluation adhered to the pre-determined evaluation criteria. On April 8, 2009, KPMG verbally reported that they believed that Durham and York had conducted an open, fair, consistent and accountable process. They will issue a formal report in the near future that will form part of the evaluation process record.

After closing, but prior to the team's evaluation, Durham Purchasing requested confirmation from all Proponents that they would sign the Project Agreement substantially in the form provided within the Request for Proposal. During the evaluation process clarifications were requested and received from all proponents on specific technical issues.

HDR and Deloitte and Touche provided technical and financial support to staff evaluators

A multi-disciplinary evaluation committee, consisting of representatives from the Durham Region Works and York Region Environmental Services Departments and Durham Finance, evaluated the four proposals. Technical consultants, HDR Corporation, and financial consultants, Deloitte & Touche LLP, assisted the evaluation team in their deliberations. Staff from Durham Purchasing and Legal provided day to day advice, guidance and assistance to the evaluation team. In order to ensure absolute confidentiality and to maintain the integrity of the process, all staff and consultants involved in the process signed confidentiality agreements.

Technical evaluation focussed on providing best technology and highest level of environmental protection achievable

On Wednesday, May 28, 2008, Durham Regional Council endorsed the Joint Waste Management Group resolution requiring the successful proponent to ensure incorporation, into the design and installation of the energy from waste facility, the most modern and state of-the-art emission control technologies including the requirement that the system:

- i. Meet or exceed the European Union (EU) monitoring and measurement standards;
- ii. Commit to Maximum Achievable Control Technology (MACT) for emission standards and monitoring;
- iii. Include provisions for continuous sampling of dioxins in addition to stack testing, as defined by EU2000/76/EC and MOE A-7 guidelines; and,
- iv. Demonstrate the ability to design, build and operate a base energy from waste facility with 140,000 tonnes of operating waste throughput capacity at project with a demonstrated ability to accommodate future expansion to accommodate post-diversion residual waste volume growth up to a maximum capacity of 400,000 tonnes.

In early May 2008, Durham and York staff met with the MOE Assistant Deputy Minister and agreed to performance parameters for an Air Emission Limits table for the proposed EFW. Staff submitted the Air Emissions Limit table to the MOE following adoption by Joint Waste Management Group, Durham Council on May 18, 2008 and York Region Council on June 19, 2008.

On March 13, 2009, MOE released a new proposal suggesting changes in the scope of the A-7 Guideline, imposing more restrictive limits for dioxins and furans and expressing them in a different manner than the Air Emission Limits table submitted for the energy from waste project. The proposed guideline changes also imposed lower limits for organics and new limits for carbon monoxide and opacity. The evaluation team notified proponents of these changes and received no indication from any proponent that they would adversely affect the submitted proposals. The proposed changes do not represent a “new” guideline but form the basis for discussion between MOE and stakeholders as part of the Environmental Bill of Rights process. MOE will consider their guideline and the table of emissions in determining operational limits on the Certificate of Approval for the energy from waste facility.

The Request for Proposal and subsequent addenda required that proponents’ designs provide:

- i. A single or dual line system with a minimum of 90% operational availability;
- ii. Zero process water discharge from the facility; and,
- iii. Maximized energy production for use both as superheated steam used to generate electricity and to provide hot water for district heating for use in the Courtice Water Pollution Control Plant and the Clarington Energy Park.

Evaluation focused on Technical, Project Management and Commercial considerations

To preserve confidentiality, submissions were evaluated over two weeks at an undisclosed location remote from either regional office. Four evaluators representing technical and procurement staff from Durham and York Regions scored the proposals according to approved evaluation criteria in the categories shown in Table 1.

Scoring of the proposals was based upon a maximum of 100 points. Prior to the evaluation process, the Evaluation Team and the Fairness Monitor (KPMG) “locked-down” the detailed scoring factors that would be applied during the evaluation. In addition, the Evaluation Team and KPMG agreed that the proposal with the highest aggregate score would be recommended to Regional Council.

Table 1
Criteria Used to Evaluate Proposals

Technical Elements		45 points
Environmental considerations	25 points	
Design, Construction and Operational Considerations	15 points	
Innovations in Environmental Performance, Design, Construction and Operational Considerations	5 points	
Project Delivery		20 points
Schedule and Cost Control	6 points	
Control of construction impacts; QA/QC; and environment, health and safety and community relations plans	6 points	
Team Organization and Qualifications	2 points	
Schedule for obtaining all necessary approvals and permits	6 points	
Cost and Commercial Considerations		35 points
Development of an EXCEL financial model consistent with the RFP	5 points	
Project cost, including capital investment, operating costs and revenue from electricity and recovered metal sales	20 points	
financial capacity and condition of the project guarantor and reasonableness of other guarantees	10 points	
	Total	100 points

Covanta Energy Corporation provided best proposal in all categories

The evaluation resulted in Covanta achieving not only the highest aggregate score but also the highest score in each of the three elements outlined in the RFP (technical, project delivery and cost and commercial considerations). On April 22, 2009, Durham Regional Council endorsed the evaluation team's unanimous recommendation of Covanta Energy Corporation as the preferred proponent.

Pending successful completion of the early works and receipt of approval for the Environment Assessment. Covanta proposes operating as a single source, full service contractor to design, permit, build, startup, commission and operate a 140,000 tonne per year energy from waste facility for the Regions of Durham and York. Covanta is the largest provider of energy from waste services in North America with 35 operating facilities in the United States, including 24 that were designed and built directly by Covanta. Covanta will serve as the overall project coordinator with the responsibility for directing the design, engineering, procurement of equipment, and construction of the proposed energy from waste facility. The Covanta Team includes: Aecon Group, Inc. (Construction Services); Sigma Energy Solutions (Engineering); McMillan Associates (Architects); CH2M Hill (Environmental Consultant); and Miller Waste Systems (Waste Disposal/Transportation). Martin GmbH (Martin) will serve as Covanta's EFW technology partner. Martin supplied the technology that is currently used at 22 of Covanta's facilities, as well as numerous facilities in Europe.

Covanta's proposed approach incorporates modern technology that meets or exceeds all of the leading-edge, stringent environmental performance requirements for the facility. Covanta proposes a dual train system with a total capacity of 140,000 tonnes per year that incorporates their proprietary Very Low NO_x (VLN™) system; a Selective Non-Catalytic Reduction (SNCR) system with aqueous ammonia injection for additional NO_x control; powder activated carbon (PAC) injection for mercury and dioxins control; a spray dryer absorber (SDA) for acid gas control; and a fabric filter baghouse for particulate and heavy metals removal.

BUSINESS CASE ANALYSIS

Key business strategy and commercial considerations of the Durham York energy from waste project

As a municipally-owned partnership, the Durham York energy from waste project offers the long-term security of a sustainable waste management option within the public sector's control. Retaining Regional ownership and control reduces reliance on third party contractors and provides the Region with the ability to respond directly to the dynamics of regulatory change, market conditions and other factors that could potentially influence reliable provision of waste management services.

Joint participation in the energy from waste project with Durham Region also provides York with important diversification within the context of a sustainable waste management system. The Durham York energy from waste project provides a long-term option to augment and complement York's other commitment to energy from waste through the Dongara pelletization process. Maintaining a diversified approach is an important element of a prudent long-term waste management strategy and allows flexibility to respond to change.

Maintaining a degree of Regional ownership and control, along with diversification of residual waste management options are important business principles supporting long-term security of a reliable waste management strategy for residents of York Region.

York responsible for 50% of Environmental Assessment and pre-design engineering costs and 21.4% of capital costs

It is a principle of the joint Durham York Residual Waste Environmental Assessment project that York and Durham will share equally (i.e. 50:50) the costs related to completion of the Environmental Assessment Study and pre-engineering costs associated with procurement and obtaining Certificates of Approval.

The design waste processing capacity for the proposed initial phase of construction of the energy from waste facility has been established at 140,000 tonnes per year. This design capacity assumes a base load of 120,000 tonnes per year of waste provided by Durham and York with an additional 20,000 tonnes per year of shared surplus capacity.

Shared surplus capacity will be available for utilization or exchange between the Regions by prior agreement, as may be necessary to meet the changing needs of each of the Regions. Should there be times when the Regions do not fully utilize this shared capacity, they will have the option to fill-in with small quantities of suitable industrial, commercial and institutional waste accepted at the prevailing market price.

To establish the basis for capital cost and facility ownership sharing, York Region has agreed to a financial contribution of 21.4% of the capital costs based on a waste contribution of 20,000 tonnes per year to the facility's base load capacity, plus ownership of 10,000 tonnes per year of the surplus capacity. York's share of the surplus capacity does not represent a tonnage commitment. York will have the right to increase its ownership share of the facility by expansion of the facility in the future, if necessary, to meet York's long-term residual waste management needs.

Summary of Early Works

If Council approves Covanta Energy Corporation as the Regions' preferred vendor, Covanta will begin the "Early Works" phase of the project. In this phase, Covanta will work with Regional staff and their consultants to complete the required site and process specific studies required for submission of the Environmental Assessment documentation. Jacques Whitford will have the completed Environmental Assessment documentation ready for submission to the Ministry of Environment at the end of June 2009 and currently estimates completion of the Ministry's Environmental Assessment review by the end of 2009.

Covanta bid a cost not to exceed \$857,750 for the stand-alone Early Works Agreement with Covanta Energy Corporation at a cost, shared with Durham Region. Early Works costs include up to \$290,000 for Enhanced Architectural Conceptual Design options for consideration by the Regions and the host Municipality of Clarington. Covanta's architects will use these funds to develop three additional architectural renderings of the facility to improve its appearance over the basic facility proposed.

Concurrent with the start of the Early Works tasks, staff will also be negotiating detailed terms of the Project Agreement with Covanta for consideration by Regional Councils following the successful completion of Phase 1 of the overall project which includes obtaining all required permits and approvals and successful completion and approval of the Environmental Assessment.

6. FINANCIAL IMPLICATIONS

New HDR contract and extension to Jacques Whitford contract required for completion of Phase 1 Early Works

Completion of the Early Works phase requires the following consulting contracts and extensions and budget reallocations within the existing approved energy from waste component of the 2009 Solid Waste Management Capital Budget. These costs are shared 50/50 with Durham Region according to the terms of the Memorandum of Understanding and include:

- i. Up to a total of \$800,000 for the Regions' technical consultant HDR Corporation in support of Early Works tasks and continued project technical oversight and advice; and,

- ii. Up to \$1,200,000 for Environmental Assessment consultant Genivar/Jacques Whitford to move from Phase II to Phase III of the Environmental Assessment process, including Environmental Assessment and Environmental Protection Act site and technology specific studies and documentation, and with authorization to enter into an expanded contract with Genivar/Jacques Whitford including a scope of work consistent with finalization of Phase III of the Environmental Assessment and Environmental Protection Act approvals process.

Energy from Waste represents a sound investment for a long term sustainable waste management solution

Beyond the initial 20 year period the energy from waste will provide a sustainable solution for some of York's residual waste at a very competitive price. If provincial or federal up front funding is available, some of these initial costs can be offset. Table 2 summarizes the estimated capital and operating costs for the energy from waste facility in 2009 dollars based on analysis provided by Deloitte and Touche.

Table 2
Business Case Assumptions

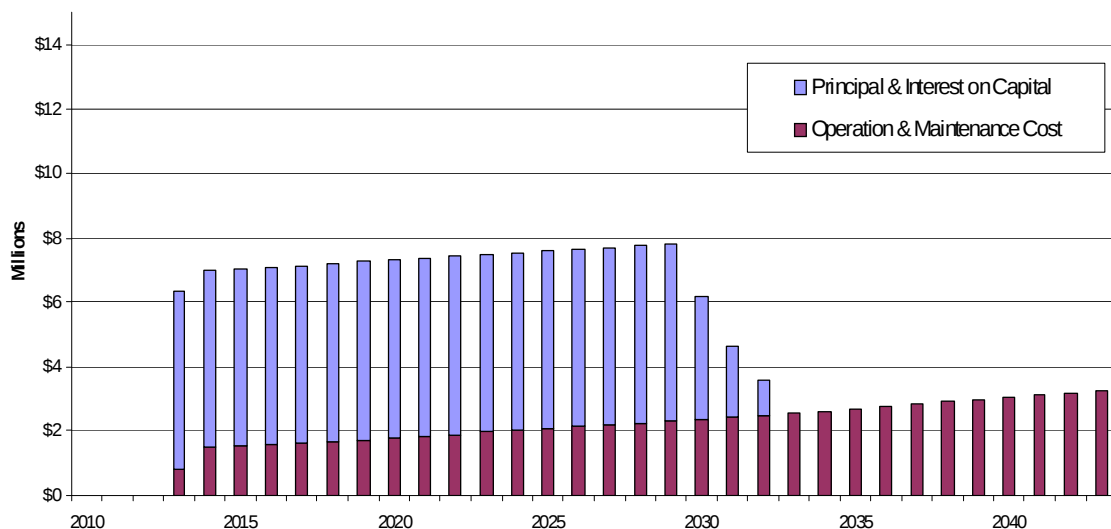
Category	Value	Comment
Electricity Rate	\$80.00 / MWh	Pending Power Purchase Agreement
Net Electrical Generation	767 kWh/tonne	Guaranteed
Inflation Rate	2%	
Interest Rate	5%	
Capital Cost of EFW	\$235,759,000	Capital Cost exclusive of GST
Architectural Enhancements	\$9,000,000	Includes design in early works phase
Gross Annual Operating Cost	\$14,665,000	April 2009 dollars
Net Electricity Revenue	(\$8,590,400)	Assuming 140,000 tonnes/year
Recovered Metal Revenue	(\$258,825)	April 2009 prices
Net Annual Operating Cost	\$5,815,775	April 2009 prices
Net Operating Cost per tonne	\$41.54	April 2009 dollars
	\$58.63	2014 dollars

The gross annual operating cost noted above includes approximately 25% for preventive maintenance and contribution to a major capital equipment replacement fund to preserve the asset value of the facility over the long-term.

Figure 2 presents a graphic representation of the capital investment, debt repayment and operating costs over the next 30 years. Capital investments take place in four annual “tranches” from 2010 to 2013 with expenditures in the first two tranches representing mainly construction start up costs and pre-payment for power block equipment manufactured offsite. Capital repayment takes place over the next 20 years for each tranche ending in 2033. Operational costs start in the second half of 2013 and escalate relative to inflation indicators such as the CPI. For this model, Deloitte and Touche did not escalate electricity revenues from the initial 8.0¢/kWh.

In the initial operating year, the unit cost of the energy from waste facility totals \$233/tonne comprised of \$42/tonne for operation & maintenance plus \$191/tonne for repayment of principal and interest on the capital debt.

Figure 2: York Region’s Share of Forecast Capital Investment, Debt Repayment and Operating Cost



Extension of the tonnages, unit cost projections and application of corporate costs in Table 3 results in calculation of the following fully burdened, blended unit cost snapshots for York’s waste management system:

Table 3
Comparison of Waste Management Cost Projections

Waste Management Option (Unit Costs)	2010 Tonnes	2020 Tonnes		2035 Tonnes	
		(Without Durham York EFW)	(With Durham York EFW)	(Without Durham York EFW)	(With Durham York EFW)
Blue Box (\$24 to 40/tonne)	97,000	121,000	121,000	150,000	150,000
Source Separated Organics (\$154 to 253/tonne)	98,000	130,000	130,000	162,000	162,000
Leaf & Yard Waste (\$67 to 110/tonne)	34,000	41,000	41,000	51,000	51,000
HHW & Other (\$604 to 991/tonne)	6,000	7,000	7,000	9,000	9,000
CECs (\$153 to 251/tonne)	8,000	24,000	24,000	24,000	24,000
Waste to Landfill (\$96 to 157/tonne)	34,000	48,000	28,000	82,000	52,000
Waste to Dongara (\$123 to 202/tonne)	100,000	100,000	100,000	100,000	100,000
Waste to Durham York EFW (NA, \$280/tonne, \$111/tonne)	0	0	20,000	0	30,000
Projected Annual Waste Management Cost	\$40,229,000	\$61,788,000	\$65,050,000	\$100,586,000	\$99,017,000
Blended Unit Cost (per tonne)	\$107	\$131	\$138	\$171	\$174
Taxpayer Impact (per household)	\$133	\$162	\$171	\$199	\$203

7. LOCAL MUNICIPAL IMPACT

Proceeding with the Durham York energy from waste facility will allow York Region to provide a localized solution for residual wastes generated in our nine local municipalities. York will continue to partner with the local municipalities to increase waste diversion and to reduce waste management costs consistent with York's Sustainability Strategy.

8. CONCLUSION

The energy from waste project represents a sustainable capital investment that enhances security, diversification and stability of York Region's long range waste management program. Technical evaluation of vendor proposals focused on providing the best technology and the highest level of environmental protection achievable to York and Durham's communities. Despite a higher cost per tonne in the early years, a municipally-owned energy from waste facility will provide York Region with a local environmentally sustainable residual waste solution at rates well below long term projected rates.

For more information on this report, please contact Laura McDowell, Director Environmental Promotion and Protection at Ext. 5077.

The Senior Management Group has reviewed this report.