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DURHAM YORK ENERGY FROM WASTE PROJECT UPDATE

The Environmental Services Committee recommends the adoption of the recommendations contained in the following report dated September 7, 2010, from the Commissioner of Environmental Services.

1. RECOMMENDATION

It is recommended that:

1. The Regional Chair and CAO be authorized to execute the Design-Build-Operate agreement with Covanta and the Co-Owners Agreement with Durham Region in general accordance with the principles outlined in this report and subject to approval of the Individual Environmental Assessment by the Minister of the Environment.
2. The total project budget authority for capital works be increased from \$54 million dollars to \$68.3 million including an allowance to accommodate pending Conditions of Approval from the Ministry of the Environment as well as updated project components.

2. PURPOSE

The purpose of this report is to provide an update on the progress of the Durham York Energy from Waste project and obtain approval for the revised total project budget authority and execution of project agreements.

3. BACKGROUND

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 to study residual waste management options for the two Regions. Council established a Joint Waste Management Group with representation from both Regional Councils and citizens to serve as a steering committee for the initiative. On March 31, 2006, the Ministry of the Environment approved the Terms of Reference for the Individual Environmental Assessment.

The first stage of 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.

Clarington identified as preferred facility location

Extensive public consultation was undertaken at major steps and decision points in the Environmental Assessment study and reflected the values and priorities of the public and various stakeholders. On March 29, 2007, Council adopted a short-list of potential sites for the energy from waste facility as part of the Durham York Residual Waste Environmental Assessment Study. The site selection process included evaluation of environmental, social, and economic considerations for candidate properties in both Regions. On January 24, 2008, Council approved the Clarington 01 site near Osbourne Road and Highway 401 in Durham as the preferred location for the facility.

Parallel procurement process identifies Covanta Energy Limited as the preferred technology vendor

On July 12, 2007, Durham issued RFQ 601-2007 requesting potential thermal treatment process vendors to submit statements of qualification on behalf of Durham and York Regions. 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 five pre-qualified vendors of thermal waste treatment technologies.

On August 22, 2008, Durham sent a request for proposals to design, build, and operate an energy from waste facility to the five vendors pre-qualified through the RFQ process. Four proponents responded, including:

- i. Covanta Energy Limited
- ii. Green Conversions Systems LLC
- iii. Urbaser SA
- iv. Wheelabrator Technologies Inc.

A multi-disciplinary team from both Regions evaluated the proposals. Evaluators unanimously agreed that Covanta Energy Limited achieved the highest aggregate score and also achieved the highest score in each individual assessment category; technical, project delivery, and commercial elements with the lowest cost of the four proposals.

On May 21, 2009, Council approved Covanta as the preferred vendor for the Durham-York energy from waste project and authorized the expenditure of \$428,875 as York's share of the Early Works component of the work. Council also authorized staff to negotiate terms of the Design-Build-Operate contract with Covanta (the "Project Agreement") and directed staff to report back after receipt of the Ministry of the Environment's (MOE) decision on the Individual Environmental Assessment.

Individual Environmental Assessment submitted to the Ministry in 2009

York Region Council endorsed the Individual Environmental Assessment on June 25, 2009, and authorized staff to make minor modifications to the document as necessary to facilitate the MOE's review process. The Individual Environmental Assessment document was submitted to the MOE on July 31, 2009. Table 1 provides a summary of project milestones and dates.

Table 1:
Project Timeline Estimate

Milestones	Data
Provincially approved EA terms of reference	March 31, 2006
Energy from Waste selected as preferred method	June 22, 2006
Selection of preferred site	January 24, 2008
Selection of preferred vendor	May 21, 2009
EA documentation submitted to MOE	July 31, 2009
Revised EA documentation resubmitted to MOE	November 27, 2009
Negotiation of facility agreements	Ongoing
Notification of EA approval from MOE	Pending
Issue notice to proceed	February 2011
Receive EPA approvals	February 2011
Complete detailed design	July 2012
Complete construction	December 2013
Facility commissioning	January to May 2014
Commercial operation	June 2014

Staff authorized to negotiate Co-Owners Agreement with Durham based on Memorandum of Understanding

On June 25, 2009, Regional Council adopted Clause 1 of Report No. 5 of the Solid Waste Management Committee, Part 2, which authorized Regional Staff to negotiate a detailed Co-Owners Agreement with Durham Region based on the principles outlined in a Memorandum of Understanding that was negotiated between the two Regions. The purpose of the Co-Owners Agreement is to establish a framework for the energy from waste project and principles of the relationship between the Regions during the design, build and operating phases.

Host Community Agreement identifies Clarington as a willing host for the Energy from Waste Facility

On May 11, 2009, Clarington Council approved the Host Community Agreement with the Regions indicating that they would act as a willing host for the energy from waste facility. The Regions committed to protect human health and the environment by

guaranteeing emission standards. In addition, the Host Community Agreement includes shared financial concessions now estimated in the order of \$16 million.

The Host Community Agreement was endorsed by Council on June 25, 2009 and subsequently executed by Durham Region. Implementation of this agreement is subject to approval of the Individual Environmental Assessment by the Minister of the Environment, approval and execution of the Co-Owners Agreement, and approval and joint execution of the Project Agreement with Covanta. There have been no changes to the conditions in the Host Community and Power Purchase Agreements since they were endorsed by Council on June 25, 2009.

Power Purchase Agreement establishes terms for sale of electricity from the energy from waste facility

On June 25, 2009, York Region Council adopted terms negotiated with Ontario Power Authority for the sale of electricity generated by the energy from waste facility to the Ontario power grid. A formal Power Purchase Agreement must be approved by Ontario Power Authority prior to execution. Finalizing the Power Purchase Agreement by the Regions is subject to approval of the Environmental Assessment by the MOE.

York Region's Sustainability Strategy integrates values in decision making process

York Region has established a sustainability strategy to integrate the values of the economy, environment and community into its business planning and decision making processes.

Principles in 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 achieved with implementation of energy from waste

In progressing toward increased long-term sustainability, the Region's integrated waste management hierarchy, as illustrated 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 Region is working to shape waste management policies and to advocate for extended producer responsibility for products and packaging.

York Region is a leader in recycling and diversion, with an unverified rate of 56.9% diversion in 2009. Work continues on developing additional York Region owned assets for processing waste materials to complement the third party waste management processors currently used, as well as to diversify the Region’s program and decrease risk.

Proposed energy from waste facility aligns with York Region’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)

Although energy from waste technologies are not formally recognized as “diversion” by Waste Diversion Ontario at this time, York Region views the recovery of materials and energy from its residual waste stream to be consistent with the principles of the Region’s Sustainability Strategy. Together with the Dongara Pelletization Plant in Vaughan, the energy from waste facility will allow the Region to recover valuable resources from a

waste stream that is not managed by the Region's other programs – material that would otherwise be destined for disposal in a landfill. This aligns with York Region's sustainability strategy.

Evaluation criteria established for selection of the 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 generating electricity using wastes that would otherwise produce methane in a landfill. Shorter haul distances further reduce carbon emissions and operation of a facility in Durham provides local employment. *Attachment 1* contains additional facts regarding environmental, energy benefits and emissions comparisons.

4. ANALYSIS AND OPTIONS

Individual Environmental Assessment status pending notification from Ministry of the Environment

The Individual Environmental Assessment was submitted to the MOE on July 31, 2009. In response to questions raised by the MOE, the Governmental Review Team, and the public, the Individual Environmental Assessment was revised for clarity and re-submitted to the MOE on November 27, 2009. The MOE released their Ministry review on February 26, 2010 and the public comment period to the Ministry review ended on April 2, 2010. It is expected that the Minister of the Environment will release his decision on the Individual Environmental Assessment soon.

Subject to a favourable approval of the Environmental Assessment by the Minister of the Environment and granting of the Certificates of Approval, Covanta could then begin detailed design, procurement and construction work.

Design-Build-Operate agreement negotiations continue with Covanta

Durham and York Region staff continue to negotiate the terms of the Project Agreement with Covanta. The negotiation team continues to make progress towards a final agreement and anticipates that this process will be completed in October. This comprehensive agreement establishes project scope and the relationship between the Regions and Covanta for the duration of the project, covering such topics as:

- Technical requirements as outlined in the RFP
- Requirement to meet MOE Guideline A-7 or European Union environmental standards, whichever is more rigorous
- Contractor's responsibility to obtain all regulatory approvals
- Performance guarantees for annual throughput, electricity generation, recovery of recyclable materials, and environmental compliance

- Operating standards and level of service
- Facility management and maintenance
- Record keeping, inspection, monitoring and reporting requirements, and
- Rigorous holdback requirements to ensure preservation of the Regions' capital investment

The term of the operating contract will be 20 years plus an option to renew for two additional five year terms. The estimated commencement of commercial operations will be June 2014, assuming that notice to proceed is given by February 2011.

Remaining issues under discussion relate to translating the RFP technical requirements into contractual language necessary for the final Project Agreement. Clarification of technical terms of the contract have been agreed to by all parties.

Co-Owners Agreement continues to be negotiated under established guiding principles

Staff have been working with Durham Region to establish a co-ownership agreement based on the principles established in the Memorandum of Understanding and negotiations are nearing completion. The overall principles of the agreement have been agreed to by the parties, but specific details of the agreement continue to be negotiated. The guiding principles of the agreement are as follows:

1. York and Durham shall pay a proportionate share of the capital and operating costs based on their respective ownership of the 140,000 tonnes per year initial processing capacity (30,000 tonnes and 110,000 tonnes, respectively) and corresponding to their respective capital contributions of 21.4% and 78.6%.
2. Each Region will be responsible for its share of the annual operating fee regardless of the actual tonnage delivered.
3. Each Region may loan its unused capacity to the other Region.
4. Each Region will compensate the other for any lost revenue resulting from a failure to deliver its share of the annual facility throughput.
5. York Region has agreed to pay 50% of the cost to oversize certain items to accommodate future facility expansions to accept up to 250,000 tonnes per year.
6. If either party elects to proceed with an expansion of the facility, the other party may be required to contribute to the cost of the upgrades if the upgrades would have otherwise been required within a five year period.
7. The facility shall be governed by a joint committee including representatives from both Regions.
8. The Management Committee will develop and implement a process to address any change orders that may arise during the design, construction, and operation of the facility.
9. The Regions shall jointly employ a full-time, on-site representative during the operations phase of the project.

Staff continue to make progress in negotiating the Co-Owners Agreement

York and Durham staff continue to meet to negotiate the Co-Owners Agreement in accordance with the guiding principles.

Regional Staff anticipate that the final agreement will be reached this Fall. It is recommended that the Regional Chair and CAO be authorized to execute the Co-Owners Agreement and the Project Agreement upon successful conclusion of negotiations and receipt of the Minister's approval of the Individual Environmental Assessment, in general accordance with the principles and updated costs outlined in this report.

5. FINANCIAL IMPLICATIONS

Budget authority increase recommended to address pending Conditions of Approval and updated project components

The total project budget authority for capital works is currently \$54 million. This includes York's share of base facility construction costs, land purchase, and consultant's fees. Council previously approved other project components; however, some of these were not reflected in the total project budget authority including:

- Escalation of construction costs in accordance with the RFP
- York's share of architectural enhancements to the facility
- Host Community Agreement commitments
- Site servicing, and
- York's commitment to share in 50% of the cost to oversize certain items to accommodate future facility expansion

These components were not previously included in the budget because the costs and timing of the components had not been specifically determined. It is recommended that the total project budget authority now be updated to include the estimated cost of these components.

Allowance for MOE conditions provides needed flexibility to execute project agreements

Included in the requested project budget authority increase is an allowance of \$2 million for potential costs associated with the Environmental Assessment and Environmental Protection Agency approvals. MOE approvals for large infrastructure projects of this nature frequently include many Conditions of Approval that add to project costs. Including an allowance for these costs in the project budget authority provides the

Regional Chair and CAO with flexibility to execute the project agreements in the event that MOE Conditions of Approval result in increases to the project scope.

The updated total project budget authority is outlined on Table 2.

Table 2:
Total Project Budget Authority (TPBA)¹

	Existing TPBA	Requested TPBA
Capital Construction ²	\$235,700,000	\$245,900,000
Architectural Enhancements ³		\$9,000,000
Host Community Agreement Commitments ⁴		\$16,000,000
Owner's Engineer	\$5,600,000	\$5,600,000
York Region Subtotal (21.4%)	\$51,600,000	\$59,200,000
Purchase 50% of Site Property	\$2,000,000	\$2,000,000
Contribution to Oversizing to 250,000 tonnes/year ⁵		\$5,100,000
Allowance for MOE Conditions		\$2,000,000
York Region Total	\$53,600,000	\$68,300,000

1. Excludes HST

2. Revised TPBA includes estimated escalation from April 19, 2009 to February 1, 2011 and cost to bring utilities to the site boundary

3. Allowance for architectural enhancements as per the RFP

4. Increase from previous estimate of \$10,000,000 due primarily to increased land expropriation costs

5. Excludes contribution included in York's base 21.4% contribution

Increased capital investment will result in long term cost savings by reducing cost of future facility expansion to 250,000 tonnes per year

The estimated cost of a 50/50 cost share for oversized items to facilitate a future expansion of the facility is estimated at \$5.1 million dollars. Primary drivers of the increase to the project budget authority for oversizing includes:

- Fire protection equipment
- On-site and off-site utilities
- Power substation
- Tipping floor and waste storage pit
- Crane
- Reverse osmosis unit
- Ash storage building and processing equipment
- Stack

Oversizing these items during initial facility construction will result in long term cost savings by reducing the cost of future facility expansion.

6. LOCAL MUNICIPAL IMPACT

Development of the Durham York energy from waste facility will provide viable, diversified and sustainable options for the long term management of York Region's residual waste. York Region will continue to partner with its local municipalities to increase waste diversion and to control long term waste management costs consistent with the Region's Sustainability Strategy.

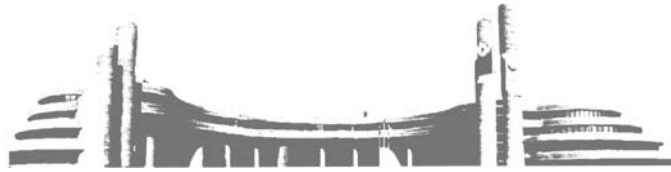
7. CONCLUSION

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 Regions' communities. A municipally-owned energy from waste facility will provide York Region with a local environmentally sustainable residual waste solution.

For more information on this report, please contact Laura McDowell, Director of Environmental Promotion and Protection at (905) 830-4444 Ext. 5077.

The Senior Management Group has reviewed this report.

(The attachment referred to in this clause is attached to this report.)



Fact Sheet

August 2010

Energy-from-Waste (EFW) Facts

Environmental and energy benefits

- The electricity produced by the proposed 140,000 tonne-per-year facility could power approximately 10,000 homes.
- Heat produced by the proposed facility could heat the equivalent of 2,200 homes.
- The EFW facility would result in a reduction of green house gas (GHG) emissions equivalent to approximately 24,000 tonnes of carbon dioxide per year compared to landfilling the same material.

Emissions comparisons

- The annual quantity of nitrogen dioxide emissions from a 140,000 tonne-per-year facility is approximately equivalent to the quantity released from any of the following:
 - 1,300 automobiles each travelling 20,000 kilometres per year
 - 14 diesel trucks each travelling 150,000 kilometres per year
 - 5,000 homes heated with natural gas-fired residential furnaces
 - 3,400 homes heated with fuel oil-fired residential furnaces
- The annual quantity of sulphur dioxide emissions from a 140,000 tonne-per-year facility is equivalent to the quantity released from approximately:
 - 68 diesel trucks each travelling 150,000 kilometres per year
 - 660 homes heated with fuel oil-fired residential furnaces
 - 10,100 homes heated with conventional woodstoves
- The annual particulate emissions from a 140,000 tonne-per-year facility are equivalent to approximately 23 households heating their homes with woodstoves over a one-year period.
- Approximately 10% of global methane emissions from human-related sources are emitted from landfills annually.

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