

To: Board of Management

From: W.A. Rapley
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Subject: **BIOGAS PROJECT UPDATE**

Date: 2010-08-18

Summary:

This report summarizes the response to the Toronto Zoo RFP #07 (2010) – Provision of a Large-scale Biogas Facility at the Toronto Zoo.

Recommendations:

It is recommended that this report be received for information.

Background:

The decision to request a large-scale biogas facility through the Request For Proposal (RFP) process was approved by the Board in October, 2008 based on significant research by Toronto Zoo staff and by several industry experts and consultants. Below is a brief timeline of significant events leading up to the release of the RFP:

- 2009-01: Conestoga Rovers and Associates (biogas experts) was hired to assist with the development of RFP
- 2009-02: Rouge Park Alliance was presented with the conceptual plan and Zoo received approval in principle
- 2009-03: Zoo staff presented the concept to delegates of the National Biogas and Biomass Conference in London Ontario and received praise for the initiative, and formed many industry contacts
- 2009-04: City Building Division approved land use for the biogas facility
- 2009-11: City Legal completed review and approval of RFP documents
- 2010-02: City Council approved construction of biogas facility at the Zoo
- 2010-05: RFP released
- 2010-07: ReGenerate Biogas, a consulting firm experienced in biogas development projects, was hired to assist the Evaluation Committee

Toronto Zoo staff released the RFP on 2010-05-03 and held a mandatory site meeting on 2010-06-03. A total of 36 companies attended the mandatory site meeting of which 18 companies had experience building and or designing biogas facilities. Further evidence of the significant interest in the proposed project was the numerous media related inquiries and published stories.

Comments/Discussion:

Only one proposal was received in response to the RFP, and this single proposal provided a completely different approach to waste-to-energy systems and did not satisfy the most basic of requested information. The outcome of the response to the RFP was disappointing given the initial interest. In collaboration with consultants from ReGenerate Biogas, Zoo staff contacted all those in attendance at the site meeting to find out why additional bids were not submitted. The response rate to the consultant inquiry from the 20 participants was 65%.

A summary of issues with the RFP as reported by those in attendance at the mandatory site meeting is as follows:

- **Approval process** - Most respondents felt that it would have been a real challenge cutting the approval process to “get it done”. *“It would be a lot more attractive to do the exact same project, if it didn’t involve the Toronto Zoo, Toronto Solid Waste, the City of Toronto, Toronto Hydro, and the Toronto Region Conservation Authority.”*
- **Project risks** - There are obviously risks involved in this project, as any other, but most respondents felt the RFP was too complex and the Toronto Zoo was not taking any of the risk, while the potential developer was taking it all. *“If the Zoo arranged for financing or feedstock supply or both, it would be a lot more attractive.” “In the existing RFP, the developer carries all the financial risk and the Toronto Zoo gets all the glory if it is successful and will quickly distance itself if it isn’t. You cannot have your cake and eat it too.”*
- **Unrealistic timelines** - Respondents felt that there was no way to secure all the necessary permits, partnership and feedstock supply agreements, and financing, and then be operational by Jan 31/2012. *“It’s more reasonable to expect that the permitting, feedstock agreements, financing and Feed-In-Tariff application would be done by then.”* More straightforward, on-farm versions of this project could be done in the timelines laid out, but because this project will require a lengthy application to the Renewable Energy Facilitation Office and approval from numerous provincial ministries, it will take longer. A more flexible schedule would be highly desirable to potential proponents.
- **Onerous reporting requirements** – Respondents said that preparing quarterly reports and presentations for the Zoo Board was a deterrent. *“It would basically require hiring a full-time staff member just to handle this work. A better approach would be to hold bi-weekly meetings with a representative from the Toronto Zoo, who in turn makes presentations to the Board.”*
- **Feedstock supply** – Securing feedstock is the most important part of any biogas development, and without it securing financing is essentially impossible. Developing a plant on the scale proposed in the RFP would require between 75,000 and 150,000 tonnes

of waste, and in our urban area that basically means it must include City of Toronto curbside organics. The Zoo biogas RFP was limited to commercial and industrial organics (excluded residential curbside). While this is a viable source of biogas feedstock, accepting this material at the Zoo presents a significant environmental challenge. Managing this waste source should continue at specified waste transfer and processing facilities, not on Toronto Zoo property.

- **Thermal heat supply** - Across the board, respondents said supplying the heat from the biogas plant to the Zoo would have been unfeasible and not a worthwhile effort. All of the respondents said that the bid they considered making would have excluded a heat component, but that it seemed the heat was an all or nothing request – meaning that those who knew they couldn't provide heat, didn't bother bidding. *“It might have been feasible if the Zoo already had a central heating system that ran on a boiler, where the waste heat could just be plugged in to existing infrastructure.”*
- **“Feed-in Tariff too low”** – With the FIT price at 14.7 ¢/kWh, respondents could not make the economics work. The way the FIT contract from the Ontario Power Authority is structured, when projects increase to over 500 kilowatts, the price falls from 16¢ to 14.7¢. The huge range at the lower price point incentivizes the developer to go as big as possible to take advantage of economies of scale with equipment costs.

Toronto Zoo staff upon review of the feedback from the industry sector accepts the comments with some notable exceptions. First, the business model for a large-scale biogas facility (e.g. >2MW) has been tested in other jurisdictions (e.g. Germany, Denmark) and has been shown to be profitable and feasible. The capital required is significant, and this seems to be the key issue for many companies. Second, the assumption by many proponents that City Solid Waste was involved in this project is not accurate as they were not formally involved. Finally, the “onerous” reporting requirements was misunderstood by proponents as Toronto Zoo staff would be receiving reports initially, not the Board.

There are several options for moving forward as a wealth of knowledge and industry contacts has been gained through the above process. Toronto Zoo staff feels it is important to review all information to date stemming from this RFP process, and review further the options available and report to the Board of Management in 2011.

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