AECOM HKG are Govt 'consultants' for the ill-advised outdated technology toxic Incinerator project.

AECOM UK - a company that is to design – build – operate a **Gasification** plant in UK
http://www.gazettelive.co.uk/business/business-news/2012/11/21/75m-waste-to-energy-plant-plan-for-billingham-84229-32276544/

AECOM USA Mike Zebell P.E. of AECOM (NYSE:ACM), a Fortune 500 company serving clients in more than 100 countries "We believe that **this technology is *not only* environmentally friendly but *ready for large-scale commercialization***. We are excited to partner with an entrepreneurial firm like AFE, one of the industries' leading developers focused on **building *environmentally responsible energy projects using Plasma Gasification* *technology***." http://energy.cleartheair.org.hk/?p=1226

AECOM CANADA – **Anaerobic Digestate** for food waste
http://www.ccibioenergy.com/projects/toronto-success/toronto-disco-road

Toronto Disco Road Anaerobic Digestate facility

Details

Background

With the proven every day performance of the Dufferin facility as the foundation, together with our partner, AECOM Canada, we are currently building a 2nd plant to be owned by the City to process another 75,000 metric tonnes per year of SSO collected in their Green Bin Program. The facility is planned to be operational in mid-2013. CCI will provide operations, management and technical support to the operating team structure.

Today, the City collects over 110,000 metric tonnes of residential and commercial source separated organics (SSO) annually, of which up to 60,000 metric tpy are to be processed at the Dufferin facility.

The remaining tonnage was initially composted and has been repatriated back into the internal City owned processing system.

The City chose to construct the facility at the Disco Road transfer station, an urban location and one of six in the City infrastructure. It is integrated into the site operations and is physically built on an old landfill. More than 95,000 metric tonnes of material was excavated and sent for safe disposal using more than 4,000 truck trips. Over 900 steel pilings were then driven into the ground and filled with rebar and concrete to create the solid base required for foundation, building, tank and equipment loading.

Document Link

Disco Road Case Study

Processing Highlights

The facility will operate two shifts daily, Monday through Friday, for receiving and processing. The waste feedstock, which is characterized by a high plastic content due to the collection in plastic bags, will be directly fed to the BTA® Hydromechanical Pre-treatment system without any prior treatment. The configuration includes three waste pulpers and three grit removal systems.

The **anaerobic digestion** methodology implemented is a wet digestion process in the mesophilic range using two 5,300 m^3 digesters with full mixing using compressed biogas. The plan for the continuously produced biogas is to upgrade it to natural gas quality ("biomethane") and use it internally to offset natural gas purchases and **as a fuel in the waste collection fleet**. Biomethane is an interchangeable term for biogas which is produced by anaerobic digestion. Once upgraded by the removal of the approximately 35% that is non-methane, chemically the result is identical to natural gas.

The digestate will be dewatered using screw presses. The resulting solids will be pasteurized onsite and then shipped for aerobic finishing at an off-site compost facility. Due to the virtually non-existent inert contamination, the final high quality compost is distributed into the high-value markets. All liquids inherent in the waste will be reclaimed and reused as process water in the closed-loop process water system. Any excesses will be treated on site in a biological effluent treatment system prior to discharge to the local sewer system.

The extracted inert contamination will be dewatered, conveyed and loaded in trailers for landfill disposal. Alternative uses for this material are being studied. The BTA® Process Control system will monitor and power all equipment, including subsystems such as the biofilter and effluent treatment.

Disco Pre-treatment Installation

Disco Tank Farm

Delivery Team Partners

The facility is designed, built and guaranteed by CCI and partners AECOM Canada, ES Fox Construction and BTA International. Initial operations will **commence in mid 2013** with CCI being a key member of an operating team that includes Veolia Water Canada . Equipment and services delivered by CCI under this structure include:

- Delivery of the process design
- Advise & assist for basic and detail engineering
- Waste receiving designs & equipment
- Procurement, installation & warranty of the BTA® Waste Pulpers / Grit Removal System (GRS) / Process Control System
- Procurement & installation of the solids/liquids separation system
- Design of the reclaimed process water management loop
- Detail engineering of the digester, including non-mechanical mixing
- Biological effluent treatment system
- Commissioning, start up & continued operations
- Performance guarantees

- On-line monitoring & technical support

Community Level Value

The City plans to refine the biogas produced from the anaerobic digesters into compressed natural gas (CNG), which could provide fuel for the City's solid waste collection vehicles and offset natural gas purchases. CNG is a fossil fuel substitute for gasoline, diesel, or propane and a more environmentally clean alternative to these fuels. Combined, the Disco and Dufferin facilities will produce enough biogas to create more than 9 million m^3 of biofuels, which is enough to power the waste collection fleet. The added-value this facility delivers to Torontonians' includes:

1. Support Toronto's waste diversion goals by diverting and extending City owned landfill life
2. Meet current and growing demands fueled by the great success of the Green Bin Program
3. Increase processing capacity within City borders with reliable capacity
4. Produce community based bioenergy for local consumption
5. Produce a high quality compost
6. Operate without odours or other off-site nuisances
7. Comply with the Toronto Green Standard
8. Create local economic growth in jobs, goods and services purchases & taxes

Toronto Green Bin Program Details

Toronto Dufferin Details

Toronto Green Bin Program Detail

Background

Established by the City of Toronto in January 2001, the Waste Diversion Task Force 2010 began work on a 'made in Toronto' solution for waste diversion. The group targeted a goal of 30 per cent diversion by 2003 and 60 per cent by 2006. One of the key proposals in the Task Force report, "Beyond Landfill: A Diverting Future", included a system, now called The Green Bin Program. About one-third of Toronto's waste is organic material.

Unique Generator Practices

The purpose of the Green Bin Program is to **divert and convert a broad range of acceptable materials from landfill and convert them into renewable energy and other beneficial use products**. Toronto's Green Bin Program is one of the most successful waste diversion programs on the continent and will divert millions of tonnes of organic material from going to landfill over the next 20 years. The primary pillar of success was to create an environment for Torontonians that would maximize convenience. Residents and businesses use plastic bags as bin liners and can include a broad range of acceptable materials, including hard-to-process elements such as disposable diapers, incontinence products, feminine hygiene products and pet waste. With this approach, Toronto has produced one of the highest rates of diversion per household in North America.

Toronto Dufferin Tipping Floor

Plastic Lined Bin

Program Highlights

The Green Bin Program changes the way single family household residents and commercial businesses participate in the City's garbage and recycling programs. The three stream collection system, employing source separation of recyclables and organics, is critical to helping the City achieve its diversion goals. Source separation was chosen as it offers the best and most realistic approach for the City to maximize the value inherent in their waste stream. Highlights of the Green Bin Program include:

The residential rollout start date was September 22, 2002 & was completed in mid-2006 The City delivered two new containers - a smaller one for the kitchen & a larger green bin for the curb

- Instructions were delivered to the door explaining in detail about how the Green Bin Program works
- Personal visits, using students, was implemented to follow-up and educate 510,000 single family homes are now fully implemented (diverting over 90,000 metric tonnes)

- More than 6,000 commercial locations participating
- Participation rate exceeds 90% & has been consistently above for 10 years
- Multi-unit buildings implementation for more than 500,000 units began in 2012

- A three stream program of separation & single pass collection was implemented
- Recyclables are commingled & separated at new MRF facilities
- Collected weekly, with recyclables & residuals collected every other week, on alternating weeks
- The third stream, residuals, are land filled at a City owned landfill

Leaf & yard waste is collected separately

- Commercial sector generators for which the City provides service were harmonized with the program
- City operated agencies, boards & commissions will be harmonized in the third phase of the rollout
- When fully implemented, expectation for diversion is for over 175,000 metric tonnes annually