



toronto hydro energy services

Delivering sustainable energy savings



10 MW COGENERATION PLANT

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10 MW COGENERATION PLANT



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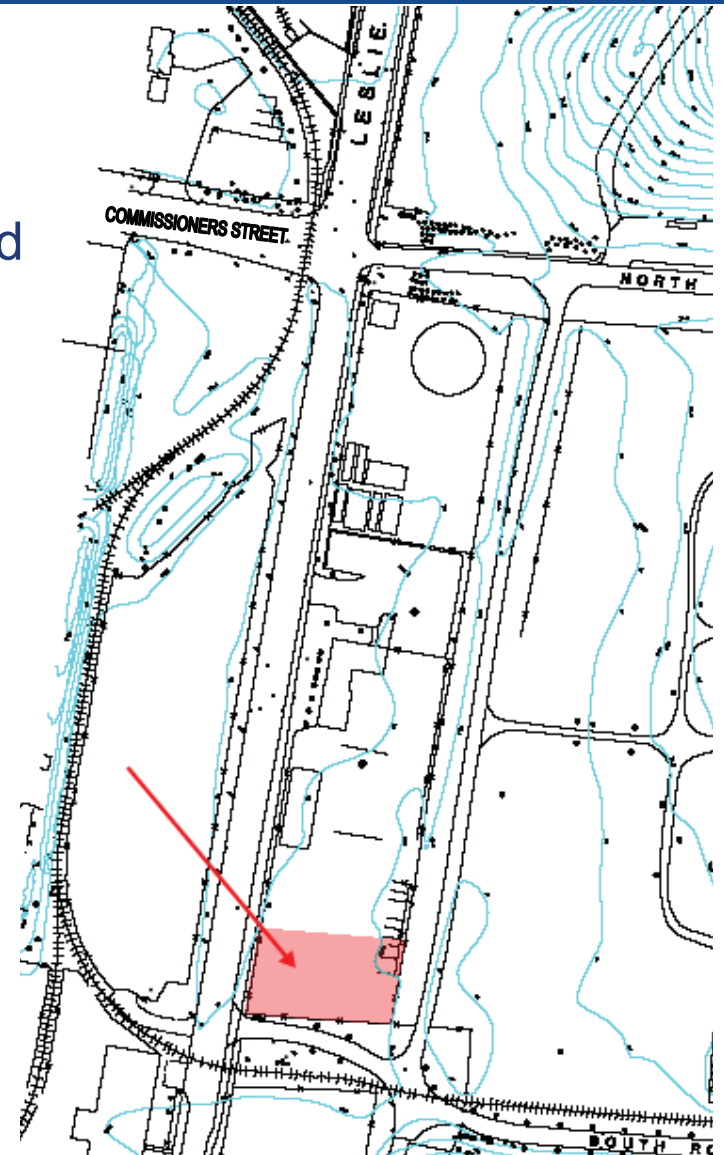


10 MW COGENERATION PLANT

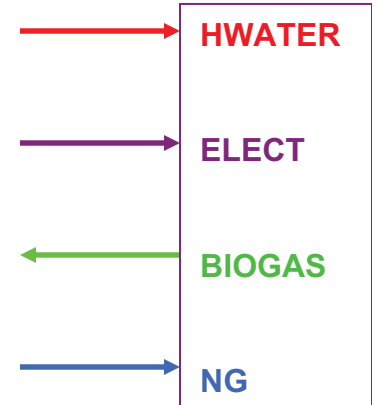
Toronto Hydro Energy Services has leased land from the City of Toronto (Transportation Services) on Leslie St. adjacent to the Ashbridges Bay Plant site.

This location provides independent access to the new facility and relieves congestion issues for Toronto Water's ABTP site.

Services such as hot water, electricity and biogas will link the facility to ABTP.



10 MW COGENERATION PLANT



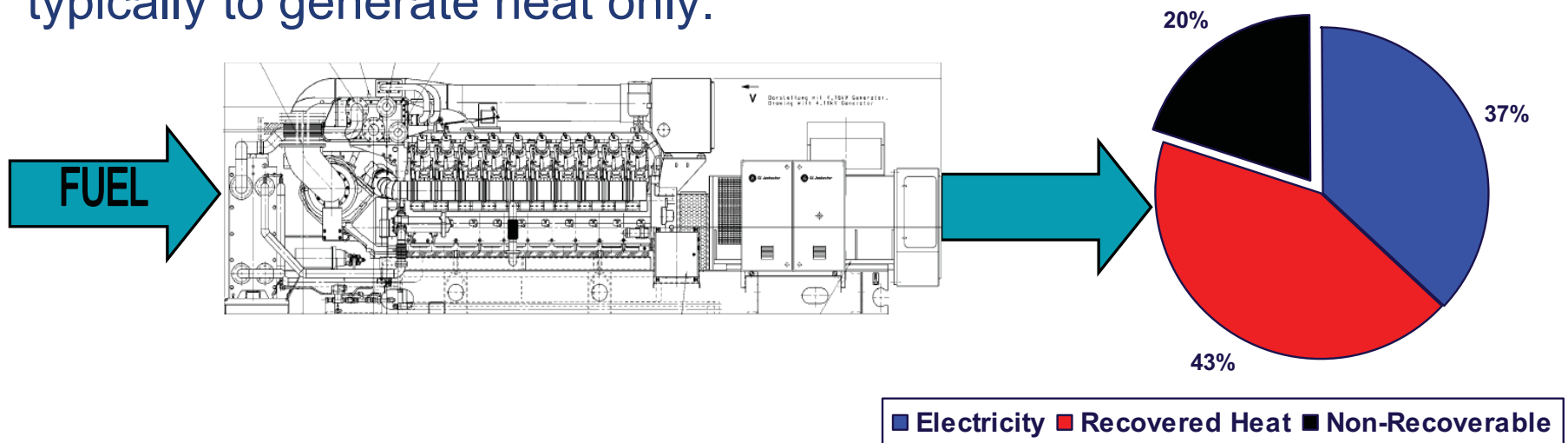




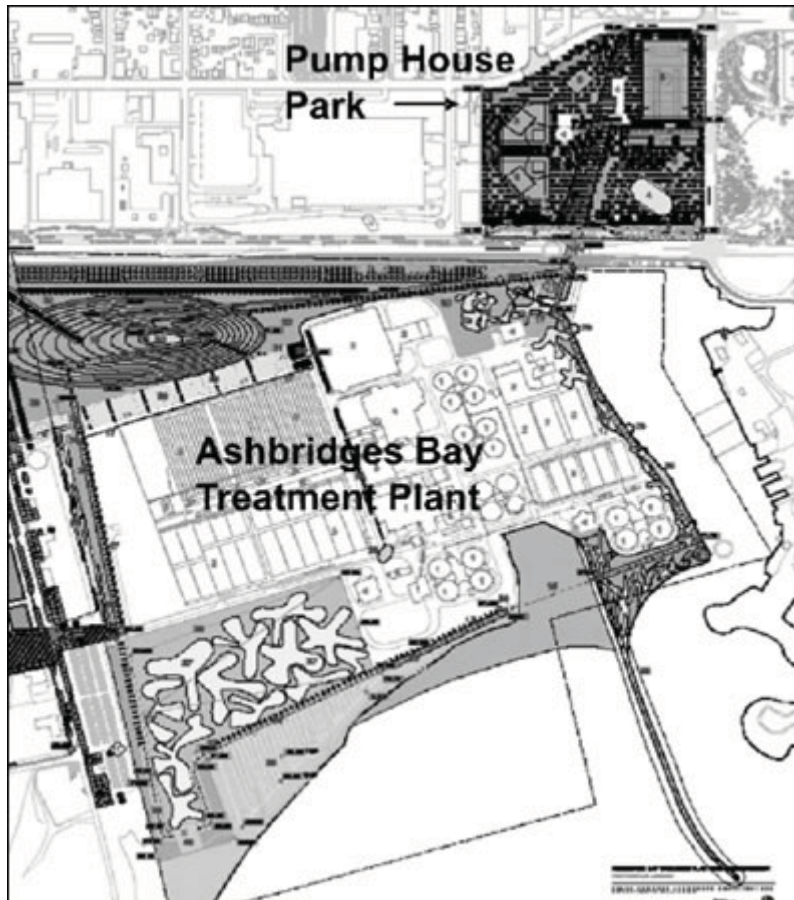
What is cogeneration?

Cogeneration is the simultaneous production of useable heat and electrical power from a single process or piece of equipment. It is also referred to as combined heat & power (CHP).

Cogeneration maximizes the utilization of the fuel used to generate power. It is also a means to generate a form of energy with higher value, in the form of electricity, from fuels used typically to generate heat only.



ASHBRIDGES BAY TREATMENT PLANT



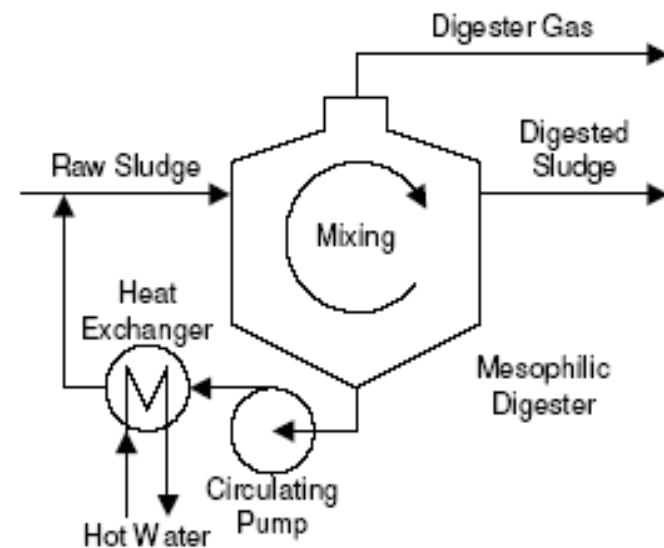
- Toronto's main wastewater treatment plant
- Capacity to treat 818,000 m³ per day
- Treats wastewater from 1.3 M of the city's residents
- Largest such plant in Canada

What is “Biogas”?

Biogas refers to a gas produced by the biological breakdown of organic matter in the absence of oxygen. Depending upon where it is produced it is also referred to as swamp gas, marsh gas, landfill gas or digester gas.

At the Ashbridges Bay plant, part of the waste water treatment process includes sending the sludge to digesters where the bacteria process and stabilize the waste stream and produce “biogas” or digester gas.

Digester gas is typically composed of approximately 60% methane and the balance is mainly carbon dioxide.



APPROVALS

- ✓ TH Energy City have leased a portion of the 7 Leslie Street property following City Council approval received May 26, 2009.
- ✓ City staff were authorized by City Council to negotiate the Energy Services Agreement with TH Energy on August 6, 2009.
- ✓ TH Energy anticipate an Ontario Power Authority contract under the Green Energy Act FIT Program during the fall of 2009.



PERMITS AND APPROVALS

- ✓ Environmental applications for Certificate of Approval (Air and Noise) - submitted
- ✓ THESL CIA (Connection Impact Assessment) – preliminary approval obtained
- ✓ Community and stakeholder review (Councillors, NLC) – 2008
- ✓ Leslie St. greening project – impact on the area taken into account in the building design
- ✓ Meetings with City of Toronto Real Estate – Lease Agreement
- ✓ Meetings with Toronto Water – Energy Services Agreement
- ✓ Minor Variance Application for Zoning - submitted
- ✓ Site Plan Application for foundations - submitted



PROJECT SCHEDULE - MILESTONES

Oct 2009 Jan 2010 Apr 2010 Jul 2010 Oct 2010 Jan 2011 Apr 2011 Jul 2011

Equipment Order

EPC Contracts

Detailed Design

Permits and Approvals

Construction Period

Commissioning

Commercial
Operation

What are the benefits?

- Maximize utilization of valuable biogas, a renewable resource, creating electricity and hot water
- 10 MW of Emergency Power capacity available to Ashbridges Bay Treatment Plant. Security of Waste Water Plant Operations during local/regional electricity outages
- Replace over 60% of electricity drawn from the grid by Ashbridges Bay Treatment Plant with renewable energy
- **Net emissions reduction of 15,000 tonnes of greenhouse gases (CO₂) annually**



What about air emissions?

- There will be no discernable smell or aroma from the plant or its stacks.
- As the “digester gas” is a gaseous fuel there are no particulate emissions.
- The plant will meet all applicable provincial regulatory requirements for air emissions.



How noisy is this going to be?

- Sound attenuation equipment will be installed on air intakes and exhausts to maintain facility generated noise levels to ambient levels.
- The sound levels generated have been predicted through models and have been submitted to the Ministry of Environment for review and approval.
- The process includes monitoring of existing sound/noise levels within the neighbourhood including any “critical” noise receptors.
- The sound levels for people standing at the street would be like a car driving by at a distance 5 to 10 metres or standing 1 to 2 metres from a residential air conditioning unit.



QUESTIONS AND FEEDBACK

