ONTARIO POWER AUTHORITY

A Progress Report on Electricity Supply

February 2007

Ontario Power Authority™

Introduction

In early 2004, the Ontario Ministry of Energy initiated procurement processes to acquire approximately 300 megawatts (MW) of renewable energy supply capacity and 2,500 MW of clean energy supply and demand reduction capacity. In 2005, a request for proposals for an additional 1,000 MW of renewable energy supply capacity was released, which resulted in 24 contracts for more than 3,300 MW of new electricity supply capacity.

In December 2004, the Ontario Power Authority (OPA) was established by the *Electricity Restructuring Act, 2004*. One of the functions of the OPA is to manage these electricity supply contracts and initiate new procurement processes for additional capacity.

As of January 2007, the OPA was managing 39 contracts or 8,337 MW of electricity supply capacity, which come from several sources -- approximately 502 MW of newly built capacity, 1,146 MW from early movers, 13 MW of demand reduction, and the remaining contracted capacities are in various stages of development and construction. These latter contracts are expected to be added to the Ontario electricity system between 2007 and 2010. These contracts are estimated to bring $10.9 billion in new investment to the Ontario electricity industry.

The table below shows a breakdown of the contract capacity, either in commercial operation or under development, presently being managed by the OPA:

Delivery by Date and Technology Type for OPA Managed Contracts								
Technology		2005 Total	2006 Total	2007 YTD	2007 Planned	2008 Planned	2009 Planned	2010 Planned
	Wind		395.1		76.0	789.4		
	Hydroelectric	8.0				23.0	20.0	
	Biomass, Landfill and Industrial By-Product Gas	2.5	1.6	5.0			63.0	
	Natural Gas		1,236.0		485.0	1,940.8	942.0	836.4
	Bruce A Units 1 & 2 Refurbishment						750.0	750.0
	Demand Response		13.0					
Total (MW)		11	1,646	5	561	2,753	1,775	1,586
Cumulative Total (MW)		11	1,656	1,661	2,222	4,975	6,750	8,337

Renewable Energy

The OPA has entered into 18 renewable energy supply contracts representing 1,320 MW of renewable energy generated by wind, hydroelectric, biomass and landfill gas. As of January 2007, nine contracts or 412 MW of renewable energy capacity achieved commercial operation. The remaining capacity is scheduled for commercial operation in 2007 and 2008. Due to permitting delays, some of the capacities may not be online until 2009.

Wind

A bird's eye view of the 99 MW Erie Shores Wind Farm at Port Burwell. The project, which was developed by Erie Shores Wind Farm LP and placed in commercial operation in May 2006, is comprised of 66 GE wind turbines.

One of the 66 GE 1.5 model SLE wind turbines at the Erie Shores Wind Farm.

The 40 MW Kingsbridge I Wind Farm developed by EPCOR in Goderich. The project utilized 22 Vestas V80 wind turbines and was placed in commercial operation in March 2006. EPCOR has recently issued a news release notifying its stakeholders that they are re-examining the 160 MW Phase II because of permitting delays.

The 67.5 MW Melancthon I Wind Farm in the Township of Melancthon was placed in commercial operation in March 2006. Canadian Hydro Developers has taken delivery of wind turbines and other major equipment for the 132 MW Phase II of the project, which is presently experiencing permitting delays.

Photos of turbine tower sections for Melancthon II. Phase II consists of 88 towers and each tower consists of three sections. The total weight of the three sections combined is 110 tonnes.

Turbine blades for Melancthon II

The Melancthon II GE 1.5 model SLE turbine nacelles are being delivered to storage. Each nacelle weights 56 tonnes.

This 189 MW Prince Wind Farm in Sault Ste Marie was placed in commercial operation in the fall of 2006. The project was developed by Brookfield Power.

Installing one of the 126 GE 1.5 model SLE wind turbines' rotors at the Prince Wind Farm

One of the many blades ready for installation at the Prince Wind Farm. Each blade weighs seven tonnes.

Installing the base section of the tower structure at the Prince Wind Farm. This section weighs 51 tonnes and is required to thread through 200 anchor bolts that have already been cast in the 530-tonne concrete foundation.

This 34.5/230 kV switchyard steps up the low-voltage energy generated at the Prince Wind Farm for injection into the IESO-administered grid via the Great Lake Power transmission system.

Another view of the Prince Wind Farm from the nacelle of one of the towers

Enbridge has started taking delivery of wind turbine components for its 200 MW wind project at Kincardine. The project is presently experiencing permitting delays.

Vestas V82 wind turbine blades, nacelles and hubs for the Enbridge project. This project will install 121 turbines.

Hydroelectric

Of the 18 renewable energy supply contracts, there are three hydroelectric generating facility contracts. These contracts have a combined capacity of 51 MW and are presently in various stages of the contract, including commercial operation, under construction, and under permitting.

Glen Miller hydroelectric facility near Trenton achieved commercial operation in December 2005. This two-unit, eight MW run-of-the-river project was developed by Innergex Group. Umbata Falls L.P., which is a partnership between the Innergex Group and the Ojibways of the Pic River First Nation, is contracted to construct and operate a 23 MW facility at Umbata Falls, near Marathon in Northern Ontario.

Power tunnel for the Umbata Falls hydroelectric station under construction. The station consists of two Kaplan units with a combined rated flow of 80 cubic metres per second and a net head of 32.8 metres.

Concreting the base slab of sluice structure at Umbata Falls. The project is scheduled for commercial operation by summer 2008.

Sluice and division channel for Umbata Falls generating station being excavated

Wood pole structures for 23 km of 115 kV transmission line connecting to the Hydro One system were installed in the summer of 2006.

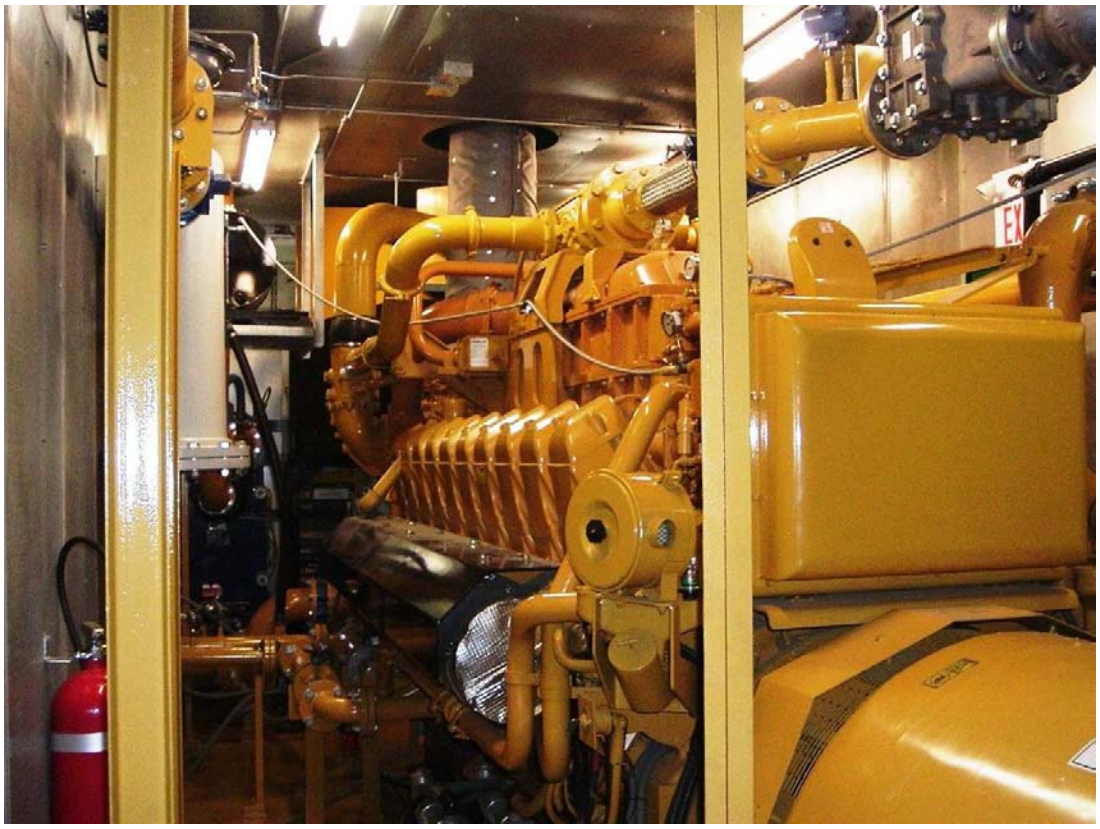
Biomass and Landfill Gas

Other than wind and hydroelectric, there are three biomass and landfill gas projects that contribute 9.1 MW of the renewable energy supply capacity to the Ontario electricity system. As of the end of January 2007, all of these contracts have been placed in commercial operation.

This 2.8 MW biomass generating facility located in Guelph was placed in commercial operation in August 2005. The project was developed by Ecotricity Hydro Inc., a subsidiary of Guelph Hydro Inc. It is the first OPA electricity supply contract that achieved commercial operation. This facility uses three Caterpillar Model G3516 SITA spark-ignited, low-emission engines.

The engine room of the Ecotricity Facility.

This 1.6 MW digester gas generating facility in Hamilton is the smallest OPA-contracted facility. The project, which was placed in commercial operation in July 2006, was developed by Hamilton Renewable Power Inc., a subsidiary of the City of Hamilton.



A close up of the Caterpillar G3520C generator set used in the Hamilton facility.

Trail Road is a five MW landfill gas generating facility near Ottawa. The five-unit facility was placed in commercial operation in January 2007. The project was developed by Energy Ottawa.

A close up of landfill gas blowers installed at the Trail Road facility.

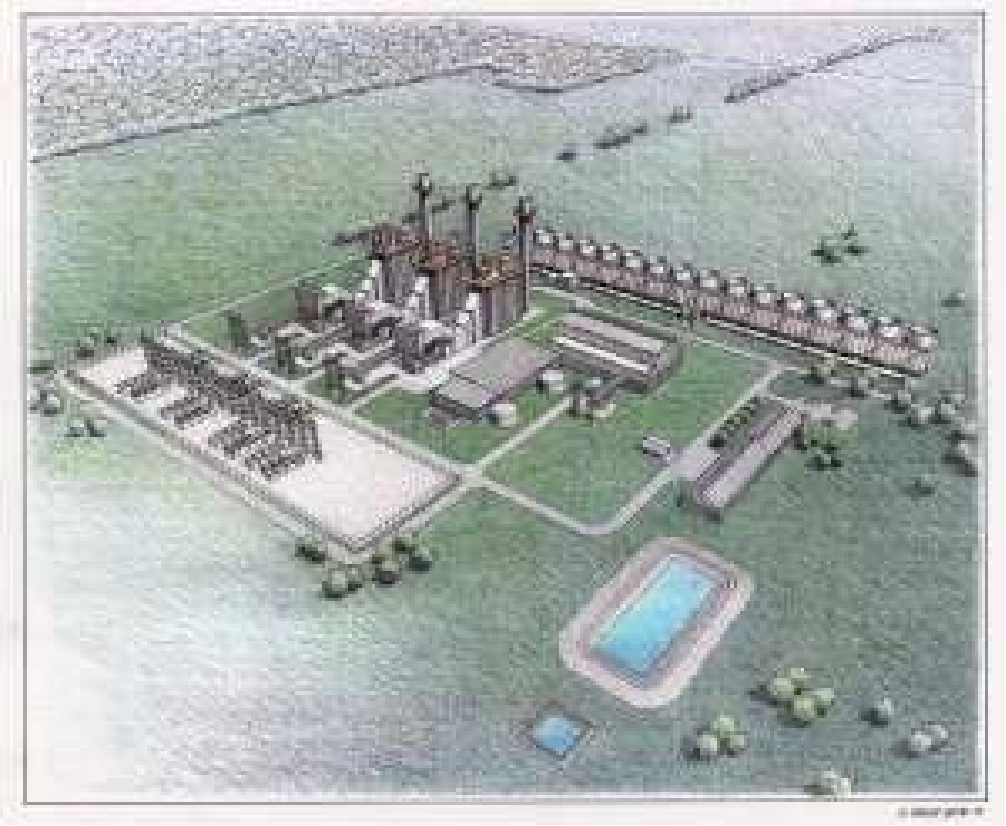
Clean Energy

Natural Gas Combined Cycle

The OPA is managing a total of seven clean energy supply and accelerated clean energy supply contracts. These facilities are fuelled by natural gas, and the combined capacity is 3,943 MW.

The Greater Toronto Airport Authority (GTAA) project was placed in commercial operation in February 2006. Three projects are under construction. Two are awaiting decisions from the Minister of the Environment on appeals for individual environmental assessment. The 600 MW Halton Hills, which was awarded in November 2006, is presently in the final stage of permitting.

The GTAA cogeneration plant near the Toronto airport is the first natural gas-fired facility under contract with the OPA placed in commercial operation. The project consists of two GE LM6000 combustion turbine generator sets.



An artist rendering of the 1,005 MW natural gas-fired Greenfield Energy Centre (GEC) in Sarnia. The project utilizes three Siemens Westinghouse 501 FD2 combustion turbine generator sets, three heat recovery steam generators, and one steam turbine generator. The project is recently out of force majeure and on track for fall 2008 in service.

Concrete supporting structure for the 500 MW steam turbine generator at GEC under construction

One of the three Siemens Westinghouse F class combustion turbines installed at GEC

All of the three combustion turbines have already set at GEC

Three heat recovery steam generators are being assembled at GEC.

Support for a cooling tower is being assembled at GEC.

An air intake structure for a combustion turbine installed at GEC

A blast wall for transformer bays installed at GEC

A steam generator delivered to the GEC site

Steam turbine components are delivered to the GEC site.

A bird's eye view of the three-on-one 860 MW Goreway Station, taken December 2006. Construction commenced in April 2006. This will provide 485 MW of simple cycle operation on line for summer 2007 and commercial operation, with the remaining capacity in combined cycle operation is expected by summer 2008.

2.2 km of 230kV transmission line has been completed at Goreway. The line connects the Goreway switchyard to Hydro One circuit and includes a section that crosses over Highway 407.

Three by-pass stacks for simple cycle operation have been installed at Goreway.

Two of the three combustion turbine generator sets installed at Goreway

A close-up of the GE 7FB combustion turbine at Goreway

A view of the combustion turbine generator set at Goreway

Gas insulation switchgear (GIS) equipment installed inside the GIS Building at Goreway

GIS control equipment installed at the GIS Control Room at Goreway

The Goreway switchyard installation in progress

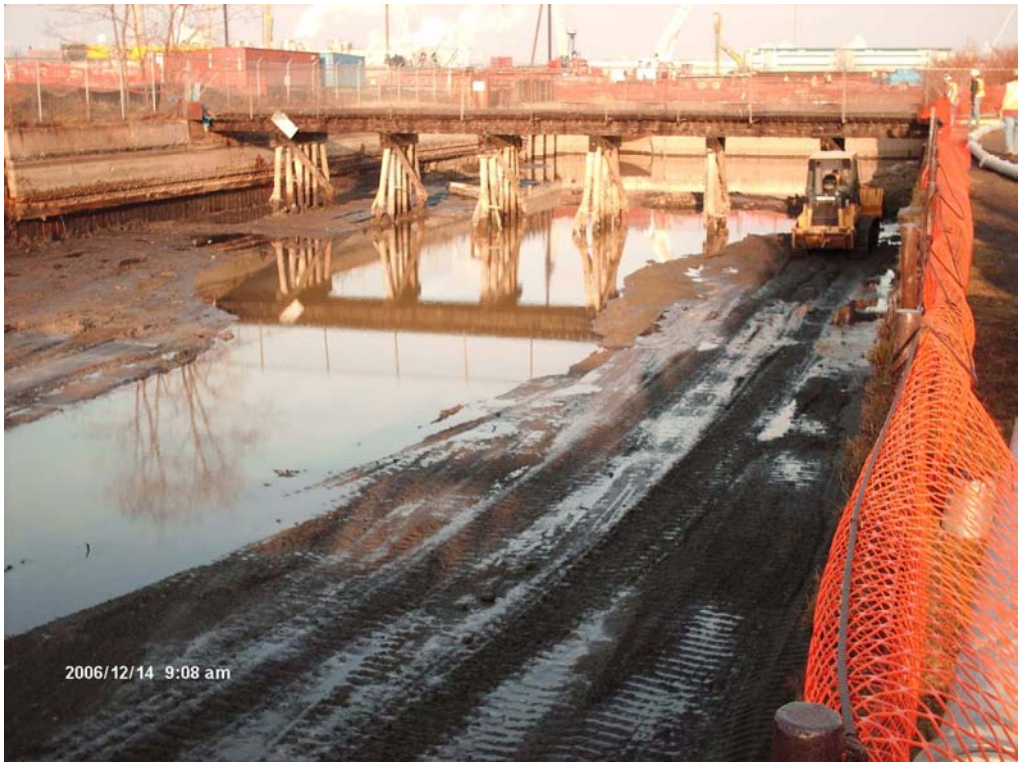
An emergency generator set at Goreway

An aerial view of the 538 MW Portlands Energy Centre (PEC), taken in October 2006. This will provide 250 MW of simple cycle operation from this two-on-one natural gas-fired facility by summer 2008, and commercial operation in combined cycle operation is scheduled for summer 2009.

Prior to building PEC, two circuits of existing 115kV underground cables need to be diverted under a tight 43-day outage schedule. In December 2006, joints for the diversion were successfully completed.

Piling for combustion turbine generators at PEC adjacent to the decommissioned R.L. Hearn G.S.

Circulating cooling water pipes are installed at PEC.



Dredging at the discharge channel for PEC is part of the environmental approvals commitments to ensure discharge flow velocity does not impact fish habitats in the channel.

A sheet pile cofferdam at the south end of the discharge channel

Nuclear Energy

Bruce A Units 1 and 2 Restart

In October 2005, the OPA entered into a $4.25 billion Bruce Power Refurbishment Implementation Agreement with Bruce Power to restart Units 1 and 2, refurbish Unit 3 and replace steam generators at Unit 4 of Bruce A. Work for the restart of Units 1 and 2 is presently in progress with targeted in-service dates of January 2010 and July 2009 respectively.

Work in progress on turbine generators at Units 1 and 2

The 300-tonne crane on the left is assisting the assembly of the 1,600-tonne crane on the right. The 1,600-tonne crane will be used to relocate 250-tonne steam drums and replace 100-tonne steam generators through an opening cut at the roof of the Bruce A powerhouse. This 1,600-tonne crane was transported in parts by 87 containers.

Delivery of a 100-tonne steam generator to the Bruce site. Each Bruce A unit consists of eight steam generators.

Steam lines, relief valves and other interferences above the west steam drum enclosure in Unit 2 are being cleared away. The 250-tonne steam drum (not in photo – on the side) will be lifted up and set aside so the replacement of steam generators (not in photo – below this level) can get underway.

The Unit 2 reactor vault is undergoing a good housekeeping to ensure the area is ready for fuel channel replacement crews. In this photo a, worker wearing respiratory protection vacuums the area in front of the reactor face.