

ONTARIO POWER AUTHORITY



A Progress Report On Electricity Supply

Second Quarter 2009

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Large-Scale Contracts

This progress report is prepared quarterly to provide updates on the electricity supply contracts currently managed by the Ontario Power Authority (OPA).

As of June 30, 2009, the OPA had 11,998 megawatts (MW) of electricity supply capacity under contract: 10,579 MW of large-scale electricity generation contracts and 1,419 MW of Renewable Energy Standard Offer Program (RESOP) contracts.

Except for the chapter on the RESOP, this report focuses on information related to the large-scale contracts.

Excluding RESOP, the OPA is managing 46 contracts of 10,579 MW, based on average contract capacity: 5,383 MW are in service, 2,792 MW are under construction and 2,404 MW are in various stages of planning and permitting. These 46 contracts represent a \$14.1 billion investment in the Ontario electricity system that began in 2005 and will continue through 2013.

The following table summarizes the electricity generation contracts that have achieved their commercial operation date (COD) and are now in service. Blue shading indicates a change since the last quarterly report.

CAPACITY IN COMMERCIAL OPERATION					
5,383 MW					
ENERGY SOURCE	MAP KEY	CONTRACT FACILITY	AVERAGE CONTRACT CAPACITY (MW)	COD	SUB-TOTAL
WIND	1	Melancthon I Wind Plant	67.5	March 4, 2006	1,084
	2	Melancthon II Wind Plant	132.0	November 24, 2008	
	3	Kingsbridge I Wind Power Project	39.6	March 16, 2006	
	5	Erie Shores Wind Farm	99.0	May 24, 2006	
	6	Prince I Wind Power Project	99.0	September 21, 2006	
	7	Prince II Wind Power Project	90.0	November 19, 2006	
	8	Enbridge Ontario Wind Farm	181.5	February 19, 2009	
	10	Ripley Wind Power Project	76.0	December 22, 2007	
	11	Kruger Energy Port Alma Wind Power Project	101.2	October 31, 2008	
	12	Wolfe Island Wind Project	197.8	June 26, 2009	
WATER	13	Glen Miller Generating Station	8.0	December 19, 2005	60
	14	Umbata Falls Generating Station	23.0	November 12, 2008	
	39	Lac Seul/Ear Falls Generating Station	29.3	February 18, 2009	
BY-PRODUCT GAS	19	Algoma Energy Cogeneration Facility	63.0	June 13, 2009	63
NATURAL GAS	20	Brighton Beach Power Station	550.0	January 1, 2006	4,167
	21	Sarnia Regional Cogeneration Plant ¹	505.0	January 1, 2006	
	22	Sudbury District Energy Cogeneration Plant	5.0	January 1, 2006	
	23	Sudbury District Energy, Hospital Cogeneration	6.7	January 1, 2006	
	24	Trent Valley Cogeneration Plant ¹	8.3	January 1, 2006	
	25	GTAA Cogeneration Plant	90.0	February 1, 2006	
	26	St. Clair Energy Centre	577.0	March 30, 2009	
	27	Greenfield Energy Centre	1,005.0	October 16, 2008	
	29	Goreway Station	839.1	June 4, 2009	
	30	Portlands Energy Centre	550.0	April 22, 2009	
	32	Great Northern Tri-Gen Facility(CHP)	11.3	October 31, 2008	
	34	Durham College District Energy Project (CHP)	2.3	March 11, 2008	
	36	London Cogeneration Facility (CHP)	12.0	December 31, 2008	
	37	Warden Energy Centre (CHP)	5.0	June 4, 2008	

CAPACITY IN COMMERCIAL OPERATION (CONT.)					
ENERGY SOURCE	MAP KEY	CONTRACT FACILITY	AVERAGE CONTRACT CAPACITY (MW)	COD	SUB-TOTAL
BIO-ENERGY	16	Eastview Landfill Gas Energy Plant	2.5	August 18, 2005	9
	17	Hamilton (Digester Gas) Cogeneration Project	1.6	July 10, 2006	
	18	Trail Road Landfill Generating Facility	5.0	January 31, 2007	

¹ Nameplate capacity reported as supplier nominates the capacity monthly

The following table provides a summary of the electricity generation facilities under contract that have not yet achieved their COD. The projects shaded in green are under construction and the remainder are in pre-construction mode.

CAPACITY UNDER DEVELOPMENT								
5,196 MW								
ENERGY SOURCE	MAP KEY	CONTRACT FACILITY	AVERAGE CONTRACT CAPACITY (MW)					
			2009	2010	2011	2012	2013	SUB-TOTAL
WIND	46	Byran Wind Project		64.5				491
	47	Gosfield Wind Project				50.4		
	48	Greenwich Windfarm			99.0			
	49	Kruger Energy Chatham Wind Project			101.2			
	50	Raleigh Wind Energy Centre		78.0				
	51	Talbot Windfarm			99.0			
		Sub-Total		142.5	299.2	50.4		
WATER	15	Island Falls Generating Station		20.0				80
	40	Hound Chute Generating Station ²		9.5				
	41	Wawaitin Generating Station ²		15.0				
	42	Sandy Falls Generating Station ²		5.5				
	43	Lower Sturgeon Generating Station ²		14.0				
	44	Healey Falls Generating Station		15.7				
		Sub-Total		79.7				
NATURAL GAS	28	Greenfield South Power Plant				280.0		1,625
	31	Halton Hills Generating Station		631.5				
	33	East Windsor Cogeneration Centre (CHP)	84.0					
	35	Thorold Cogeneration Project (CHP)		236.4				
	45	York Energy Centre			393.0			
		Sub-Total	84.0	867.9	393.0	280.0		
NUCLEAR	38	Bruce A Unit 1 Refurbishment		750.0				3,000
		Bruce A Unit 2 Refurbishment		750.0				
		Bruce A Unit 3 Refurbishment					750.0	
		Bruce A Unit 4 Refurbishment				750.0		
		Sub-Total		1,500.0		750.0	750.0	
ANNUAL TOTAL			84	2,590	692	1,080	750	

² Hound Chute, Wawaitin, Sandy Falls and Lower Sturgeon, executed under one contract.

Facilities Achieving Commercial Operation

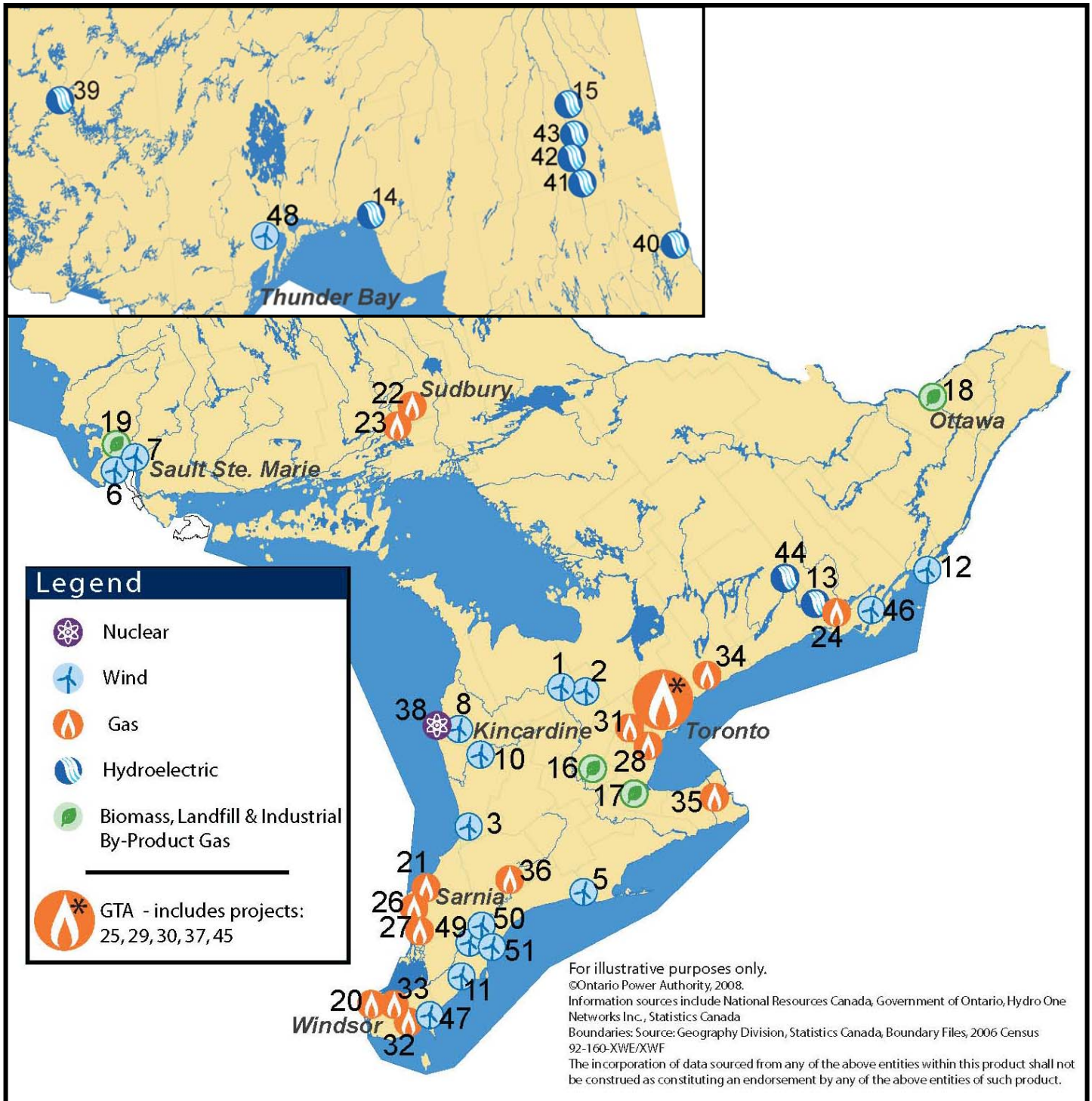
For the Ontario Power Authority, the second quarter of 2009 was by far the quarter with the highest confirmed new generation capacity placed in commercial operation – 1,831 MW, next to the fourth quarter of 2008, which totaled 1,285 MW and first quarter of 2006, which totaled 1,272 MW. This includes two large natural gas-fired facilities, Goreway Station and Portlands Energy Centre in the Greater Toronto area, two large wind farms and a combined heat and power contract. The addition of these two large wind farms, which total 379 MW, brings the total in-service large-scale wind contract capacity to 1,084 MW.

- **Portlands Energy Centre**, with a contract capacity of 550 MW, developed by Portlands Energy Centre LP (a partnership of Ontario Power Generation and TransCanada Energy Limited), located on the eastern part of the former R.L. Hearn Generating Station site in the City of Toronto, achieved commercial operation in April.
- **Goreway Station**, with a contract capacity of 839 MW, developed by Goreway Station Partnership by its managing partner, Sithe Global Power Goreway ULC, located in the City of Brampton, achieved commercial operation in June.
- **Wolfe Island Wind Project**, with a contract capacity of 197.8 MW, developed by the Canadian Renewable Energy Corporation, a wholly owned subsidiary of Canadian Hydro Developers, Inc., located on Wolfe Island, a few kilometres off the shore of Kingston in the Township of Frontenac, achieved commercial operation in June. Operated by Canadian Hydro Developers, Wolfe Island is the second largest wind farm in Canada, behind Ontario's Melancthon Wind Farm with a capacity of 199.5 MW.
- **Enbridge Ontario Wind Farm**, with a contract capacity of 181.5 MW, developed by Enbridge Ontario Wind Power LP, located in Bruce County north of Kincardine, achieved commercial operation in February.
- **Algoma Energy Cogeneration Facility**, with a contract capacity of 63 MW, developed by Algoma Energy LP, located in the City of Sault Ste. Marie, achieved commercial operation in June.

For further information on our electricity supply contracts, visit our website at:
<http://www.powerauthority.on.ca/Page.asp?PageID=1212&SiteNodeID=123>.

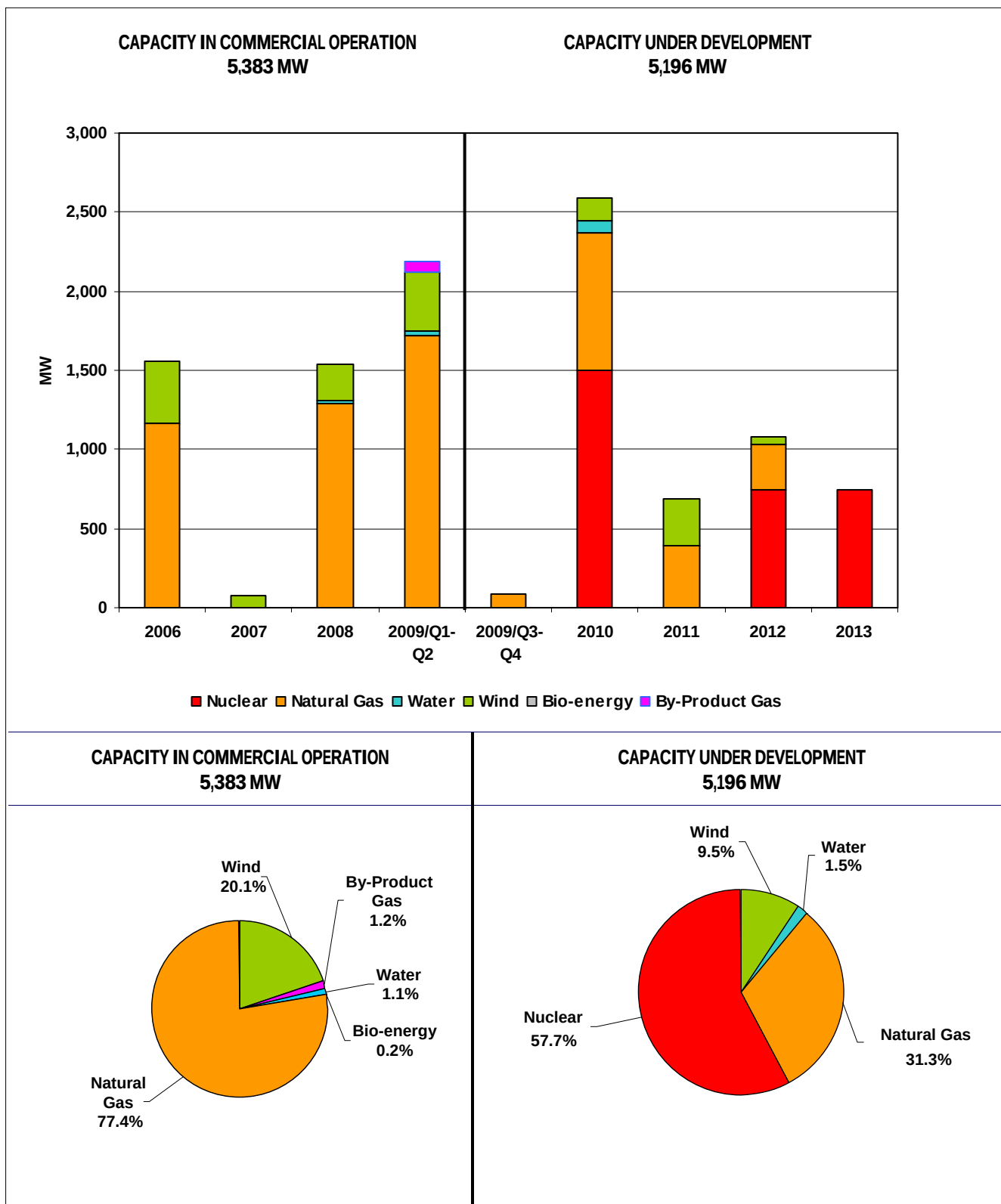
Large-Scale Contracts – Facility Location Map

The map below shows locations of all large-scale contract facilities as listed in the previous tables.



Large-Scale Contracts – Total Contracted Capacity

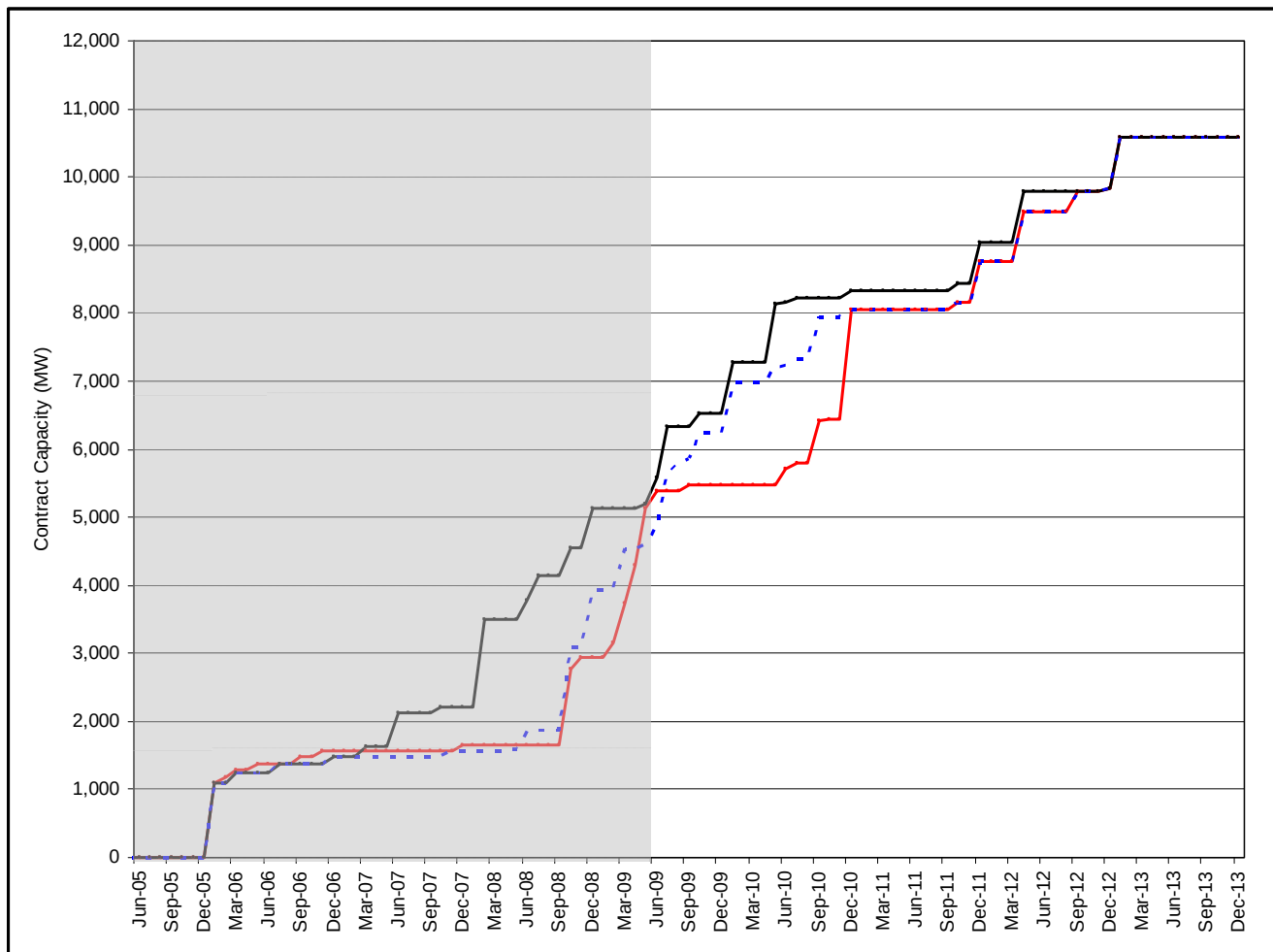
The bar chart below illustrates contracted capacity by the year COD has been or is expected to be achieved. The pie charts illustrate the relative composition for each.



Large-Scale Contracts – Progress Chart

The following chart shows the progress the OPA's large-scale generation facilities have made.

- The black line shows the capacity expected to have reached COD based on the original contracts signed between the OPA and contract counterparties.
- The blue dashed line is similar to the black line but reflects amendments to the expected COD (such as for force majeure reasons).
- The red line reflects the actual COD of the contract capacity and the current COD forecast for each facility.



Renewable Energy Standard Offer Program (RESOP) Contracts

Ontario introduced RESOP in November 2006, and it continued in its original form through to May 2008, at which point some elements of the program were put on hold. Applications received prior to May 12, 2008, were unaffected. The OPA is still evaluating these applications, and contracts will be awarded when applications meet all of the program requirements. Applications from micro-scale generators (up to 10 kW) and small, farm-based biomass projects up to 250 kW continue to be processed under the existing RESOP rules.

In January 2009, the OPA was directed to contract new biogas electricity generation projects (not restricted to farms) up to 5 MW.

In the second quarter of 2009, the OPA executed two waterpower contracts and one bio-energy contract with a total capacity of 6.9 MW. As of this quarter, RESOP has executed 443 contracts with a total capacity of 1,419 MW. Of these, 194 projects with a total capacity of 111 MW have become eligible for RESOP contract payments.

RESOP CONTRACTS 1,419 MW							
ENERGY SOURCE	EXECUTED CONTRACTS	CAPACITY IN COMMERCIAL OPERATION (MW)	CAPACITY UNDER DEVELOPMENT (MW)				TOTAL CAPACITY (MW)
			2009	2010	2011	Sub-Total	
WIND	93	67.6	550.4	107.5	20.0	677.9	745.5
WATER	22	15.7	45.2	10.0	0.0	55.2	70.9
BIO-ENERGY	23*	26.1	45.1	5.8	0.0	50.9	77.0
SOLAR PV	305	1.9	350.5	159.9	13.1	523.5	525.4
TOTAL	443	111.3	991.2	283.2	33.1	1,307.5	1,418.8

RESOP CONTRACTS EXECUTED TO DATE										
ENERGY SOURCE	EXECUTED CONTRACTS	2007		2008		2009-Q1		2009-Q2		TO DATE
WIND	No. of Contracts	55		38		0		0		93
	MW		465.4		280.1		0.0		0	745.5
WATER	No. of Contracts	14		6		0		2		22
	MW		31.8		35.1		0.0		4.0	70.9
BIO-ENERGY	No. of Contracts	17		5*		0		1		23
	MW		63.4		10.7		0.0		2.9	77.0
SOLAR PV	No. of Contracts	145		146		14		0		305
	MW		247.1		278.2		0.1		0	525.4
TOTAL	No. of Contracts	231		195		14		3		443
	MW		807.7		604.1		0.1		6.9	1,418.8

* A 346 kW bio-energy contract was executed in July 2008, which was not reflected in previous Progress Reports (Q3 and Q4, 2008; Q1, 2009)

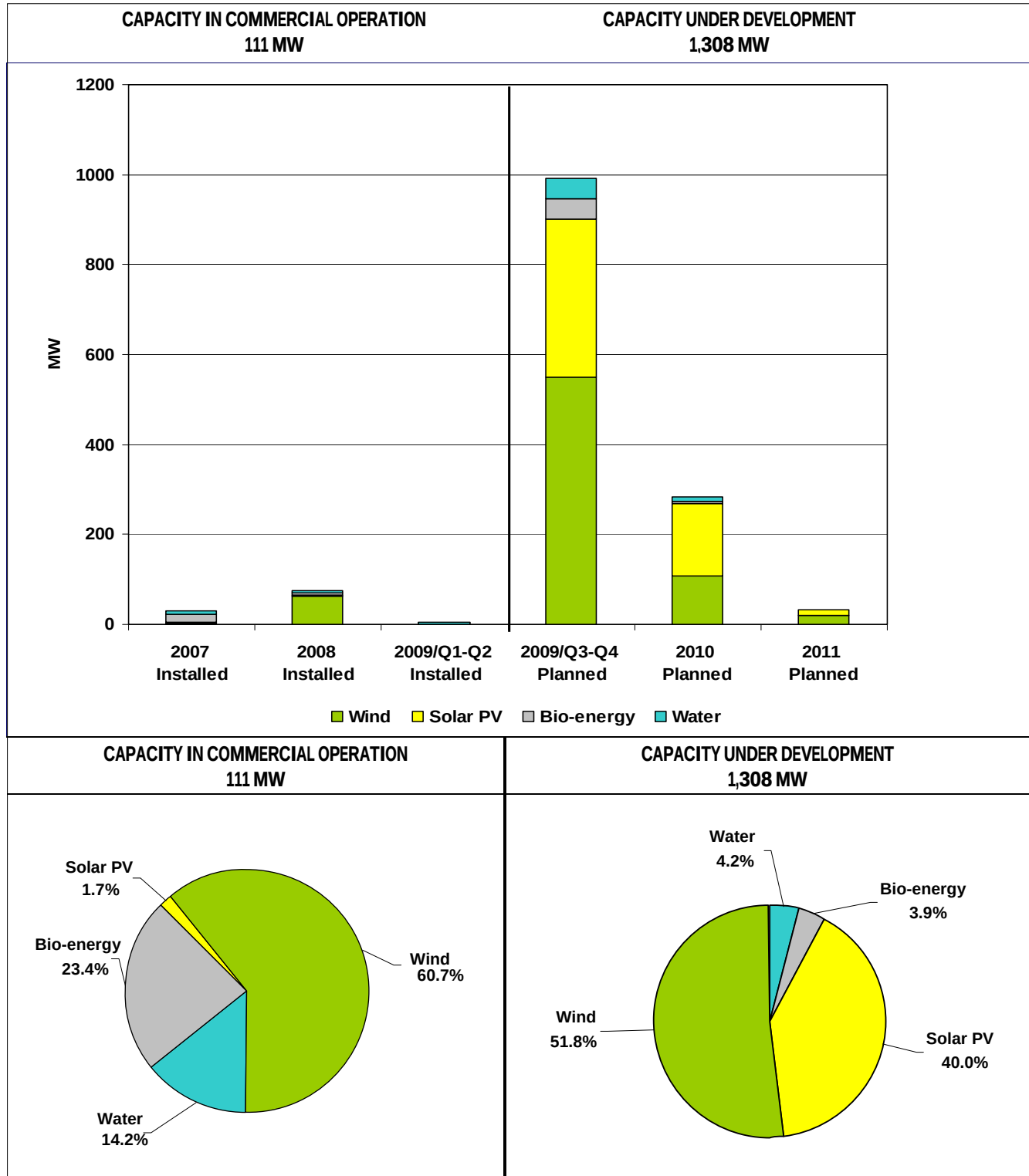
RESOP Contracts Executed within Reporting Quarter

RESOP CONTRACTS EXECUTED IN THE SECOND QUARTER OF 2009 6.9 MW		
ENERGY SOURCE	PROJECT NAME	AVERAGE CONTRACT CAPACITY (MW)
WATER	Chaudière GS#2 Generating Station	3.5
	Chaudière GS#4 Generating Station	0.5
BIO-ENERGY	London Biogas	2.9
	TOTAL	6.9 MW

RESOP – Total Contracted Capacity

The bar chart below illustrates the RESOP contracted capacity by the year COD has been or is expected to be achieved. The pie charts illustrate the relative composition of each.

For additional information on the OPA's RESOP program, please visit:
www.powerauthority.on.ca/SOP.

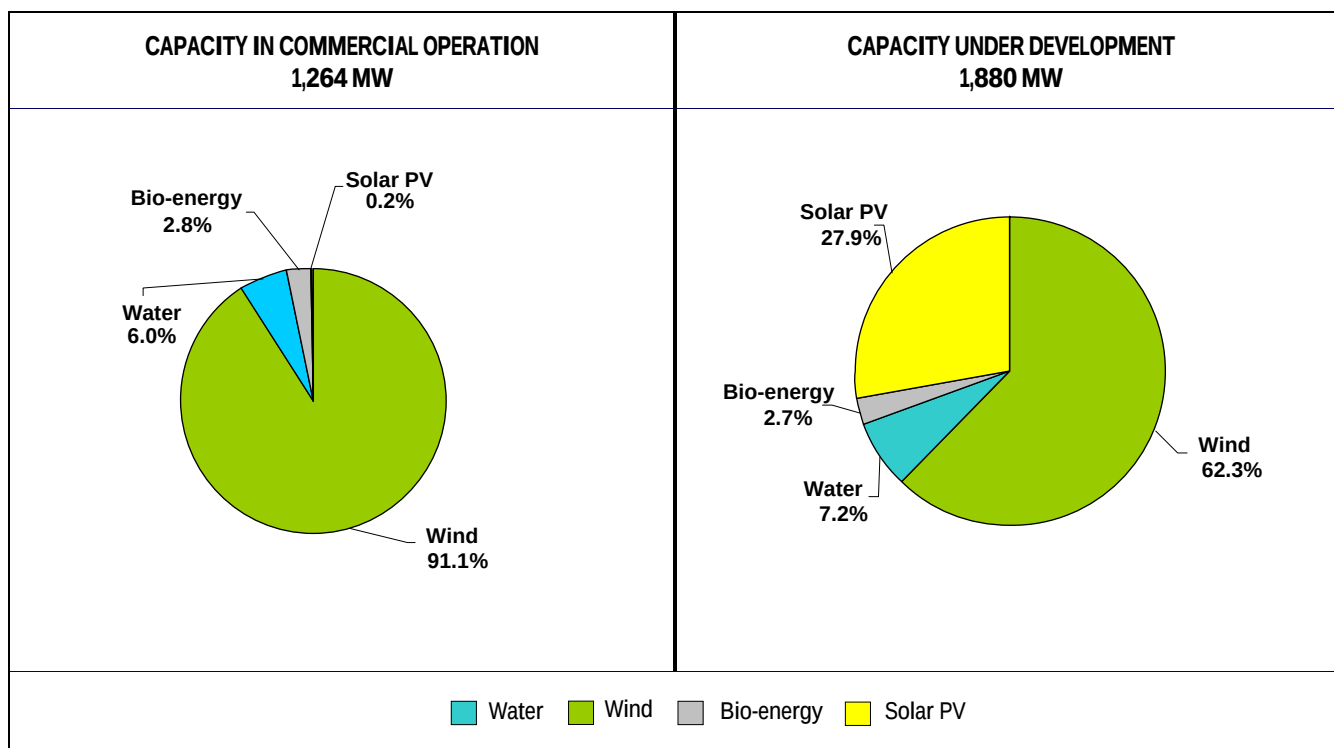


Focus on Renewable Energy Contracts (Large-Scale and RESOP)

As of the second quarter of 2009, the OPA had 3,144 MW of renewable energy supply capacity under contract from large-scale and RESOP contracts, with 1,264 MW having achieved commercial operation and the balance in various stages of development and construction.

Based on the current schedule, all of this capacity will be placed in service by 2012. A detailed breakdown is illustrated in the table and charts below.

RENEWABLE ENERGY CONTRACTS 3,144 MW							
ENERGY SOURCE	LARGE-SCALE CONTRACTS CAPACITY			RESOP CONTRACTS CAPACITY			TOTAL
	In Commercial Operation	Under Development	Sub-Total	In Commercial Operation	Under Development	Sub-Total	
WIND	1,083.6	492.1	1,575.7	67.6	677.9	745.5	2,321.2
WATER	60.3	79.7	140.0	15.7	55.2	70.9	210.9
BIO-ENERGY	9.1	0.0	9.1	26.1	50.9	77.0	86.1
SOLAR PV	0.0	0.0	0.0	1.9	523.5	525.4	525.4
SUB-TOTAL	1,153.0	571.8	1,724.8	111.3	1,307.5	1,418.8	3,143.6



Status of Large-Scale Contracts Under Development

WIND	
Contract Facility	Status
Byran Wind Project (64.5 MW) SkyPower Corp. Prince Edward County	- Independent Electricity System Operator (IESO) System Impact Assessment (SIA) continues - Selection of Engineering Procurement and Construction (EPC) contractor in progress - Procurement of major equipment in progress - Environmental studies continue, taking into account consideration of new requirements under the Green Energy Act
Gosfield Wind Project (50.4 MW) Gosfield Wind LP Essex County	- Turbine supply agreement with Siemens Canada executed - Obligations under Aboriginal consultation agreement for the project between Gosfield and Ministry of Energy and Infrastructure have been fulfilled to date - Revisions to previously completed SIA (by the IESO) to reflect RES III project capacity and configuration have been completed and draft Connection Impact Assessment (CIA) from Hydro One received - Municipal re-zoning application with the Town of Kingsville has been revised to reflect final project layout, and hearing for re-zoning had been scheduled for July
Greenwich Windfarm (99.0 MW) Renewable Energy Systems Canada Inc. District of Thunder Bay	- Permitting and public acceptance work continues - Environmental Screening Report (ESR) complete and Notice of Completion issued - Dorion municipal council and citizens updated at open public meeting - Interconnection coordination and site meetings with the IESO and Hydro One initiated - Connection assessment activities continue - First Nations consultation work continues - Engineering design and survey work continue
Kruger Energy Chatham Wind Project (101.2 MW) Kruger Energy Municipality of Chatham-Kent	- Environmental screening process, including baseline data collection and agency consultations, continue - Connection assessment activities continue - Preliminary collector line and road layout design finalized
Raleigh Wind Energy Centre (78.0 MW) Raleigh Wind Power Partnership Municipality of Chatham-Kent	- Environmental report submitted, Notice of Completion issued; awaiting decision from the Director of the Ministry of the Environment - Connection assessment activities continue
Talbot Windfarm (99.0 MW) Renewable Energy Systems Canada Inc. Municipality of Chatham-Kent	- Environmental report submitted, 36 elevation requests had been submitted - Final layout completed and turbine model selected - First Nations consultation work continues
Wolfe Island Wind Farm (197.8 MW) Canadian Renewable Energy Corp. Wolfe Island	Project completed and achieved commercial operation in June

WATER	
Contract Facility	Status
Healey Falls Generating Station (15.7 MW) Ontario Power Generation Trent Severn Waterway	• Concrete placement inside the powerhouse completed • Draft tube concrete completed • Tailrace dewatering gate installed • Electrical upgrades commenced • Penstock installation – 95% complete
Hound Chute Generating Station (9.5 MW) UMH Energy Partnership Timiskaming: Montreal River	• Overall project – 45% complete • Mud slab pours completed • Concrete pours are in progress • Draft tube and intake elbows delivered
Island Falls Generating Station (20.0 MW) Yellow Falls Power LP Smooth Rock Falls: Mattagami River	• Addressed provincial agency comments received on Environmental Assessment, responses to federal agency comments submitted • Ministry of the Environment currently reviewing an elevation request - no Director's decision to date
Lower Sturgeon Generating Station (14.0 MW) UMH Energy Partnership Timmins: Mattagami River	• Overall project – 39% complete • Rock excavation along with wall scaling complete • Mud slab pours completed
Sandy Falls Generating Station (5.5 MW) UMH Energy Partnership Timmins: Mattagami River	• Overall project – 41% complete • Mud slab pours completed • Construction of structural concrete lifts commenced • Switchyard excavation and concrete work underway
Wawaitin Generating Station (15.0 MW) UMH Energy Partnership Timmins: Mattagami River	• Overall project – 36% complete • Mud slabs pours completed • Penstock excavation and installation ongoing • Welding operations on sections of the penstock have commenced

BY-PRODUCT GAS (CHP)	
Contract Facility	Status
Algoma Energy Cogeneration Facility (63.0 MW) Algoma Energy LP Sault Ste. Marie	• Project completed and achieved commercial operation in June

NATURAL GAS – SIMPLE/COMBINED CYCLE (CLEAN ENERGY)	
Contract Facility	Status
Greenfield South Power Plant (280.0 MW) Greenfield South Power Corp. Mississauga	- Detailed engineering continues - Major equipment and balance of plant (BOP) equipment procurement continue - OEB Generator Licence issued - Building permit approval process with the City of Mississauga proceeding
Halton Hills Generating Station (631.5 MW) TransCanada Corp. Halton Hills	- High-voltage transmission connection – 99% complete - Mechanical installations, interconnecting piping, electrical equipment and cable installations continue - Both heat recovery steam generator stacks erected with strobe lights complete
York Energy Centre (393.0 MW) York Energy Centre LP Township of King	- Connection assessment activities continue - Site plan applications continue - Major equipment procurement process continues

NATURAL GAS – COMBINED HEAT AND POWER (CHP)	
Contract Facility	Status
East Windsor Cogeneration Centre (84.0 MW) East Windsor Cogeneration LP Windsor	- First fire of both turbines completed - Back-feed of facility completed - BOP electrical and piping installation continue - IESO registrations and interfacing continue
Thorold Cogeneration Project (236.4 MW) Thorold CoGen LP Thorold	- Final section of heat recovery steam generator (HRSG) stack installed - HRSG cable in progress, getting ready for power back-feed in Q3 2009 - Natural gas connection work in progress

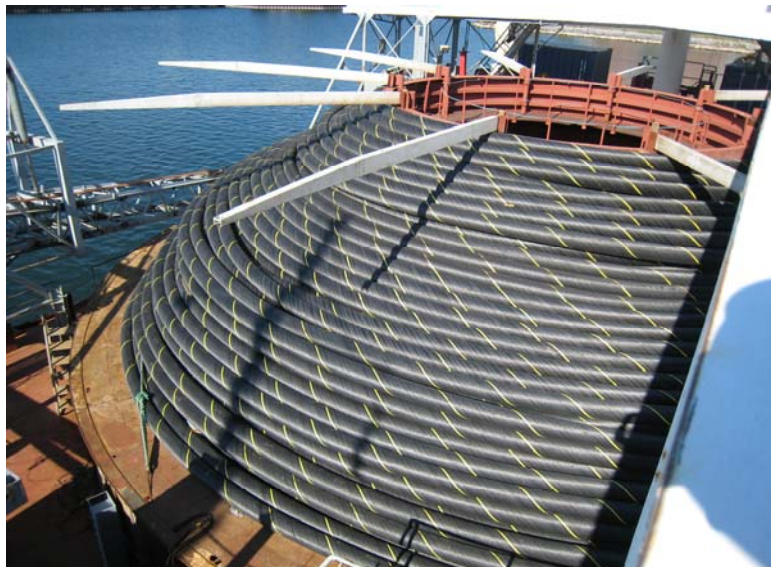
NUCLEAR	
Contract Facility	Status
Bruce Power Refurbishment Implementation Agreement (3,000.0 MW) Bruce Power Tiverton	- Unit 2 turbine mechanical completed - Unit 2 scanner installation project completed - Unit 2 lower guide tube installation completed - Unit 2 safety system monitoring computer installed mid-May - Unit 2 calandria tube installation underway - Final condenser tube bundle installation in progress

Photos of Large-Scale Contracts

Wind

Wolfe Island Wind Farm

The 7.8 km-long submarine cable is the world's first submarine cable to achieve a voltage rating of 245 kV. The cable is 235 mm in diameter and weighs approximately 736,000 kg. The cable transmits power generated from the wind turbines on Wolfe Island to the mainland.



Wolfe Island Wind Farm

Workers depicted here are laying the submarine cable in a section of Lake Ontario called the Lower Gap, close to the St. Lawrence River in between Wolfe Island and Kingston. At certain points, the cable reaches as deep as 30 metres and remains in place solely by its own weight.



Wolfe Island Wind Farm

Shown here are 18 of the 86 wind turbine generators located on the island.



Hydroelectric



Healey Falls Generating Station
The new steel penstock sections (segments close to the powerhouse) are 3.6 metres in diameter. These were painted to match the existing penstocks, riveted in place, and installation is now complete



Healey Falls Generating Station
Installation of tailrace dewatering gate in progress



Healey Falls Generating Station
Draft tube formwork installation continues

Hound Chute Generating Station
Powerhouse area construction ongoing



Lower Sturgeon Generating Station
Rebar installation for the powerhouse structural
pours continue



Sandy Falls Generating Station
Concrete being poured to reinforced concrete
barrier walls



Wawaitin Generating Station

The intake penstocks depicted here are made of black, plastic, ultra-high molecular weight polyethylene; they are 3.3 metres in diameter, and installation has commenced



Wawaitin Generating Station

Rebar installation for tailrace pier in progress



By-Product Gas (CHP)

Algoma Energy Cogeneration Facility
Installation of boiler ducting in progress



Algoma Energy Cogeneration Facility
Boiler combustion air ducting



Natural Gas – Simple/Combined Cycle (Clean Energy)

Halton Hills Generating Station
Power block construction continues





Halton Hills Generating Station
Installation of power control module continues



Halton Hills Generating Station
Installation of combustion turbine #2 underway



Halton Hills Generating Station
Combustion turbine #1 and inlet filter house

Natural Gas – Combined Heat and Power (CHP)



Panoramic view of East Windsor Cogeneration depicting the facility 95% near completion

Thorold Cogeneration Project Auxiliary boilers



Thorold Cogeneration Project Heat recovery steam generator stack being assembled



Nuclear



Bruce A Units 1 and 2 Restart
Delivery of final condenser tube bundle being moved with a 275-ton, heavy-duty mega form boom, hydraulic crane



Bruce A Units 1 and 2 Restart
Final condenser tube bundle installation in progress



Bruce A Units 1 and 2 Restart
Unit 2 turbine mechanical installation – completed

Bruce A Units 1 and 2 Restart
Lower guide tube installation complete

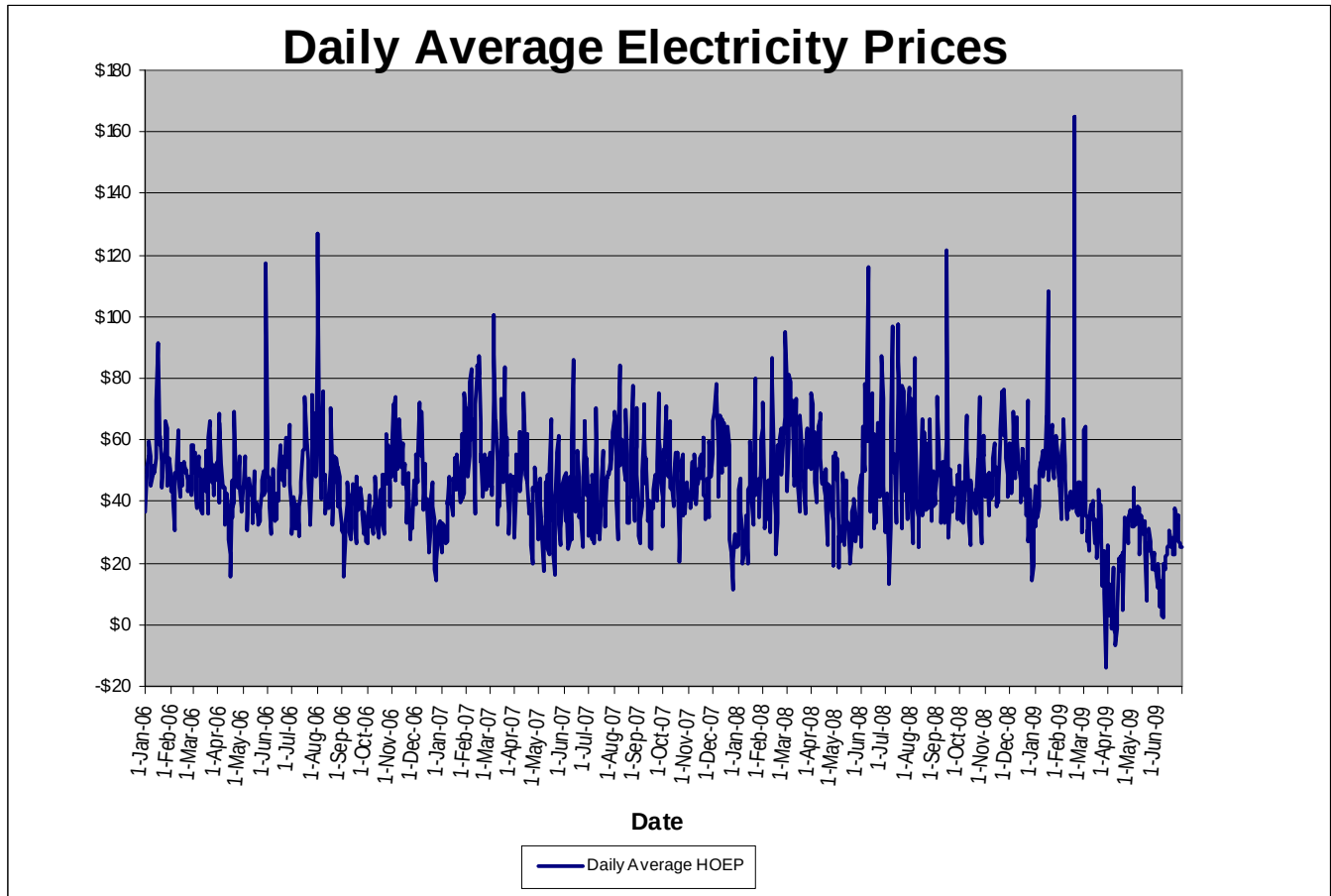


Bruce A Units 1 and 2 Restart
Calandria tube installation underway on Unit 2



APPENDIX A: IESO-Administered Market Data

The following chart and table provide a summary of the daily average Hourly Ontario Energy Price (HOEP) since January 2006.

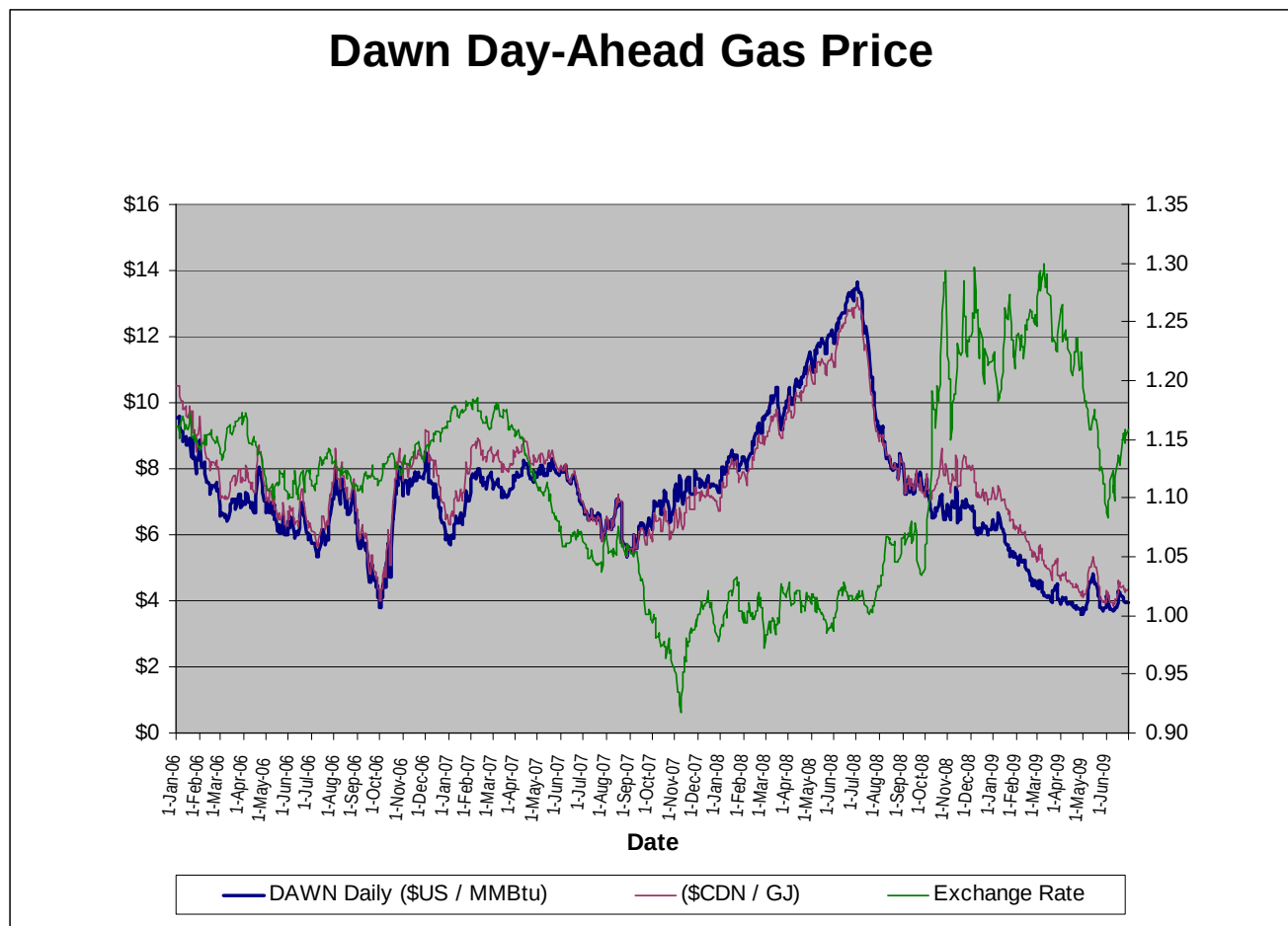


HOEP (\$/CDN/MWh)					
Year	Average	High	High Date	Low	Low Date
2006	\$46.38	\$699.65	21-Apr-06	(\$3.10)	3-Sep-06
2007	\$47.81	\$436.53	12-Jun-07	(\$0.40)	18-Sep-07
2008	\$48.83	\$563.62	1-Feb-08	(\$34.00)	28-Dec-08
2009	\$32.96	\$1,891.14	18-Feb-09	(\$52.08)	7-Jun-09

Note: Average refers to the simple arithmetic average

APPENDIX B: NGX Union-Dawn Day-Ahead Gas Price

The following chart displays the NGX Union–Dawn Day-Ahead Gas Price in US\$/MMBTU and CDN\$/GJ, along with the daily Canada/US \$ exchange rate, from January 1, 2006, to June 30, 2009. The table displays the NGX Union–Dawn Day-Ahead Gas Price in US\$/MMBTU only.



YEAR	EXCHANGE RATE				GAS PRICE INDEX (GPI)			
	High	High Date	Low	Low Date	High	High Date	Low	Low Date
2006	1.1726	18-Jan-06	1.099	11-May-06	\$9.5698	4-Jan-06	\$3.7978	1-Oct-06
2007	1.1853	8-Feb-07	0.917	7-Nov-07	\$8.2962	19-May-07	\$5.3571	28-Aug-07
2008	1.2969	5-Dec-08	0.9719	28-Feb-08	\$13.6337	2-Jul-08	\$5.9870	10-Dec-08
2009	1.3000	9-Mar-09	1.0827	2-Jun-09	\$6.6881	7-Jan-09	\$3.6123	1-May-09