

A Progress Report on Contracted Electricity Supply



2013
Second
Quarter



ONTARIO
POWER AUTHORITY



Preface

The Ontario Power Authority (OPA) was established by the Ontario government under the *Electricity Restructuring Act, 2004* (amending the *Electricity Act, 1998*), as Ontario's long-term energy planner to accommodate Ontario's growing electricity demand and to ensure a clean, reliable, cost-effective and sustainable supply of electricity for Ontarians.

In accordance with the Ontario Energy Board (OEB) Order EB-2005-0489 dated March 3, 2006, the OPA posts regular updates on its website on the progress of procurement initiatives, including the progress of selected projects, subject to confidentiality constraints. *A Progress Report on Contracted Electricity Supply* is updated quarterly to provide the status of the OPA's contracted electricity supply projects and procurement initiatives.

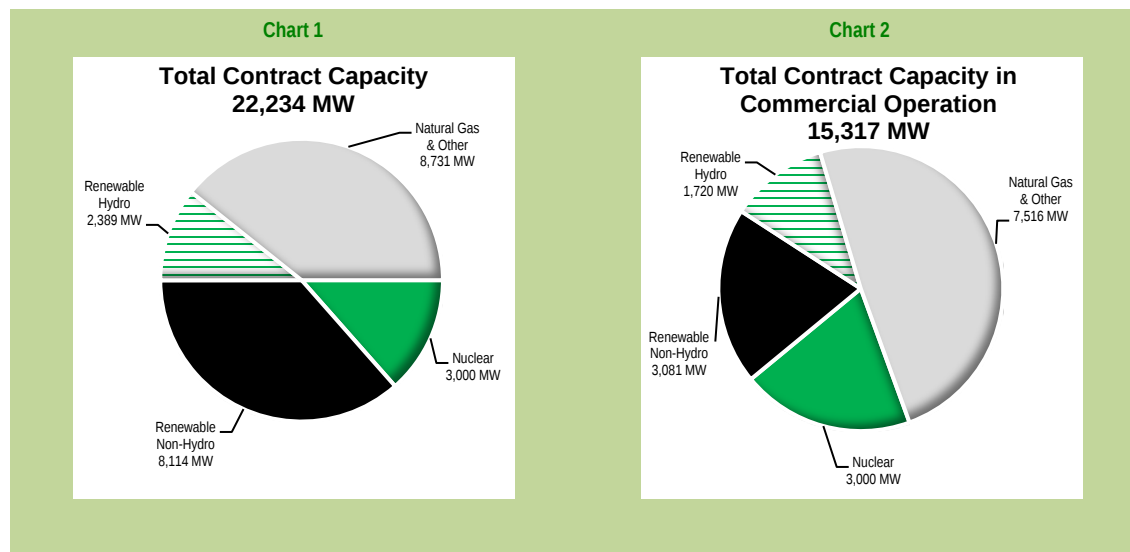
Together with our partners, we ensure that electricity needs are met for the benefit of Ontario both now and in the future. We plan and procure electricity supply from diverse resources and facilitate the measures needed to achieve ambitious conservation targets.

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Executive Summary

Overview



As of the end of the second quarter of 2013, the OPA administered contracts for 22,234 megawatts (MW) of electricity supply generation, of which 15,317 MW or 68.9 percent were already in commercial operation.

Of the 22,234 MW of supply capacity, 4,594¹ MW were procured from existing generating facilities, which required minimal or no new capital investment. The remaining capacity of 17,693 MW was procured from new development, expansion, redevelopment or refurbishment of existing facilities. This new capacity represents about \$37 billion of capital investment in power generation in Ontario's electricity system since 2005. Facilities resulting from \$15 billion of the investment have already reached commercial operation.

Since the last reporting period, the overall contracted capacity decreased by 48 MW. This mainly resulted from terminations of several Feed-in Tariff (FIT) Program contracts.

By the end of the reporting period, the OPA had 8,114 MW of renewable non-hydroelectric, 2,389 MW of renewable hydroelectric, 8,731 MW of natural gas and other fuel sources and 3,000 MW of nuclear capacity under contract (see Chart 1).

Of this total capacity, 3,081 MW from renewable non-hydroelectric, 1,720 MW from renewable hydroelectric, 7,516 MW from natural gas and other fuel sources and 3,000 MW from nuclear generation were in commercial operation, for a total of 15,317 MW (see Chart 2). The remaining 6,970 MW of the OPA's contracted capacity were in various stages of development.

¹ Includes the existing Smoky Falls Generating Station with a capacity of 53 MW, which will be decommissioned in January 2015.

Within the total renewable generation capacity, about 1,538 MW were contracted with Aboriginal participation and 200 MW were contracted with community and municipal participation. This represented about 7.8 percent of the OPA's total procured generation capacity. Chart 3 below illustrates the contracted generation by fuel type.

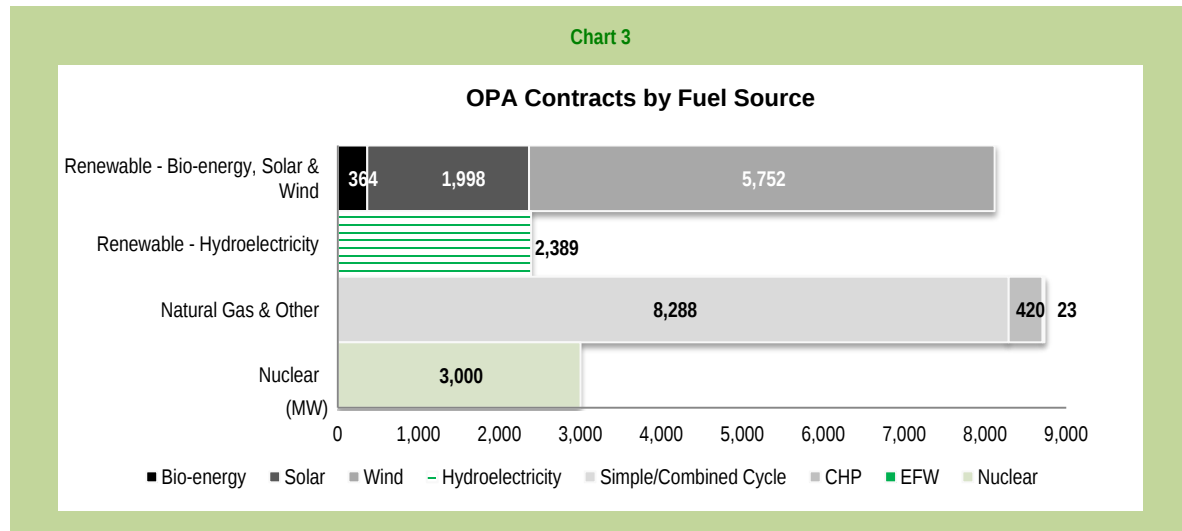


Table 1: Breakdown of Total Contract Capacity as of June 30, 2013

	Total	Under Development	Commercial Operation
Renewables			
Bio-energy	364	255	109
Solar	1,998	1,184	814
Wind	5,752	3,595	2,158
Non-Hydroelectric – Subtotal (MW)	8,114	5,003	3,081
Hydroelectric	2,389	722	1,720 ³
Renewables – Subtotal (MW)	10,503	5,756	4,801
Natural Gas and Other Fuel Sources			
Combined Heat and Power (CHP)	420	6	414
Simple Cycle and Combined Cycle (SC/CC)	8,288	1,189	7,099
Energy-from-Waste (EFW)	23	20	3
Natural Gas and Other – Subtotal (MW)	8,731	1,215	7,516
Nuclear			
Bruce A	3,000	-	3,000
Nuclear – Subtotal (MW)	3,000	-	3,000
Total Contract Capacity (MW)	22,234	6,970	15,317

³Includes existing Smoky Falls Generating Station with a capacity of 53 MW, which will be decommissioned in January 2015.

New Contracts

Renewable Energy – Non-Hydroelectricity

Solar

Within the reporting period, 7.0 MW² of combined capacity was contracted through the micro Feed-in Tariff (microFIT) Program.

Renewable Energy – Hydroelectricity

The OPA entered into five new Hydroelectric Contract Initiative contracts (HCI) for a combined capacity of 3.5 MW. These were: Shaman Power Corporation for its existing 1.0-MW Marmora Generating Station, Peterborough Utilities for its existing 1.3-MW Water Street Pumphouse, Drag River Water Power Inc. for its existing 0.3-MW Drag River Generating Station, Nadaco Operation for its existing 0.3-MW Ayton Mills NUG, and 851197 Ontario Limited for its existing 0.7-MW Long Slide Generating Station.

Contracts That Reached Commercial Operation

Renewable Energy – Non-Hydroelectricity

Bio-energy

Within the reporting period, 1.5 MW of combined capacity came into commercial operation, including four projects under the FIT Program.

Solar

Within the reporting period, further to the 7.0 MW combined capacity from the new microFIT Program, 43.1 MW of combined capacity came into commercial operation under the FIT Program and the Renewable Energy Standard Offer Program (RESOP).

Wind

Within the reporting period, 99.0 MW of capacity came into commercial operation under the FIT Program.

Contract Amendments

Renewable Energy – Non-Hydroelectricity

Solar

Within the reporting period, capacity was decreased by 4.1 MW through contract amendments under the FIT Program.

Wind

Within the reporting period, capacity was decreased by 1.0 MW through contract amendments under the FIT Program.

² The capacity of the executed microFIT contracts was in-service capacity.

Renewable Energy – Hydroelectricity

Within the reporting period, the OPA consolidated two HCI contracts with Renfrew Power Generation Inc. (RPG) for the Upper and Lower Plants into a single HCI contract. The OPA also executed an amending agreement for a joint redevelopment and expansion project, increasing the contract capacity from 2 MW to 3.5 MW.

Contract Terminations

Renewable Energy – Non-Hydroelectricity

Bio-energy

Within the reporting period, 10.0 MW of capacity from one RESOP contract was terminated.

Solar

Within the reporting period, 0.9 MW of combined capacity from 16 FIT contracts was terminated due to contract counterparties failing to meet contract requirements.

Wind

Within the reporting period, 42.5 MW of combined capacity from four FIT contracts was terminated due to contract counterparties failing to meet contract requirements.

Contract Capacity – Progress Table

The following table shows the OPA's contracted capacity that has achieved commercial operation since 2005, and the capacity that will reach commercial operation in accordance with the milestone commercial operation dates.

Table 2: Contract Capacity – Commercial Operation Progress Table as of June 30, 2013

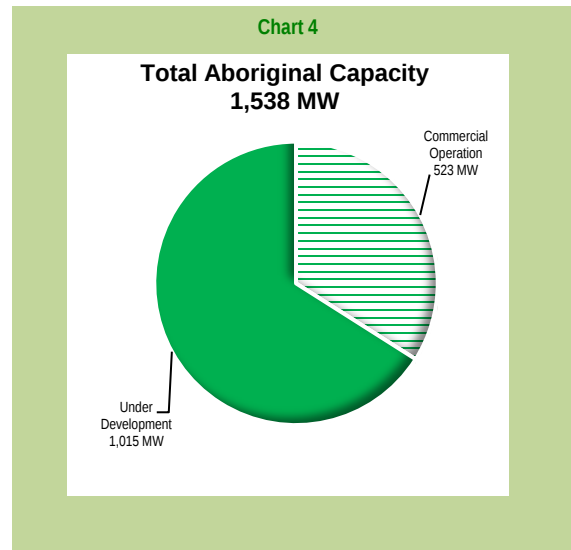
Energy Supply	2005-2010	2011	2012	2013 Q1-Q2	2013 Q3-Q4	2014	2015	2016	2017	2018	TOTAL (MW)
Renewable	3,348	776	313	210	892	3,866	891	46	8	-	10,503
Natural Gas and Other Fuel Sources	7,260	-	393	(137) ³	-	6	0	20	289	900	8,731
Nuclear	1,500	-	1,500	-	-	-	-	-	-	-	3,000
Total (MW)	12,108	776	2,206	227	892	3,872	891	66	297	900	22,234
Cumulative Total (MW)	12,108	12,883	15,090	15,317	16,209	20,081	20,972	21,038	21,334	22,234	

³ The new contract capacity of the Lennox Generating Station for its 10-year contract is 2,000 MW, a reduction of 140 MW from the original contract. Within the same period, the OPA also entered into an Energy-from-Waste pilot contract with Plasco Trail Road Inc. for the 2.8-MW Plasco Trail Road Energy-from-Waste facility. Therefore the net change in capacity was -137 MW.

Aboriginal and Community Participation

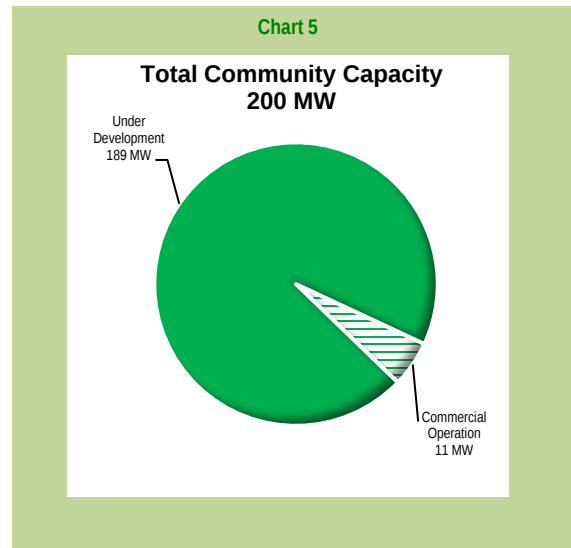
Aboriginal Participation

By the end of the reporting period, 22 First Nations and Métis communities were participating in the development of renewable generation projects throughout Ontario. This included 5 MW of solar, 424 MW of wind and 1,109 MW of hydroelectric generation projects.



Community Participation

By the end of the reporting period, 86 communities were participating in the development of renewable generation projects throughout Ontario. This included 14 MW of bio-energy, 47 MW of solar, 135 MW of wind and 5 MW of hydroelectric generation projects.



Additional Details and Related Links

For further information on the OPA's electricity supply projects, visit <http://www.powerauthority.on.ca/current-electricity-contracts>.

For further information on the OPA's FIT and microFIT programs, visit <http://fit.powerauthority.on.ca>.

For further information on programs offered to First Nations and Métis communities, visit <http://www.powerauthority.on.ca/first-nations-metis-relations/aboriginal-energy-partnership-program>.

Renewable Energy

Non-Hydroelectric Projects

By the end of the reporting period, the OPA was managing 8,114 MW of combined capacity from renewable non-hydroelectric energy projects, of which 3,081 MW were in commercial operation and 5,033 MW were under development. The breakdown is shown in Charts 6 and 7 below.

Chart 6

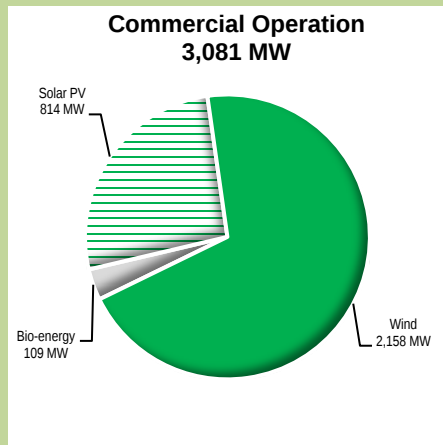
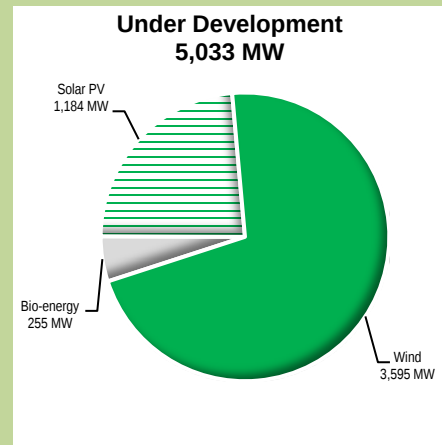


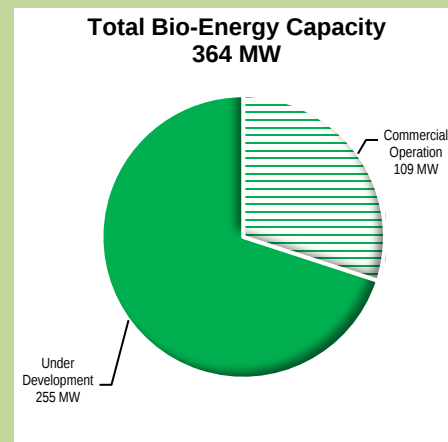
Chart 7



Bio-Energy

By the end of the reporting period, the OPA was managing 364 MW of combined capacity from bio-energy projects. Of the total capacity, 109 MW were in commercial operation and 255 MW were under development. All of the capacity from projects that were under development is scheduled to be in service at or before the end of 2014.

Chart 8



The status of these non-FIT bio-energy projects as submitted by the developers to the OPA is set out in Table 3.

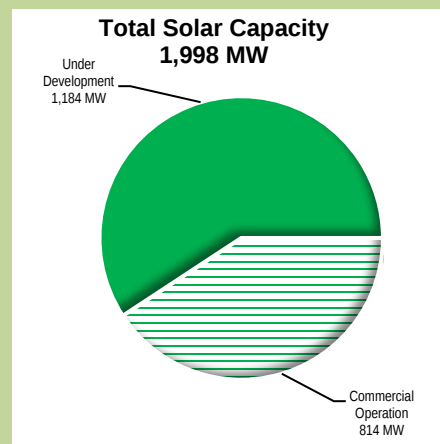
Table 3: Progress Status of non-FIT Bio-Energy Projects as of June 30, 2013

Developer	Project
Ontario Power Generation	Atikokan Generating Station Conversion, Atikokan Capacity: 205 MW Status: - Major contracts signed with engineering, procurement and construction (EPC) vendors and installation contractors - Construction activities were under way, including fuel and combustion work in the boiler and pulveriser modification - Silo slip forming and transfer tower structural steel erection were completed
	Becker Cogeneration Plant, Hornepayne Capacity: 8 MW Status: - Biomass building and detailed engineering were completed - Conveyors were being installed to biomass stokers; bark screening and hogging equipment were on-site - Cooling water piping was being installed, and cooling tower was ready for commissioning - Erection of steam piping was in progress - Ash conveying system was installed; precipitator was being erected

Solar

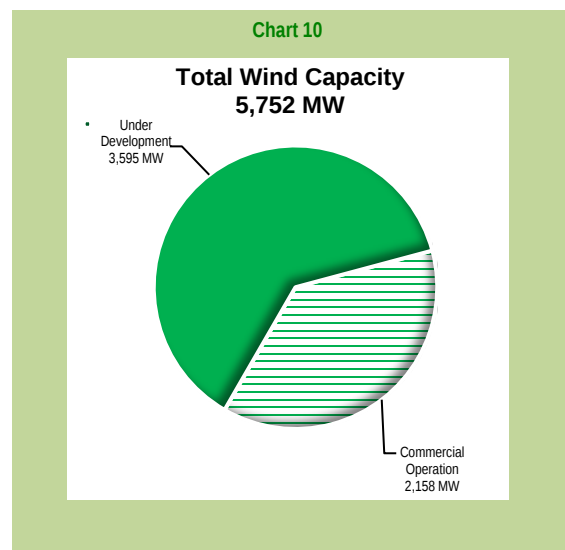
By the end of the reporting period, the OPA was managing 1,998 MW of combined capacity from solar projects. Of the total capacity, 5 MW were developed with Aboriginal participation. All of the capacity from projects that were under development is scheduled to be in service at or before the end of 2015.

Chart 9



Wind

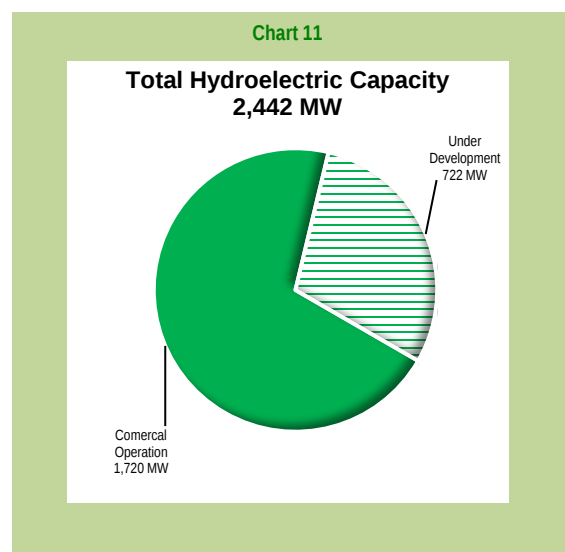
By the end of the reporting period, the OPA was managing 5,752 MW of combined capacity from wind projects. Of the total capacity, 424 MW included Aboriginal participation and 3,595 were under development. All of the capacity from projects that were under development is scheduled to be in service at or before the end of 2015.



Hydroelectric Projects

Hydroelectricity

By the end of the reporting period, the OPA was managing 2,442³ MW of combined capacity from hydroelectric projects. Of the total capacity, 1,109 MW included Aboriginal participation and 722 MW were under development. All of the capacity from projects that were under development is scheduled to be in service at or before the end of 2017.



The status of these non-FIT hydroelectric projects as submitted by the developers to the OPA is set out in Table 4.

³ Including the existing Smoky Falls Generating Station with a capacity of 53 MW which will be decommissioned in January 2015.

Table 4: Progress Status of non-FIT Hydroelectric Projects as of June 30, 2013

Developer	Project
Ontario Power Generation and Moose Cree First Nation Partnership	Lower Mattagami Hydroelectric Station Expansion, Kapuskasing: Mattagami River Capacity: 516 MW (station expansion/redevelopment 491 MW; runner upgrade 25 MW) Status: • Harmon GS – Concrete work was complete. The powerhouse inner and outer cladding and insulation was installed. The area behind the cofferdam was watered up, and removal of the cofferdam had started. The focus of the work was installation of electrical and mechanical components. • Kipling GS – Dewatering was successfully completed behind the failed cofferdam and concrete work resumed, with almost 2,400 cubic metres of concrete poured in the quarter. The concrete cap from the failed Cell 3 was safely lowered to the ground and demolished. The remaining debris from the failed Cell 3 was also removed from the work area. Embedded turbine parts were arriving at site and were being assembled and prepared for installation in the unit. • Little Long GS – Electrical and mechanical parts installation was nearly complete. The stator winding was completed and testing of the winding was successful. The focus was shifting to pre-operational testing at the end of the quarter. • Smoky Falls GS – Concrete pouring continued to progress according to plan in the service bay, intake and powerhouse areas. At unit 1, stator assembly was completed, winding started and the core loop test was successful. Rotor was being assembled in the service bay, and scroll case soffit concrete was poured. At unit 2, secondary concrete under the stay ring and the scroll case soffit concrete were poured. Rotor assembly had started in the service bay. At unit 3, shoring towers, form work and rebar were being installed for the scroll case soffit concrete. Powerhouse architectural work and electrical component installation continued.
	Stanley Adamson Powerhouse, Peterborough: Otonabee River Capacity: 3.9 MW Status: • Powerhouse work was completed • Electro-mechanical equipment was installed and testing was completed • Grid connection work was completed • Performance and index testing was completed • The OPA was reviewing and auditing all of the upgrade documentation
	Thomas Low Generating Station, Renfrew: Bonnechere River Capacity: 3.5 MW Status: • New contract was executed
Trent Energy Inc.	
Renfrew Power Generating Inc.	

H2O Power Limited	Twin Falls Expansion, Iroquois Falls: Abitibi River Capacity: 27.0 MW Status: - Generator 4 was reassembled and returned to service on April 22, 2013 - Index testing was performed on generator 4 to verify the performance - Generator 5 was disassembled and the main turbine components were shipped for refurbishment - Work on the refurbishment of generator 5 rotor was initiated
	Yellow Falls Generating Station, Smooth Rock Falls: Mattagami River Capacity: 16.0 MW Status: - Met with the First Nations - Met with mayor and council members to discuss project - Review of current permit status was in progress - Dam design and optimization was continued

Renewable Program Projects – Development Status

Renewable Energy Standard Offer Program

A total of 852 MW were contracted through the Renewable Energy Standard Offer Program; 802 MW or 94.1 percent of the contracted capacity was in service by the end of the reporting period, and the remaining 50 MW have milestone commercial operation dates prior to the end of 2014.

Feed-in Tariff Program

By the end of the reporting period, 4,492 MW of combined capacity was contracted through the FIT Program, of which 58 MW were from bio-energy, 1,180 MW were from solar, 3,069 MW were from wind and 185 MW were from hydroelectricity. Of this total capacity, 611 MW or 13.6 percent of the contracted capacity was in commercial operation. In addition, 143 MW of combined contract capacity from solar generation was in commercial operation under the microFIT Program.

Furthermore, 1,009 MW or 22.5 percent of the contracted capacity reached the notice to proceed (NTP) stage of development. Of these, 21 MW were from bio-energy, 537 MW were from solar, 389 MW were from wind and 62 MW were from hydroelectric generation. The remaining 2,873 MW or 64.0 percent of the contracted capacity was in the pre-NTP stage of development, of which 17 MW were from bio-energy, 436 MW were from solar, 2,301 MW were from wind and 118 MW were from hydroelectric generation.

Feed-in Tariff Projects – Progress Table

The status of selected large FIT projects as submitted by their developers to the OPA is set out in Table 5.

Legend

Reg EA	Regulatory Environmental Approvals	SIA	System Impact Assessment
CIA	Connection Impact Assessment	DCP	Domestic Content Plan
FIN	Financing Plan	NTP	Notice to Proceed
CON	Construction		

Progress

C	Complete	U	Under Way
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Table 5: Progress Status of Selected Feed-in Tariff Projects as of June 30, 2013

Developer (total capacity under development)	Project Name	Location	MW	Pre-NTP								Achieved NTP	CON	
				Reg EA		SIA/CIA		DCP		FIN			U	C
				U	C	U	C	U	C	U	C			
Algonquin Power	Amherst Island Wind Project	Stella	75	✓			✓		✓	✓				
Capital Power GP Holdings Inc.	Port Dover/ Nanticoke Wind Project	Walpole	105		✓		✓		✓		✓		✓	
China Longyuan Power Group Corporation Limited	Dufferin Wind Farm	Shelburne	100	✓			✓		✓	✓				
DP Energy (60 MW)	Bow Lake Phase 1 (wind)	Montreal River Harbour	20	✓			✓	✓		✓				
	Bow Lake Phase 2a (wind)	Montreal River Harbour	20	✓			✓	✓		✓				
	Bow Lake Phase 2b (wind)	Montreal River Harbour	20	✓			✓	✓		✓				
Henvey Inlet First Nation	Nigig Power Corporation (wind)	Pickerel	300		✓	✓			✓	✓				
Invenergy Wind Canada ULC.	Conestogo Wind energy Centre 1	Drayton	69	✓			✓	✓		✓				
NextEra Energy (594 MW)	Adelaide Wind Energy Centre	Middlesex County	60	✓			✓	✓		✓				
	Bluewater Wind Energy Centre	Zurich	60	✓			✓		✓		✓			
	Bornish Wind Energy Centre	Keyser	74		✓		✓	✓		✓			✓	
	East Durham Wind Energy Centre	Priceville	23	✓			✓	✓		✓				
	Goshen Wind Energy Centre	Dashwood	102	✓			✓	✓		✓				
	Jericho Wind Energy Centre	Thedford	150	✓			✓	✓		✓				

Developer (total capacity under development)	Project Name	Location	MW	Pre-NTP								Achieved NTP	CON	
				Reg EA		SIA/CIA		DCP		FIN			U	C
				U	C	U	C	U	C	U	C			
	Summerhaven Wind Energy Centre	Nanticoke	125		✓		✓		✓		✓	✓	✓	
Niagara Region Wind Corporation	Niagara Region Wind Farm	Smithville	230	✓			✓		✓	✓				
Northland Power (150 MW)	Grand Bend Wind Farm	Zurich	100	✓		✓			✓					
	McLean's Mountain Wind Farm	Little Current	50		✓		✓		✓		✓	✓	✓	
Pic Mobert First Nation and White River Hydro Limited Partnership (a wholly owned subsidiary of Regional Power Inc.) (19 MW)	Gitchi Animki Bezhig Generating Station	Brothers Township	9		✓		✓		✓		✓	✓		
	Gitchi Animki Niizh Generating Station	Brothers Township	10		✓		✓		✓		✓	✓		
Samsung C&T Corporation and Korea Electric Power (1,070 MW)	Armow (wind)	Kincardine	180	✓			✓	✓		✓				
	Grand Renewable Energy Park (wind)	Haldimand County	149		✓		✓		✓	✓		✓	✓	
	K2 (wind)	Ashfield-Colborne-Wawanosh	270	✓			✓	✓						
	South Kent (wind)	Chatham-Kent	270		✓		✓		✓		✓	✓	✓	
	Grand Renewable Energy Park (solar)	Haldimand County	100		✓		✓		✓		✓	✓		
	Sol-Luce Kingston Solar Energy Project	Kingston & Loyalist Township	100	✓			✓							
Suncor Energy Products Inc.	Cedar Point Wind Power Project Phase II	Forest	100	✓			✓	✓		✓				
Veresen Inc.	Grand Valley Wind Farms Phase 3	Grand Valley	40	✓			✓	✓						
wpd Canada Corp.	White Pines Wind Farm	Milford	60	✓			✓	✓		✓				

Natural Gas and Other Fuel Sources

Chart 12

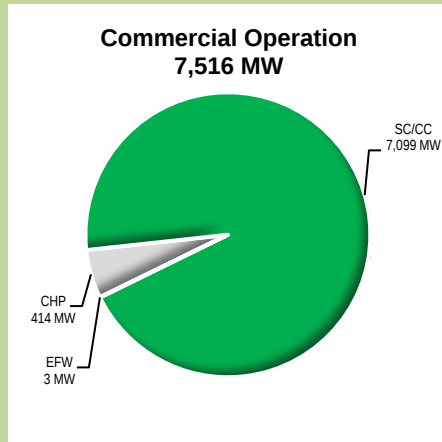
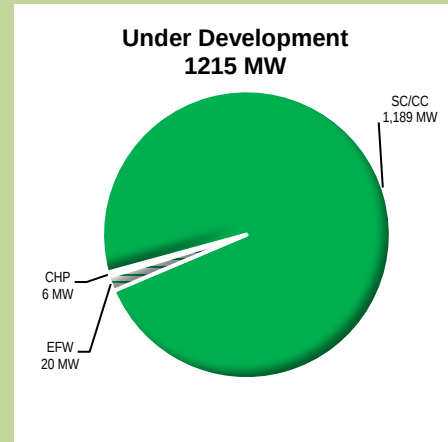


Chart 13



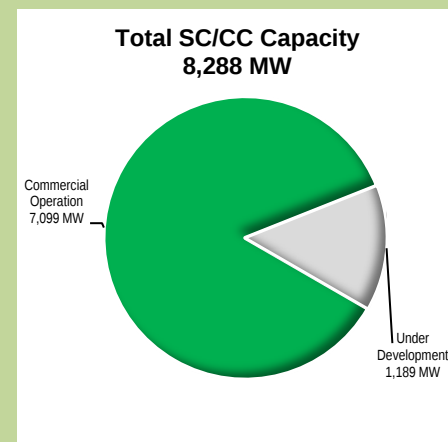
By the end of the reporting period, the OPA was managing 8,731 MW of combined capacity from natural gas-fired projects and projects with other fuel sources. This capacity included 8,288 MW from simple cycle and combined cycle facilities, 420 MW from combined heat and power contracted facilities and 23 MW from energy-from-waste facilities. Of this capacity, 7,516 MW were under commercial operation and 1,215 MW were under development.

Simple Cycle and Combined Cycle Projects

Simple Cycle and Combined Cycle

By the end of the reporting period, the OPA was managing 8,288 MW of combined capacity from simple cycle and combined cycle projects. Of this capacity, 7,099 MW were already in operation and 1,189 MW were under development.

Chart 14



The status of the combined cycle projects as submitted by their developers to the OPA is set out in Table 6.

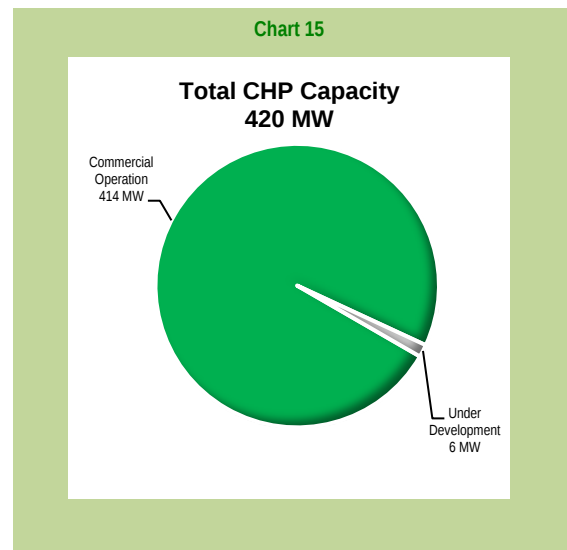
Table 6: Progress Status of Combined Cycle Projects as of June 30, 2013

Developer	Project
Greenfield South Power Corporation	Green Electron Power Plant, Sarnia Capacity: 289 MW Status: • Approval for construction on the east site was granted from St. Clair Region Conservation Authority • Discussions with St. Clair Township to expedite site plan approval and building permit issuance were in progress • Statement of completion of environmental screening and review report was re-issued on May 23, 2013 after the two First Nations groups withdrew their elevation requests • System Impact Assessment (SIA) report was completed
	Napanee Generating Station, Town of Greater Napanee Capacity: 900 MW Status: • The environmental permitting process continued with the field studies and engineering; the municipal permitting and approvals process commenced with the Town of Greater Napanee with the submission of the consent to sever and variance applications • Stakeholder activities continued on multiple fronts, including further engagement with the local neighbours group and the Town of Greater Napanee, and initial engagement with the local Aboriginal groups, including Tyendinaga and Alderville First Nations groups, that have expressed interest in the project • The first project newsletter was mailed to approximately 12,000 residents of Greater Napanee and the southern Loyalist Township; a jobs information session was held to provide information regarding skills, qualifications, timing and contracts for construction and operations positions required for the station • Detailed plant engineering progressed with base documents and details were being developed to support permitting, major equipment and other long lead-time procurement efforts • Major equipment procurement activities continued, with completion of the steam turbine and Heat Recovery Steam Generator (HRSG) contract and full release of engineering for this equipment; combustion turbine auxiliary equipment deliveries started and were received at a storage facility in Pickering, Ontario
TransCanada Energy Ltd.	

Combined Heat and Power Projects

Combined Heat and Power

By the end of the reporting period, the OPA was managing 420 MW of combined capacity from combined heat and power contracted projects. The 6 MW of capacity from the two projects listed in the following table was scheduled to be in service by 2014.



The status of the two CHP projects under development as submitted by their developers to the OPA is set out in Table 7.

Table 7: Progress Status of Combined Heat and Power Projects as of June 30, 2013

Developer	Project
Markham District Energy Centre Inc.	Birchmount Energy Centre, Markham Capacity: 2.6 MW Status: - Generator set and supporting equipment were delivered on site and set into place - Mechanical and electrical installation work was in progress
	Bur Oak Energy Centre, Markham Capacity: 3.3 MW Status: - Generator set and supporting equipment were delivered to the site - Mechanical and electrical installation work was in progress

Energy-from-Waste Projects

By the end of the reporting period, the OPA was managing 23 MW of combined capacity from energy-from-waste projects. Of this capacity, 3 MW were already in operation and 20 MW were under development. The 20 MW of capacity from the project listed in the following table was scheduled to be in service by mid-2016.

The status of the energy-from-waste project as submitted by its developer to the OPA is set out in Table 8.

Table 8: Progress Status of Energy-from-Waste Project as of June 30, 2013

Developer	Project
Regional Municipality of Durham-York	Durham York Energy Centre, Municipality of Clarington Capacity: 20 MW Status: • Civil structural steel construction continued on the tipping building, turbine generator building, boiler building and Air Pollution Control (APC) enclosure • Fabrication work on the water wall panels was nearing completion; panel installation in the boiler building had begun; fabrication and installation of boiler drain piping and process water piping in the boiler enclosure and turbine generator building continued • Construction of the fire water storage tank was nearing completion; turbine generator set had been set up and testing had begun • Building liner panels and roofing in the tipping building, refuse building and turbine generator building were complete • Electrical construction of the switchyard commenced

Nuclear

Bruce A Restart and Refurbishment Projects

The OPA had 3,000 MW of nuclear energy supply capacity under contract; 1,500 MW were from the restart of units 1 and 2, which was completed at the end of October 2012. The other 1,500 MW were from units 3 and 4, which were in operation prior to contract execution and continued operations during the reporting period. Planning activities for refurbishment of units 3 and 4 commenced.

For additional information on the Bruce A Restart Project, visit

<http://powerauthority.on.ca/nuclear/bruce-restart-and-refurbishment-project-3000-mw-tiverton>

<http://www.brucepower.com/>.

Photo Gallery

Atikokan Generating Station



Photo 1 – Silo slip forming was completed



Photo 2 – Transfer tower structural steel erection was completed

Becker Cogeneration Plant



Photo 3 – Cooling tower was ready for commissioning



Photo 4 – Generator and turbine were in place

Durham York Energy Centre



Photo 5 – An aerial view of Durham York Energy Centre construction site



Photo 6 – Building liner panels and roofing in the tipping building, refuse building and turbine generator building were completed

Lower Mattagami Hydroelectric Station Expansion

Harmon Generating Station



Photo 7 – Cofferdam removal was in progress

Kipling Generating Station



Photo 8 – Concrete work resumed in unit 3

Little Long Generating Station



Photo 9 – Switchyard of unit 3 was completed

Smoky Falls Generating Station



Photo 10 – Concrete pouring continues to progress in the service bay, intake and powerhouse areas

McLean's Mountain Wind Farm (FIT)



Photo 11 – Turbine foundation rebar and tower anchor bolts installation was in progress



Photo 12 – Cable trenching for submarine cable was completed

Port Dover and Nanticoke Wind Project (FIT)



Photo 13– The wind turbine component preparation for assembly was in progress



Photo 14 – The nacelle lift was in progress

South Kent Wind



Photo 15 – One of the wind turbine foundation pours was in progress



Photo 16 – The first wind turbine generator base was delivered on site

Stanley Adamson Powerhouse



Photo 17 – New powerhouse interior was completed

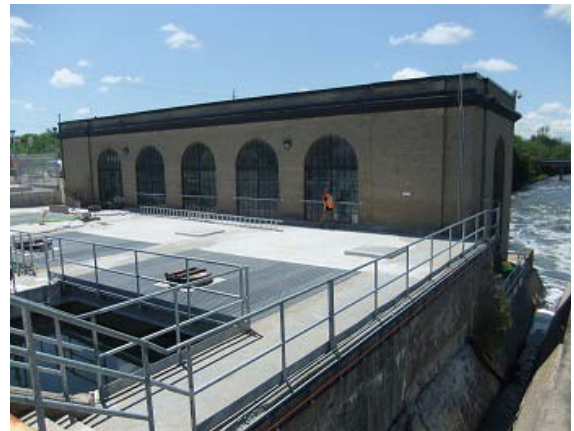


Photo 18 – The forebay was completed

Twin Falls Generating Station (Runner Upgrade)



Photo 19 – After runner upgrade, generator 4 was nearing final stages of re-assembly



Photo 20 – The generator 5 on-site machining was in progress

Appendices

Appendix I: OPA Contracts and Contract Capacity

Table 9: All Contract Capacity as of June 30, 2013

Energy Source	Contract Type	Number of Contracts			New Capacity (MW) Post-OPA Inception		Total Capacity (MW) Pre- and Post-OPA Inception		In Service and Under Development (MW)
		Total	In Service	Under Development	In Service	Under Development	In Service	Under Development	Total
Bio-energy	FIT	49	27	22	20.3	38.0	20.3	38.0	58
	microFIT	1	16,378	0	0.0	0.0	0.0	0.0	0
	RESOP	19	18	1	39.7	4.0	39.7	4.0	44
	CHP III	2	0	2	40.0	8.0	40.0	8.0	48
	RES	3	3	0	9.3	0.0	9.3	0.0	9
	Atikokan	1	0	1	0.0	205.0	0.0	205.0	205
	Subtotal	16,452	16,426	26	109.3	254.9	109.3	254.9	364
Solar	FIT	1,522	652	870	206.1	973.6	206.1	973.6	1,180
	microFIT	1	1	0	142.8	0.0	142.8	0.0	143
	RESOP	57	56	1	465.2	10.0	465.2	10.0	475
	KC	2	0	2	0.0	200.0	0.0	200.0	200
	Subtotal	1,582	709	873	814.1	1,183.6	814.1	1,183.6	1,998
Wind	FIT	71	10	61	378.8	2,690.3	378.8	2,690.3	3,069
	microFIT	5	5	0	0.0	0.0	0.0	0.0	0
	RESOP	37	33	4	269.4	36.0	269.4	36.0	305
	RES	15	15	0	1,509.4	0.0	1,509.4	0.0	1,509
	KC	4	0	4	0.0	868.6	0.0	868.6	869
	Subtotal	132	63	69	2,157.6	3,594.9	2,157.6	3,594.9	5,752
Renewable Non-Hydro Subtotal		18,166	17,198	968	3,081	5,033	3,081	5,033	8,114
Hydroelectricity	FIT	44	1	43	5.5	179.9	5.5	179.9	185
	RESOP	16	16	0	28.2	0.0	28.2	0.0	28
	RES	3	2	1	31.0	16.0	31.0	16.0	47
	HCI	51	49	2	6.0	10.4	1,082.0	10.4	1,092
	HESA	4	3.0	1.0	62.9	516.0	573.0	516.0	1,036
Renewable Hydro Subtotal		118	71	47	134	722	1,720	722	2,389³
Natural Gas (SC/ CC)	CES	5	3	2	1,672.0	1,189.0	1,672.0	1,189.0	2,861
	ACES	3	3	0	2,030.6	0.0	2,030.6	0.0	2,031
	EMCES	5	5	0	985.3	0.0	1,003.6	0.0	1,004
	Lennox	1	1	0	0.0	0.0	2,000.0	0.0	2,000
	PGS	1	1	0	393.0	0.0	393.0	0.0	393
	Subtotal	15	13	2	5,080.9	1,189.0	7,099.2	1,189.0	8,288
Natural Gas(CHP)	CHP I & CHPSOP	9	7	2	414.0	5.9	414.0	5.9	420
Other	EFW	2	1	1	2.8	20.0	2.8	20.0	23
Natural Gas and Other Subtotal		26	21	5	5,516	1,215	7,516	1,215	8,731
Nuclear	Bruce	1	1.0	0.0	3,000.0	0.0	3,000.0	0.0	3,000
Nuclear Subtotal		1	1.0	0.0	3,000	0	3,000	0	3,000
Subtotal			17,291	1,020	11,712	6,971	15,317	6,971	22,234
Total			18,311		18,683		22,234³		

³ The existing Smoky Falls Generating Station with a capacity of 53 MW will be decommissioned in January 2015.

Table 9 Acronyms

ACES = Accelerated Clean Energy Supply

CES = Clean Energy Supply

CHPSOP = Combined Heat and Power Standard Offer Program

EFW = Energy from Waste

EMCES = Early Movers Clean Energy Supply

HCI = Hydroelectric Contract Initiative

HESA = Hydroelectric Energy Supply Agreement

KC = Korean Consortium

PGS = Peaking Generation Supply

RES = Renewable Energy Supply

Appendix II: Non-Standard Offer Program Contracted Facilities in Commercial Operation

Table 10: Renewable Energy – Bio-energy as of June 30, 2013

Contract Facility	Contract Capacity (MW)	Commercial Operation/Term Commencement Date	Contract Expiry Date
Eastview Landfill Gas Energy Plant	1.7	18-Aug-05	Q3 2025
Hamilton (Digester Gas) Cogeneration Project	1.6	10-Jul-06	Q3 2026
Trail Road Landfill Generating Facility	6.0	31-Jan-07	Q1 2027
Thunder Bay Condensing Turbine Project	40.0	20-Mar-13	Q1 2023
Subtotal	49		

Table 11: Renewable Energy – Wind as of June 30, 2013

Contract Facility	Contract Capacity (MW)	Commercial Operation/Term Commencement Date	Contract Expiry Date
Enbridge Ontario Wind Farm	181.5	19-Feb-09	Q1 2029
Erie Shores Wind Farm	99.0	24-May-06	Q2 2026
Gosfield Wind Project	50.6	16-Sep-10	Q4 2032
Greenwich Wind Farm	98.9	14-Oct-11	Q4 2031
Kingsbridge I Wind Power Project	39.6	16-Mar-06	Q1 2026
Kruger Energy Chatham Wind Project	99.4	01-Jan-11	Q4 2031
Kruger Energy Port Alma Wind Power Project	101.2	31-Oct-08	Q4 2028
Melancthon I Wind Plant	67.5	04-Mar-06	Q1 2026
Melancthon II Wind Plant	132.0	24-Nov-08	Q4 2028
Prince I Wind Power Project	99.0	21-Sep-06	Q3 2026
Prince II Wind Power Project	90.0	19-Nov-06	Q4 2026
Raleigh Wind Energy Centre	78.0	29-Jan-11	Q1 2031
Ripley Wind Power Project	76.0	22-Dec-07	Q4 2027
Talbot Wind Farm	98.9	16-Dec-10	Q4 2031
Wolfe Island Wind Project	197.8	26-Jun-09	Q2 2029
Subtotal	1,509		

Table 12: Renewable Energy – Hydroelectricity as of June 30, 2013

Contract Facility	Contract Capacity (MW)	Commercial Operation/Term Commencement Date	Contract Expiry Date
Andrews Generating Station	47.0	1-Dec-09	Q4 2029
Appleton Eco Power Centre	1.4	1-Jan-11	Q4 2030
Aubrey Falls Generating Station	162.0	1-Dec-09	Q4 2029
Ayton Mills NUGS	0.3	1-Apr-13	Q2 2033
Barrie Small Hydro Limited	0.1	17-Jul-10	Q3 2030
Bracebridge Falls Generating Station	2.6	1-May-10	Q2 2030
Brewers Mills	0.9	1-May-10	Q2 2030
Burk's Falls	1.1	1-May-10	Q2 2030
Calm Lake Generating Station	9.0	1-Dec-09	Q4 2029
Campellford-Seymour Electric Generation Inc. – Plant No. 1	2.0	1-Jan-10	Q4 2029
Casselman Generating Station	0.5	1-Nov-11	Q4 2031
Chaudiere No. 2. Generating Station	8.4	1-Apr-10	Q1 2030
Chaudiere No. 4 Generating Station	9.3	1-Apr-10	Q1 2030
Clergue Generating Station	52.0	1-Dec-09	Q4 2029
Conestogo Dam Generating Station	0.6	1-Jan-13	Q1 2033
Current River Hydro	0.5	1-Mar-10	Q1 2030
Devil's Gap Generating Station	0.5	1-Jun-10	Q2 2030
Domtar, Espanola Mill	18.0	1-Jan-12	Q1 2032
Drag River GS	0.3	11-Mar-13	Q1 2033
Dunford Generating Station	45.0	1-Dec-09	Q4 2029
Enerdu Power Systems Ltd.	0.3	1-Mar-11	Q1 2031
Fort Frances Generating Station	10.0	1-Dec-09	Q4 2029
Galetta Eco Power Centre	1.6	1-Jan-11	Q4 2030
Gananoque	0.7	1-May-10	Q2 2030
Gartshore Generating Station	23.0	1-Dec-09	Q4 2029
Glen Miller Generating Station	8.0	19-Dec-05	Q4 2025
Harmon Generating Station	141.0	22-Jun-10	Q4 2065
Harris Generating Station	12.0	1-Dec-09	Q4 2029
Healey Falls Generating Station	15.7	7-Apr-10	Q2 2060
Heywood Generating Station	7.2	1-Jan-10	Q4 2029
High Falls Generating Station #1	0.8	1-Oct-10	Q3 2030
Hogg Generating Station	18.0	1-Dec-09	Q4 2029
Hollingsworth Generating Station	23.0	1-Dec-09	Q4 2029

Hound Chute Generating Station	9.5	27-Oct-10	Q4 2060
Hurdman Dam	0.6	1-Jun-11	Q2 2031
Iroquois Falls Generating Station	29.0	1-Dec-09	Q4 2029
Island Falls Generating Station	38.0	1-Dec-09	Q4 2029
Jones Falls	2.4	1-May-10	Q2 2030
Kagawong Generating Station	0.8	1-Jan-10	Q4 2029
Kenora Generating Station	6.0	1-Dec-09	Q4 2029
Kingston Mills	1.9	1-May-10	Q2 2030
Kipling Generating Station	157.0	22-Jun-10	Q4 2065
Lac Seul/Ear Falls Generating Station	29.3	18-Feb-09	Q1 2059
Little Long Generating Station	133.0	22-Jun-10	Q4 2065
London Street Generating Station	4.1	1-Jan-10	Q4 2029
Long Slide GS	0.7	1-Mar-13	Q1 2033
Lower Sturgeon Generating Station	14.0	27-Oct-10	Q4 2060
MacKay Generating Station	62.0	1-Dec-09	Q4 2029
Maple Hill	0.6	1-Dec-10	Q4 2030
Marmora GS	1.0	27-Jul-13	Q2 2033
Matthias Generating Station	3.0	1-Jan-10	Q4 2029
McPhail Generating Station	13.0	1-Dec-09	Q4 2029
Minden Generating Station	4.0	1-Jan-10	Q4 2029
Mission Generating Station	16.0	1-Dec-09	Q4 2029
Moose Rapids Generating Station	1.4	1-Jan-11	Q4 2030
Norman Generating Station	10.0	1-Dec-09	Q4 2029
Parry Sound PowerGen Corporation – Cascade Street Generating Station	1.2	1-Mar-10	Q1 2030
Rayner Generating Station	46.0	1-Dec-09	Q4 2029
Red Rock Falls Generating Station	41.0	1-Dec-09	Q4 2029
Renfrew Power Generation Inc. – Lower Plant	1.0	1-Jan-10	Q4 2029
Renfrew Power Generation Inc. – Upper Plant	1.0	1-Jan-10	Q4 2029
Rideau Falls	2.0	1-May-10	Q2 2030
Sandy Falls Generating Station	5.5	27-Oct-10	Q4 2060
Saugeen Generating Station	0.3	1-Aug-12	Q3 2032
Scone Generator	0.1	1-Jan-10	Q4 2029
Scott Falls Generating Station	22.0	1-Dec-09	Q4 2029
Shand Dam Generating Station	0.7	1-Sep-10	Q3 2030
Smoky Falls Generating Station	53.0	22-Jun-10	Q4 2065
Steepphill Generating Station	16.0	1-Dec-09	Q4 2029
Stewart Generating Station	0.2	5-Jun-10	Q2 2030

Sturgeon Falls Generating Station	7.0	1-Dec-09	Q4 2029
Swift Rapids Generating Station	7.9	1-Jan-10	Q4 2029
Tembec, Smooth Rock Falls Facilities	8.0	14-Mar-10	Q1 2030
Truisler Chute Generating Station	0.6	1-Jun-11	Q2 2031
Tweed Generating Station	0.2	1-Nov-10	Q4 2030
Twin Falls Generating Station	22.0	1-Dec-09	Q4 2029
Umbata Falls Generating Station	23.0	12-Nov-08	Q4 2028
Washburn	0.2	1-May-10	Q2 2030
Water Street Pump house	1.3	1-Mar-13	Q1 2033
Wawaitin Generating Station	15.0	27-Oct-10	Q4 2060
Wells Generating Station	239.0	1-Dec-09	Q4 2029
West Nipissing Power Generation	6.5	1-Mar-10	Q1 2030
Wilson's Falls	2.9	1-May-10	Q2 2030
635294 Ontario Inc.	0.5	1-Feb-10	Q1 2030
1149377 Ontario Limited	2.3	1-Jan-10	Q4 2029
Subtotal	1,686		

Table 13: Natural Gas and Other Fuel Sources – Simple Cycle and Combined Cycle as of June 30, 2013

Contract Facility	Contract Capacity (MW)	Commercial Operation/Term Commencement Date	Contract Expiry Date
Brighton Beach Power Station	541.3	01-Jan-06	Q3 2024
Goreway Station	839.1	04-Jun-09	Q2 2029
Greenfield Energy Centre	1,005.0	16-Oct-08	Q4 2028
GTAA Cogeneration Plant	90.0	01-Feb-06	Q1 2026
Halton Hills Generating Station	641.5	01-Sep-10	Q3 2030
Lennox Generating Station	2,000.0	01-Jan-13	Q3 2022
Portlands Energy Centre	550.0	22-Apr-09	Q2 2029
Sarnia Regional Cogeneration Plant	444.0	01-Jan-06	Q4 2025
St. Clair Energy Centre	577.0	30-Mar-09	Q1 2029
Sudbury District Energy Cogeneration Plant	5.0	01-Jan-06	Q4 2024
Sudbury District Energy, Hospital Cogeneration	6.7	01-Jan-06	Q4 2024
Trent Valley Cogeneration Plant	6.7	01-Jan-06	Q4 2015
York Energy Centre	393.0	09-May-12	Q2 2032
Subtotal	7,099		

Table 14: Natural Gas and Other Fuel Sources - Combined Heat and Power Contracts as of June 30, 2013

Contract Facility	Contract Capacity (MW)	Commercial Operation/Term Commencement Date	Contract Expiry Date
Durham College District Energy Project	2.3	11-Mar-08	Q1 2028
East Windsor Cogeneration	84.0	06-Nov-09	Q4 2029
Essar Cogeneration Facility	63.0	13-Jun-09	Q2 2029
Great Northern Tri-Gen Facility	11.3	31-Oct-08	Q4 2028
London Cogeneration Facility	12.0	31-Dec-08	Q4 2028
Thorold Cogen	236.4	28-Mar-10	Q1 2030
Warden Energy Centre	5.0	04-Jun-08	Q2 2028
Subtotal	414		

Table 15: Natural Gas and Other Fuel Sources – Energy-from-Waste as of June 30, 2013

Contract Facility	Contract Capacity (MW)	Commercial Operation Date	Forecasted Contract Expiry Date
Plasco Trail Road Facility	2.8	1-Jan-08	Q4 2014
Subtotal	2.8		

Table 16: Nuclear Energy as of June 30, 2013

Contract Facility	Contract Capacity (MW)	Term Commencement Date	Contract Expiry Date
Bruce A Units 1 – 4	3,000.0	31-Oct-05	Q4 2037
Subtotal	3,000		

Appendix III: Non-Standard Offer Program Contracted Facilities Under Development

Table 17: Renewable Energy – Bio-energy as of June 30, 2013

Contract Facility	Contract Capacity (MW)	Scheduled Commercial Operation Date	Forecasted Contract Expiry Date
Atikokan Generating Station	205.0	Q2 2014	Q4 2023
Becker Cogeneration Plant	8.0	Q4 2013	Q4 2033
Subtotal	213		

Table 18: Renewable Energy – Solar as of June 30, 2013

Contract Facility	Contract Capacity (MW)	Scheduled Commercial Operation Date	Forecasted Contract Expiry Date
Grand Renewable Energy Park	100.0	Q1 2014	Q1 2034
Sol-Luce Kingston Solar Energy Project	100.0	Q4 2014	Q4 2034
Subtotal	200		

Table 19: Renewable Energy – Wind as of June 30, 2013

Contract Facility	Contract Capacity (MW)	Scheduled Commercial Operation Date	Forecasted Contract Expiry Date
Armow Wind Project	180.0	Q4 2014	Q4 2034
Grand Renewable Energy Park	148.6	Q1 2014	Q1 2034
K2	270.0	Q4 2014	Q4 2034
South Kent Wind Project	270.0	Q1 2014	Q1 2034
Subtotal	869		

Table 20: Renewable Energy – Hydroelectricity as of June 30, 2013

Contract Facility	Contract Capacity (MW)	Scheduled Commercial Operation Date	Forecasted Contract Expiry Date
Harmon Generating Station (Expansion)	78.0	Q4 2015	Q4 2065
Harmon Generating Station (Runner Upgrade)	17.6	Q4 2016	Q4 2065
Kipling Generating Station (Expansion)	78.0	Q4 2015	Q4 2065
Little Long Generating Station (Expansion)	67.0	Q4 2015	Q4 2065
Little Long Generating Station (Runner Upgrade)	7.5	Q4 2017	Q4 2065
Smoky Falls Generating Station (Redevelopment)	267.9	Q4 2015	Q4 2065
Stanley Adamson Powerhouse	3.9	Q2 2013	Q2 2033
Thomas Low Generating Station	1.5	Q1 2014	Q4 2029
Twin Falls Generating Station (Runner Upgrade)	5.0	Q1 2014	Q4 2029
Yellow Falls Hydroelectric Project	16.0	Q3 2016	Q3 2036
Subtotal	542		

Table 21: Natural Gas and Other Fuel Sources – Simple Cycle/Combined Cycle as of June 30, 2013

Contract Facility	Contract Capacity (MW)	Scheduled Commercial Operation Date	Forecasted Contract Expiry Date
Green Electron Power Plant	289.0	Q3 2017	Q3 2037
Napanee Generating Station	900.0	Q4 2018	Q4 2038
Subtotal	1,189		

Table 22: Natural Gas and Other Fuel Sources – Combined Heat and Power Contracts as of June 30, 2013

Contract Facility	Contract Capacity (MW)	Scheduled Commercial Operation Date	Forecasted Contract Expiry Date
Birchmount Energy Centre	2.6	Q3 2014	Q3 2034
Bur Oak Energy Centre	3.3	Q3 2014	Q3 2034
Subtotal	6		

Table 23: Natural Gas and Other Fuel Sources – Energy-from-Waste as of June 30, 2013

Contract Facility	Contract Capacity (MW)	Scheduled Commercial Operation Date	Forecasted Contract Expiry Date
Durham York Energy Centre	20.0	Q3 2016	Q3 2036
Subtotal	20		

Appendix IV: Summary of RESOP and FIT Contracts

Table 24: Renewable Energy Standard Offer Program and Feed-in Tariff Program as of June 30, 2013

Program	Fuel Source	Under Development (MW)	Commercial Operation (MW)	Total (MW)
RESOP	Bio-Energy	4	40	852
	Hydroelectric	-	28	
	Solar	10	465	
	Wind	36	269	
	Subtotal	50	802	
FIT	Bio-Energy	38	20	4,492
	Hydroelectric	180	6	
	Solar	974	206	
	Wind	2,690	379	
	Subtotal	3,882	611	
microFIT	microFIT Solar Contracts (Total 16,384)	-	143	143
Total (MW)		3,932	1,556	5,488



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