

A Progress Report on Contracted Electricity Supply



2013
First
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.

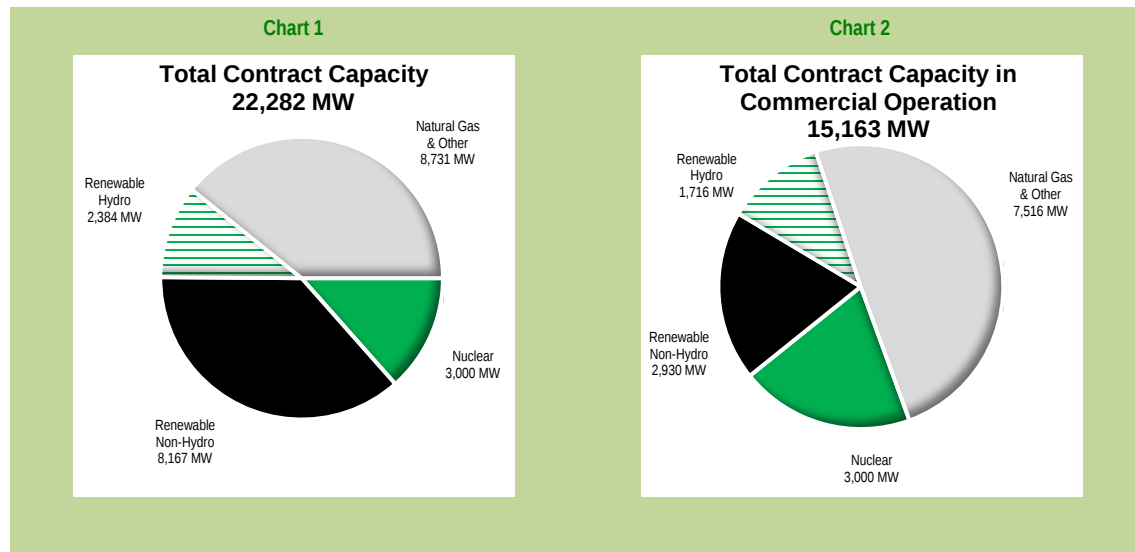
Together with our partners, we ensure that electricity needs are met for the benefit of Ontario both now and in the future. We plan and procure electricity supply from diverse resources and facilitate the measures needed to achieve ambitious conservation targets.

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Executive Summary

Overview



As of the end of the first quarter of 2013, the OPA administered contracts for 22,282 megawatts (MW) of electricity supply generation.

Of this 22,282 MW of supply capacity, 4,728¹ MW were procured from existing generating facilities, which required minimal or no new capital investment. The remaining capacity of 17,607 MW was procured from new development, expansion, redevelopment, or refurbishment of existing facilities. This capacity represents over \$37 billion of new capital investment in power generation in Ontario's electricity system since 2005.

Since the last reporting period, the overall contracted capacity decreased by 129 MW. This mainly resulted from an adjustment of the contract capacity of Lennox Generating Station.

By the end of the reporting period, the OPA had 8,167 MW of renewable non-hydroelectric, 2,384 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, 2,930 MW from renewable non-hydroelectric, 1,716 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 15,163 MW (see Chart 2). The remaining 7,172 MW of the OPA's contracted capacity were in various stages of development.

¹ Including 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 1,462 MW were contracted with Aboriginal participation and 228 MW were contracted with community and municipal participation. This represented about 7.6 percent of the OPA's total procured generation capacity.

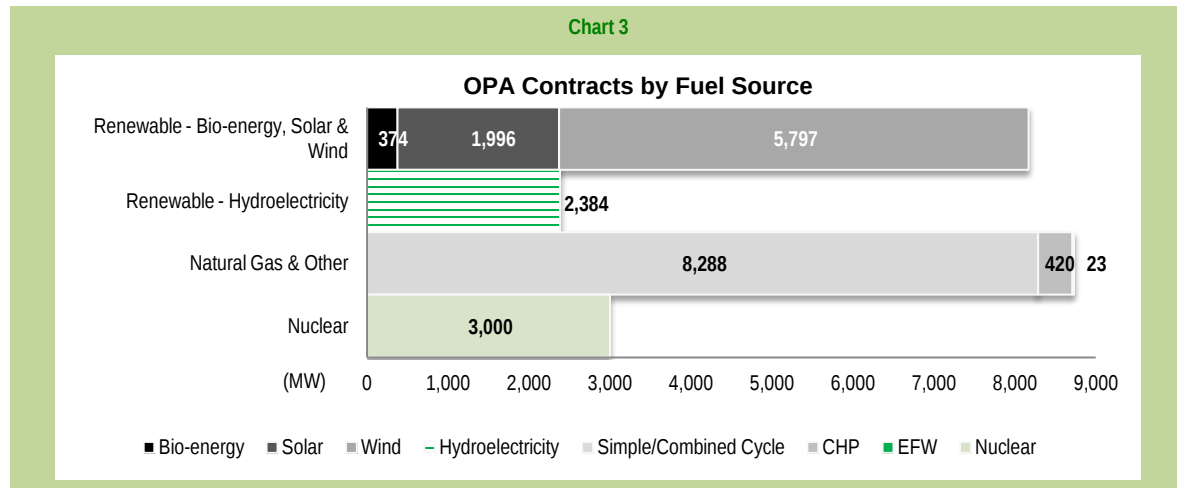


Table 1: Breakdown of Total Contract Capacity as of March 31, 2013

	Total	Under Development	Commercial Operation
Renewables			
Bio-energy	374	266	108
Solar	1,996	1,232	764
Wind	5,797	3,739	2,059
Non-Hydroelectric – Subtotal (MW)	8,167	5,237	2,930
Hydroelectric	2,384	721	1,716 ³
Renewables – Subtotal (MW)	10,551	5,958	4,647
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)	22,282	7,172	15,163

³Including 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, 5.9 MW² of combined capacity was contracted through the micro Feed-in Tariff (microFIT) Program.

Renewable Energy – Hydroelectricity

Within the reporting period, the OPA entered into a Hydroelectric Contract Initiative (HCI) contract with the Grand River Conservation Authority for its existing 0.58-MW Conestogo Dam Generating Station³ near the Township of Mapleton, Ontario.

Contracts That Reached Commercial Operation

Renewable Energy – Non-Hydroelectricity

Bio-energy

Within the reporting period, 45.2 MW of combined capacity came into commercial operation, including three projects under the Feed-in Tariff (FIT) Program and the Thunder Bay Condensing Turbine project developed by Resolute FP Canada Inc.

Solar

Within the reporting period, 118.8 MW of combined capacity came into commercial operation under the FIT, microFIT and Renewable Energy Standard Offer Program (RESOP) programs.

Wind

Within the reporting period, 39.6 MW of combined capacity came into commercial operation under the FIT and RESOP programs.

Renewable Energy – Hydroelectricity

Within the reporting period, 6.0 MW of combined capacity came into commercial operation, including one project under the FIT Program and a project under HCI contract.

Contract Amendments

Renewable Energy – Non-Hydroelectricity

Solar

Within the reporting period, capacity was reduced by 1.6 MW through contract amendments under the FIT Program.

Wind

Within the reporting period, capacity was increased by 6.0 MW through contract amendments under the FIT and RESOP Programs.

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

³ Existing facility, the capacity was in-service capacity.

Renewable Energy – Hydroelectricity

Within the reporting period, capacity was increased by 1.9 MW through contract amendments under the FIT Program.

Contract Terminations

Renewable Energy – Non-Hydroelectricity

Solar

Within the reporting period, 4.3 MW of combined capacity from 25 FIT contracts were 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 March 31, 2013

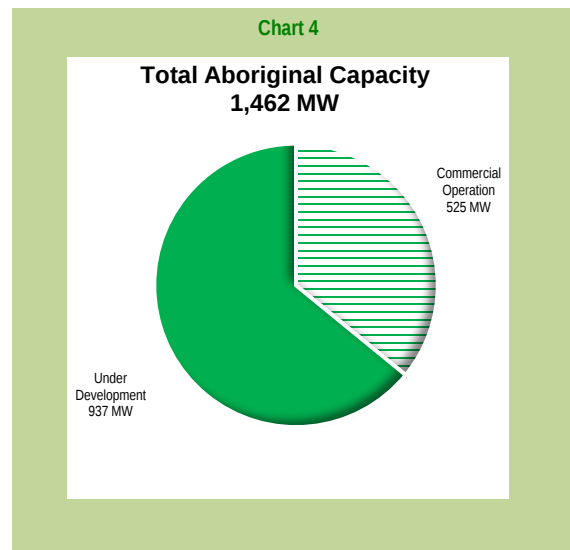
Energy Supply	2005-2010	2011	2012	2013 Q1	2013 Q2-Q4	2014	2015	2016	2017	2018	TOTAL (MW)
Renewable	3,348	776	313	210	986	3,974	892	46	8	-	10,551
Natural Gas and Other Fuel Sources	7,260	-	393	(137) ⁴	-	6	0	20	289	900	8,731
Nuclear	1,500	-	1,500	-	-	-	-	-	-	-	3,000
Total (MW)	12,108	776	2,206	73	986	3,980	892	66	297	900	22,282
Cumulative Total (MW)	12,108	12,883	15,090	15,163	16,148	20,128	21,019	21,086	21,382	22,282	

⁴ 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. 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.

Aboriginal and Community Participation

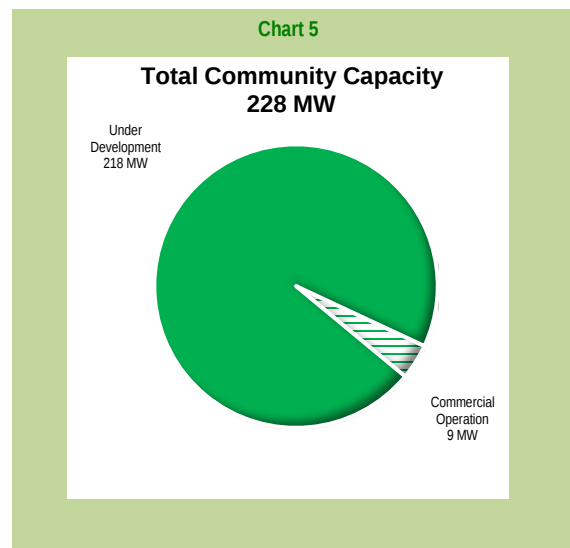
Aboriginal Participation

By the end of the reporting period, 22 First Nations and Métis communities were participating in the development of renewable generation projects throughout Ontario. These Aboriginal groups were participating in 5 MW of solar, 424 MW of wind and 1,033 MW of hydroelectric generation projects.



Community Participation

By the end of the reporting period, 88 communities were participating in the development of renewable generation projects throughout Ontario. These communities were participating in 14 MW of bio-energy, 47 MW of solar and 167 MW of wind projects. Within the reporting period, 0.4 MW of combined capacity from two FIT contracts were terminated due to the contract counterparty failing to meet contract requirements.



Additional Details and Related Links

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

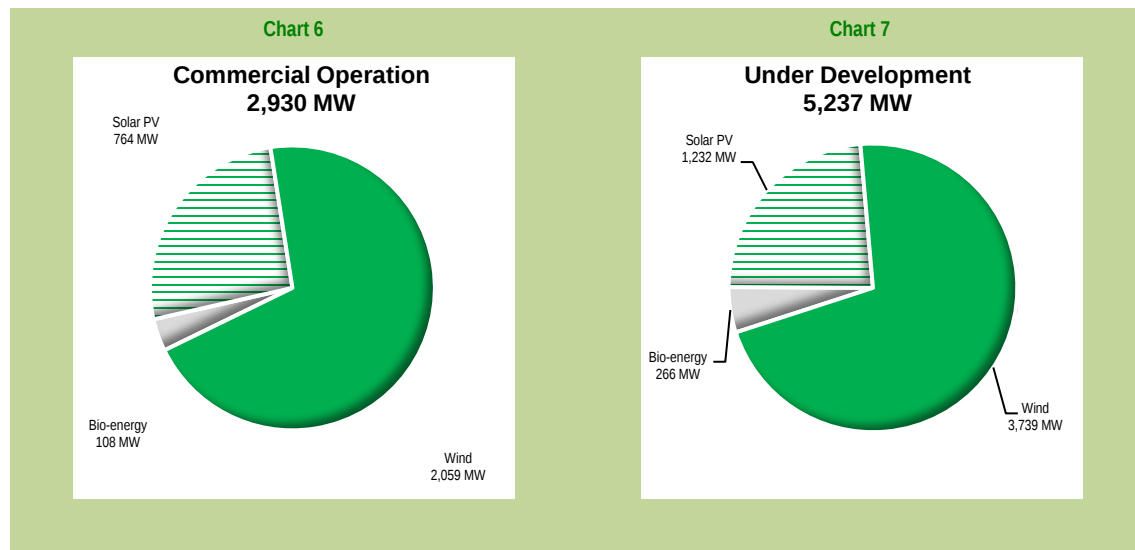
For further information on the OPA's FIT and microFIT programs, visit <http://fit.powerauthority.on.ca>.

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

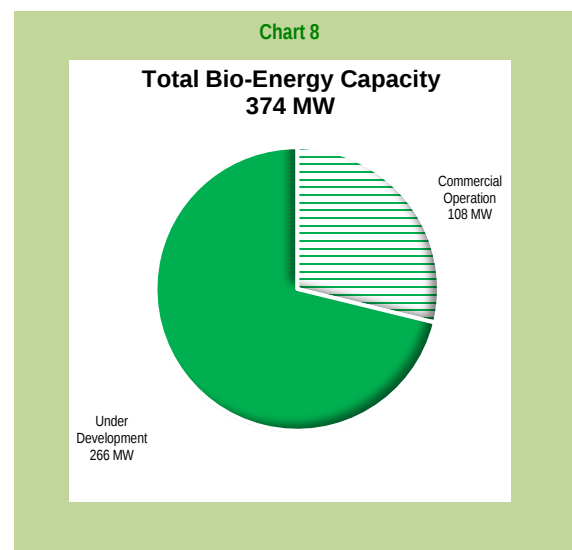
Non-Hydroelectric Projects

By the end of the reporting period, the OPA was managing 8,167 MW of combined capacity from renewable non-hydroelectric energy projects, of which 2,930 MW of capacity were in commercial operation and 5,237 MW were under development. The breakdown is shown in Charts 6 and 7 below.



Bio-Energy

By the end of the reporting period, the OPA was managing 374 MW of combined capacity from bio-energy projects. Of the total capacity, 108 MW were in commercial operation and 266 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.



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

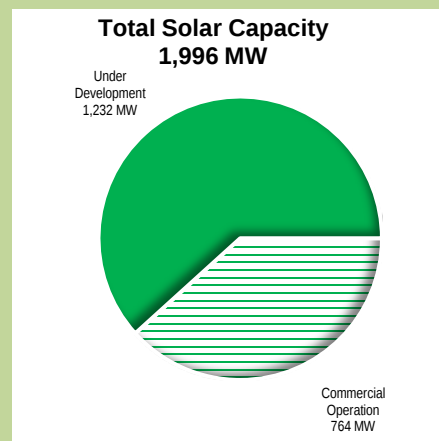
Table 3: Progress Status of non-FIT Bio-Energy Projects as of March 31, 2013

Developer	Project
Ontario Power Generation	Atikokan Generating Station Conversion, Atikokan Capacity: 205 MW Status: - Controls integration installation bid submissions were under review - Fuel Combustion System (FCS) installation contracts were signed - Construction activities were under way including: preparing road access, foundation concrete forming and pouring, backfilling with crushed rock, structural steel erection, fuel and combustion work in the boiler, pulveriser modification, etc.
	Becker Cogeneration Plant, Hornepayne Capacity: 8 MW Status: - Turbine was balanced, and turbine sole plates were leveled and grouted in place - Boiler auxiliaries were installed, including: fuel bin, stoker assembly, de-aerator. Boiler drums were erected - Electrical switchgears were installed - Electrical room floor was poured and cable trays were being installed - Office and control room walls were erected and wiring was progressing

Solar

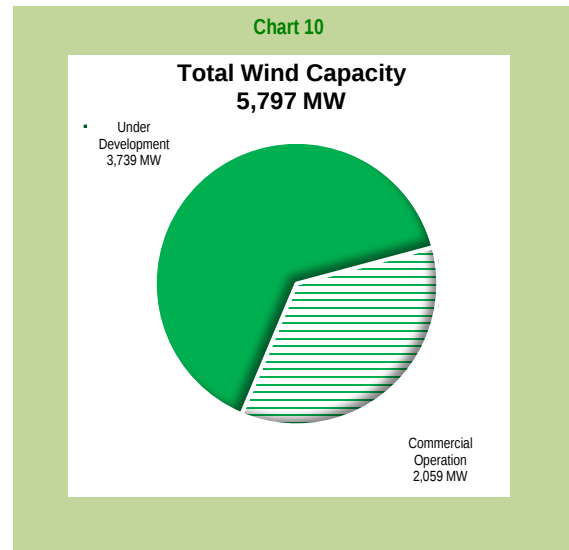
By the end of the reporting period, the OPA was managing 1,996 MW of combined capacity from solar projects. Of the total capacity, 5 MW were developed with Aboriginal participation. All of the capacity from projects that were under development is scheduled to be in service at or before the end of 2015.

Chart 9



Wind

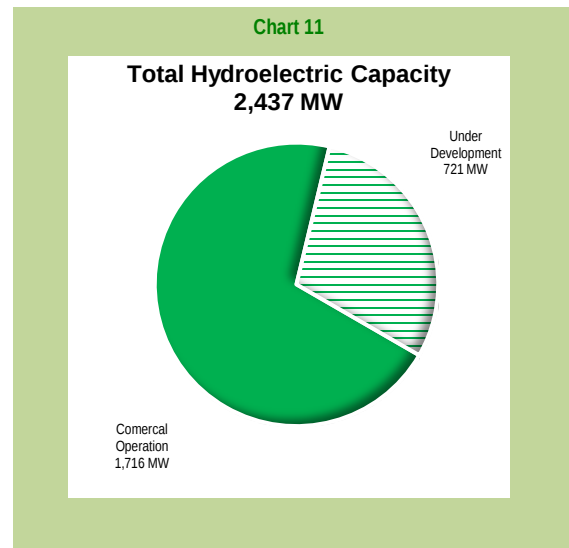
By the end of the reporting period, the OPA was managing 5,797 MW of combined capacity from wind projects. Of the total capacity, 424 MW were developed with Aboriginal participation. All of the capacity from projects that were under development is scheduled to be in service at or before the end of 2015.



Hydroelectric Projects

Hydroelectricity

By the end of the reporting period, the OPA was managing 2,437³ MW of combined capacity from hydroelectric projects. Of the total capacity, 1,033 MW include Aboriginal participation. 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 March 31, 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 91 percent complete. The powerhouse steel superstructure was erected and the interior cladding was installed. Secondary concrete was poured for the draft tube gate guides. Turbine parts installation was started, and the focus of the work was transitioning to electrical and mechanical work • Kipling GS – An engineering structure designed to stabilize the concrete cap for cell 3 of the failed downstream temporary water-retaining structure was implemented. The installation of a water-retaining earth berm from the west shore to cell 2 was progressing • Little Long GS – Electrical and mechanical parts installation were continuing. The turbine was assembled and installed. The stator assembly was advancing. Preparations were under way to install the transmission line between the disconnect yard and the switchyard • Smoky Falls GS – Concrete work continued to progress according to plan in the service bay, intake, and draft tube areas with occasional minor delays due to excessively cold weather. The superstructure over units 1 and 2 was enclosed with tarps and heated, and the powerhouse crane was successfully tested. Turbine embedded parts were installed in all three units. The unit 1 stator assembly was started. Powerhouse architectural work and electrical component installation were started
Trent Energy Inc.	Stanley Adamson Powerhouse, Peterborough: Otonabee River Capacity: 3.9 MW Status: • Pier facing was completed • Draft tube grouting was completed and inspected • Installation of trash racks and beam picket grouting were completed • Wet test of downstream gates were completed • Ladders and platform handrails installation were in progress • Revenue metering wiring were completed and tested • Runner oil completed in all three units and hydraulic hose was installed in bulbs 2 and 3
H2O Power Limited	Twin Falls Expansion, Iroquois Falls: Abitibi River Capacity: 5.0 MW Status: • New runner, operating ring, bottom ring and head cover were delivered to the site • Contractor was mobilized and began reassembly of the unit

Boralex

Yellow Falls Generating Station, Smooth Rock Falls: Mattagami River

Capacity: 16.0 MW

Status:

- Re-established permitting processes after execution of an amending agreement

Renewable Program Projects – Development Status

Renewable Energy Standard Offer Program

A total of 862 MW were contracted through the Renewable Energy Standard Offer Program; 792 MW were in service and the remaining 70 MW had milestone commercial operation dates prior to the end of 2014.

Feed-in Tariff Program

By the end of the reporting period, 4,540 MW of combined capacity were contracted through the FIT Program, of which 58 MW were from bio-energy, 1,185 MW were from solar, 3,113 MW were from wind and 185 MW were from hydroelectricity. Of this total capacity, 477 MW were in commercial operation. In addition, 136 MW of combined contract capacity from solar generation were in commercial operation under the microFIT Program.

Furthermore, 942 MW of capacity were from projects that reached the notice to proceed (NTP) stage of development. Of these, 22 MW were from bio-energy, 480 MW were from solar, 384 MW were from wind and 57 MW were from hydroelectric generation. The remaining 3,122 MW were in the pre-NTP stage of development, of which 18 MW were from bio-energy, 532 MW were from solar, 2,449 MW were from wind and 123 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 March 31, 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)	Pickering	300		✓	✓			✓	✓				
International Power plc. (198 MW)	East Lake St. Clair Wind	Wallaceburg	99		✓		✓		✓		✓	✓	✓	✓
	Erieau Wind	Chatham-Kent	99		✓		✓		✓		✓	✓	✓	✓
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	✓			✓	✓		✓				
	Summerhaven Wind Energy Centre	Nanticoke	125		✓		✓		✓		✓	✓	✓	✓

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			
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	150		✓		✓	✓		✓				
	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

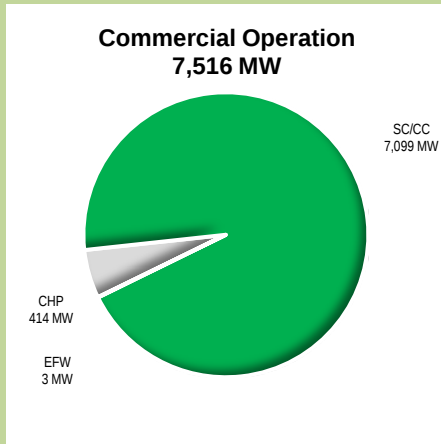
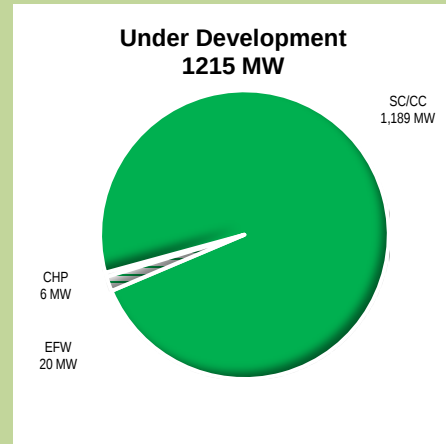


Chart 13



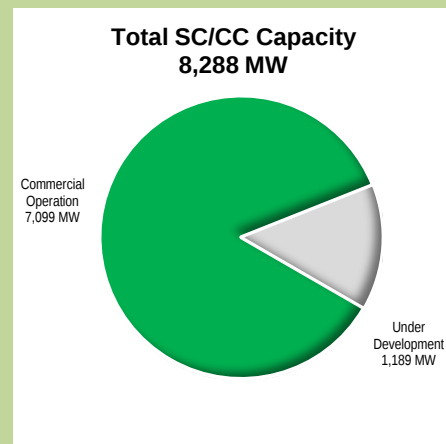
By the end of the reporting period, the OPA was managing 8,731 MW of combined capacity from natural gas-fired projects and projects with other fuel sources. This capacity included 8,288 MW from simple cycle and combined cycle facilities, 420 MW from combined heat and power contracted facilities and 23 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.

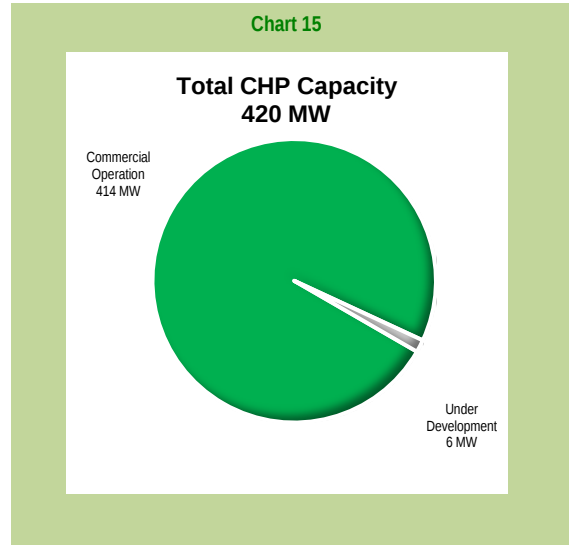
Table 6: Progress Status of Combined Cycle Projects as of March 31, 2013

Developer	Project
Greenfield South Power Corporation	Green Electron Power Plant, Sarnia Capacity: 289 MW Status: • Consultation obligations were satisfied with First Nations groups • Independent Electricity System Operator (IESO) issued conditional approval for connection • Equipment procurement and delivery were 95 percent completed • Major equipment were in long-term storage or preservation mode
	Napanee Generating Station, Town of Greater Napanee Capacity: 900 MW Status: • Consultation with the Town of Greater Napanee for municipal permitting and approvals was continued • Engineering contract for the detailed engineering of the project was awarded • Feasibility study with Hydro One and System Impact Assessment with IESO for the high-voltage connection to the Lennox switchyard was started • Site due diligence activities were started for facility permitting and engineering
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 were 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 March 31, 2013

Developer	Project
Markham District Energy Centre Inc.	Birchmount Energy Centre, Markham Capacity: 2.6 MW Status: - Detailed engineering was 95 percent completed - Generator sets arrived on site - Tendering was in process for major electrical and mechanical subcontractors
	Bur Oak Energy Centre, Markham Capacity: 3.3 MW Status: - Detailed engineering was 95 percent completed - Generator sets arrived on site - Tendering was in process for major electrical and mechanical subcontractors

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 March 31, 2013

Developer	Project
Regional Municipality of Durham-York	Durham York Energy Centre, Municipality of Clarington Capacity: 20 MW Status: - Design and engineering surpassed the 75 percent design phase for the Balance of Plant (BOP) to the extent that most systems were at the 95 percent design status - Civil construction activities were continuing. The majority of underground work and foundations were completed - Boiler, pressure components and major mechanical components were delivered to the site - Building liner panels and roofing in the tipping building and refuse building started

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 were 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 asset management and 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 – Foundation concrete forming and pouring were progressing



Photo 2 – Structural steel erection was progressing

Becker Cogeneration Plant



Photo 3 – Electrical switchgear and cable trays were installed



Photo 4 – Turbine hall floor leveling was under way

Durham York Energy Centre



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



Photo 6 – Boiler and air pollution control steel were erected

Lower Mattagami Hydroelectric Station Expansion

Harmon Generating Station



Photo 7 – Unit 3 with a capacity of 78 MW was enclosed and jointed to the existing power house

Kipling Generating Station



Photo 8 – Temporary water retaining structure (cofferdam) failed in December 2012 and activities for stabilizing concrete cap for cell 3 were in progress

Little Long Generating Station



Photo 9 – Runner for the additional unit of 67 MW was lowered into pit

Smoky Falls Generating Station



Photo 10 – The superstructure over units 1 and 2 was enclosed with tarps and heated for winter construction

Port Dover and Nanticoke Wind Project (FIT)



Photo 11 – One of the 58 turbine foundations was completed



Photo 12 – The main transformer foundation was under way

South Kent Wind



Photo 13 – Access road was being formed, levelled and prepared for laying geogrid mat. A geogrid mat is a geosynthetic material used to reinforce soil in the sub-base of road work



Photo 14 – Drain pipe was being installed and backfilled as part of the access road construction

Twin Falls Generating Station (Runner Upgrade)

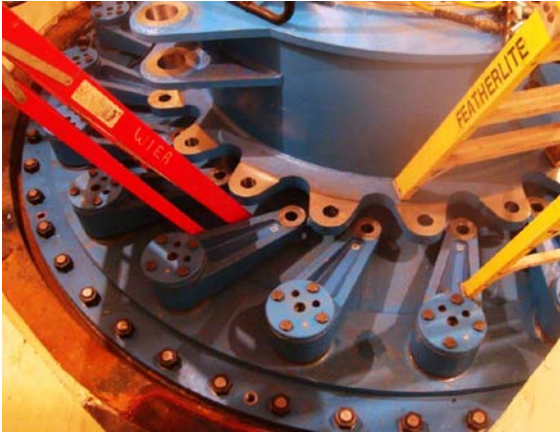


Photo 15 – Assembly of the operating ring and wicket gate arms



Photo 16 – Generator rotor turbine shaft was coupled

Appendices

Appendix I: OPA Contracts and Contract Capacity

Table 9: All Contract Capacity as of March 31, 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	23	26	18.8	39.5	18.8	39.5	58
	microFIT	1	1	0	0.0	0.0	0.0	0.0	0
	RESOP	20	18	2	39.7	14.0	39.7	14.0	54
	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	76	45	31	107.8	266.4	107.8	266.4	374
Solar	FIT	1,538	583	955	173.0	1,011.6	173.0	1,011.6	1,185
	microFIT	15,544	15,544	0	135.8	0.0	135.8	0.0	136
	RESOP	57	55	2	455.2	20.0	455.2	20.0	475
	KC	2	0	2	0.0	200.0	0.0	200.0	200
	Subtotal	17,141	16,182	959	764.0	1,231.6	764.0	1,231.6	1,996
Wind	FIT	75	9	66	279.8	2,832.8	279.8	2,832.8	3,113
	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	870.0	0.0	870.0	870
	Subtotal	136	62	74	2,058.6	3,738.8	2,058.6	3,738.8	5,797
Renewable Non-Hydro Subtotal		17,353	16,289	1,064	2,930	5,237	2,930	5,237	8,167
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	47	45	2	4.8	8.9	1,078.5	8.9	1,087
	HESA	4	3.0	1.0	62.9	516.0	573.0	516.0	1,036
Renewable Hydro Subtotal		114	67	47	132	721	1,716	721	2,384³
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	1,003.6	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	5,099.2	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			16,378	1,116	11,579	7,172	15,163	7,172	22,282
Total			17,494			18,756		22,282³	

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 March 31, 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	21-Mar-13	Q1 2023
Subtotal	49		

Table 11: Renewable Energy – Wind as of March 31, 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 March 31, 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
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
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
Galletta 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	7-Dec-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
Lower Sturgeon Generating Station	14.0	21-Nov-10	Q4 2060
MacKay Generating Station	62.0	1-Dec-09	Q4 2029
Maple Hill	0.6	1-Dec-10	Q4 2030
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	Decommission Q1 2015
Steephill 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
Wawaitin Generating Station	15.0	22-Nov-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	1,683		

Table 13: Natural Gas and Other Fuel Sources – Simple Cycle and Combined Cycle as of March 31, 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 March 31, 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 March 31, 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 March 31, 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 March 31, 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 March 31, 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 March 31, 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	150.0	Q1 2014	Q1 2034
K2	270.0	Q4 2014	Q4 2034
South Kent Wind Project	270.0	Q1 2014	Q1 2034
Subtotal	870		

Table 20: Renewable Energy – Hydroelectricity as of March 31, 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
Twin Falls Generating Station (Runner Upgrade)	5.0	Q1 2014	Q4 2029
Yellow Falls Hydroelectric Project	16.0	Q3 2016	Q3 2036
Subtotal	541		

Table 21: Natural Gas and Other Fuel Sources – Simple Cycle/Combined Cycle as of March 31, 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 March 31, 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 March 31, 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 March 31, 2013

Program	Fuel Source	Under Development (MW)	Commercial Operation (MW)	Total (MW)
RESOP	Bio-Energy	14	40	862
	Hydroelectric	-	28	
	Solar	20	455	
	Wind	36	269	
	Subtotal	70	792	
FIT	Bio-Energy	39	19	4,541
	Hydroelectric	180	6	
	Solar	1,012	173	
	Wind	2,833	280	
	Subtotal	4,064	477	
microFIT	microFIT Solar Contracts (Total 15,550)	-	136	136
Total (MW)		4,134	1,405	5,539



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