



ONTARIO POWER MARKET



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Transmission Limits In to and Out of Ontario

Manitoba	In to Ontario	Out of Ontario
summer	331 MW	263 MW
winter	343 MW	275 MW

Minnesota	In to Ontario	Out of Ontario
summer	90 MW	140 MW
winter	90 MW	140 MW

Michigan	In to Ontario	Out of Ontario
summer	1,550 MW	2,150 MW
winter	1,800 MW	2,400 MW

New York Niagara	In to Ontario	Out of Ontario
summer	1,300 MW	1,300 MW
winter	1,650 MW	1,950 MW

New York St. Lawrence	In to Ontario	Out of Ontario
summer	400 MW	400 MW
winter	400 MW	400 MW

Quebec North	In to Ontario	Out of Ontario
summer	65 MW	95 MW
winter	84 MW	110 MW

Quebec South (East)	In to Ontario	Out of Ontario
summer	800 MW	420 MW
winter	800 MW	470 MW

Quebec South (Ottawa)	In to Ontario	Out of Ontario
summer	748 MW	147 MW
winter	748 MW	167 MW

Source: Ontario Reliability Outlook Report 2007. Actual transfer capability will vary depending on system conditions.



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Comparative Data for North American Independent System Operators and Regional Transmission Operators (2006)

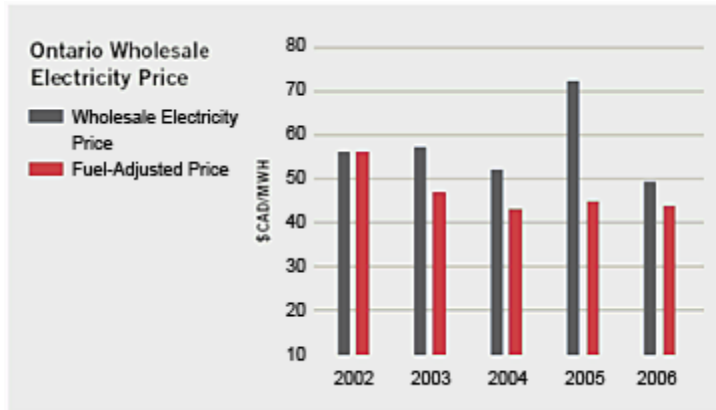
	Peak Load (MW)	Installed Generation (NW)	Transmission (km)	Population Served	Jurisdictions Covered	Market Participants	Wholesale Transactions (\$ millions)
Midwest ISO	136,520	162,981	150,600	40,000,000	15 states; 1 province	266	24,200
PJM (Pennsylvania, New Jersey & Maryland)	144,644	164,634	90,200	51,000,000	13 states + DC	420	20,100
ISO-NE (New England)	28,127	33,477	12,900	14,000,000	6 states	310	9,000
NYISO	33,999	38,958	17,700	19,200,000	NY	330	8,610
CAISO	45,431	54,500	41,000	30,000,000	CA	95	2,450
ERCOT	62,339	80,141	61,100	20,000,000	TX	762	27,000 (retail market; whls figs not available)
SPP (Southwest Power Pool)	42,227	45,950	84,150	4,500,000	8 states	23	n/a*
IESO	27,005	31,000	29,000	12,000,000	ON	271	10,400 CND
AESO	9,661	11,497	21,100	3,400,000	AB	200	4,176 CND
New Brunswick	5,716	6,723	13,500	1,160,424	NB, NS, PEI + N.Ma	17	1,400 CND
TOTAL	535,609	629,861	521,250	195,260,424	45 states + DC; 6 provinces	2,684	117,112 CND

Source: IESO



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Wholesale Electricity Price

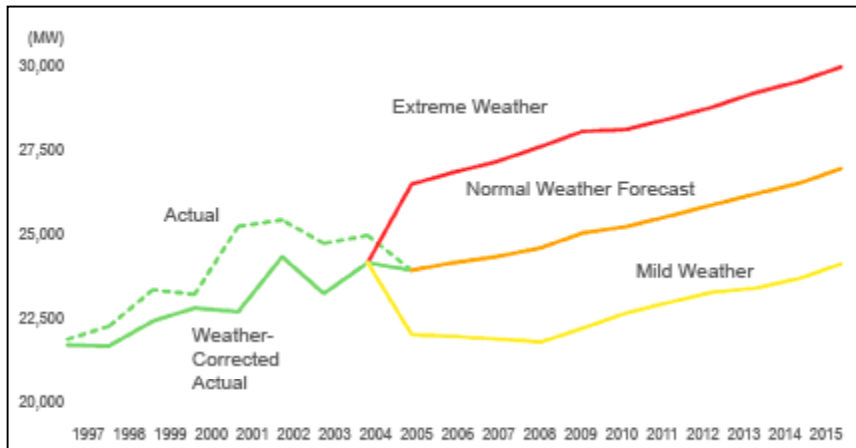


All-in Wholesale Electricity Cost (in dollars per MWh)

Year	2002	2003	2004	2005	2006
Wholesale Electricity Price	55.89	57.09	52.21	72.14	48.75
Global Adjustment	n/a	n/a	n/a	-7.48	4.37
OPG Rebate	-12.41	-8.35	-6.85	-6.67	-1.08
Congestion Management Settlement Credit	1.70	0.76	0.60	1.47	0.80
Intertie Offer Guarantee	2.11	0.34	0.30	0.53	0.22
Transmission Losses and Operating Reserve Charges	1.73	1.44	1.67	1.87	1.18
Transmission Charges	8.77	8.36	8.12	8.17	8.24
Black Start, Voltage Support, Regulation	0.18	0.45	0.52	0.50	0.89
Debt Retirement Charge	7.00	7.00	7.00	7.00	7.00
IESO Fee	0.96	0.96	0.96	0.96	0.91
Rural Remote Charge	1.00	1.00	1.00	1.00	1.00
All-in Wholesale Electricity Cost	66.93	69.05	65.53	79.49	72.28

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Ontario Hourly Peak Demand Actuals and Forecast



Source: 10 Year Outlook from 2005, IESO



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Ontario Regional Projects Under Study or Proposed

AREA	RELIABILITY NEEDS IN THE AREA	EXPECTED / REQUIRED BY	PROJECT(S) PROPOSED TO FULFILL REQUIREMENT
Central Toronto	Reduce transmission loading toward Central Toronto, and enhance supply to downtown	Summer 2008	Portlands Energy Centre
		Winter 2007-2008	John-Esplanade link
		Spring 2008	Interchange terminations of circuits C3L and C17L at Leaside Transformer Station (TS)
		Spring 2010	Build new 115 kilovolt (kV) circuit between Leaside and Birch Junction and reconfigure existing transmission
		Spring 2012	Build new TS and connect to John-Esplanade link
		Under review	Uprate transmission between Richview and Manby
		2011 to 2015	Install a third supply to downtown Toronto
GTA-West-GTA	Accommodate higher short circuit levels at Claireville TS to allow increased West GTA generation	Fall 2009	Replace 230 kV breakers, and reconfigure line terminations to allow split bus operation Terminate V75R at Richview TS
		Under review	Install breakers in Claireville to Parkway corridor on circuits V71RP and V75P
	Improve supply for Vaughan and Richmond Hill loads and allow additional stations	Spring 2007	Install additional shunt capacitors at Halton, Meadowvale TS
		Under review	Investigate effectiveness and feasibility of capacitor at Hamilton Beach TS
	Improve the reliability of Cherrywood TS	Winter 2009-2010	A new 500 kV breaker and diameter positions at Cherrywood and Claireville Re-arrange 500 kV line termination at Cherrywood
		Improve supply to north Mississauga and Brampton loads	Spring 2009
	2008		Build new transformer station next to Pleasant TS
	Spring 2013		Uprate 230 kV line between Hurontario SS and Pleasant TS
York Region: Newmarket-Aurora Area	Load growth exceeding the local transformer station capability	2006-2008	Additional reactive support New Holland Junction TS (OPA recommendation)
		2011 or later	Additional TS at Aurora or Gormley, depending on the location and amount of local generation procured
Kitchener- Waterloo-Cambridge- Guelph and Orangeville Area	Local transmission enhancements required to relieve overloads and improve voltages	Fall 2007	Single 230/115 kV auto-transformer at Cambridge-Preston TS
		Fall 2008 to 2011	New supply connections and transmission reinforcements may be required to supply the growing load in the area

Burlington TS- Brantford- Woodstock	Loading on the auto-transformers near the maximum ratings	2,008	Install over-current protections (planned for December 2007) Replace limiting connections and buswork to increase the limited-time thermal ratings and replace limiting transformer
	115 kV supply to Woodstock-Brant expected to be overloaded	Spring 2010	Install shunt capacitors at Woodstock TS (December 2007) Extend 230 kV tap from Ingersoll to a new 230/115 kV transformer station to supply Woodstock and Toyota load
Barrie-Stayner	Improve reliability to local loads	Summer 2007	Re-terminate circuits M5E and E27 on to new busbar positions
		Spring 2009	Replace existing Essa to Stayner 115 kV circuit with 230 kV double-circuit line
			Convert Stayner to 230 kV DESN Add 230/115 kV auto-transformer to supply Meaford TS
Eastern Ontario	Increase power transfer capability between Ontario and Quebec	2009	1,250 MW Ontario-Quebec high voltage direct current (HVdc) connection and shunt capacitors at Hawthorne TS New special protection systems at Hawthorne and St. Lawrence Uprate 230 kV circuits between Hawthorne and Merivale
	Enhance the supply to loads in the Oshawa and Belleville Areas	2010-2011	Relief of the 230 kV transmission east from Cherrywood is required to avoid overloads Investigate a connection to the 500 kV system
Bruce Complex	Ensure system has sufficient reactive capability to enable return-to-service of Bruce Power Units 1 and 2 and retire the Nanticoke units	Dependent on timetable for retiring Nanticoke	Requirement for additional dynamic var facilities such as static var compensators (SVC) and/or synchronous condensers
		Fall 2007	High voltage shunt capacitors at Detweiler and Orangeville
	Transmission enhancements required to allow increased power transfers to enable return-to-service of Bruce Power Units 1 and 2	Spring 2007 to spring 2009	Additional shunt capacitors in southwestern Ontario (possible locations are Middleport, Buchanan and Nanticoke)
		2010	Series capacitors on the 500 kV circuits associated with the Bruce Complex (this option is under review)
Transmission enhancements required to enable operation of 8 units at the Bruce complex	Spring 2009	Uprate sections of 230 kV Bruce to Orangeville circuits to allow increased output from Bruce	
	Winter 2011-2012	Proposed additional 500 kV transmission line from the Bruce area toward the GTA	
Sarnia-Windsor Area	Enhancements to enable additional generation in the area resulting from Clean Energy Supply (CES) contracts	Fall 2007	Reconfigure the terminations at Lambton SS to accommodate split bus operation to limit short circuit level
	Windsor area enhancements to address	Fall 2007	Re-terminate two of the connections at Essex TS

	adequacy of supply to Kingsville and Learnington, improve security of supply to the City of Windsor and reduce operational restrictions of generation in the Windsor area	2010	Expand the existing special protection system so that additional post-contingency responses can be initiated Replace existing 115/27.6 kV DESN station at Essex TS Provide transmission reinforcements and/or local generation additions in the Windsor/Essex area
	Enable additional power transfer over the J5D Interconnection with Michigan	Under review	Assess the feasibility of upgrading the 230 kV line to allow transfers from Michigan to Ontario over the J5D Interconnection to be increased by at least 200 MW
Niagara Area	Increase import capability on Queenston Flow West (QFW)	Originally scheduled June 2006 (delayed)	Install two new 230 kV circuits between Allanburg TS and Middleport TS and reinforce the 230 kV transmission facilities into Burlington TS
	Relieve limitations on the autotransformer	Spring 2009 Spring 2008	Bus upgrading at Allanburg TS Circuit uprate in the St. Catharines area to increase load meeting capability
Northeastern Ontario	Enhance the Special Protection Systems	Summer 2007	Enhancements to existing generation rejection scheme in the northeast and additional breaker at Porcupine TS
	To expand the north to south transfer capability and reduce restrictions on northern resources.	Spring 2010	Install series capacitors at Nobel SS to increase north to south transfer capability
	Transmission enhancements to enable Mattagami expansion and other committed renewable generation developments in the northeast	Spring 2010	Additional transfer capability and voltage control north of Sudbury to accommodate the increased generating capacity Effectiveness of combinations of series capacitors with SVCs and shunt capacitors to be investigated
	To expand transfer capability east of Mississagi	2010	New SVC at Mississagi and shunt capacitor at Alogoma New special protection system (2009) will replace the existing one and provide additional functionality
	Existing 115 kV switchgear at Abitibi Canyon GS is at end-of-life	2009	New switchgear should be consolidated at a new 115 kV busbar at Pinard TS Arrangement would also provide a suitable location for a future 230/115 kV auto-transformer to reinforce the existing connection between the local 230 kV and 115 kV systems
Northwestern Ontario	Improve voltage control	2009	Repair existing capacitor at Fort Frances Install new shunt capacitor to coincide with retirement of Atikokan Replace failed synchronous condenser at Lakehead with an SVC
	Increase import capability from Manitoba to 400 MW	Under review	Accommodate new transformers and expanded 230 kV bus at Whiteshell Enhance voltage control with SVCs at Fort Frances TS, Mackenzie TS and Marathon TS, and shunt capacitors at Dryden TS

Source: IESO

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Generation Projects Planned or Underway in Ontario

SOURCE OF PROJECT	GENERATION PROJECTS PLANNED OR UNDERWAY	INSTALLED CAPACITY (MW)	PLANNED IN-SERVICE DATES
Renewables I RFP – Hydroelectric generation project	Umbata Falls Hydroelectric Project	23	Q2 2008
Government directive for Western GTA – Gas-fired generation projects	Goreway Station – Phase 1	485	Q2 2007
	Goreway Station – Phase 2	375	Q3 2008
GTA West RFP	Halton Hills Generation Station	600	Q2 2010
Government directive for Central Toronto – Gas-fired generation projects	Portlands Energy Centre – Phase I Simple Cycle	250	Q2 2008
	Portlands Energy Centre – Phase II Combined Cycle	288	Q2 2009
Clean Energy Supply RFP – Gas generation projects	Greenfield Energy Centre	1,005	Q4 2008
	Greenfield South Power Plant	280	Q4 2008
	St. Clair Energy Centre	570	Q1 2009
Renewables II RFP* – Wind generation projects	Wolfe Island Wind Project	198*	Q4 2008
	Leader A Wind Power Project	99*	Q4 2008
	Leader B Wind Power Project	101*	Q4 2008
	Kingsbridge II Wind Power Project	159*	Under review
	Ripley Wind Power Project	76*	Q4 2007
	Kruger Energy Port Alma Wind Power Project	101*	Q4 2008
	Melancthon II Wind Project	132*	Q2 2008
Renewables II RFP – Hydroelectric generation project	Island Falls Hydroelectric Project	20	Q4 2009
Nuclear generation projects underway with Bruce Power	Bruce Power Unit 1 Refurbishment	750	Q1 2010
	Bruce Power Unit 2 Refurbishment	750	Q3 2009
Hydroelectric generation project under development with Ontario Power Generation	Little Long, Harmon, Kipling and Smoky Falls	450	Unit in-service dates ranging from 2009 to 2011
	Lower Sturgeon, Sandy Falls and Wawaitin	16	
	Mattagami Lake Dam	5	
Combined Heat and Power (CHP) RFP – Co-generation projects	Great Northern Tri-Gen Facility	12	Q1 2008
	East Windsor Cogeneration Centre	84	Q2 2009
	Durham College District Energy Project	2	Q2 2008
	Thorold Cogeneration Project	236	Q2 2010
	Countryside London Cogeneration Facility	12	Q2 2008
	Algoma Energy Cogeneration Facility	63	Q2 2009
Warden Energy Centre	5	Q2 2008	

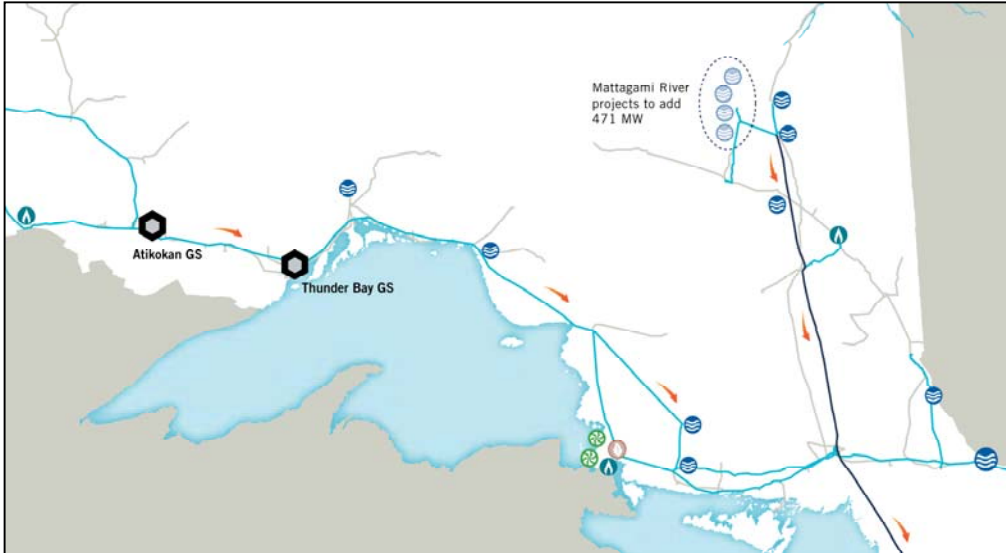
* For capacity planning purposes, wind generation has a dependable capacity contribution of 10 per cent of the listed installed capacity of the project.

Source: Ontario Reliability Outlook Report 2007

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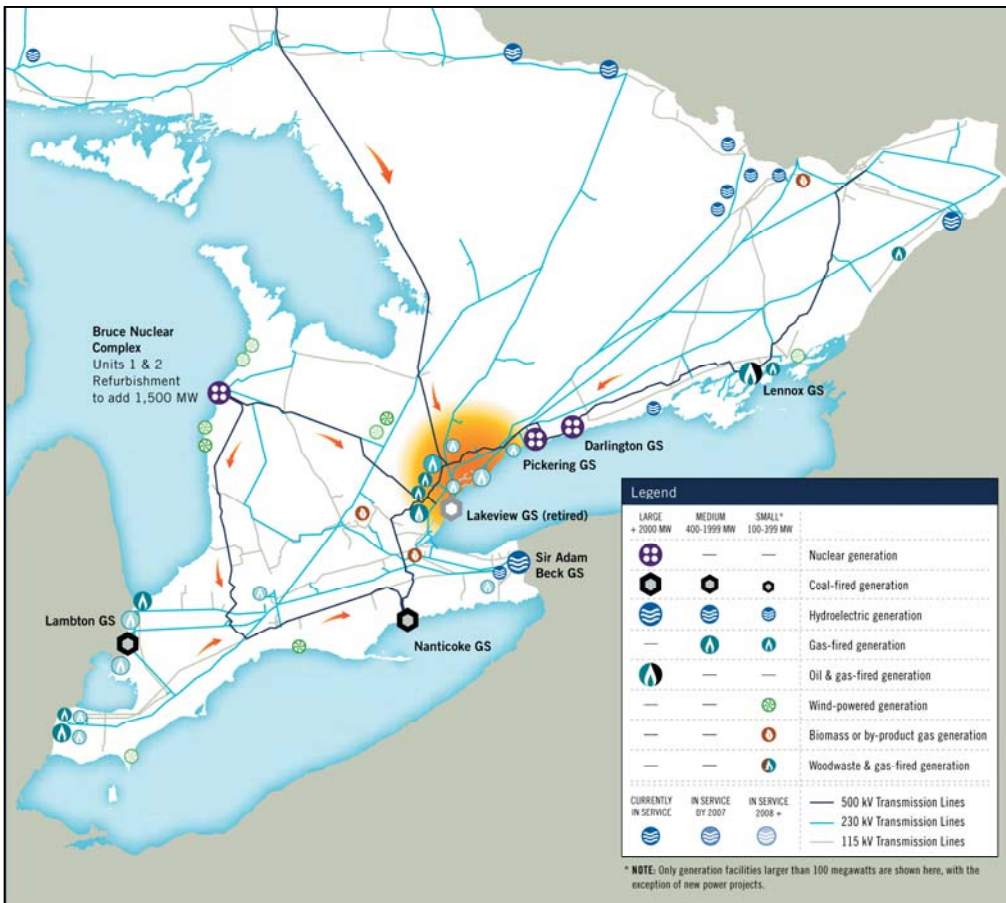
Electricity System

Northern Ontario



Source: Ontario Reliability Outlook Report 2007

Southern Ontario



Source: Ontario Reliability Outlook Report 2007