



Ontario Wind Energy Market Profile

Now Ontario's lowest-cost option for new electricity supply, emission-free wind energy is helping the province build an affordable and reliable electricity system that benefits all Ontarians.

Canadian and Global Wind Energy

Wind energy is one of the fastest-growing major source of new electricity in Canada. It is also growing rapidly in more than 90 countries around the world, including the U.S. where four states now generate 30 per cent or more of their electricity using wind energy.

Today, Canada's installed wind energy capacity is 12,816 megawatts (MW) — enough to power approximately 3.3 million homes, supplying about six per cent of our country's electricity demand.

Since 2008, Canada's wind energy capacity has grown by an average of 20 per cent annually and **over the past decade more wind energy was installed in Canada than any other form of electricity generation.** We now rank ninth in the world in terms of installed wind energy capacity.

Wind Energy in Ontario

Ontario is our nation's leader in clean wind energy with an installed capacity of 5,076 MW, about 40 per cent of Canada's total installed wind energy capacity. There are 2,577 wind turbines currently operating in Ontario at 96 separate facilities.

Supplying approximately eight per cent of Ontario's electricity demand today, wind energy helps to diversify Ontario's electricity generation mix.

An established player in the Ontario electricity market, providing clean and renewable electricity for Ontarians, **wind energy is the best choice for new electricity generation.**

Ontario's Lowest-Cost Option

Rapidly declining costs have made wind energy the lowest-cost source of new electricity generation available to Ontario today. A 2017 Alberta auction secured 600 MW of wind energy capacity at a weighted average price of only 3.7 cents per kWh. Ontario's most recent competitive procurement was in 2014, but even then, the result was an average 20-year price of 8.45 cents per kilowatt hour (kWh), with one contract as low as 6.45 cents — all well below the average cost of generation. **Wind energy prices are forecast to continue to decline as the technology continues to improve.**

Economic Benefits

Ontario's wind industry has created thousands of well paying, much-needed jobs in manufacturing, construction and local services. Across the province, wind energy projects are delivering new income to landowners, new property tax revenue to municipalities, new funding for community-based initiatives, and a new source of sustained revenue for Indigenous partners. Ontario's wind energy industry is also at the heart of a growing wind turbine operations and maintenance business for Canada's 6,400+ wind turbines.

Moving to a Low-Carbon Economy

In 2014, Ontario eliminated coal as a source of electricity generation. The addition of new renewable energy sources like wind has provided replacement electricity supply without adding emissions that contribute to smog or global warming while maintaining reliability.

Ontario's investments have helped drive a 90 per cent reduction in greenhouse gas emissions from its electricity sector since 2003. **Ontario is positioned to lead Canada's transition to a low-carbon economy.**

Other Environmental Benefits

Wind energy generates electricity without emitting air pollutants, particulate matter, or waste of any kind. It uses virtually no water compared to conventional electricity generating stations.

Electrification with Clean Power

Meeting greenhouse gas emission reduction targets will require Ontario to continue to prioritize emissions-free electricity generation, while increasing the province's use of electricity to power many sectors of its economy, from transportation to industrial processes and buildings.

Future Potential of Wind Energy

There are enormous untapped wind resources across Ontario that are economically competitive and can be deployed quickly at whatever scale is required to match increases in electricity demand, creating more efficient outcomes for consumers and ensuring a reliable electricity supply.

As a low-carbon and low-cost source of power with a free fuel (the wind), Ontario's wind energy industry has an important and ongoing role to play.



Ontario's Need for New Power

Ontario will need new electricity generation supply in the 2020s and recent Ontario and Alberta procurements have shown that wind energy is the lowest-cost option. A study of Canada's wind energy resources and assets has shown that [Canada can get more than one-third of its electricity from wind energy without compromising grid reliability](#) – while fully realizing economic and environmental benefits.

[Public opinion polling in Ontario in 2017](#) shows that 89 per cent of respondents believe the climate is changing, 74 per cent believe immediate and significant action is needed, and **72 per cent agree that the Ontario government should encourage the development of non-emitting electricity.**

The World is Moving to Wind

[Bloomberg](#) estimates that renewable energy sources are set to represent **almost three quarters of the \$10.2 trillion the world will invest** in new power generating technology until 2040, thanks to rapidly-falling costs for wind and solar power, and a growing role for batteries, including electric vehicle batteries, in balancing electricity supply and demand.

Community Engagement

Effective and meaningful community engagement is fundamental to the success of a wind energy project. CanWEA's [Best Practices for Indigenous and Public Engagement guide](#) has been designed to support wind energy project developers in continuously improving their work with local communities while ensuring that they meet and strive to exceed provincial requirements for public consultation.

Ontario Numbers (Dec. 2018)

Number of Installations: **96**

Number of Wind Turbines: **2,577**

Total Installed Capacity (MW): **5,076**

Supplying ~**8 %** of Electricity Demand

Ontario Wind Project List

Year	Project Name	Approximate Location	Total Capacity (MW)	Number of Turbines
1995	Tiverton Wind Turbine	Tiverton (Bruce County)	0.60	1
2001	Port Albert Wind Farm	Huron County	0.66	1
2001	OPG 7 Gomberg Turbine	Pickering	1.80	1
2002	Ferndale (1)	Ferndale	1.80	1
2002	Huron Wind Farm	Tiverton (Bruce County)	9.00	5
2003	Exhibition Place Turbine	Toronto	0.75	1
2006	Erie Shores Wind Farm	Port Burwell	99.00	66
2006	Ferndale (2)	Ferndale	3.30	2
2006	Kingsbridge 1 Wind Power	Goderich	40.00	23
2006	Melancthon 1 Wind Plant	Shelburne	67.50	45
2006	Prince Wind Energy Project	Sault Ste. Marie	189.00	126
2006	Rosa Flora Greenhouses Ltd.	Dunnville (Haldimand County)	0.65	1
2007	Providence Bay/Spring Bay	Central Manitoulin Township	1.60	2
2007	Ripley Wind Power Project	Huron-Kinloss (Ripley)	76.00	38
2008	Clear Creek Wind Farm	Norfolk County	9.90	6
2008	Cruikshank Wind Farm Ltd.	Ferndale / Tiverton	8.25	5
2008	Cultus Wind Project	Norfolk County	9.90	6
2008	Frogmore Wind Project	Norfolk County	9.90	6
2008	Melancthon II EcoPower Centre/Amaranth	Shelburne	132.00	88
2008	Mohawk Point Wind farm	Haldiman County	9.90	6
2008	Port Alma Wind farm	Chatham/Kent	101.20	44
2008	Ravenswood Wind Farm	Lambton Shores	9.90	6
2009	Enbridge Ontario Wind Power Project	Municipality of Kincardine	181.50	110
2009	Wolfe Island Wind Farm	Wolfe Island	197.80	86
2009	Proof Line Wind Farm	Lambton Shores	6.60	4
2010	Harrow Wind Farm	Essex County	39.60	24
2010	Thames River I Wind farm	Chatham/Kent	40.00	20
2010	Gosfield Wind Facility	Kingsville, Essex County	50.60	22
2010	Talbot Wind Farm	Chatham/Kent	98.90	43
2010	Naylor Wind Farm	Essex County	10.00	5
2010	Richardson Wind Farm	Essex County	10.00	5
2010	South Side Wind Farm	Essex County	10.00	5
2010	Gracey Wind Farm	Essex County	10.00	5
2010	Arthur Wind Farm	Chatham/Kent	10.00	5
2010	Zurich	West of Zurich	0.80	1
2011	North Malden Wind Farm	Essex County	10.00	5
2011	Kruger Energy Chatham Wind	Chatham/Kent	101.20	44
2011	Raleigh Wind Energy Centre	Chatham/Kent	78.00	52
2011	Kent Breeze Wind Farm	Chatham/Kent	20.00	8
2011	Greenwich Renewable Energy Project	Dorion/District Thunderbay	98.90	43
2011	Pointes Aux Roches	Lakeshore/Lake St. Claire	48.60	27
2011	Comber Wind Farm	Essex County	165.60	72
2012	Mother Earth Renewable Energy Project	Manitoulin I./M'Chigeeng F.N.	4.00	2
2012	Plateau I&II	Melancthon	18.00	12
2012	Plateau III	Melancthon	9.00	6
2012	Grand Valley Wind Farm (Phase I & II)	10 km N of Grand Valley	19.80	9
2012	Conestogo Wind Energy Centre	Arthur	22.92	10
2012	Zephyr Wind Farm	Lambton County	10.00	4

Ontario Wind Project List, continued

Year	Project Name	Approximate Location	Total Capacity (MW)	Number of Turbines
2013	CAW Wind Turbine	Port Elgin	0.80	1
2013	Erieau Wind	Chatham-Kent (Blenheim)	99.00	55
2013	East Lake St. Clair Wind	Chatham-Kent (Mitchell's Bay)	99.00	55
2013	Summerhaven Wind Energy Centre	Haldimand County	124.38	56
2013	Port Dover & Nanticoke Wind Farm	Haldimand & Norfolk Counties	104.40	58
2013	Gesner Wind Farm	Chatham-Kent	10.00	5
2014	Oxley Wind Farm	Harrow	6.00	3
2014	South Branch Wind Farm	Brinston/Mun. of South Dundas	30.00	10
2014	South Kent Wind Farm	Chatham-Kent	270.00	124
2014	HAF Energy	West Lincoln	9.00	5
2014	Wainfleet Wind Farm	Wainfleet	9.00	5
2014	McLean's Mountain	Manitoulin Island	60.00	24
2014	Skyway 8 Windfarm	South west of Dundalk	9.48	5
2014	Adelaide Wind Energy Centre	Middlesex County	59.94	37
2014	Bornish Wind Energy Centre	Middlesex County	72.90	45
2014	Jericho	Lambton County	149.04	92
2014	Dufferin Wind Farm	Melancthon	91.39	49
2014	Whittington Wind Farm	Amaranth	6.15	3
2014	Springwood Wind Farm	Centre Wellington	8.20	4
2014	Grand Renewable Wind	Haldimand County	148.62	67
2014	Ernestown Windpark Inc.	Loyalist Township	10.00	5
2014	Bluewater Wind Farm	Huron County	59.20	37
2015	Goshen Wind Energy Centre	Huron County	102.36	63
2015	Goulais Wind Farm	Algoma District	25.30	11
2015	K2 Wind Power Facility	Goderich	269.96	140
2015	Suncor's Adelaide Wind Energy Project	Strathroy	39.98	18
2015	St. Columban Wind Project	County of Huron	33.00	15
2015	East Durham Wind Energy Centre	Grey County	22.40	14
2015	Bow Lake Wind Project	Bow Lake, Lake Superior	58.32	36
2015	Cedar Point Wind Power Project	40 km NE of Sarnia	99.96	46
2015	Armow Wind	Kincardine	180.00	91
2015	Grand Valley Wind Farm (Phase III)	Grand Valley & Amaranth	40.06	16
2015	Napier Wind Farm	Adelaide-Metcalf, Middlesex	4.10	2
2015	Quixote One Wind Energy (Q1WEC)	Kincardine, Bruce County	2.30	1
2016	Grey Highlands Zero Emission People (ZEP)	McIntyre, Grey County	10.00	5
2016	Ganaraska	Orono	17.60	9
2016	Grand Bend Wind Farm	North of village of Grand Bend	99.30	40
2016	Grey Highlands Clean Energy	McIntyre, Maxwell & Hatherton	18.50	9
2016	Snowy Ridge Wind Park	City of Kawartha Lakes	10.00	5
2016	Gunn's Hill Wind Farm	Twp. of Norwich, Oxford Cty.	18.00	10
2016	Niagara Region Wind Farm	Niagara Region/Haldimand Cty.	230.00	77
2016	Port Ryerse Wind Farm	Port Ryerse in Norfolk County	10.00	4
2017	Settlers Landing Wind Park	City of Kawartha Lakes	8.00	4
2017	Moorefield Wind Project	Mapleton Township	0.50	1
2017	Belle River Wind Project	Lakeshore	100.00	40
2017	Sumac Ridge Wind Farm	Kawartha Lakes	10.25	5
2018	North Kent Wind Farm	Chatham-Kent	100.00	34
2018	Amherst Island Wind Project	Loyalist Township	75.00	27
TOTALS:		96 Installations	5,075.80 MW	2,577