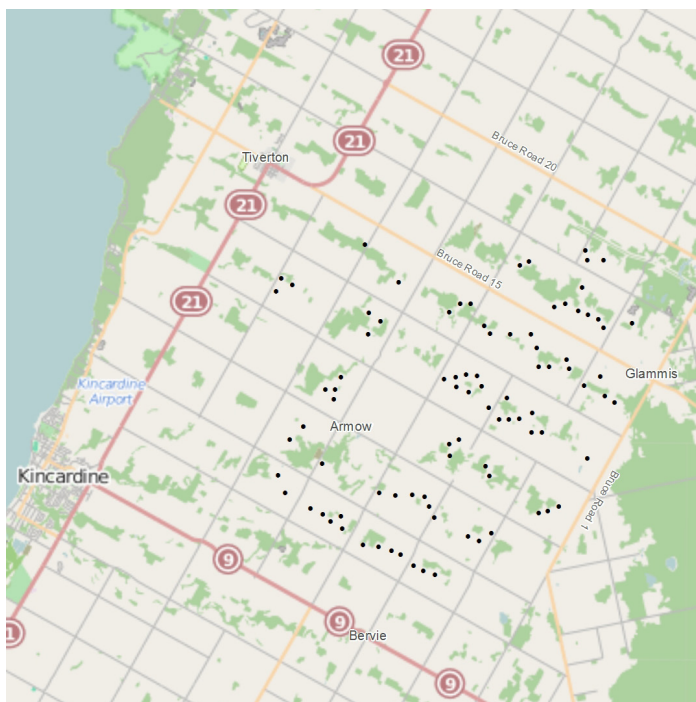




## Armow Wind | Tiverton, Ontario



# Armow Wind Overview



Location	Kincardine, Ontario
Power Purchaser	IESO
Turbine Model	Siemens SWT-2.3-101
Number of Turbines	91
Power Capacity	179 MW
Energy Equivalent	70,000 homes
Construction Start	September 2014
Commercial Operation	December 2015
Project Area	46,000 acres
Permanent Footprint	Less than 1% of total area
Construction Jobs	More than 200
Permanent Jobs	More than 15

Armow Wind is a partnership between Pattern Canada and Samsung Renewable Energy. The 179 MW wind power facility is located in the Municipality of Kincardine and commenced commercial operations on December 7, 2015. The facility sells 100% of its electrical output and environmental attributes under a 20-year power purchase agreement with the Independent Electricity System Operator (IESO).

Ontario workers have been involved in every aspect of Armow Wind including turbine manufacture, site construction, component installation, and operations.

An average of 200 workers were on-site during project construction and approximately 15 full-time employees operate and maintain the facility, along with seasonal positions and the use of local contractors.

In addition to paying significant property taxes, Armow Wind committed \$13.6 million dollars to the Municipality of Kincardine as part of a long-term Community Benefit Program, which supports education and other initiatives, including a contribution of \$1 million to the Kincardine Airport to improve local operations.

## Armow Wind Annual Benefits

**70,000**



Generates enough clean energy to power 70,000 Ontario homes.

**4,000,000**



Injects more than \$4M of direct spending into the local economy.

**117,000**



Offsets 600,000 tonnes of CO<sub>2</sub>, equivalent to taking 117,000 cars off the roads.

**17,000**



Conserves enough water to meet the needs of about 17,000 Ontarians.

↳ When compared to coal-fired generation. ◀



# Harvesting the Wind for Ontario

## Harnessing the Wind

Wind can be harnessed to transform kinetic energy into electrical energy. Wind turbines do this with blades mounted on towers, which are turned by the wind, causing them to turn a shaft that is attached to a generator. This creates an electrical current that is carried by cables to the power grid, which transmits electricity to the electric grid that connects to your home.



## Ontario-Made Wind Turbines

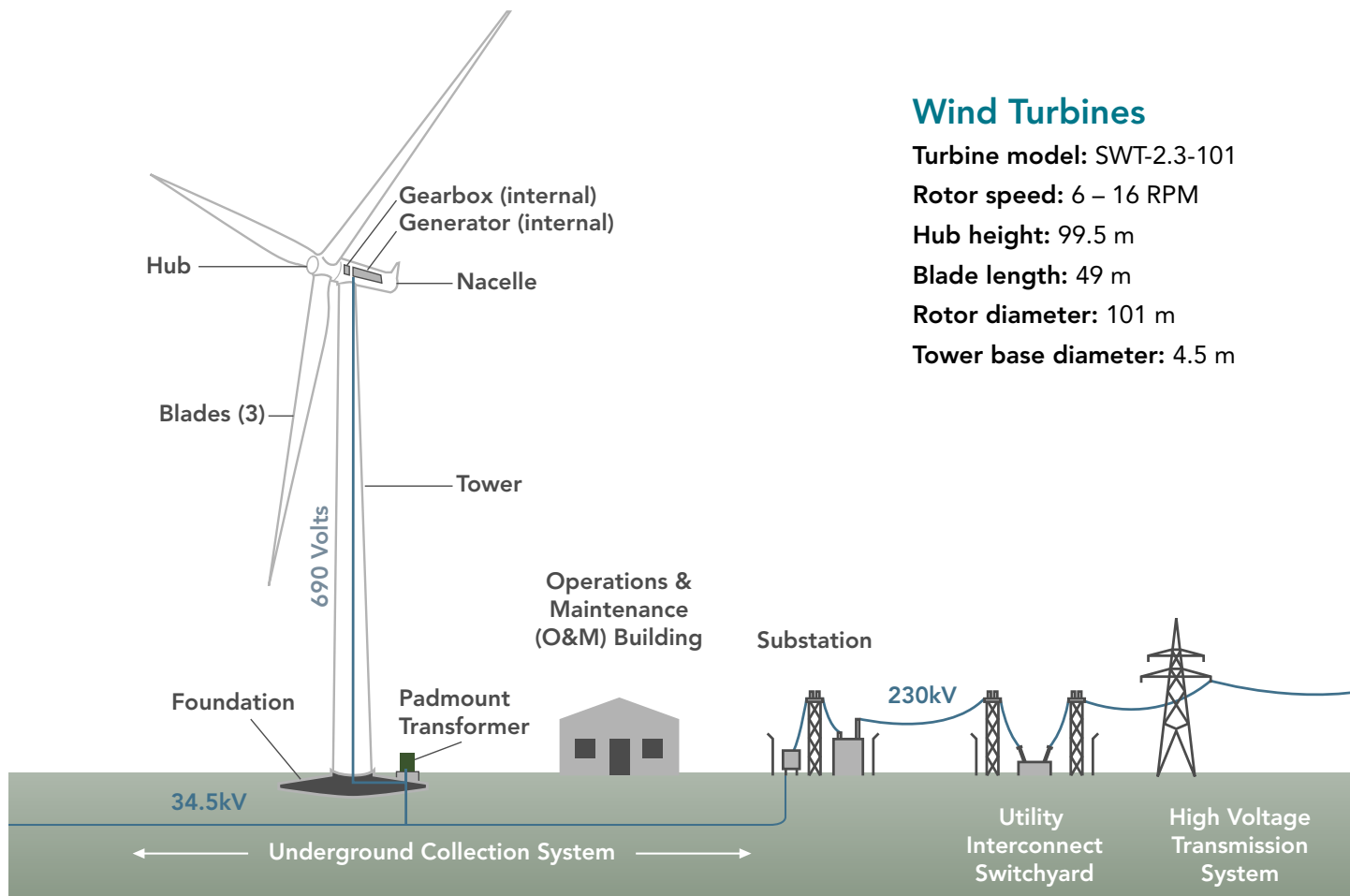
Siemens and CS Wind invested \$100 million in Ontario, creating approximately 600 manufacturing-sector jobs to meet the demand from Armow Wind and other Samsung-Pattern Canada Energy wind projects.

### Siemens, Tillsonburg

- » 23,505 square metre facility
- » Produced 273 blades for Armow Wind
- » Siemens' first turbine manufacturing plant in Canada
- » First blade manufacturing facility in Ontario

### CS Wind, Windsor

- » Established in 2011
- » Produced 91 towers for Armow Wind
- » Using steel from Sault Ste. Marie, Ontario



## Wind Turbines

**Turbine model:** SWT-2.3-101

**Rotor speed:** 6 – 16 RPM

**Hub height:** 99.5 m

**Blade length:** 49 m

**Rotor diameter:** 101 m

**Tower base diameter:** 4.5 m

## Samsung

Samsung Renewable Energy is creating clean, renewable energy for generations to come. Together with our partners, Samsung made a \$5-billion investment in Ontario to create the world's largest cluster of wind and solar power. Our investments have created 900 direct renewable energy manufacturing jobs and 9,000 highskilled jobs in Ontario. Samsung and its partners

provided much-needed jobs in communities throughout Ontario, including manufacturing facilities in Windsor, Tillsonburg, Toronto and London. Built on Samsung C&T's commercial and technical expertise and the success of its renewable energy projects in several countries – including the United States and Europe – Samsung is creating real jobs, through real investment, benefitting real people.

## Pattern Canada

Pattern Canada is dedicated to the production of clean, renewable energy – by Canadians and for Canadians. Pattern Canada represents what we do in the country at Pattern Energy, a public company that owns and operates renewable energy facilities (TSX: PEGI), and at Pattern Development, a leading developer of renewable energy and transmission assets.

Combined, we have experience at all stages of project management: wind resource analysis, development, power marketing, finance, construction, operations and

asset management. Our mission is to transition the world to renewable energy by developing and operating high-quality projects with respect for communities and in an environmentally responsible manner.

As the country's largest operator of wind power with more than 1,500 MW of installed capacity, we are excited to celebrate our 10-year anniversary of doing business in Canada. During the past decade, our team has brought nine wind facilities to operation across four provinces. For more information, please visit [www.patterncanada.ca](http://www.patterncanada.ca).

