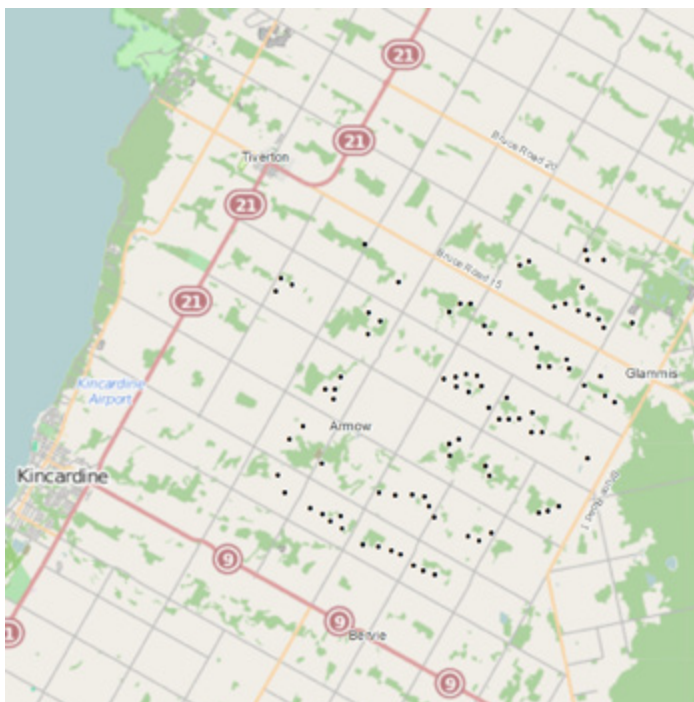




## Armow Wind | Kincardine, Ontario

# Armow Wind Overview



Location	Kincardine, Ontario
Power Purchaser	IESO
Turbine Model	Siemens SWT-2.3-101
Number of Turbines	91
Power Capacity	180 MW
Energy Equivalent	70,000 homes
Construction Start	Q4 2014
Target Operations	Q4 2015
Project Area	46,000 acres
Permanent Footprint	Less than 1% of total area
Construction Jobs	More than 200
Permanent Jobs	More than 15

## Harvesting the Wind for Kincardine

The Armow Wind project will bring many economic benefits to the Kincardine community, including more than \$75 million over 20 years in property taxes, landowner lease royalties and community benefits. The Armow Wind Community Benefits Program includes a \$1 million contribution to the Kincardine Airport to improve local operations and more than \$12.5 million over twenty years into a Community Benefit Reserve Fund, which will be administered by the Municipality.

The Community Benefits Reserve Fund, will support local initiatives in Kincardine. Examples include:

- » Community Infrastructure
- » Community Services
- » Educational Programs
- » Workforce Training
- » Energy Sustainability
- » Land Stewardship
- » Public Recreation

### 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. ←

# Project Construction

AMEC Black & McDonald is managing project construction and expects an average of 200 workers on-site with more than 350 workers during peak construction periods.

Workers from southwestern Ontario will be involved in all aspects of project construction – from building access roads and turbine foundations to assembling and installing turbine components.

Subcontractors will be engaged to conduct civil work - grading, excavation, and concrete - electrical work and mechanical assembly. Activities will also include site preparation before construction begins and site restoration at the completion of construction.

Examples of Jobs Include:

- » Civil and Electrical Inspectors
- » Turbine Inspectors
- » Civil Equipment Operators
- » Electrical and General Labourers
- » Environmental Technicians
- » Safety Inspectors, Security



## Target Construction Schedule\*

Activity	Start	Finish
Site Preparation	Sep 2014	May 2015
Access Roads	Sep 2014	Jul 2015
Operations & Maintenance Facility	Jan 2015	Jul 2015
Turbine Foundations	Oct 2014	Aug 2015
Substation & Switchyard	Oct 2014	Aug 2015
Underground Collection System	Apr 2015	Oct 2015
Turbine Deliveries	May 2015	Sep 2015
Turbine Installation	May 2015	Oct 2015
Turbine Commissioning	Sep 2015	Dec 2015
Land Restoration	Sep 2015	Feb 2016
Commercial Operation	Dec 2015	

\*Represents ideal timeline and subject to change.

# Ontario-Made Wind Turbines

Armow Wind will use 91 Ontario-made wind turbines. Siemens and CS Wind invested \$100 million and created more than 1,000 Ontario manufacturing-sector jobs to meet the demand from Samsung-Pattern Development wind projects. The Siemens facility in Tillsonburg manufactures blades, and CS Wind's facility in Windsor uses Ontario steel to manufacture towers.

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

**Rotor speed:** 6 – 16 RPM

**Hub height:** 99.5 m

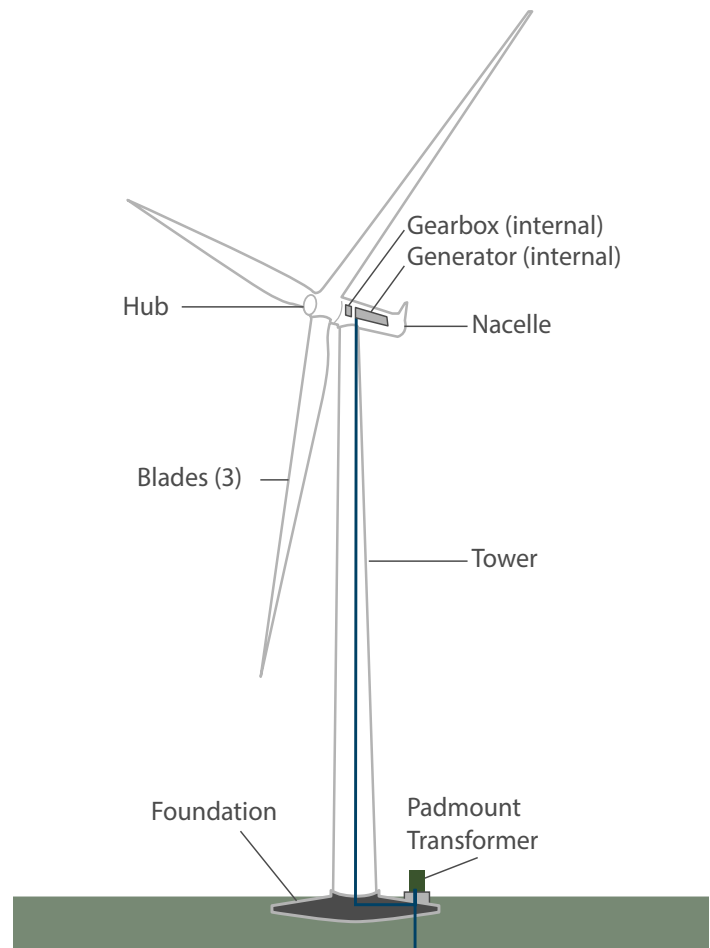
**Blade length:** 49 m

**Rotor diameter:** 101 m

**Tower base diameter:** 4.5 m

## How Wind Generates Energy

Wind turbines transform kinetic energy into electrical energy using blades rotated by the wind. The blades then turn a shaft attached to a generator creating an electrical current. Carried by underground cables to a substation, this electricity is sent to the main power grid and transmitted to your home through local power lines.



## About the Project Owners

### Samsung Renewable Energy Inc.

Samsung Renewable Energy (Samsung) is creating clean, renewable energy for generations to come. Together with its partners, Samsung is making a \$5-billion investment in Ontario. Our investments will create 900 direct renewable energy manufacturing jobs and 9,000 high-skilled jobs in the Province. Built on Samsung C&T's commercial and technical expertise, and the success of its renewable energy projects in other countries, Samsung is creating real jobs, through real investment, benefiting real people. [www.samsungrenewableenergy.ca](http://www.samsungrenewableenergy.ca)

### Pattern Energy Group LP

Pattern Development is a leading independent wind, solar and transmission development company that develops and constructs renewable energy assets in the United States, Canada, Mexico, Chile, and Japan. Our affiliated public entity, Pattern Energy Group Inc. (Pattern Energy), has a portfolio of 16 wind power projects with an owned interest of 2,112 MW. We have a strong commitment to delivering the highest value for our partners and the communities where we work while promoting environmental and corporate responsibility.