

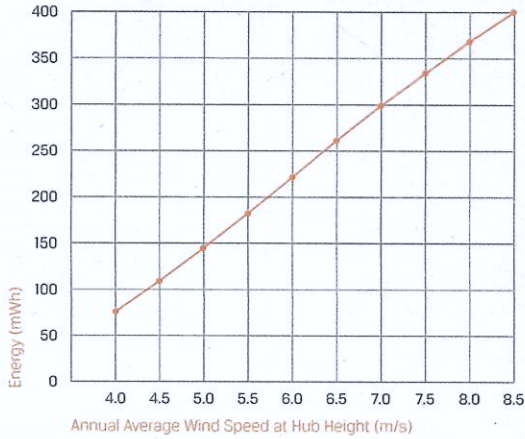
# Northern Power<sup>®</sup> 100

Community Wind Turbine for Businesses, Schools & Farms



## Annual Energy Production: 21-Meter Rotor

Standard Air Density, Rayleigh Wind Speed Distribution



## Specifications

Model	Northern Power® 100
Design Class	IEC IIA (air density 1.225 kg/m <sup>3</sup> , average annual wind below 8.5 m/s, 50-yr peak gust below 59.5 m/s)
Design Life	20 years
Hub Height	37 m (121 ft)
Rotor Diameter	21 m (69 ft)
Rated Electrical Power	100 kW, 3 Phase, 480 VAC, 60 Hz
Cut-In Wind Speed	3.5 m/s (7.8 mph)
Gearbox Type	No gearbox (direct drive)
Generator Type	Permanent magnet, passively cooled
Apparent Noise Level	55 dBA at 30 meters (98 ft)

For detailed information, see the Northern Power 100 Specifications Sheet. All specifications subject to change without notice.



**Northern  
POWER SYSTEMS**

[WWW.NORTHERNPOWER.COM](http://WWW.NORTHERNPOWER.COM)

1 877 90 NORTH +01 802 461 2955

Northern Power Systems has over 30 years of experience in developing advanced, innovative wind turbines. The company's next generation wind turbine technology is based on a vastly simplified architecture that utilizes a unique combination of permanent magnet generators and direct-drive design. This revolutionary new approach delivers higher energy capture, eliminates drive-train noise, and significantly reduces maintenance and downtime costs. Northern Power Systems is a fully integrated company that designs, manufactures, and sells wind turbines into the global marketplace from its headquarters in Vermont, USA.

29 Pitman Road,  
Barre, VT, USA 05641

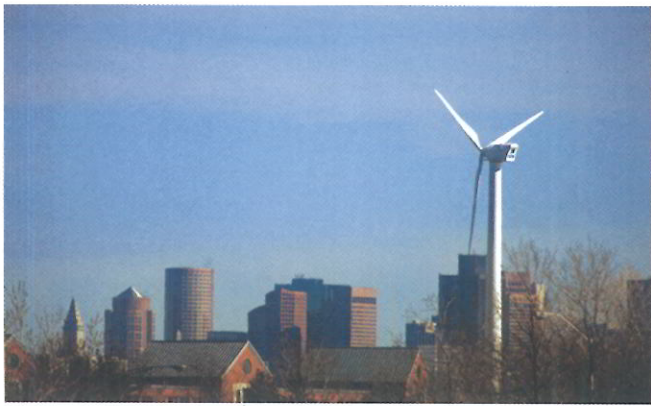
222 Third Street, Suite 3300,  
Cambridge, MA, USA 02141

1375 South 25<sup>th</sup> Street,  
Saginaw, MI, USA 48601

Thurgauerstrasse 40 8050  
Zurich, Switzerland

*All turbines capture wind.*

The **Northern Power** 100 is designed to do it better.

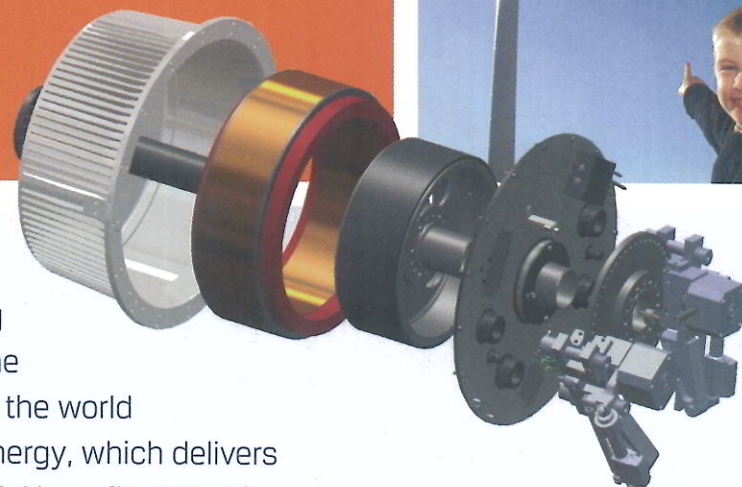


### **The right fit for your community**

At 100 kilowatts of rated power, the Northern Power 100 can match the power needs of many local applications, whether they are municipalities, schools and universities, commercial farms, or business campuses. Its physical size fits within most constraints inherent in highly populated areas and the low-maintenance design ensures that you can "fly it and forget it." Discover the Northern Power 100 and harness the most advanced technology, in its simplest form, for your clean energy solution.

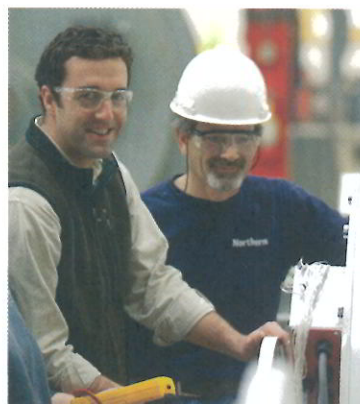
*Military Bases • Universities • Corporations • Hotels & Resorts • Libraries*

# *Direct.* To Communities Everywhere.

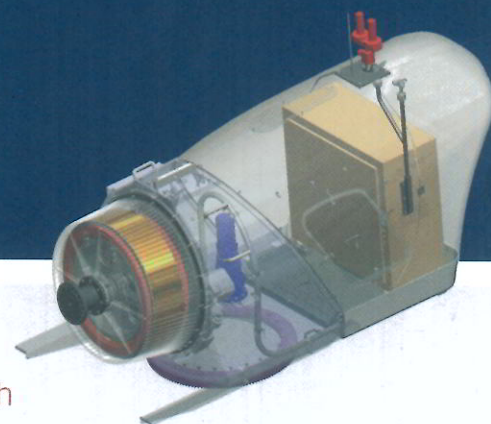


Around the world, turbines are sprouting out of the ground, making wind one of the fastest-growing sources of electricity in the world today. Wind provides clean, domestic energy, which delivers clear economic, environmental, and social benefits. Wind farms are not the only answer. The space and investment required for utility-scale development precludes many from participating in the wind power revolution. Thus the growing demand for community wind projects...and our drive to meet our customers where they live and work.

*Public Schools • Small Businesses • Greenhouses • Municipal Buildings*



# Our Design



The Northern Power 100 is a technological masterpiece with its innovative gearless design and best-in-class reliability. What this means for your application is more energy and less maintenance.

Originally developed with a NASA grant and designed for remote and isolated sites, the Northern Power 100 put reliability at a premium. Regular and costly maintenance was not an option for applications located at the South Pole or in the Indian Ocean—let alone your farm, school, or business.

- » Our Northern Power 100 is **optimized for low winds**, so you don't have to live in a wind tunnel to benefit from wind power. Our turbines can begin making power at wind speeds as low as 3 meters per second (6 mph) and can provide clear economic benefits in all kinds of wind regimes.
- » An engineering advancement in simplicity and precision, our **gearless direct drive technology** maximizes energy capture and outperforms conventional gearbox designs.
- » Our **state of the art power converter** design provides smooth, clean power to local grids, which simplifies grid interconnect and adds to grid stability, making the Northern Power 100 the best choice for a variety of applications.
- » Our **advanced blades** are fiberglass reinforced and use a unique aerodynamic design created specifically for the Northern Power 100.

Island Communities • Ski Resorts • Auto Dealerships • Rural Utilities • Farms

# Your Solution



The Northern Power 100 is the ideal choice for community applications that favor a low height profile, easy utility connect, low noise, and cost effectiveness.

» **The Northern Power 100 makes economic sense:**

Even at modest speeds, the Northern Power 100 can produce enough electricity to represent significant savings in utility costs. Given its 20 year design life, you can be sure that the Northern Power 100 will provide long-term benefits and more than pay for itself over time.

» **The right amount of power:** One 100 kW turbine—or a cluster of two or three—meets all the energy needs for most municipalities, schools and small industrial sites.

» **Turn it on and go back to work:** Our turbine is designed for ultimate reliability, so you don't have to be in the utility business or hire a team of full-time professionals to reap all the benefits of wind power.

» **Ready for utility interconnect:** With an easy grid connect and no complicated approvals or expensive interconnection requirements, it makes for an ideal choice.

» **Low height profile, sleek design:** Sitting on a standard 37-meter tower, the elegantly designed Northern Power 100 fits neatly into community settings.

» **Quiet operation:** Our gearless design, advanced blades, and harmonically engineered towers all contribute to our impressively low apparent noise levels which resemble the sound of normal conversations or soft music.

*Manufacturing Facilities • Remote Villages • Hospitals • Sports Facilities*