

Wind for Diesel Grids



NORTHWIND 100

Diesel Grid owners/operators turning to wind power

Whether you are an electric coop utility or business located in a remote area, if you generate power through a diesel grid you share the concerns of an unstable future. Your business model's long-term efficacy is challenged on a daily basis by rising fuel costs, fuel transportation and storage issues, and diesel generator maintenance. At the same time, you—and the community you serve—have environmental considerations that drive you to seek clean, renewable alternatives. Until recently, wind power has been overlooked because of concerns about grid stability. With the advent of new technology found in the Northwind 100® wind turbine, diesel grid owner/operators can safely and effectively add wind power to their grid without complex system design enhancements.

Diesel grid owner/operators benefit from wind power

LOWER COSTS AND GREATER PROFITABILITY Adding a wind turbine to your diesel grid safeguards you against volatile diesel prices and the expense involved in its transportation.

IMPROVED DIESEL GENERATOR OPERATION By demanding less of your generators over time, you can save on maintenance and operational costs.

INCREASED ENERGY SECURITY AND INDEPENDENCE By reducing your dependence on refined crude oil, you can stabilize your daily operations and maximize energy drawn from the wind in your area.

REDUCED EMISSIONS Burning less diesel fuel will cut emissions—a benefit to the communities you serve, your neighbors, and the global community.

MARKETING OPPORTUNITIES By "greening" your operations, you will spark renewed interest from your community and the media.

Cut your power costs at these diesel grid applications:

- >> Remote villages
- >> Island communities
- >> Resorts

“...we are enthusiastic about the successes we have seen and hope that wind can play a meaningful role in many of our villages.”

- MEERA KOHLER, CEO AND PRESIDENT, AVEC





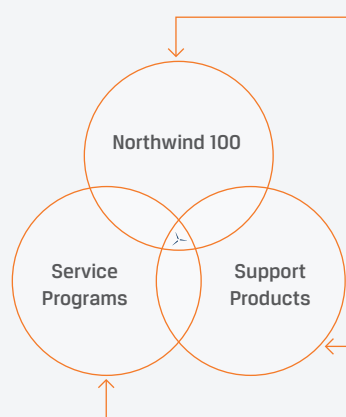
Cost savings could equal:

- >> Facility improvements
- >> Increased profitability
- >> Lower rates for rate-payers
- >> Improved quality of life for local residents
- >> Increased economic viability for remote communities

Offering seamless integration for diesel grids

Northern Power Systems has been a leader in wind power technology for over 30 years and has logged years of experience integrating wind power into remote diesel grids around the world. The result of this significant knowledge has culminated in the leading-edge design of the Northwind 100 wind turbine. The turbine's advanced technology—plus our supporting controls, monitoring, products and services—allows for seamless integration into existing diesel grids and the displacement of up to 70% of onsite diesel fuel use.

Northern Power Systems' Wind-for-Diesel Grids solution set includes:



Northwind 100

Our low-maintenance, low-noise turbine features:

- >> Direct Drive turbine with a Permanent Magnet Generator (PMDD) designed to maximize energy capture and out-perform conventional gearbox designs
- >> State-of-the-art IGBT-Based Full Power Converter, which acts as a shock absorber for your grid and eliminates inrush current to simplify grid interconnect and add to grid stability
- >> VAR Support and Reactive power control to actively support grid voltage
- >> A Northwind 100 Arctic turbine is also available for extreme conditions

Support Products

Our support tools make it easy to track how your Northwind 100 is working for you:

- >> Northwind Load Controller, designed to reduce grid frequency variations through fast control of a secondary thermal or other electrical load.
- >> Web-based turbine monitoring via our SmartView monitoring platform to gauge turbine performance and provide supervisory functions for one or more turbines from a PC anywhere in the world (custom monitoring interfaces available)

Service Programs

We'll help make your wind project run smoothly through :

- >> Project planning and development advice
- >> Technical support for installation
- >> Ongoing maintenance support and advice
- >> Remote turbine monitoring and support

It's your turn

Adding a Northwind 100 into your diesel grid is easier than you think. As the wind market grows, so does the knowledge base of local developers, installers, and permitting officials. So you can be sure that those who have come before have paved a smooth path for you to follow.

Whether you are just beginning to evaluate wind for your site or are ready to make a turbine decision, we can help. Call us at 1-877-90-NORTH or visit www.northernpower.com/communitywind.

