

20% Wind Energy Agreement

Memorandum of Understanding between the U.S. Wind Turbine Manufacturers and the U.S. Department of Energy on Developing a Shared Strategy to Achieve 20% Wind Energy in 2030

By this Memorandum of Understanding (MOU), the U.S. Department of Energy (DOE) and the signing members of the wind turbine industry (the Parties) agree to work cooperatively to define and develop the framework for appropriate technology R&D and siting strategies for realizing 20% Wind Energy by 2030.

The Parties intend to address several specific needs in the following areas:

- **Turbine Reliability and Operability R&D** to create more reliable components, improve turbine capacity factors, and reduce installed and O&M costs.
- **Siting Strategies** to address environmental and technical issues like radar interference in a standardized framework based on industry best practices.
- **Standards** development for turbine certification and universal interconnection standards for all generators.
- **Manufacturing** advances in design, process automation and fabrication techniques to reduce product-to-product variability and premature failure while increasing the domestic manufacturing base.
- **Workforce** development including the development, standardization and certification of wind energy curricula for mechanical and power systems engineers and community college training programs.

Success in addressing these precompetitive needs is essential to scaling up the wind turbine industry in order to reach 20% Wind Energy in 2030.

This MOU expresses the intentions of the Parties to pursue collaborative research efforts with DOE to the extent legally permissible.

This MOU is neither a fiscal nor a funds obligation document. Nothing in this MOU authorizes or is intended to obligate the Parties to expend, exchange, or reimburse funds, information, services, or supplies, or transfer or receive anything of value.

The Parties will not claim or imply that DOE endorses the sale and/or purchase of any products or services and will not use the DOE seal without appropriate DOE authorization

All agreements herein are subject to, and will be carried out in compliance with, all applicable laws, regulations, and other legal requirements.

This MOU in no way restricts any of the parties from participating in any activity with other public or private agencies, organizations, or individuals.

This MOU is strictly for internal management purposes of the Parties. It is not a contract for acquisition of supplies or services, is not legally enforceable, and shall not be construed to create any legal obligation on the part of any Party, or any private right or cause of action for or by any person or entity.

This MOU shall become effective upon execution by representatives of the U.S. Department of Energy, Siemens Power Generation, Vestas, General Electric Co., Clipper Turbine Works, Inc., Suzlon Energy, and Gamesa.

The Department of Energy enters into this MOU under the authority of section 646 of the Department of Energy Organization Act (Pub. L. No. 95-91, as amended; 42 U.S.C. 7256).

It shall remain in effect for two years, but may be extended by mutual agreement of the parties. Signed this 2nd of June 2008 by:

Alexander A. Karsner
Assistant Secretary
Energy Efficiency and Renewable Energy

Andreas Nauen
CEO
Siemens Wind Power

James G.P. Dehlsen
Chairman and CEO
Clipper Turbine Works, Inc.

Peter Brun
Senior Vice President
Vestas Government Relations
Vestas Wind Systems

Toine van Megan
CEO
Suzlon Energy

Victor Abate
Vice President-Renewables
General Electric Energy

Julius Steiner
CEO
Gamesa USA