

**Testimony of Steve Lockard
CEO, TPI Composites
Co-Chair of the Research and Development Committee of the American Wind Energy
Association**

**Subcommittee on Energy and Environment of the House Committee on Science and
Technology**

Hearing on “*New Roadmaps for Wind and Solar Research and Development*” Act of 2009

July 14, 2009

Introduction

Good Afternoon. Chairman Baird, Ranking Member Inglis, and distinguished Members of the Subcommittee, I appreciate the opportunity to testify before you today.

My name is Steve Lockard. I am the CEO of TPI Composites. TPI is a manufacturer of rotor blades for leading wind turbine makers including GE Energy and Mitsubishi Power Systems. TPI operates wind-related factories in Rhode Island, Mexico, China, and Newton, Iowa.

In addition to my role with TPI, I also Co-Chair the Research and Development Committee of the American Wind Energy Association, on whose behalf I am testifying.

Before proceeding I would like to thank Congressman Tonko for sponsoring legislation to authorize a comprehensive research, development, and demonstration program for wind energy.

AWEA and TPI endorse this legislation and urge Members to support its passage.

Representative Tonko’s legislation authorizes wind energy research and development (R&D) at a level that will allow the wind industry to improve turbine reliability and reduce capital costs.

Combined with a strong national Renewable Electricity Standard; and broader transmission cost-allocation, planning, and siting policies; greater research and development funding for wind energy will increase wind energy production and lead to the creation of more high-paying jobs across the country.

The American Wind Industry Today

Last year, at a time when most U.S. industries were shedding jobs, the wind industry added 35,000 jobs and deployed over 8,500 megawatts (enough to serve the equivalent of more than 2.5 million homes nationwide).

This record growth amounted to more than 40 percent of the country’s new electricity generating capacity.

Our job is far from complete. Wind power is still constrained by difficulties in market acceptance and needed improvements in cost, performance, and reliability.

In addition, research and development funding for wind energy has lagged behind funding levels for other energy technologies over the past few decades, which held back the growth of wind energy in the United States.

The \$70 million approved by the House Appropriations Committee for wind energy R&D, combined with funds that will be provided through the American Recovery and Reinvestment Act, will finance a number of key wind industry priorities to help overcome the challenges to meet the 20% by 2030 vision.

However, in order to fully address all of the key wind energy research, development, and deployment challenges, a sustained annual budget of at least \$200 million is needed.

Importance and Benefits of Wind Energy Research and Development

The Department of Energy's *20% Wind Energy by 2030* report was released in 2008. The report assumes that capital costs decrease by 10% and that turbine efficiency increases by 15% to reach the achievable goal of providing 20% of our nation's electricity from wind by 2030. That will require increased R&D funding.

Meeting the 20% goal will provide a host of benefits, including:

- Supporting 500,000 jobs and generating over \$1 trillion in economic impact by 2030;
- Decreasing natural gas prices by approximately 12%;
- Avoiding 825 million tons of carbon dioxide emissions in 2030, equivalent to 25% of expected electric sector emissions, and;
- Reducing cumulative water consumption in the electric sector by 17% in 2030.

Increased research, development, and deployment funding will bring down capital costs and increase turbine efficiency to help realize these benefits and keep America's wind industry competitive with other electric generation sources and the wind industries in other countries.

Needed Funding Levels for Wind R&D

Last year, as part of an AWEA Research and Development Committee effort, a team of over 80 AWEA members and advisors from industry, government, and academic institutions worked over several months to develop a specific action plan and funding proposal to meet the goal of providing 20% of our nation's electricity from wind energy by 2030.

Participants determined that \$217 million in annual Federal funding, combined with a \$224 million annual industry/state cost share, would be necessary to support the research, development, and related programs needed to meet the 20% goal. The group determined that \$201 million should be directed to DOE.

AWEA and the wind industry support funding for wind turbine technology and reliability to develop wind turbine components that will reduce capital costs, improve performance, and enhance reliability.

AWEA also recognizes the need to reduce the cost of offshore wind energy technology to provide the estimated 54 gigawatts (GW) of the 300 GW needed to meet the 20% goal by 2030.

In addition, AWEA recommends greater Federal funding for programs that focus on the power system operations issues of integrating variable power sources, such as wind, into the electric grid.

An important component of such integration includes developing and promoting advanced forecasting methods.

Another important research area is wind project siting. In general, increased funding in this area should be targeted toward better understanding the impact of wind turbines on wildlife and radar installations and mitigating these impacts.

Conclusion

While the wind industry is continuing to add new electric generation capacity, a number of challenges still exist. Continued support for wind energy R&D is vital to helping wind become a more prominent energy source that leads to a host of benefits.

Continued investments in wind energy R&D are delivering value for taxpayers by fostering the development of a domestic energy source that strengthens our national security, provides economic development, spurs new high-tech jobs, and helps protect the environment.

Thank you, again, for the opportunity to testify. I welcome any questions you may have.