

WRITTEN TESTIMONY OF  
THOMAS CARBONE, CHIEF EXECUTIVE OFFICER, NORDIC WINDPOWER  
BEFORE THE HOU.S.E COMMITTEE ON  
ENERGY INDEPENDENCE AND GLOBAL WARMING

SEPTEMBER 22, 2010

Thank you Chairman Markey, Ranking Member Sensenbrenner, and Members of the Committee for inviting me to provide testimony on the “The Global Clean Energy Race”.

My name is Tom Carbone and I am the Chief Executive Officer of Nordic Windpower, an early stage technology developer and manufacturer of innovative utility scale wind turbines for Community and Distributed Wind Energy projects. Our proven wind turbine technology provides for less weight, higher reliability, ease of installation and operation resulting in lower cost of energy compared to traditional designs.

I. INTRODUCTION TO NORDIC WINDPOWER

Nordic Windpower is a technology developer and manufacturer of innovative utility scale wind turbines for the Community and Distributed Utility wind power segments. These segments consist of on-site wind power and small wind farms typically less than 40 MWs, and connected locally at the distribution voltage level.

Our Company’s growth will come from designing, selling and servicing its one (1) MW N1000 wind turbine and future models to the North American community and distributed wind power projects in the 1 to 40 MW size range. Our products, people and processes are entirely focused on becoming a leader in this segment. Each Nordic one (1) MW N1000 wind turbine annually produces enough clean electricity for 250 to 300 America homes, and offsets 300 tons of CO<sub>2</sub> emissions.

We formed the Company in late 2007 as a UK Limited corporation. Given that our initial markets are predominantly in the U.S. and recent rounds of corporate funding were provided by U.S. investors, we have since incorporated a holdings company in Delaware, with operational subsidiaries in the U.S. and the UK.

Our principal operations are located in the U.S., and include corporate offices in Berkeley, California and manufacturing facilities in Pocatello, Idaho. The Company has a small

engineering design center in Bristol, UK. Nordic employs approximately 40 people (26 in the U.S. and 14 in the UK) and is currently hiring U.S.-based engineering, sales and management professionals. Many more people are employed through our suppliers our and service and installation partners.

We own, maintain and continuously improve a disruptive two-bladed wind turbine technology which resulted from a long-term R&D program funded by the Swedish government, universities and utilities at an estimated cost of \$75 million. The technology is well proven in Sweden, where four prototypes have operated at high availability for up to 12 years, exceeding 100,000 hours of operation without any major component failures. This technology provides for less weight, higher reliability, and easier installation and operation, all of which result in lower cost of energy.

Since September 2007, Nordic has completed three (3) rounds of funding (Series A, B and C) which include investments by, among others, Khosla Ventures (Menlo Park CA), New Enterprise Associates (Menlo Park CA, Bethesda MD) I2BF Holdings Ltd. (New York, London) and Impax Asset Management (London), Goldman Sachs as well as investment received from management, the Board and other private entities. The Company has raised or has committed capital investment totalling \$58 million, with certain investors having the option to invest additional amounts.

## II. UTILIZATION OF RECOVERY ACT PROVISIONS

In July 2009, the Company secured a \$16 million DOE Loan Guarantee commitment and a term sheet was executed with Energy Secretary Steven Chu. This loan will become part of a \$25 million Company project for domestic manufacturing and commercialization of the Nordic N1000 wind turbine. Well over \$9 million in equity for this project has already been funded by the Company. The DOE and Nordic are working toward concluding due diligence, satisfying conditions of the credit committee and moving on to close and fund this loan by the end of this year. The DOE loan guarantee is a critical form of financing for Nordic's future development. The loan provides Nordic with the wherewithal to invest in parts and components as working capital; make advanced supplier deposits to shorten lead-times; invest in equipment and tooling to be more efficient; and offset a small portion of the technology development expenditure.

In January 2010, the Company received notice that its application for an Advance Energy Manufacturing Tax Credit (section 48C of the Internal Revenue Code) for \$3 million was awarded to re-equip/expand our wind turbine manufacturing facility. After a couple of

years, as we become profitable, this incentive will have positive impact on the Company's cash flow by offsetting its federal tax liability.

Finally, as a turbine manufacturer, our sales projects and future sales opportunities benefit directly from our community wind developers and end-users' ability to gain access to and utilize the ARRA 1603 Cash in Lieu of Investment Tax Credit program; USDA's Rural Energy for America Program (REAP) grants, loans and development assistance programs; the Clean Renewable Energy Bond (CREB) program as well as several State level programs. Continuation of these programs which are now fully understood and utilized by wind power developers, is critical to the positive development of the community wind and distributed renewable energy segments to which Nordic Wind power serves.

### III. CORPORATE LOCATION DECISIONS

From our start, we determined there were three principal markets for our wind turbines - the U.S., Europe and China. The Chinese market would be a challenge to penetrate, especially as an early stage foreign company. In China, the wind turbine supply market is saturated with nearly one-hundred domestic suppliers and joint venture companies competing primarily for lowest cost, and secondarily on other important values such as quality and reliability. The European market was seen as mature, with slowing growth rates for on-shore wind power and having limited opportunities for new entrants. However, the U.S. market was growing strongly at the time and the potential for success for a new turbine entrant appeared promising. In particular, the community wind segment of the market in the U.S. was underserved by the established major turbine suppliers and provided an obvious point of entry for Nordic. The decision in 2008 to locate a production facility in Idaho was driven primarily by proximity to a potentially significant in-State project opportunity. There was a limited amount of incentives available from the State of Idaho; however there was a readily available facility, capable workforce and a welcoming community.

Wind turbine manufacturing is capital intensive, where significant amounts of cash can be tied up in the supply chain for net working capital and capital investments in equipment, tooling and facilities. As an early stage company, Nordic is placing a large emphasis on the near-term effective cash value of the incentives that are being offered at the local, State and Federal levels. Long-term tax credits and exemptions will be beneficial after the Company is well established and profitable. However, we need to survive now in order to live to fight another day. Therefore, competitive loans, loan guarantees, refundable tax credits, and out-right job and training grants comprise the basket of incentives that Nordic is attempting to gather together at the local, State and Federal level. These near-term incentives would be combined with other forms of financing the Company has secured

including its equity investments to build a vibrant and innovative domestic wind turbine company.

The Company is in the process of establishing a new center of U.S. operations which will include corporate offices, engineering, sales, service and manufacturing. We have established a series of criteria for the selection of this new location including: business climate, accessibility to transportation options, access to talent, labor market characteristics, attractiveness of the location as a place to live, cost of operations, proximity to potential customers and, as a deciding factor, incentive package offered. The selection criteria have led us to three finalist communities in the Mid-West region. Before the end of 2010, the Company expects to commence relocating most of the operations currently in CA, ID and UK to the Mid-West region in close proximity to the primary wind corridor and customers. Our expectations are that employment at the new location will increase to 135 over the next two years and 250 over the next five years at its U.S. operations.

#### IV. SOURCES OF PROJECTED CORPORATE GROWTH

Unlike many of the major international wind turbine suppliers, our business model is based on supporting localized wind power development across a larger spectrum of smaller yet capable community wind developers by supplying them with our innovative and competitive utility scale wind turbines fit for smaller sized wind projects. According to government and industry reports<sup>1</sup>, community wind power projects have been proven to provide significant advantages over large-scale, out-of-state investor-owned wind farms, including up to five (5) times the local economic stimulus and two (2) times local job creation.

Based on industry projections, the annual installations in these segments are anticipated to grow from 1,000 MW to 2,500 MW annually over the next five years. We expect to deliver and service over one-hundred (100) wind turbine systems over the next two years totalling over \$120 million in sales revenues. Our five year plan includes new product introductions and shipments of more than 750 units. During this year, the Company has delivered and installed five (5) N1000 wind turbines to community wind projects. By the end of the year, Nordic will deliver and install its sixth N1000 wind turbine at Ft. Huachuca in Arizona – the first utility scale wind turbine on a U.S. Army Base.

Our growth estimates assume the current wind industry in North America remains stable, with on-going government support, and that project financing becomes readily available again by the end of 2011.

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<sup>1</sup> The Energy Foundation and 25x'25 Initiative: [http://www.ef.org/docs/CommWind\\_web.pdf](http://www.ef.org/docs/CommWind_web.pdf).

## V. RECOMMENDATIONS TO POLICY MAKERS

There are five (5) recommendations that I would like to make on behalf of my Company to our Policy Makers. These recommendations involve taking programs that we have in place today or are contemplating, and make them more effective for innovative U.S. energy sector companies like ours. These recommendations focus on policies which have already benefitted from a significant amount of time and bi-partisan cooperation to develop. The recommendations are:

1. **Pass a Federal Renewable Electricity Standard (RES).** The House passed the Waxman Markey ACES bill in June 2009, which included a 15 % RES. We have supported the U.S. wind energy industry push for stronger near term targets, and we believe the priority now should be for the Senate to pass and the President sign a bill that includes an RES this year. The rationale for giving RES top priority is that it would be the first truly long term federal policy support for wind energy - rather than start and stop tax incentives that have never been more than a couple of years long for onshore wind. Stable markets and long-term signals are the surest way to attract billions of dollars in new manufacturing investment to the U.S. Developers need demand from utilities, which then leads to orders for turbine manufacturers, which create near term jobs and leads us to a cleaner future. The American Wind Energy Association estimates that a long-term national RES will create an additional quarter of a million jobs in the U.S. including construction, operations, and engineering jobs with more than 50% of the jobs in manufacturing in companies like Nordic Windpower.
2. **Extend the Recovery Act 1603 Grant Program:** This ARRA program allows wind energy project owners to receive a cash grant from the Treasury in lieu of the Investment Tax Credit (ITC). This program has worked well and sustained the industry through the recession. It is due to expire at the end of this year for projects that have not started construction. We recommend that the 1603 grant program be extended to allow projects that start construction by the end of 2012 to qualify for this incentive. The House Ways & Means is proposing an extension, but not for cash grants but rather making the ITC refundable in cash. This means that a tax return must be filed in order to receive the cash, however a tax liability is not actually required. It is our view that this is an acceptable alternative. The 1603 program has been critical to allowing community wind projects to take advantage of federal incentives.

3. **Allow for the IRS 48C Manufacturing Tax Credit to be Refundable:** As noted earlier, Nordic is a receipt of the IRS 48C manufacturing tax credit. Our recommendation would be to continue this program and make the 48C Tax Credit refundable. By being refundable, the incentive will support early stage companies like Nordic who do not have a tax liability at a critical stage of their development.
  
4. **Provide for a Community Wind MACRS Grant:** The American Wind Energy Association (AWEA), through the Community Wind Working Group, has been prepared a definition for Community Wind and has proposed incentives for community wind projects up to 100MW. Incentives proposed include a grant in lieu of MACRS (Modified Accelerated Cost Recovery System) depreciation. The MACRS benefit is hard for small projects to monetize since net revenue is minimal in the early years of these projects and tax equity is usually not available to efficiently monetize the benefit. Allowing the MACRS to be given as a cash grant or refundable tax credit in lieu of a tax deduction for Community Wind projects would be a true incentive. Additionally, supporting and expanding the USDA REAP programs so that we continue to have critical source of financing for community wind projects.
  
5. **Streamline the DOE Loan Guarantee Program Application and Funding Process for Small Business Enterprises:** Small business enterprises create a majority share of net new job growth in America. Nordic Windpower, like other small business enterprises, has learned by necessity to operate lean and with purpose. There are many other small business enterprises like ours with innovative projects that would benefit from this program. The DOE Loan Guarantee program should simply adapt the best practices already employed for loan guarantees to small business enterprises from other Government agencies such as the Overseas Private Investment Corporation and USDA. There is no need to recreate the wheel. Let's hold down costs and reduce the time to get loans to qualified small and entrepreneurial business enterprises that are capable of commercializing clean energy technologies, creating jobs and competing on a global basis.

I sincerely appreciate the opportunity to submit this testimony, participate in the hearing and look forward to answering your questions.

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