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# Wind Energy Weekly

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## IN THIS ISSUE

### A message from the American Wind Energy Association Executive Director

On behalf of the AWEA Board of Directors and staff, I hope you find this week an invaluable 'window' on the state of the wind industry.

### WINDPOWER 2006 marks wind energy's breakthrough

AWEA is bringing together business leaders, policymakers, and renewable energy advocates at its largest conference and trade show ever in Pittsburgh, Penn.

### DOE Assistant Secretary, Governors set optimistic vision for wind

WINDPOWER 2006 officially launched on Monday June 5 with a dynamic opening session that featured two state governors and the U.S. DOE's assistant secretary of energy efficiency and renewable energy.

### Industry leaders discuss opportunities and challenges to growth of industry

The great strides the wind energy industry has made, its huge potential, and the need for stable and strong public policy were three salient themes voiced by top industry executives at the WINDPOWER 2006 Wind Energy Leadership Forum.

### DOE, AWEA pledge to work together to form roadmap to 20% wind energy

AWEA, U.S. DOE, and NREL today committed to develop an action plan focused on providing up to 20% of the nation's electricity from clean, renewable wind energy.

### Utilities call for national energy policy, legislative certainty

In order for it to reach its true potential, the U.S. wind industry needs greater certainty in the areas of legislation and regulation, and a national energy policy to be put in place.

### Manufacturers discuss ways to keep down cost

At the WINDPOWER 2006 Large Wind Turbine Manufacturer Forum, both the questions that were broached and the ensuing discussion reflected an industry that has taken another step along the continuum of maturation.

### AWEA members appoint new Directors to Board

At the meeting that took place just before the WINDPOWER 2006 Conference, the AWEA Board of Directors confirmed the appointed slate of new members.

### California experience rife with valuable lessons, says expert

Altamont continues to provide the industry with valuable lessons—even at a time when some of its most serious issues have largely been resolved, said enXco vice chairman James Walker at the WINDPOWER 2006 panel on wildlife issues.

### Small wind generates both green power and end-user savings, say panelists

Small wind projects can be an attractive means for end-users to save money while at the same time contributing clean power to the grid, according to experts who presented at WINDPOWER 2006's panel, "Small Wind: Barriers, Strategies, and Building a Future."

### Parties come to table at WINDPOWER 2006 to discuss military issues

Industry players gathered at WINDPOWER 2006 on Tuesday for the AWEA siting panel on military issues, which proved an opportunity to discuss some of the most front-of-mind challenges facing the industry today: radar and air space issues.

### Remarks of AWEA Board President at awards banquet

Before we proceed to the awards program, I would like to take a moment to make a few remarks, and for us to consider why it is we are each in this industry.

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## **WELCOME TO PITTSBURGH AND THE WINDPOWER 2006 CONFERENCE & EXHIBITION**

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On behalf of the AWEA Board of Directors and staff, I hope you find this week an invaluable ‘window’ on the state of the wind industry. We are excited about the future of the wind industry in Pennsylvania, and appreciate the leadership of Governor Rendell and other state officials in establishing policies and programs that have helped support the market for wind in the state.

This conference reflects the substantial growth of the wind industry in the U.S., which is experiencing another record year in 2006. The U.S. was the largest single market for wind in the world in 2005, and, with continued policy support, we expect strong demand in this country for years to come. Not surprisingly, given the industry growth, we also expect that WINDPOWER 2006 will be our largest conference in history, with over 4,500 attendees gathered in Pittsburgh’s beautiful David L. Lawrence Convention Center. The exhibition is especially impressive, with over 280 exhibitors expected. For those of you that are veterans of the industry, think back a decade or so to earlier AWEA trade shows and be amazed at how far the wind industry has come in such a short time. I want to thank our exhibitors for making such a significant investment of their time and resources, and pledge to you our commitment to work to ensure that this week is worth every minute of your time.

As the scope of this event has grown, it has become an increasingly complex management challenge. On the program side, we were faced with an enormous stack of over 370 abstracts, the great majority of which would have been a positive contribution to the agenda. The Conference Program Committee was led by two very strong and capable Co-Chairs—Michael Davies of Freestream Capital on the business side, and Jim Lyons of General Electric on the technical side. Mike and Jim assembled a well-qualified Program Committee representing a wide range of expertise and spent an entire day in November with the Committee reviewing abstracts and building the strongest possible program. As I think you will be able to tell, the process worked. Thanks to Jim and Mike for doing such an amazing job as Program Chairs for this impressive event.

I would also like to single out AWEA’s Conference and Education Department—directed by Stephen Miner, and including Stefanie Brown, Sakura Emerine, Lori Rugh, Marissa Bundy, and Monica Wolfe—for the countless hours they have invested in making this the best possible conference it can be. They have succeeded in staying on top of a growing number of details and have really taken this conference to the next level of professionalism. I want to express my appreciation to them and to every member of the AWEA staff for the huge effort that was required to bring this event together.

Finally, I would like to express my appreciation to our sponsors for this event, who are highlighted in the Expo Guide. Special thanks goes to our Gigawatt level sponsors—Vestas, PPM Energy, and NRG Systems. The support from these companies and our other sponsors has allowed us to provide you with a much more rewarding conference week.

Thanks to all of you for joining us here in Pittsburgh and welcome to WINDPOWER 2006!

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## **LARGEST U.S. WIND ENERGY EVENT EVER LANDS IN PITTSBURGH**

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From June 4 – 7, AWEA is bringing together utility and business leaders, national and state policymakers, and renewable energy advocates at its largest conference and trade show ever, hosting more than 4,500 attendees at the David L. Lawrence Convention Center in Pittsburgh, Penn.

The WINDPOWER 2006 Conference & Exhibition will feature a spectacular Exhibition Hall with more than 280 companies demonstrating advanced products and technology, an awards banquet honoring over 20 individuals from across the nation for leadership in the development and promotion of wind energy, and plenary and educational sessions featuring state governors, U.S. administration leaders, and utility and wind industry executives tackling the industry's current challenges and presenting a vision for the future.

Wind energy is one of the fastest growing energy sources in the world. In 2005, new wind farms were the second-largest source of new power generation in the U.S., after new natural gas power plants. In February, President George W. Bush asserted that wind energy could provide up to 20% of the nation's electricity, up from less than 1% today. The WINDPOWER conference reflects these impressive industry numbers, with its attendance rising from about 1,000 just five years ago to the 4,500-plus expected this year.

"These are heady times for the wind industry, with a record year in 2005, and 2006 looking even better," said AWEA Executive Director Randall Swisher. "The industry is working overtime to keep up with the exciting growth and demand. Clean, renewable, domestic wind power is an important part of the solution to the ever-increasing public calls for energy sources that reduce our dependence on imported fuels and work for our economy, environment, and energy security."

"The theme of this year's conference—Energizing the Future: Bringing Wind Energy More Prominently into the Mainstream—will help us address these big-picture issues and make plans for the continued advancement of the wind energy industry," Swisher added.

In 2005, the industry broke annual installed capacity records, installing over 2,400 megawatts (MW) or over \$3 billion worth of new generating equipment in 22 states. America's wind farm fleet, with over 9,000 MW of capacity currently installed, is generating enough electricity to serve over 2.3 million homes and is currently saving an estimated half a billion cubic feet of natural gas per day, helping reduce prices and imports of the fuel. The industry is planning to invest over \$4 billion and bring an additional 3,000 MW on line this year.

Therefore it is not surprising that the opening session of WINDPOWER 2006 will feature two of the nation's high-profile governors, Governor Ed Rendell of Pennsylvania and Governor Tom Vilsack of Iowa, discussing the importance of wind power to their states and the nation.

The conference will also feature wind energy corporate executives, utility executives, and federal and state regulators, participating in panel discussions to address issues of energy generation, challenges facing the industry, and their vision for the future of wind. Other

educational sessions will discuss the role of small wind projects and a host of policy, business, and technical topics.

WINDPOWER 2006 will also examine how wind energy is increasingly becoming a source of job creation and economic growth. In fact, in March, Governor Rendell announced that Spanish wind energy company Gamesa Corp. would be expanding its recent investment in Pennsylvania with an additional \$34 million for three new manufacturing facilities, creating over 500 jobs in the company's four centers and its North American headquarters. At the conference, several business leaders from the industry will discuss the economic issues driving growth of wind energy projects around the nation.

WINDPOWER 2006 will take place in the nation's first, and the world's largest, "green" convention center. The David L. Lawrence Convention Center utilizes natural light and ventilation, helping the Center achieve an annual energy savings of 35%. This world-class, environmentally-sound convention center will provide the perfect forum in which political, business, and advocacy leaders can discuss the importance of increasing access to and use of wind energy to ensure the nation's energy, economic, and environment security.

"All of us agree that wind is well positioned to be a major player in the U.S. energy mix," Swisher said. "Now is the time for us all to commit to doing the things it will take to realize this goal."

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**ASSISTANT SECRETARY, TWO GOVERNORS  
KICK OFF WINDPOWER 2006**

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At the only green convention center in the world—and the world's largest green building—WINDPOWER 2006 officially launched on Monday June 5 with a dynamic opening session that featured two state governors and the U.S. Department of Energy's (DOE) assistant secretary of energy efficiency and renewable energy. The event marked the first time in the history of the WINDPOWER conference that two governors shared the same stage: Governors Edward Rendell (D) of Pennsylvania and Tom Vilsack (D) of Iowa, both of whom are considered national leaders in wind.

DOE assistant secretary Andy Karsner started the discussion, bringing the federal perspective to the panel. Referencing President Bush's statement earlier this year that wind can potentially meet 20% of the U.S.'s electricity needs, he underscored the administration's commitment to accelerating renewable energy sources and commended the wind industry's leading role in that movement.

Karsner also addressed challenges for the industry, acknowledging that transmission and interconnection are among the greatest for the industry but emphasizing that DOE is committed to meeting those challenges. "Interconnection and good integration are among the highest department priorities," he said. Moreover, Karsner expressed his future commitment to wind and emphasized the need for government and industry to be constantly working together to meet challenges and solve problems. "The wind energy program and the Department of Energy plan to march in lockstep with you," he said.

Both governors emphasized the multiple benefits of their respective states' renewable initiatives. Wind, they said, has brought both clean power as well as a solid economic payoff to their respective states. "The benefits to us as a state is that we have [increased] farm incomes as a result of the wind industry," Vilsack pointed out, while at the same time Iowa's wind power efforts have kept as much as 1.6 million tons of carbon dioxide emissions out of the atmosphere.

Vilsack spoke of the need to have strong federal policies. Regarding the extension of the federal production tax credit, he said, "I can assure you that the two Senators from Iowa understand the importance of that."

Rendell also outlined his state's initiatives. Among the most bold was an "advanced" portfolio standard of 18% by 2019. Pennsylvania also has successfully lured wind power manufacturing giant Gamesa, which, he says, has invested \$84 million into his state. Pennsylvania also has a capacity goal of 4,000 MW in wind energy by 2020.

Wind and other renewables, both Vilsack and Rendell stated, also can play a big part in making the U.S. less reliant on foreign oil imports. Rendell expressed a desire to make the U.S. "energy independent" by 2020, referencing Brazil's success at a similar initiative. Investing in such energy sources as wind simultaneously cleans up the environment, fights terrorism, and puts the U.S. in a better position in the foreign policy arena, Rendell said. If one solution could achieve all those outcomes, he asked, "Wouldn't that be a good idea?"

Alluding to the green convention center that attendees were occupying, AWEA Executive Director Randall Swisher opened the session with remarks on the rapid growth of the industry. "This is an industry that has come of age, and yet this has really only just begun," he said. The next step, he added, is "moving wind energy more prominently into the mainstream."

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### **TOP INDUSTRY EXECUTIVES WEIGH IN AT LEADERSHIP FORUM**

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The great strides the wind energy industry has made, its huge potential, and the need for stable and strong public policy were three salient themes voiced by top industry executives at the WINDPOWER 2006 Wind Energy Leadership Forum, "Creating a Vision for the Future of Wind Energy."

A backdrop for the conversation—and to a large extent, for the conference itself—was President Bush's statement earlier this year that wind has the potential to generate 20% of the U.S.'s electricity needs. "I think the White House, by putting out the 20% number, has really put the ball in our court," said Victor Abate, vice president of GE Renewable Energy (GE), General Electric Co.

Abate said that the industry will have to approach the 20% challenge on several fronts in order to get there. Technology, he said, is part of the answer—namely getting more wattage out of each turbine. GE expects to improve its turbine efficiency by another 30% from where the technology is today, he said.

Abate also stressed that in order to reach the 20% level, wind energy must reach beyond its industry boundaries in seeking out expertise—which in itself is an indication of industry maturation. “The wind industry needs to look outside the wind industry if we’re going to make this move,” he said.

Another challenge: the run on turbines. Abate pointed out that currently manufacturers are producing about one wind turbine every four hours; if the wind industry is to provide 20% of the nation’s electricity, manufacturers would have to be producing a turbine approximately every 15 minutes.

Pointing to his company’s heavy investment in wind—\$4 billion by the end of the year—Mike O’Sullivan of FPL Energy called the wind industry “a real and growing business.”

“We think this is a core business,” he said. “We’re going to be in this for a long time.” One challenge that he pointed out was the increase in supplier cost. “To me, that’s the elephant in the room,” he said. Among the forces causing the increases that O’Sullivan cited are exchange issues with the Euro and the dollar as well as spiking steel and copper prices. The U.S., he said, comprises only 15% of the world market, and so therefore the domestic wind market is highly subject to world market pressures.

Invenergy president and CEO Michael Polsky, meanwhile, emphasized the need for public policy favorable to wind. Just as the independent power producer business was born out of public policy, he said, “The only reason we have wind in this country is because of public policy.” In short, renewable portfolio standards are a prerequisite to a healthy wind industry, he said.

From the investment side, Goldman Sachs managing director Alan Waxman stated his firm’s belief that “there is a clear path” to as much as 43,000 MW of generation capacity by 2015. “Wind is the most scaleable renewable energy resource,” he said.

In addition to voicing the consensus view that transmission and interconnection is a top issue that wind faces, speakers emphasized the need for consistency and predictability in federal policy, which affects not only power producers but the entire supply chain. The production tax credit, for instance is something that has had to be regularly extended, creating some uncertainty in the marketplace. “Our suppliers are unwilling to invest in factories unless we give them commitments for five to seven years,” Abate pointed out.

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**ENERGY DEPARTMENT, WIND INDUSTRY JOIN TO CREATE ACTION PLAN TO  
REALIZE NATIONAL VISION OF 20% ELECTRICITY FROM WIND**

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The American Wind Energy Association, U.S. Department of Energy, and National Renewable Energy Laboratory today committed to develop an action plan focused on providing up to 20% of the nation’s electricity from clean, renewable wind energy, the potential of which was highlighted in the Advanced Energy Initiative released by President George W. Bush in February.

Today at the WINDPOWER 2006 Conference and Exhibition in Pittsburgh, experts in wind technology, energy policy, public outreach, utility operations, and project development gathered to begin the creation of the action plan. The process will solicit input from key stakeholders including environmental groups, utilities, policy planners, investors, educators, communities, and others, with the action plan being unveiled at the WINDPOWER 2007 Conference and Exhibition in Los Angeles, Calif., June 3-6, 2007.

“In his Advanced Energy Initiative, the President described his vision of changing the way we power our homes and businesses by increasing energy efficiency, alleviating price pressure on natural gas, lessening dependency on imported fuels, and fostering alternatives for power production, including wind energy,” said Andy Karsner, U.S. Department of Energy Assistant Secretary of Energy Efficiency and Renewable Energy. “I am pleased to join with AWEA and pledge the support of the U.S. Department of Energy for this critical effort which will accelerate the use of the Nation’s vast wind energy resources.”

“Wind is an abundant and free domestic energy resource,” said Randall Swisher, Executive Director of the American Wind Energy Association. “Coupled with modern technology, wind energy displaces the need for fossil generation and reduces U.S. dependence on imported energy.

“As we have seen in Europe and with growing popularity in other nations of the world, wind power is proven, and can play a substantial role in powering America’s energy future. Wind energy works—for our economy, environment, and energy security.”

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### **UTILITY, PJM OFFICIALS CONVENE TO DISCUSS RENEWABLES SUCCESSES, CHALLENGES, AND FUTURE VISION**

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In order for it to reach its true potential, the U.S. wind industry must have greater certainty in the areas of legislation and regulation, and it also needs a national energy policy to be put in place.

That was the message conveyed at Tuesday’s WINDPOWER 2006 general session “Utility Leadership in Wind Energy Development,” in which representatives of some of the nation’s leading utilities in wind power, as well as a transmission operator overseeing a burgeoning and reliable portfolio of wind capacity, shared their past wind energy successes as well as their plans and challenges for the future.

“We strongly believe there’s a lot of economic value with the wind industry,” said Frank Prager, managing director of Environmental Policy at Xcel Energy, Inc. “There are a lot of challenges, but we think there’s a lot of opportunity as well.”

Proudly acknowledging his company’s position as the largest purchaser of renewable energy in the nation, Prager outlined some of the reasons that Xcel has been able to achieve that status. Location, he acknowledged, plays a large factor, with Xcel’s territories covering some wind-rich areas. He also noted that there are renewable standards in all of the states in which Xcel operates. Another driver: a green mandate from their paying customers, who expect the company

to embrace renewables. Finally, Prager stressed, Xcel has made a conscious decision that it needs to be an environmental leader. “We are making renewable energy a priority,” he said.

The renewable leadership theme echoed among all the panelists. “We’re looking to develop and sustain environmental leadership,” said Sharon Hillman, vice president for resource planning at Exelon Corp., which does not operate in territories with renewable portfolio standards. Dennis Welch, AEP’s senior vice president for environment, safety and health, told of his company’s conscious move to become “socially responsible, and wind is a part of that, as are all renewables a part of that.”

Welch was quick to acknowledge the challenges that the industry faces. He emphasized the need for technology to keep improving, adding that it is also important to bring supplier prices down, given that renewables tend to operate at such razor-thin margins. Thus, he emphasized, as did other panelists, the importance of locking in the federal production tax credit for a period that will ensure stability for all parts of the supply chain within the industry. In addition to answering to regulators, ratepayers and society as a whole, Welch pointed out, utilities must answer to shareholders. “We’re willing to do whatever the regulators will allow us to recover in rates,” he said.

Nevertheless, the utility itself also can do its part to properly value wind, Welch said. “We need to price carbon into our financial models so that we that we view wind and other renewables as an important part of our portfolio,” he said, explaining that he has made this case to his board of directors.

On the carbon front, Audrey Zibelman, COO of PJM Interconnection, LLC Corporate Communications, told of how PJM has launched Environmental Information Services, a company that has created a generation attribute tracking system to facilitate tradable credits. For instance, she said, 100,000 tons of coal could be displaced by 215,654 megawatt-hours of wind power. Zibelman said that for PJM, which has 11,281 MW of wind capacity planned for its grid by 2009, wind has become a highly reliable energy source because of the system’s size—a sentiment echoed by other panelists. Prager, for instance, said that Xcel considered wind a reliable source as well.

As a representative of an entity that manages transmission across several state lines, Zibelman was in a perfect position to stress the need for a federal energy policy. Those sentiments were echoed by other panelists, whose companies have subsidiary utilities operating in various states.

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**WINDPOWER 2006 HOSTS MANUFACTURER  
‘MEETING OF THE MINDS’**

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When company representatives gathered for the WINDPOWER 2006 Large Wind Turbine Manufacturer Forum, both the questions that were broached and the ensuing discussion reflected an industry that has taken another step along the continuum of maturation.

One question raised by moderator Adam Umanoff of Morgan, Lewis & Bockius, LLP, for instance, was whether turbines have become somewhat of a commodity, with similar

capacities achieved among various models and few differentiators between vendors' products. "I think to some degree there is enough commonality that you can consider them more a commodity," said Clipper Windpower, Inc., region manager Robert Gates. "I think the reality is that there are marginal differences." Still, in a business characterized by both scale and thin profit margins, the little things can make a significant difference. "While not huge, I think they are meaningful," he said.

GE Energy's Robert Gleitz, however, countered the notion that variances are minuscule, saying he sees "huge differences in performance" among turbines, with reliability being the primary differentiator, and that sentiment was echoed by other panelists.

Panelists also discussed a hot-button issue for anyone in the wind business: controlling the rising cost of turbines. Suzlon Wind Energy Corp. Vice President of Sales Leif Andersen suggested that the industry needed to "stay with a product a bit longer than we've done in the past," while Vestas Americas President Jens Soby agreed that it would be beneficial to "slow down the life cycle of the turbines a little bit."

To keep down cost Andersen said it is important to maintain product lines that are relatively narrow in scope. A company, he said, should not try to build a turbine for every kind of wind condition. "We can't develop six or seven different types of machines," he said, explaining that it would drive up cost.

Another issue reflective of a maturing marketplace that panelists addressed was whether investors are still taking a technology risk by getting into the business. Robert Rugh, vice president of the Wind Turbine Group at Mitsubishi Power Systems, Inc., said that investors are taking less of a technology risk today because reliability has improved significantly. But, he said, "We don't have 100% reliability."

Still, overall, "We think that there is a perception of perceived risk being much greater than the real risk," said Gates.

On the topic of whether manufacturers may start offering long-term service agreements in the U.S., a practice more common in other countries, several panelists agreed that the price customers pay for electricity is not enough to support such contracts. If the cost of electricity is \$.09-\$.10 a kilowatt-hour, said Andersen, service agreements become feasible. But, "Until utilities are being paid a fair price, you're not going to see it," he said.

Panelists also addressed other possible future trends on the manufacturing side. "I don't know if we're going to see significant improvements," Andersen said of turbine technology. Components, he pointed out, have already become difficult to ship because of their size. Soby suggested that rather than any major breakthroughs coming down the pike, improvements would come in the form of more subtle engineering tweaks such as in materials, blades, and control designs—all of which have an impact in performance.

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**AWEA THANKS NEW BOARD OF DIRECTORS  
FOR LEADERSHIP IN COMING YEAR**

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At the Board of Directors meeting that took place just before the WINDPOWER 2006 Conference & Exhibition, the AWEA Board of Directors confirmed the appointed slate of new board members. AWEA welcomes these new members, and thanks them and the existing members for their commitment of service in the coming year.

**New Board Members:**

Victor Abate, GE Energy  
John Calaway, Superior Renewable Energy  
Don Furman, PPM Energy  
Ned Hall, AES Wind Generation  
Craig Mataczynski, RES America  
Jens Soby, Vestas Americas

**Existing Board Members:**

Edward Zaelke, President, Morgan Lewis & Bockius  
Robert Gates, President-Elect, Clipper Windpower  
Edwin Ing, Secretary, Law Office of Edwin Ing  
David Blittersdorf, Treasurer, NRG Systems  
Leif Andersen, Suzlon Wind Energy Corp  
Michael Bergey, Bergey Windpower Co.  
Karen Conover, Global Energy Concepts  
David Drescher, John Deere Credit  
Jay Godfrey (Advisor), American Electric Power  
Dean Gosselin, FPL Energy  
Jerry Grundtner, M.A. Mortenson Co.  
Mark Haller, Haller Wind Consulting  
Brian McNiff, McNiff Light Industry  
Lars Moller, DMI Industries  
Harold Romanowitz, Oak Creek Energy Systems  
Michael Skelly, Horizon Wind Energy  
Jim Walker, enXco

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**EXPERTS WEIGH IN  
ON ALTAMONT**

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Altamont, the California project developed back in the 1980s that gained notoriety from its problems with bird fatalities, continues to provide the industry with valuable lessons—even at a time when some of its most serious issues have largely been resolved, said enXco vice chairman James Walker at the WINDPOWER 2006 panel on wildlife issues.

“To me, it’s an encouraging picture,” he said, referring to improvements made at Altamont as well as what the industry has taken from the experience. The facility eventually was able to cut bird fatalities in half by reducing power output by 8%-9%. That, of course, meant over \$10 million in revenue losses and all the more fossil fuel emissions being released into the environment, but Altamont, he said, serves—and will continue to serve—as a “laboratory” not only for avian studies but for how the wind industry and environmental interests can work together to face the common threat of global warming. “By acknowledging the seriousness of the issue, late or not, and supporting measures to cut raptor fatalities by 50% in the near term, Altamont may never be the ‘top of the class’ in wind-wildlife interactions, but perhaps it can become the ‘most improved student,’” he said.

While acknowledging that the industry has made great strides since the 1980s in screening for wildlife issues, Walker said the industry cannot assume that an Altamont-like situation will never happen again. Project developers must work hard in their outreach efforts to environmental groups and local interests while continuing full-throttle with research and the development of industry best practices. It is important to openly acknowledge, he said, that to make an impact on global warming, any energy source—and “even such a benign source as wind”—will impact the environment in some respect.

Walker also used his Altamont presentation to emphasize a crucial industry need. The wind industry and government need to drastically accelerate research on environmental impacts if wind power is to reach its true potential. “We’re really going to have to ramp up all of the research if we’re going to meet the [20% of electricity] target in the U.S.,” he said.

But Walker was not necessarily calling on the industry to be the ones to pump more money into such studies. He pointing out that the industry has always been expected to fund avian and other studies, but yet government agencies regularly fund environmental research related to the impact of the fossil fuel industries.

RENEW Wisconsin Executive Director Michael Vickerman also spoke at the session, explaining the history of Horicon Marsh, an area near a 300-MW project in south central Wisconsin that is a wildlife sanctuary and a major hub for both migratory and resident bird activity. Using Horicon Marsh and other projects as evidence, Vickerman posed the question of whether turbines and wildlife go together in areas that serve as wildlife sanctuaries. He concluded that, yes, they can cohabitate effectively, particularly if the area in question is actively farmed land, as is the case with Horicon Marsh.

Vickerman also said that because birds are generally more apt to avoid turbines than are bats, further bat research should focus on deterrence.

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**PANEL: SMALL WIND OPERATES IN AN ENVIRONMENT  
OF OPPORTUNITIES, CHALLENGES**

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Small wind projects can be an attractive means for end-users to save money while at the same time contributing clean power to the grid, according to experts who presented at WINDPOWER 2006’s panel, “Small Wind: Barriers, Strategies, and Building a Future.”

Kevin Schulte, vice president of consulting at Sustainable Energy Developments, Inc., told of Jiminy Peak, a ski resort in the Berkshires of Massachusetts that is putting up a 1.5-MW turbine which the resort will own. The facility, said Schulte, will reduce utility costs for the ski resort by 33%--good news for the owner of the resort, who refused to raise the price of his lift tickets and therefore was seeking ways to cut electricity costs. That facility is expected to be operational sometime between late summer and June 2007.

Schulte said that in a study he conducted, municipal sites were among the most ideal for small wind projects. Those sites included water facilities, schools, highway garages, and town halls.

One challenge of small wind, Schulte said, is that it lacks the political clout of the larger players within the wind industry, an industry disconnect that is causing the small-wind segment to fall further behind its larger counterparts in the political and policy arenas. "Small wind is a bunch of mom-and-pop shops," he noted. "We need to make sure all of the groups are working together to make sure wind is being developed on all scales."

Panelist Steve Lindenberg, a team leader for technology applications at the U.S. Department of Energy, spoke of how the market for small-wind turbines is largely in rural areas, where electric cooperatives are frequently present. Such areas, Lindenberg said, often have better access to good wind resources, while zoning is less often a barrier and larger land parcels provide adequate space for wind turbine installations.

Working with cooperatives, however, poses certain challenges for small wind, with only 22 states offering net metering for all rural customers. It is important, Lindenberg said, for small-wind candidates to understand the nature of cooperatives and where they are coming from. Cooperatives, he noted, operate on particularly tight finances and are therefore resistant to reduced revenues from consumers, but they usually also have a "culture of fairness" centered around member economic participation.

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**SITING PANEL ON MILITARY ISSUES  
PROVES PLATFORM FOR PRODUCTIVE DISCUSSION**

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Industry players gathered at WINDPOWER 2006 on Tuesday for the AWEA siting panel on military issues, which proved an opportunity to discuss some of the most front-of-mind challenges facing the industry today: radar and air space issues. Participants had the chance to hear and interact with representatives from all sides of the issue; in fact, at the session Lt. Col. William Crowe, chief of airspace for the U.S. Air Force, offered to serve as a point of contact for the industry as the various parties work through the issue.

At the session, Idaho National Laboratory President Gary Seifert offered a hands-on perspective, explaining the specific kinds of impacts that wind turbines can have on radar. Steve Turner of QuinetiQ, meanwhile, provided background on the United Kingdom experience, explaining the impact assessment process that has been developed there as well as solutions that government and industry have generated.

“It’s an opportunity for industry members to understand the impacts and solutions for radar and air space issues,” said AWEA Communications and Policy Specialist Laurie Jodziewicz.

For more information on radar impacts and the latest developments, contact Jodziewicz, email [ljodziewicz@awea.org](mailto:ljodziewicz@awea.org), phone 202-383-2516.

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**REMARKS OF AWEA BOARD PRESIDENT EDWARD ZAELE OF MORGAN,  
LEWIS & BOCKIUS AT AWEA AWARDS BANQUET**

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Before we proceed to the awards program, I would like to take a moment to make a few remarks, and for us to consider why it is we are each in this industry. Given the ups and downs the industry has weathered over the past several years, there are certainly easier ways to make a living – so why is it that we are drawn to renewable energy? When people ask me why I have pursued this path over others I can generally distill it down to a very simple thought: I want to be proud of what I do. That is different from being proud of doing a good job, or being proud of HOW I do my job--every career has that element. I want to be proud of WHAT I do. I think I share that desire with every person in this room..

There is a lot to be proud of. We can be proud of the fact that, at a time when the world is struggling with concerns over climate change and America is struggling with its dependence on foreign oil and natural gas, we are providing a source of power that addresses both concerns. We can also be proud of the fact that, for over thirty years, this industry has advanced an idea that, through technology and enlightened government policy, we can replace the fossil fuel based production of electricity in this country with nonpolluting, renewable energy. The pursuit of this endeavor has not been easy; at times over the last 30 years, most profit minded people would have given up. Instead, this pursuit has been guided by the truths that, some day, and we can argue about when, the world will run out of fossil fuels, and in the process, our rapid consumption of fossil fuels to make electricity and for other purposes will create air pollution problems and will weigh heavily, and negatively on our national foreign policy. We can also be proud of the fact that through this pursuit over the past 30 years, and through a great deal of persistence and perseverance, we now have reliable equipment that, with the Production Tax Credit, is cost-competitive with fossil fuel-based electricity production in many parts of the country.

You should also be proud, as I am, of the inclusiveness of this industry. This is not an industry where there is no room for newcomers or where one or two household names are all that matter. What matters is that the industry participants share the same vision of changing the way America makes its electricity. And I don’t care if it’s utility-scale wind, or small wind, or community wind: we all deserve each others respect, understanding and appreciation. This industry has attracted a number of genuinely good people--even some of the lawyers--and while we can compete with each other and may have our disagreements, we all have to remember we are pulling on the same rope and should, and I think do, treat each other accordingly. It is a good industry of which to be a part.

We should also be proud of our trade association and what it has accomplished, especially in the last several years. AWEA, under Randy Swisher’s guidance, has developed a comprehensive strategic plan to guide the industry as it moves forward, it has assisted in securing

renewable portfolio standards in 20 states, it has caused the federal production tax credit to be extended four times, it has helped develop a grid code that allows for easier integration of wind onto our transmission system, it has worked with federal and state regulators on fair sharing of our transmission system and has recently had substantial success in that area, it has worked in the siting area on issues dealing with birds and bats and visual impacts, our communications team is constantly working in the press to get our message out... and so on. There is a lot about which we should be proud.

However, notwithstanding all of these efforts and although we have much of which to be proud, and we should all be applauded for our efforts in helping the environment and slowing global warming, reducing the country's dependence on foreign oil and natural gas and creating domestic jobs, to much of America, we are still invisible – or if we are visible it is only due to a controversy about avian issues, an offshore project or some attack from another industry. Certainly, we are not invisible to all of America. In certain farm communities of the Midwest where the revenues from wind represent the ability to keep the family farm, to certain non-profit, environmentally minded groups who have helped carry the wind banner in those states that have adopted or are considering renewable portfolio standards and to some of our elected officials, wind is very visible and very important. However, this conference is about moving wind energy into the mainstream. In order to reach the mainstream of electric supply, mainstream America and the mainstream of policy makers have to understand why it is we are proud of what we do.

Why is this important? It is important because the Mainstream is a crowded place. There are the oil and natural gas interests, coal interests, nuclear power interests—all demanding that their fuel and their technology be employed to make electricity. To a large extent, how we make our electricity – whether we continue to use aging coal burning plants or replace them with wind energy--is a public policy decision. As hard as the AWEA staff and the hundreds of participants in this industry have worked in the public policy area to this point in time, moving into the Mainstream is going to be much tougher. Just our recent success has brought organized opposition to wind energy from NIMBY's who object to seeing wind turbines and from other energy interests who are bent on convincing others that wind energy is not viable. Especially in light of this opposition, if we want those public policy decision makers to support what we do, we cannot be invisible to them and we cannot continue to be invisible to Mainstream America. I

In order to win acceptance in the Mainstream, two things must happen. First, Mainstream America must view the issues that wind energy helps address—global warming and independence from foreign oil--to be of top importance on the National Agenda. And I mean important as numbers 1 and 2 on the list, not 16th and 17th. Second, the American mainstream must be aware of the benefits and potential that wind energy provides to address those concerns, and that such benefits far outweigh any negative impacts of wind turbines in most cases.

The good news is that, as to the first item, the American people are becoming aware of the problems of global warming. Fifteen years ago, we couldn't even get the scientists to agree on whether climate change due to carbon emissions was even real. Today, the scientific community agrees that global warming is real and is happening, and that the consequences of global warming, including the melting of the ice caps, are happening much more rapidly than the scientists in the area ever expected. By 2050, possibly in my lifetime, but certainly within the lifetime of my children, the ice cap in the north pole will not exist during the summertime. This will probably mean the extinction of the polar bear. The current documentary "An Inconvenient Truth" warns that the melting ice caps will raise the sea level by 20 feet, putting much of Florida under water. Mainstream media is now, finally, covering these issues in earnest – everything from a full issue of Time Magazine a few months ago, to last week's cover story in USA Today, to the

Tonight Show have coverage on global warming. Mainstream America is finally getting concerned, and while it is probably not yet a “1” or “2” on its scale of concern, it should be, and with each passing week more and more Americans are looking for a solution. We all owe a debt to those individuals who are carrying this message.

The American Mainstream is also very worried about our dependence on foreign oil and natural gas. This is evidenced in the President’s call for energy independence in this year’s State of the Union Address and, more importantly, his call for 20% of the Nation’s electric energy to be produce from Wind as part of his Advanced Energy Initiative. Unfortunately, it has taken the September 11th attacks, a war in Iraq and Afghanistan and \$75-per-barrel oil for Americans to give energy independence the importance it deserves, but it has happened and Americans of all persuasions, environmental or not, understand the consequences of our failure to address the issue of energy independence, and they are looking for a solution.

Thus, the first element of winning Mainstream support for renewable energy is in place like never before. For the first time since the oil embargo of the 1970s the American public and its policy makers, both the globe huggers and the flag huggers, and I am proud to say that I am both, agree that action must be taken to find a source of secure domestic energy. As an industry, we must view these circumstances, as our call to action. After 30 years, we finally have America’s ear – we now have to find our voice, and find it immediately.

We have heard over the past two days from a number of people, including the Assistant Secretary of for Energy Efficiency and Renewable Energy of the Department of Energy, two state governors, numerous other speakers, and now, Katie McGintie, of how the time has come for our industry to step up and help America meet the energy challenges that she is facing – how we must seize the opportunity to effect policies that allow the industry to quickly and significantly expand to fill this need. Nothing could be truer – our time has come. Unfortunately, as we prepare to respond, we still carry many of the burdens that have resulted from prior inconsistent public policy and public indifference: These include problems with turbine availability, transmission constraints, the ever-expiring PTC, the lack of a federal renewable portfolio standard--which is long overdue--and siting issues. We must seek broader support for consistent and favorable public policy to address these issues. . We need Mainstream support, which we can only achieve within this window of opportunity though a broad based visibility campaign that dispels the misinformation about our industry and educates the Mainstream about all of those things we are so proud of in our industry. We cannot hesitate or squander this opportunity.

On Sunday, I asked the Board of Directors of AWEA to proceed with a national visibility campaign for our industry and to work with the industry to begin implementation of the visibility campaign this year, so as to fully support our legislative and regulatory efforts in 2007, which efforts currently include an extension of the federal PTC, the call for a federal renewable portfolio standard--which is long overdue--fair transmission access and investment in new transmission, reasonable siting requirements from the U.S. Fish and Wildlife Service, the U.S. Department of Defense and other agencies, and additional support for small wind. We will begin working immediately with public relations professionals, including those in our member companies and environmental advocates to design the campaign and design a funding program before summer is over, with a plan to fund and launch the campaign by the end of the year. While we admittedly may not have the resources to do what some of the other trade associations have done such as “Got Milk” or “Pork, the Other White Meat,” within our resources, I am confident that we can make--and must make--what we do visible to Mainstream America and Mainstream policymakers

In closing, before I move on to a very brief awards program, let me quote St. Augustine: God will provide the wind; it is up to you to raise the sail. In this case the winds blow from adversity – I wish global warming and the tense political situation in the middle east did not exist, but they do. But the adversities our country now faces are why we, as an industry exist, and what makes our industry relevant and what makes us proud of what we do. Good policies made over the next twelve months will determine the course of our industry. As an industry, we must raise the biggest and most visible sail we can to affect those policies.

I hope I can count on all of you to help us raise that sail, so that it can be seen by ALL of America.

Thank you.

### **UPCOMING AWEA EDUCATIONAL EVENTS**

**AWEA Wind Resource Assessment Workshop**  
**September 13-14**  
**Syracuse, N.Y**

**AWEA Wind Power Finance & Investment Workshop**  
**October 4-5**  
**New York, N.Y.**

**AWEA Wind Energy Fall Symposium**  
**December 6-8**  
**Pointe South Mountain Resort**  
**Phoenix, Ariz .**

**WINDPOWER 2007 Conference & Exhibition**  
**June 3-6**  
**Los Angeles , Calif.**

**For more info:**  
**[www.awea.org/seminars.html](http://www.awea.org/seminars.html)**