



An overhead drone photograph of a wind turbine foundation under construction.

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Offshore Comes Onshore in North Carolina

As construction site manager Lincoln Phillips and anyone associated with the Amazon Wind Farm U.S. East's work since last summer can attest, water—in the ground or from the sky—has been a challenge. While we are of course grateful for our customer's role, the joke is that changing the name from "Desert" to "Amazon" may have muddied the waters, so to speak.

The low-lying area (near the Great Dismal Swamp National Wildlife Refuge) of northeastern North Carolina has required some extensive water diversion planning, unprecedented for our wind farm construction efforts: Each foundation excavation (there are 104 of them!) has required an adjacent well installation to draw the water table down. The recent threat of Tropical Storm Bonnie meant bringing 15 additional high-capacity pumps to the site – and coordinating with nearly half the participating landowners (about 25) to build berms and temporary culverts in an effort to protect the corn, soy and peanut crops already or about to be planted. Preparing for a storm involves nearly everyone on-site, and with about 12 different companies doing work, plus 86 dump trucks and trucks delivering wind turbine components, it's a coordinated team effort to prepare and stay safe.

As we finish the last of the 60 miles of new roads, and the first wind turbine components arrive on-site and go up, roughly 250 workers at the wind farm still have plenty to keep them busy. They're also just hoping to stay dry. ☒



The first erected wind turbine at the Amazon Wind Farm U.S. East, powered by Avangrid Renewables at Desert Wind.



Community members sign a wind turbine blade at a recent open house event.

PHOTO SUBMISSIONS

To submit your photos, please email your images with a caption and contact information to photos@iberdrolaren.com, or mail to: Avangrid Renewables, Attn: Lease Admin., 1125 NW Couch St., Suite 700, Portland, OR 97209.

Commercial Filming at Manzanita Supports the Pacific Crest Trail



With the Manzanita Wind Farm's close proximity to Hollywood and the greater Los Angeles area, the site has been used for several film and television projects. The most recent was the filming of a commercial for Brooks trail running shoes. The crew arrived on a very windy and unseasonably cool day and filmed at several locations on the wind farm.

One of those locations included a short, dual-use (hiker and vehicle) portion of the Pacific Crest Trail (PCT) – a nearly 2,700-mile trail taking intrepid hikers from Mexico to Canada in the mountains and deserts of Washington, Oregon and California. We have the

privilege of having 4 miles of the PCT trail on the site, and, over the years, we have gone out of our way to assist hikers as well as support maintenance of the trail.

Official PCT maintenance is conducted by American Conservation Experience (ACE), a nonprofit organization that provides college-age students scholarships in return for six to nine months of trail work. Because of our commitment to caring for the PCT, we have established an interactive working relationship with ACE and their trail crews, and we are very proud to be considered “good neighbors” to the trail. So when the opportunity arose to direct a \$2,500 “location fee” donation from the company filming the commercial to compensate the site for their time and participation, there was no question about who should receive the funds—our partner in conserving and preserving the PCT: ACE. So in an indirect but meaningful way, we were able to contribute financially to ACE's mission, as well as provide an outstanding and highly appropriate backdrop for a new style of trail running shoes—and further promote wind energy and our mission to broader national audiences. 🌱

Before You Fly, Notify: Safe Crop Dusting Near Wind Farms

With the start of the growing season, it's important that wind energy companies and farmers work together to ensure crop maintenance is performed safely.

Defending crops against pests and fungal outbreaks is important to ensuring high yields each year, but because crop dusting is performed at a very low altitude, extra precautions must be taken to provide safety around wind turbines. As an industry leader in safety, we take many steps to reduce the risk of an accident with local crop dusters. For example, our fleet of temporary meteorological towers are outfitted with high-visibility paint at the top of the tower, marking balls on the guy wires and high-visibility sleeves along the guy wires as they connect to ground anchors.

In fact, safety needs to work both ways. Before scheduling, please notify your local wind farm's plant manager or supervisor with information about crop dusting, including dates and times the crop dusting will occur, the name and contact information of the crop dusting company and a Material Safety Data Sheet for the substance that will be sprayed. This will ensure the safety of our employees and contractors so they don't get dusted along with your crops. Thank you. 🌱



5 Questions With Rande Habber From Manzanita

Landowner News recently interviewed Rande Habber from the Manzanita Wind Farm in Kern County, California. As a retired singer and composer, Rande writes music about world issues in order to encourage others.



Landowner News: How long have you been working with Avangrid Renewables?

Having a relationship with Avangrid Renewables has been a unique and wonderful experience. It started in 2009 when they approached me with the wind farm idea and contract for use of 80 acres of land I inherited with the passing of my mother and father. Amy Freeman, from the land management group, has always been there to answer any questions or concerns I might have. It seems that everyone I have talked to over my nine-year relationship with the company has made me feel like part of their family.

Landowner News: How long has your family owned your land?

This property has been in my family since the late 1960s. It was hard to access for most of that time. I remember a story my father told of hiking to the property and having to look for rocks painted with numbers to find its boundaries.



Creating a Balancing Authority in the West

Landowner News: Has there been any farming or livestock raised on your land?

My father loved his crops. He also leased the property for a small fee so a neighbor could graze his sheep. He always had farming in his blood, but life kept him in the city most of the time. Still, he always found a place to plant his gardens and grew the sweetest cherry tomatoes. I think he would get a thrill knowing the property is being used to harness wind for energy!

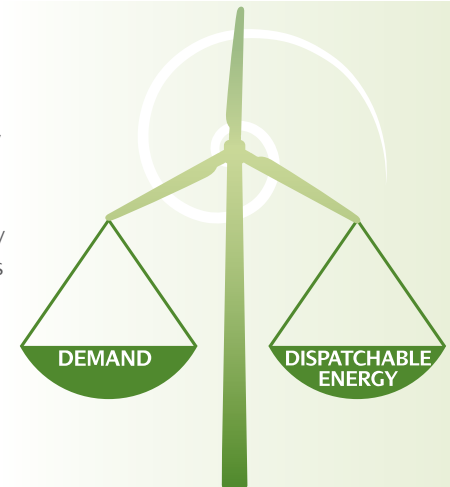
Landowner News: What makes you proud about being part of the renewable energy story?

I enjoy working with a family of people who care about the environment, the future and future generations. I thank all those in this wind energy family for being good stewards—not only of each individual property, but the environment in general. So here's to my Avangrid family, each and every one. As we now settle into the 21st century, may we all live to see the fruits of our labor!

Landowner News: Do you read Landowner News? What do you think about it?

Oh, yes! I've been reading the articles each issue since I became a landowner. I was somewhat reluctant to do this interview because I've so enjoyed learning about other landowners each quarter, but I feel privileged to be part of this issue. I really appreciate seeing all the work that's featured on the company's care for wildlife and support for education and local schools. 🌱

Keeping the lights on in any part of the country requires balancing many moving parts, primarily the ever-changing electricity demands of homes and businesses, from computers to refrigerators to factory machinery. Along with the supply of electricity as many types of power plants come online and offline over a wide geographic footprint, the grid must nimbly respond and always have electricity available where it's needed. While it's complex to manage the generation and delivery of electrons on the grid, we have participated in wholesale electricity markets across the United States for 15 years, giving us the experience to reliably and cost-effectively integrate wind into that part of the grid—and offer far more enhanced customer benefits.



Avangrid Renewables is moving forward with the formation of a new Balancing Authority (BA) in the Pacific Northwest. Our new generation-only BA will consist of 13 wind farms totaling 1,389 MW of installed capacity, or enough capacity to power about 350,000 homes each year. As a BA, we will continuously balance the difference between our energy schedules and the actual amount of wind produced by these wind facilities on a four-second basis. Avangrid Renewables will leverage dispatchable generation assets (power plants that can increase or decrease electricity output instantaneously and on demand), the technological sophistication of the National Control Center and top-notch trading, meteorological and origination teams to balance our wind and meet BA operating requirements. To date, the company's self-supply program under Bonneville Power Authority has been a great success—avoiding \$65+ million in wind integration costs and reducing strain on the grid—ALL TO THE BENEFIT OF OUR ENERGY CUSTOMERS. The formation of the new BA will allow Avangrid Renewables to continue realizing similar benefits, while providing for new opportunities.

Primary drivers for and customer benefits from creating the new BA:

- Self-supply is a pilot program and its continued existence is uncertain.
- Operation as a BA will enable us to optimize value to our customers through increased operational certainty.
- Access to a greater number of operational tools that can be utilized only as a BA.
- Scalability to incorporate new renewable development into the BA.
- Increased flexibility to actively engage in the evolving market structures.

The certification process we'll need to undergo with federal regulators means we expect to go live in late 2017 or early 2018. 🌱





Questions? Have a Story to Tell?

Do you have questions or comments relating to *Landowner News*? Have a story to tell? Would you rather receive an electronic copy? We'd like to hear from you!

Contact Landowner News via email: leasing@iberdrolaren.com or regular mail: *Landowner News*, Attn: Lease Administration, 1125 NW Couch St., Suite 700, Portland, OR 97209

For questions about your land agreement or payments, contact us toll-free at 866-441-4557 or via email: leasing@iberdrolaren.com.

Wind Power Hits a High in 2016

This year, American wind power had its most productive quarter for installations since 2012, as demand rises for wind's low-cost, zero-carbon energy. Wind added 520 MW of new electricity-generating capacity to the power grid from January through March, according to the *First Quarter 2016 Market Report* from the American Wind Energy Association (AWEA). Construction started on another 2,000 MW, with a total of more than 10,100 MW of wind capacity now underway.



"Our productive first quarter reflects the strength of American wind power entering 2016. We have a low-cost product that's in high demand," said Tom Kiernan, CEO of AWEA. "As the wind business builds momentum, we're prepared to double wind's contribution to America's electricity supply in the next five years."

There are now more than 48,800 wind turbines operating in 40 states plus Puerto Rico and, for the first time, Guam—enough to power 20 million average homes with nearly 75,000 MW of total installed capacity. Turbines were installed at seven projects across six states this quarter; Oklahoma led the country with 270 MW of wind capacity installations, followed by Iowa (154 MW), Utah (62 MW) and New Mexico (32 MW).

The U.S. Department of Energy Wind Vision report shows that wind power could double in the next 5 years to supply 10 percent of U.S. electricity demand by 2020 and double again to reach 20 percent by 2030. 🌱

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