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Get Onboard to Keep Wind Energy Moving Forward in 2012!

The American wind industry is facing a make-or-break year in 2012, and at least two congressmen have stepped up to take the lead in championing legislation to help with the continued expansion of renewable energy in the United States.

In October, Reps. Dave Reichert (R-Wash.) and Earl Blumenauer (D-Ore.) sponsored bipartisan legislation—HR 3307, the American Renewable Energy Production Tax Credit Extension Act—that seeks to grant a four-year extension of the existing production tax credit (PTC) for wind, hydroelectric, geothermal, bio-energy and municipal solid waste forms of electricity generation.

The PTC is a tax incentive that helps energy developers raise private funds to bring renewable energy projects to completion. The wind energy PTC will expire in 2012 unless Congress takes action.

According to the American Wind Energy Association (AWEA), failure to extend the PTC will lead to job losses and will put the brakes on the progress the United States has made toward including clean, affordable, homegrown energy as part of its electricity portfolio. In the years following previous PTC expirations, new wind installations dropped 73 to 93 percent, according to association records.

Iberdrola Renewables encourages you to take action and support extending the PTC in 2012. Contact your U.S. Representative and ask for their support for HR 3307. Find your representative's phone number and email address at www.house.gov or use this AWEA directory tool: <http://capwiz.com/windenergy/moaa/dbq/officials>. ■



Secure the Barn Doors: Winter Weather Means More Wind Power

Hold on to your hats and batten down the hatches this winter because cold weather means better wind energy production, according to Iberdrola Renewables meteorologist Scott McDonald.

"We're ramping up for the windy season because the winds increase dramatically from fall to winter and stay strong through spring," he said. "The seasonal trends are pretty consistent across the continental U.S., with winter being the high energy producing season and summer being the lower energy producing season, with the exception of the Gulf Coast area."

As you bundle up to stay warm this winter, take comfort in knowing that the overall wind energy potential increases due to a rise in air density. Cold air, being heavier (more dense) than warm air, provides an added "push" against the turbine blades and delivers a power boost. In other words, low temperatures equate to higher air density, and the direct trend relationship between air density and turbine power in kilowatts (kW) increases.

While the cold air is good for wind energy, McDonald and his team do face a few challenges in gauging accurate wind measurement data when temperatures drop.



"The biggest challenge we experience with operating met towers and wind measurement equipment is icing," he said. "Under certain environmental conditions ice will accumulate on the anemometer cups (or wind vane) and slow the cup rotation down and eventually stop it under heavier icing conditions. The wind speed and direction data captured during these events is erroneous and must be removed from consideration when evaluating a site's wind potential."

To solve the icing issue, McDonald says heated sensors are available, but they require an external power source, typically a solar array-battery backup system or portable generator. On very rare occasions, very severe icing events that topple trees/branches, utility lines and poles, and other structures can also result in the collapse of a met tower.

So the next time you wish for warmer winter weather, remember all the wind energy benefits that come along with dips in the thermometer. ❧

Doing Good: Employees Raise More Than \$329,000 for Local Communities

Iberdrola Renewables employees in the United States and Canada donated \$215,433 to help support worthy causes in the communities where they live and work, and around the world too via international charities. The annual campaign is a way for employees to make contributions from their own pockets – usually with a company-matching donation – to charities and other groups.

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5 Questions with Stephanie Carey

Safety is the heart that keeps beating throughout the day and night at Iberdrola Renewables. In fact, it's our top priority and the day-to-day focus of Operations and Maintenance Manager Stephanie Carey. We recently caught up with Stephanie to find out more about her job and the role safety plays at our wind farms.

LN: How would you describe your day-to-day job function?

Carey: As Operations and Maintenance EHS (Environmental Health & Safety) Manager, I am responsible for thinking things through and keeping people safe.

LN: What do you mean?

Carey: My job is to ensure everyone who works in the field is prepared with all the equipment and knowledge they need to do their job safely. At a micro level, that means managing countless little details, such as what fall protection equipment Iberdrola Renewables field personnel should use to how they should store and dispose of hazardous waste. At a macro level, it means knowing the standards, then ensuring they are applied correctly at the field level by incorporating them into the Environmental Health & Safety procedures.

LN: How much regulation is involved with safety procedures?

Carey: The United States is a highly regulated environment that requires constant monitoring of rules and standards. For example, in the United States all turbines need to be manufactured with the ability to receive a lock or a tag during de-energization. It's a regulation that was created in 1994, but many manufacturers still do not comply with it. It's our job to figure out how to be in compliance with the ever-changing federal, state and local regulations.

LN: How does the United States compare to other countries when it comes to safety?

Carey: A big part of my job is working around cultural differences that exist worldwide when it comes to safety. Here's an example to illustrate the difference in attitudes between continents: I once visited Amsterdam. I was walking with some local friends and commented about the lack of railings near the bank of a river. They told me that if you fall into the river, it's your own fault. Different parts of the world view safety differently.

LN: Your job sounds stressful. How do you manage?

Carey: To get through challenging days, I take a hands-on approach. I frequently get out into the field to understand the conditions field personnel encounter and to understand how equipment performs in context. I've gotten much better at thinking about safety around every turn since starting this job. I even mow my lawn wearing steel toed shoes. Ultimately, no one will listen to you if you don't personally demonstrate that safety is integral to everything you do. 🌱

(Doing Good ... continued)

In addition, the company matches 50 cents per dollar for qualifying organizations that meet company guidelines. That means this year's total contributions came to \$329,270, beating 2010's total of \$300,000.

"Holidays are the time for giving back to the community, and we have had excellent participation this year in our community giving program, especially from places like the Klamath Cogeneration Plant, which had 100 percent employee participation," said Angie Gregg, who managed the campaign in her role at Human Resources. "It is very gratifying for all of our employees, especially when they see the company's commitment to match their own personal donations."

There are more ways that employees help to do good in our communities, beyond donating money. On Volunteer Day in October, a group of 19 employees based in Portland, Ore., in the Pacific Northwest, worked with Habitat for Humanity to build housing for needy families.



"When companies like Iberdrola Renewables come out and give us a hand, it makes a huge difference," said Will Bretcher, Americorps Volunteer Engagement Advocate. "Not only are they bringing a lot of donations, they are bringing folks out who may not be familiar with Habitat, and those folks are much more likely to give us a hand again because they usually have a good time when they help." 🌱

Mission Critical: Protecting Wildlife and Wind Generation

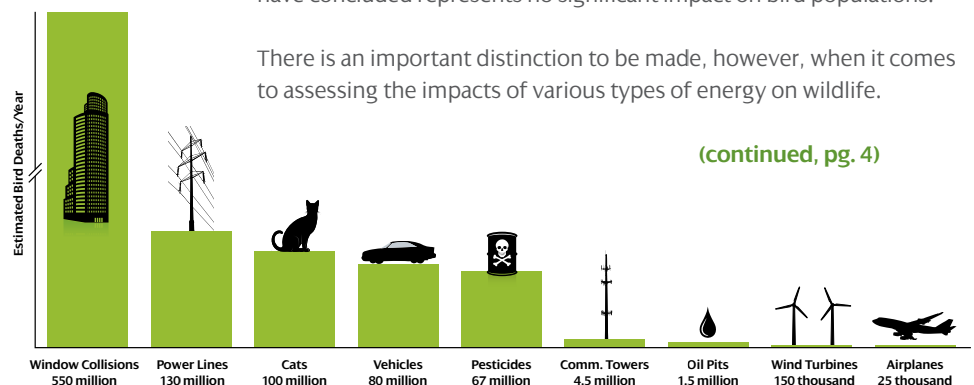
Wind energy is one of the safest forms of energy for both humans and animals. Unlike conventional fuel generation sources, wind energy does not pollute our air or drinking water. It does not produce hazardous waste and consumes no water.

But no form of energy is perfect and the reality is that all human activity impacts the natural world. According to the U.S. Fish and Wildlife Service estimates, for example, collisions with transmission lines may account for up to 130 million bird deaths annually while oil and wastewater pits kill around 1.5 million.

Wind turbines are not blameless, but current estimates indicate wind turbines account for the loss of fewer than 150,000 birds per year across the country (based on a national average of 3–4 birds/MW/year). This represents a level of impact that peer-reviewed biological studies to date have concluded represents no significant impact on bird populations.

There is an important distinction to be made, however, when it comes to assessing the impacts of various types of energy on wildlife.

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Graph Data Source: US Fish and Wildlife Service, study by Wallace P. Erickson, Gregory D. Johnson, and David P. Young Jr. (http://www.fs.fed.us/psw/publications/documents/psw_gtr191/Asilomar/pdfs/1029-1042.pdf)

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HAPPY HOLIDAYS!

Happy holidays from Iberdrola
Renewables! From our families
to yours, best wishes for a joyous
and safe holiday season and a
wonderful 2012!



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(Protecting Wildlife ... continued)

Which industries are transparent about their impacts?
Which go above and beyond to reduce those inevitable effects?

Wildlife mortality data is one piece of information and must be considered in the context of wildlife loss caused by habitat destruction, climate change, mountaintop removal and related filling of stream valleys from coal mining, loss of fresh water supplies to mining and generation, and myriad pollution waste streams to the air, water and land. We know little to nothing about the detrimental effects those and numerous other activities have, yet the wind industry is portrayed as the bad guy simply because we openly discuss our impacts and seek collaborative efforts to better quantify, understand and reduce them.



We welcome the scrutiny because it challenges us to pursue better science and look for solutions. Can other energy industries say the same? When will we begin the effort to understand the magnitude of wildlife impacts by all energy generation sources rather than focus on the one form of energy generation that has such a clear, dramatic benefit to humans and wildlife alike? Until such time, Iberdrola Renewables will continue to advance the science and understanding around the wind energy/wildlife impact discussion.

For example, in 2009, Iberdrola Renewables participated in a groundbreaking study at our Casselman wind farm in Somerset County, Pennsylvania, conducted by a research coalition of industry, a bat conservation group and a federal wildlife agency. At Casselman, scientists determined that turning off the turbines during low wind periods reduced bat mortality by as much as 70 percent, with minimal loss of energy production. Read the report here: <http://bit.ly/batsandwind>.

Iberdrola Renewables continues to work to find ways to reduce wind's impact on these vital creatures. And unlike other energy companies, we have taken the next step of partnering with conservation groups and government agencies to actively and accurately self-report our impacts on birds and bats.

This is not something we are required to do. We just think it's the right thing to do. It's important to remember that the more wind energy we use, the less we rely on the fossil fuels that cause climate change, the single greatest threat to all of the planet's wildlife.



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