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It Happened

Mark Del Franco

The shock waves created by Donald J. Trump’s surprise presidential victory over Hillary Clinton have yet to subside. As of this writing, throngs of anti-Trump protestors have taken to the streets all over the country. Having alienated several groups during the campaign, Trump also provided enough damning statements regarding climate change and renewable energy to put a scare into wind energy advocates. In fact, there have been rumblings that have leaked out concerning Trump’s initial priorities.

For example, the U.S. Environmental Protection Agency and the Clean Power Plan (CPP) are in the president-elect’s crosshairs, as the president-elect has made no secret of his disdain for the government agency. Reportedly, he will cut agency funding and roll back several initiatives, such as the CPP. Even if the CPP emerges victorious from its current legal entanglements, the Department of Justice under a Trump administration will likely decline to defend the CPP in the courts. Further, Trump has vowed to take the U.S. out of the Paris climate change agreement.

Although such developments are unwelcome, Trump’s ascension to the Oval Office does not have to be the show-stopping, soul-crushing event that many envisioned the morning after the election. On the bright side, the production tax credit will likely remain intact. Barring an act of Congress—and lest we forget, Republicans will control both houses—the wind industry’s key tax incentive is likely to remain unscathed, explains David Burton, partner at law firm Mayer Brown.

“Unlike the CPP, [the tax credits for wind] are statutory,” Burton explains. “A statute can only be changed by Congress’ passing a new law.”

And due to the sheer number of issues on Trump’s to-do list, Burton says it is unlikely that the president-elect would opt to attack the tax credits, given that several members of his own party support them.

“Wind is fortunate to have a number of powerful Republican allies in Congress, including Sens. Grassley, Collins, Thune and Hatch.”

Powerful and influential champions aside, the technology has advanced to the point where it can compete straight up with new sources of electricity—a free market principle that Trump and his designates cannot ignore.

According to financial services company Lazard, wind energy is now one of the most affordable options for new electricity generation based on unsubsidized levelized cost of energy, or LCOE (based on dollar per megawatt-hour). In its 2015 Levelized Cost of Energy Analysis report, Lazard notes that wind is competitive with conventional generation in certain regions of the country. The unsubsidized LCOE for wind energy ranged from $32/MWh to $77/MWh in 2015—with pricing the lowest in the interior region of the country. And technological advancement will help continue to bring down costs.

Lastly, one final word. Be skeptical about polls and trends. As evidenced on election night, no one truly knows what is going to happen. Because if they did, you would be reading an entirely different column right now.
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Microsoft Makes Its Largest Wind Investment

Microsoft Corp. has announced its largest purchase of wind energy to date: Under two new agreements, the global tech giant is adding on 237 MW of wind to its portfolio.

Microsoft has contracted with Allianz Risk Transfer (ART) to fix its long-term energy costs and purchase the power connected with the 178 MW Bloom Wind project in Kansas.

According to Microsoft, the project is the first to use ART’s new structure designed to offset high upfront costs associated with the creation of large-scale wind projects. Microsoft says the new structure has the potential to bring clean energy projects online at a faster pace.

“It is important for investors in renewable energy projects to secure long-term, stable revenues, and our structure does just that,” explains Karsten Berlage, managing director of ART. “We are thrilled to be partnering with Microsoft on this groundbreaking project.”

In addition, Microsoft has contracted with Black Hills Energy to purchase 59 MW of renewable energy credits from the Happy Jack and Silver Sage wind projects, which are adjacent to Microsoft’s Cheyenne, Wyo., data center.

The combined output of the Bloom and Happy Jack/Silver Sage projects will produce enough energy to cover the annual energy used at the data center, says Microsoft.

With these new agreements, Microsoft’s total investment in U.S. wind has reached more than 500 MW.

Microsoft and Black Hills Energy also worked together to create a new tariff, available to all eligible customers, that allows the energy company to tap the local data center’s backup generators, thereby eliminating the need for Black Hills Energy to construct a new power plant. The tariff received approval from the Wyoming Public Service Commission in July.

These are Microsoft’s third and fourth wind energy agreements, joining the 175 MW Pilot Hill wind project in Illinois and 110 MW Keechi wind project in Texas. In March, Microsoft also signed an agreement with the Commonwealth of Virginia and Dominion Energy Inc. to bring 20 MW of solar energy onto the grid in Virginia.

“We are constantly looking for new ways to approach energy challenges and avenues of engagement with our utility partners,” says Christian Belady, general manager of cloud infrastructure strategy and architecture at Microsoft. “The team worked closely with ART to come up with a completely new model to enable faster adoption of renewables. Likewise, the tight engagement with Black Hills created the opportunity for Microsoft’s data center to become an asset for the local grid, maintaining reliability and reducing costs for ratepayers. This kind of deep collaboration with utilities has great potential to accelerate the pace of clean energy, benefiting all customers – not just Microsoft.”

BLM Issues Final Public Lands Rule For Wind, Solar

In support of the president’s Climate Action Plan, Secretary of the Interior (DOI) Sally Jewell has announced that the Bureau of Land Management (BLM) finalized its rule governing solar and wind energy development on public lands.

According to the BLM, the rule strengthens existing policies and creates a new leasing program that will support renewable energy development through competitive leasing processes and incentives to encourage development in suitable areas.

“Through a landscape-level approach, we are facilitating responsible renewable energy development in the right places, creating jobs and cutting carbon pollution for the benefit of all Americans.”

Specifically, the rule formalizes aspects of the BLM’s existing Smart from the Start approach to renewable energy development by the following:

- Supports development in areas with the highest generation potential and fewest resource conflicts through financial incentives, awarding leases through competitive processes and streamlining the leasing process;
- Ensures transparency and predictability in rents and fees – for example, gives developers the option of selecting fixed-rate adjustments instead of market-based adjustments; and
- Updates the BLM’s current fee structure in response to market conditions, which will bring down near-term costs for solar projects.

As reported, the rule complements the department’s landscape-scale planning efforts, including the Western Solar Plan, California’s Desert Renewable Energy Conservation Plan and Arizona’s Restoration Design Energy Project, which were designed to streamline development in areas with high
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Xcel Energy Achieves Military Hiring Goal

Xcel Energy is celebrating the achievement of 15% of new hires having a military background, exceeding the company’s goal of 10%, while also doubling results from two years ago. In addition, Xcel recently honored its veterans at Veterans Day events throughout the company’s eight-state service area, including celebrations at power plants and operations service centers in Texas and New Mexico.

“We appreciate the sacrifice that our veterans and their families have made to ensure the safety and security of our nation, and we are honored that so many of these women and men are part of our workforce,” says Ben Fowke, chairman, president and CEO of Xcel Energy. “Our military veterans bring leadership, teamwork and dedication to the job – exactly the kind of skills we need to meet the energy needs of the future.”

Robert S. Munoz, a second-year apprentice lineman in Carlsbad, N.M., is one of more than 1,000 military veterans currently working at Xcel Energy across the company’s service area that stretches from the upper Midwest to New Mexico.

As part of Xcel Energy’s efforts, it recently joined Veterans in Energy, a national organization that is a recruiting network linking veterans to current job openings in the energy industry. Launched in October, Veterans in Energy is a partnership that includes energy companies nationwide, along with the U.S. Departments of Energy, Defense, Labor and Veterans Affairs.

Xcel Energy works to reduce carbon emissions and deliver clean energy solutions from a variety of renewable sources.
spoke on the program at the Canadian Wind Energy Association’s (CanWEA) trade show in Calgary. Phillips said the province will be proceeding with a procurement of an initial 400 MW of renewables as a first step toward meeting the 30%-by-2030 target. In addition, she said, the government will set clear timelines for further developing renewables in the province.

“This program is built on the recommendations from the AESO, who studied jurisdictions around the world to come up with the best possible program design in the interests of Albertans,” said Phillips. “This process will be competitive and transparent and will provide renewable electricity we need at the lowest possible price. The program will also complement the coal phase-out to ensure system reliability is maintained at all times.”

The government will also soon introduce the Renewable Electricity Act, which will reinforce Alberta’s commitment to the 30%-by-2030 target and provide the legislative framework for the Renewable Electricity Program.

The government’s release says the successful projects will be privately funded and will result in new investments of at least C$10.5 billion into the Alberta economy by 2030. In addition, the government expects 7,200 jobs to be created for Albertans.

The AESO is gathering feedback from the industry on draft commercial terms before the first competition takes place in 2017. Successful projects will be financially supported by reinvesting a portion of carbon revenues from large industrial emitters. In addition, safeguards will be in place to ensure that the process is fair and transparent, adds the Albertan government in the release.

“As the AESO built our recommendations for government, we were keenly aware of ensuring that competitive outcomes drive the best result for the province,” comments David Erickson, president and CEO of the AESO. “Reaching 5,000 MW of new renewable generation is a complex task, but we are confident we can reliably integrate this much renewable energy into the electricity system in a cost-effective manner by accessing the benefits of robust competition.”

“Our members are excited for the opportunity to work in renewable energy,” adds Robert Hornung, president of CanWEA. “The province’s plan is an excellent way to create jobs for the province, while diversifying the economy of Alberta. We have over 1,200 members that are trained and ready to work in the renewable energy industry.”

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China’s 10-Year Outlook Shifts Downward

MAKE Consulting has downgraded China’s 10-year outlook by 6.5% from 2016 to 2025 for both installed and grid-connected capacity due to cutbacks in the national target of wind power in the Thirteenth Five-Year Plan and increasing curtailment impacting new grid-connected capacity.

This news comes after China’s Thirteenth Five-Year Plan (2016-2020) for renewable power was submitted to the state council for final approval.

MAKE’s report states that the national targets for wind power have been reduced to 210 GW of grid-connected capacity (including 5 GW of offshore) by 2020 instead of the original target of 250 GW (including 10 GW of offshore) included in the draft earlier in 2016.

As reported, cumulative installed offshore capacity will face a 47.4% decrease by year-end 2020 and 60.0% decrease by year-end 2025.

According to MAKE, annual installed capacity will drop to 20 GW-22 GW between 2017-2020. New projects in northern regions will find it increasingly difficult to connect to the grid in the short term as pressure mounts over curtailment and excess power supply. Northwest provinces, such as Gansu and Xinjiang, with heavy curtailment of wind power will suffer significantly lower growth from 2016 to 2018.

The new plans will trigger a more severe shift in growth to southern regions, the report states. Southern regions (including the South, East and Central regions) are considered focus regions in the Thirteenth Five-Year Plan and will contribute with more than 50% of annual growth over the next three years.

Curtailed wind output in the first half of 2016 was almost at the same level as fiscal year 2015, predominantly occurring in northern regions but later in the southern regions of Yunnan and Shandong. Local authorities may limit connection of installed projects to the grid in order to reduce curtailment in the short term.

The report says growth of new orders started slowing down from the fourth quarter of 2015 and decreased noticeably in 2016. Newly installed capacity of Tier I turbine original equipment manufacturers is expected to drop between 5% to 30%. Component suppliers significantly suffered from decreased orders, with a range of a 20% to 30% year-over-year decrease in 2016.

In addition, blade suppliers built up large inventories in 2015 and the first half of 2016. The report says the sudden decrease in deliveries and new orders from July 2016 hit the blade industry hard.

Further reductions to onshore feed-in tariff (FIT) levels in 2018 and to the offshore FIT from 2017 have been proposed and are expected to be released in December 2016. Proposed FIT reductions and increasing curtailment of wind power production will dampen investment enthusiasm. Impact on developers in northern regions will be even harder than before, especially in those provinces with severe curtailment.

According to the report, progress of 10.53 GW (changed to 10.45 GW) of centrally planned offshore projects has been slower than anticipated, with only 40% installed, under construction or approved. Planned projects that fail to be approved by year-end 2016 will be canceled. However, there is no indication that independent power producers are accelerating project approvals. A complete lack of investment incentives means offshore growth remains limited, depending entirely on political drive, MAKE concludes.

DONG Ditches Oil & Gas

In its third-quarter financial report, Denmark-based energy group DONG Energy has announced its intention to stray away from its oil and gas (O&G) business and focus more on renewable energy.

Commenting on the newly issued interim financial report, Henrik Poulsen, CEO and president of the company, says DONG Energy “continues to develop positively” and is in line with its “strategic and financial plans.”

However, he says, “We have decided to initiate a process with the aim of ultimately exiting from our oil and gas business. This should be seen in the context of DONG Energy’s strategic transformation towards becoming a global leader in renewables and a wish to ensure the best possible long-term development opportunities for our oil and gas business.”

Poulsen notes that there is currently no timetable for the completion of the shift.

“O&G continues the substantial restructuring of the business and delivered a strong operational performance in the first nine months,” he continues. “Cost performance continues to improve, driven by continued renegotiation of supplier contracts, reduced exploration spending and improved operational efficiency – with total cash spend decreasing by 36 percent compared with the same period last year. We now expect O&G to be cashflow-positive in 2016, a year earlier than previously communicated.”

Poulsen says DONG Energy, which has seven large offshore wind projects currently under construction globally, will “continue to shape [its] pipeline of offshore wind project opportunities for the period beyond 2020.”

The company adds that it has achieved significant milestones since its interim financial report was issued for the first half of the year. For wind power specifically, in August, the U.K. government granted DONG Energy permission to build the Hornsea Project Two offshore wind farm, located 89 kilometers off the Yorkshire coast.
Firms Strategize On Offshore Wind

Baltimore-based US Wind Inc. recently partnered with Tradepoint Atlantic (TPA) – the firm overseeing the 3,100-acre redevelopment of the former Sparrows Point steel mill – to host major offshore wind supply-chain manufacturers at TPA’s Port of Baltimore facility.

Business leaders at the meeting included representatives from turbine, electrical cable and steel manufacturing, vessel construction, and local marine support services companies. Attendees discussed the facilities at TPA’s site and how US Wind’s offshore wind renewable energy credit (OREC) application needs state approval to spark investments.

According to US Wind, which plans to build a 750 MW site, TPA is uniquely positioned to become a major hub of offshore wind on the East Coast.

“US Wind chose to invest in Maryland because it has everything we need to become the central hub of offshore wind on the East Coast – optimal location, deep water, available land and access to a world-class workforce,” said Paul Rich, director of project development. “We want to be in Maryland, and we want to drive economic activity in Maryland.”

Recently, US Wind leaders briefed various Maryland state and Baltimore County agency officials about the significant interest expressed by the industry in the TPA facility, the timeline of development, and the importance of US Wind’s receiving its OREC approval (which the Public Service Commission [PSC] was expected to begin reviewing at the end of November).

US Wind says TPA’s facility has a 1,200-foot-long deepwater pier, a 2,200-foot deepwater marine berth and 3,100 acres of available land dedicated for manufacturing development. The TPA port is managed by T. Parker Host terminals and its subsidiary, Bay Marine Services.

“Tradepoint Atlantic sees great potential in the offshore wind industry and the opportunity to work with US Wind,” said Joe Greco, TPA’s vice president of commercial/trade development. “The manufacturing aspects of this opportunity are incredibly attractive, and our property is proven to support them. Add the logistical benefits we provide in areas of rail, highway access and marine, and it becomes very compelling how Baltimore and Tradepoint Atlantic can support coast-wide wind projects and bring manufacturing jobs back to Sparrows Point.”

US Wind planned to begin the OREC proceeding with the Maryland PSC at the end of November. The PSC is anticipated to make its decision by the end of May 2017.

US Wind officials say that without approval from the PSC, other competing ports on the East Coast will seize the chance to capture a multibillion-dollar manufacturing industry. Competing ports include Paulsboro, N.J., and New Bedford, Mass.
President Barack Obama’s leadership has catalyzed a global transition toward a clean energy economy, the U.S. Department of Energy (DOE) has announced. Specifically, from 2010-2015 alone, the U.S. invested more than $11 billion in international clean energy finance – including grant-based assistance, development finance and export credit – to support countries as they work to meet their growing energy needs and reduce carbon emissions.

At the same time, says the DOE, the U.S. has made research and development (R&D) a top priority – decreasing the cost of clean energy technologies substantially – and previously launched several initiatives to enhance universal access to cleaner energy:

- Establishing Mission Innovation (MI) with the leaders of 19 countries to accelerate innovation by doubling public investment in clean energy R&D to $30 billion over five years;
- Launching the Power Africa initiative, with a goal of doubling energy access in sub-Saharan Africa. To date, the U.S. government’s pledge to commit more than $7 billion in financial support for Power Africa has leveraged more than $52 billion in additional commitments from public- and private-sector partners; and
- Creating the Clean Energy Ministerial, which the U.S. has used to rally governments, industry and organizations to commit more than $1.5 billion to accelerate the deployment of clean energy globally.

Since 2010, says the DOE, the Overseas Private Investment Corp. (OPIC) has committed over $7.7 billion toward clean energy projects in 40 countries, with a total potential capacity of approximately 3.4 GW, including support for 18 off-grid energy project providers.

In the days following the U.S. election, Obama issued several initiatives to continue the global transition to zero- and low-carbon energy sources:

- Committing $125 million in OPIC financing for renewable energy projects in El Salvador and India;
- Announcing seven Innovation Challenges identified by MI member countries that highlight clean energy areas with the potential to play a significant role to achieve deep decarbonization;
- Creating a partnership among the United States Agency for International Development, the Department of State and the DOE’s National Renewable Energy Laboratory to identify a pipeline of clean energy entrepreneurs in developing countries;
- Providing $4 million in awards to eight household solar firms under the Power Africa Scaling Off Grid Grand Challenge – a $36 million investment to empower entrepreneurs and investors to connect 20 million households in sub-Saharan Africa to modern, clean and affordable electricity;
- Releasing a White House report on the state of the market for access to off-grid energy services and efficient appliances;
- Announcing more than $11 million raised, in partnership with other governments and development partners, for the deployment of efficient off-grid technologies globally through the Efficiency for Access Coalition;
- Launching a partnership with the philanthropic sector to bring more efficient appliances to rural Indian villages; and
- Supporting Africa’s first Solar Decathlon competition, which creates opportunities for university students to learn about and showcase solar energy technologies.

U.S. Energy Secretary Ernest Moniz has announced that the U.S. will launch and lead a challenge focused on realizing zero emissions for fossil fuels through the Carbon Capture Innovation Challenge. In the coming year, the U.S. will coordinate and host a workshop to assess barriers to progress in realizing near-zero CO2 emissions and to identify the most promising areas of R&D interest.

In addition, Moniz has announced that the U.S. will co-lead, with Mexico, the Energy Materials Innovation Challenge to accelerate the innovation process for high-performance, low-cost clean energy materials.
The DOE’s Office of Science will also organize four workshops over the next 12-18 months to identify the basic research needs for electrical energy storage, catalysis, hydrogen at scale and solar energy use. The DOE says the outcomes of these workshops will be an important contribution to the broader technology R&D discussions taking place at selected Innovation Challenge workshops. MI members are invited to send experts in their field to participate in the DOE-organized workshops.

Okla.’s Mazzei Wants To Kill State’s Wind PTC

Oklahoma State Sen. Mike Mazzei, R-Tulsa, wants to do away with the state’s production tax credit (PTC) for wind power. Mazzei, who serves as the outgoing chairman of the Senate’s finance committee, recently addressed the Incentive Evaluation Commission in support of a report that examined the cost versus benefits of the state’s tax credits for wind.

According to a press release from the senator, a PFM report determined that the cost significantly exceeds the benefits of the program and recommends that the credit termination date be accelerated. Under current law, a wind farm must be placed in service before Jan. 1, 2021, in order to claim the credits. However, Mazzei says the credit should be discontinued as soon as 2017.

“In 2010, this credit cost Oklahoma $3.7 million, but as of 2015, the cost exceeded $100 million,” he says. “The whole goal of any tax incentive should be to generate economic benefits that are greater than the cost. When you look at the direct economic benefit from the wind power facilities in 2015, it was $78.4 million and produced only $17.1 million in tax revenue.

“When you take into account the fact that Oklahoma is looking at a budget shortfall of at least $600 million for fiscal year 2017, we clearly cannot afford to wait until 2021.”

Mazzei claims the tax credit program also lacks adequate protections, such as an annual cap. Furthermore, the PFM report documents that in 2014, 154 corporate interests took advantage of the program.

“This enormous corporate welfare is certainly not fair to the other 1.6 million tax filers in Oklahoma who sent their money to the state hoping for good schools, good roads and good law enforcement,” the press release states.

Mazzei says it is obvious the tax incentives have facilitated a significant amount of wind power in the state; however, in light of the cost versus the benefit, the significant budget constraints facing the state and the many unmet funding needs for core functions, the PTC needs to end sooner, the senator says.

“During the years the cost of this tax credit was skyrocketing, we were reducing education funding. Since 2009, K-12 funding is down $95 million, even though student enrollment is up by 40,000. We’re now 50th in the nation in teacher pay,” Mazzei adds. “But that’s not all. Healthcare costs for the state are increasing significantly every year. We don’t have enough highway patrol officers. Our prisons are severely understaffed. We still haven’t caught up on all our deficient roads and bridges.”

Thus, the senator says, “I strongly encourage every member of the 2017 legislature to read this report and support legislation to end the wind power tax credit in 2017.”

Congressman Reed Discusses ITC In N.Y.

As part of his continued efforts to fight for domestic energy security, Rep. Tom Reed, R-N.Y., recently paid a visit to United Wind’s turbine construction site on a local wind farm in Ripley, N.Y.

During the visit, Reed reviewed the construction of the turbines at the Knight Farm, as well as met with local employees and area leaders to discuss the importance of his bipartisan bill, the Technologies for Energy Security Act, which extends the investment tax credit (ITC).

The ITC encourages the use of residential and commercial wind electrical generation systems by offsetting some of the cost of installation. The congressman notes that by harnessing the power of the wind, families and small businesses can drive their utility costs down and protect the environment. Without the passage of the legislation, the tax credit will expire in 2016.

“We care about ensuring America’s energy security for the sake of the hardworking men and women from across our region and future generations,” says Reed. “It’s only right that we support local efforts to take advantage of innovative technologies that help meet our energy needs. These pioneers will lead the way and cultivate the investment we need to implement these technologies on a much wider scale.”

Russell Tencer, founder and CEO of United Wind, says he was thrilled to host Congressman Reed.

“Distributed wind makes sense for homeowners, farmers and business owners who want to save money on their electricity bill, and it plays a small part in ensuring homegrown, on-site power generation for Americans,” Tencer says. “We are pleased to know that Congressman Reed is fighting for wind energy to play a key role in the future of how we power our country.”

“Using all available resources – especially our renewable resources, like the wind – to meet our energy needs is a critical part of our plan for America’s energy future,” adds Reed.

Last year, Reed issued his “Plan for America’s Energy Future,” a comprehensive plan designed to create U.S. energy security. The plan focuses on using all available resources, modernizing energy delivery systems, ending overregulation, and helping the American workforce fill jobs in the energy sector with the appropriate workforce training and development. •••
Thriving In A Post-PTC Era

The forces shaping the wind energy market are dynamic and require industry leaders to be agile and resilient to succeed in the face of constant change. The Clean Power Plan, renewable portfolio standards, fossil fuel retirements, transmission line infrastructure proposals, corporate and industrial (C&I) power purchase agreements (PPAs), and the U.S. Department of Energy Wind Vision are influencing the future of wind energy. Yet, the most important influence is the phaseout of the federal production tax credits (PTCs). The critical question industry leaders are asking is how can wind continue to thrive in a post-PTC environment?

Our wind energy team set out to learn how industry leaders are viewing the future of wind. We surveyed more than 400 wind industry professionals during the American Wind Energy Association’s (AWEA) WINDPOWER 2016 Conference & Exhibition in New Orleans. The Internal Revenue Service (IRS) had just released favorable guidance on the PTC phaseout just weeks before. At the time of the survey, leaders were assessing the guidance impacts and rapidly developing plans to capitalize on the phaseout, while also devising strategies for life after the PTC. Here’s what the findings revealed:

Twenty-nine percent of respondents said their PTC strategy centers on taking full advantage of immediate opportunities, such as the IRS guidance that allows developers qualifying for projects in 2016 four years to complete construction of their wind projects and receive 100% of PTCs. Many companies are taking an aggressive position in the market to capitalize on the 100% tax credit window. Recent announcements of wind expansions include MidAmerican Energy’s 2,000 MW project and Xcel Energy’s 600 MW Rush Creek Project, followed by an additional 1,500 MW in the Midwest and Alliant Energy’s 1,000 MW project. In addition, NextEra Energy Partners is forecasting up to 3,800 MW of additional wind installations. Successful implementation of these strategies will create near-term opportunities, but others we surveyed were focusing their strategies elsewhere.

Twenty-five percent said they are focused on being more strategic in future project and geography choices. Aligning
wind resources with load demand and favorable power prices is a constant challenge for the wind industry. In a separate question, we polled leaders on which regions of the country offer the best overall environment for wind development now and five years from now.

The Southwest and Midwest today represent the strongest geographic regions for wind development in the views of survey participants. Five years from now, the Midwest is still believed to be the best environment for wind development, but the Southwest’s desirability is expected to be much lower in the future. MISO’s transmission queue grew by 10 GW from 2015 to 2016, whereas congestion in the Southwest will make the region less favorable for wind development when compared with other regions.

The Mid-Atlantic and Northwest regions are projected to be promising environments for wind development as the PTC begins to phase out five years from now. More than 14 GW of coal retirements are expected by 2025 in the Mid-Atlantic region, creating new opportunities for renewable energy. Strong power prices and proximity to load demand also make the Mid-Atlantic region attractive to wind developers. Expanding transmission, access to the California market and green energy policies at the state level are expected to drive wind development in the Northwest, as per survey respondents.

Successful wind development hinges on a profitable off-take strategy. Wind developers often struggle to align transmission capacity and timing with a viable off-take solution. Mortenson surveyed utilities and independent power producers (IPPs), asking, “What advice would you give to a wind developer trying to secure a PPA?”

What is the most important factor for utilities and IPPs? It is bringing them a complete package, including ensured transmission. A respondent shared the following insight: “A well-placed site on the transmission system may be more valuable to me than one with better wind resources.” Knowing and aligning with business goals emerged as another critical factor to securing a PPA.

“Be creative in structuring finance. Find alternative homes for basis, and shape risk.”

Utilities and IPPs are not the only off-take solutions for wind developers. C&I power purchasers have recently emerged as important players in today’s wind market. AWEA reported
in its 2015 U.S. Wind Industry Annual Market Report that more than 50% of PPA agreements last year were by non-utility entities. Procter & Gamble, Walmart, Dow Chemical, Google, and Amazon are representative of the numerous firms that signed PPAs in 2015. Will this trend of C&I PPAs continue?

We asked wind industry professionals, “How much will future wind growth be driven by C&I PPAs?” Twenty-six percent of those surveyed felt C&I PPAs would be a significant factor in future wind growth. A full 50% of respondents believed C&I PPAs would have a moderate effect on the future of wind. Survey participants believe corporate sustainability goals and hedges against future energy costs are the primary drivers fueling C&I participation in the wind market.

**Challenges**

The near-term future of wind is bright, but there are challenges looming ahead for our industry. Many wind leaders recognize solar as a competitive threat in a non-PTC environment. When asked, “Absent government subsidies or credits, which is the most competitive renewable energy source for generating new investments?” 57% of survey participants said solar energy would be more competitive than wind energy five years from now. Utilities were even more bullish on solar, both utility-scale and distributed, with 67% saying it would be the most competitive in five years.

Solar is not the only challenge wind will face in the future. We asked industry leaders to look into the future to predict the likelihood of wind energy experiencing a disruptive technology in the next five to 10 years. Forty-four percent of those asked agreed a disruptive technology would meaningfully challenge the wind industry in that time period. Although many felt a disruptive technology is possible, there was less clarity on what form it would be. One individual made the case for disruption with the following insight: “I don’t know what the technology will be, but we didn’t expect fracking to make natural gas such a dominant player five years ago.”

Energy storage is on the forefront of change for the wind industry. Ninety-six percent of people we talked to agreed energy storage will ultimately be a game-changer for the wind industry. Additionally, they predict the cost per kilowatt to decrease by 41% in the same time period. The impacts of energy storage on the wind industry will become clearer as the market evolves and distinct strategies emerge.

Wind industry leaders are confident in the future of wind despite future challenges. Eighty-five percent of the professionals we interviewed were optimistic about the future of wind. Everyone needs to keep an eye toward the future to capitalize on today’s opportunities. Collaboration and innovation to reduce the cost of generation will be critical to securing the future of wind. The wind industry has accepted the challenge of the PTC phaseout and is strongly focused on developing strategies to thrive in a post-PTC era.

Wendy Davidson is the director of business development for Mortenson’s Wind Energy Group. She can be contacted at (763) 287-3574 or wendy.davidson@mortenson.com.
After years of inaction, two major transmission projects have resuscitated TradeWind Energy’s Cheyenne Ridge wind farm.

By Mark Del Franco

Generally speaking, eastern Colorado has always possessed tremendous wind resources. Until recently, though, local wind development was largely untapped due to a lack of transmission access. However, a pair of major transmission lines planned in the area promises to open up wind development, including TradeWind Energy’s planned 600 MW wind farm located 15 miles north of Cheyenne Wells, Colo.

Lured by the site’s ample resources – characterized as having a wind resource approaching 9 m/s – TradeWind began pre-construction tasks at Cheyenne Ridge, such as putting up meteorological towers and signing land lease agreements with landowners. In time, the developer had locked up 135,000 acres with more than 50 local landowners. TradeWind had figured that the power produced by Cheyenne Ridge would be sold to local and regional electric utilities.

According to Matt Jacobs, TradeWind Energy’s senior vice president of development, the backstory of Cheyenne Ridge is typical of wind farms that were started but soon back-burnered when unforeseen factors emerged. In the case of Cheyenne Ridge, the developer had envisioned the wind farm interconnecting with the Eastern Plains Transmission Project (EPTP), a sweeping series of transmission lines planned across western Kansas and eastern Colorado by Tri-State Generation and Transmission in 2007. In fact, Jacobs recalls, the EPTP lines were the primary reason that specific location was chosen in which to build.

“The proposed coal generators near Garden City, Kan., never came to fruition, so there was no longer a need for the associated transmission,” Jacobs explains, “and as the years went by, the EPTP faded away.”

And with no visibility to interconnection in site, Cheyenne Ridge sat idle for the better part of a decade. Although interconnection is the primary project attribute in wind farm planning, it’s more dire in intermountain states such as Colorado because the area is not recognized as a regional transmission organization (RTO) by the Federal Energy Regulatory Commission.

“Without an RTO, each utility will do what’s best for their own stakeholders,” Jacobs explains. “Without a motivation for a larger regional benefit, large coordinated transmission projects had an uphill battle getting built. As a result, wind development has been hampered not only in Colorado, but across the Western U.S., as well.”

The other challenge relates to cost. In Colorado, a wind farm must interconnect into each utility’s transmission system or pay a so-called “wheeling” charge to get the output to another utility. If Colorado were recognized as an RTO, developers such as TradeWind could simply provide energy to a broad transmission system/market comprising multiple utilities. For example, wind farms in Oklahoma can provide energy to more than 30 utilities without incurring a “wheeling” charge.

Thankfully, Colorado sought to address the chicken and egg dilemma developers face by enacting and signing S.B.100, a sweeping bill that established requirements for utilities to evaluate and improve electric transmission facilities to meet Colorado’s existing and future energy needs.

S.B.100 to the rescue

Signed into law by then-Gov. Bill Ritter in 2007, S.B.100 also promotes the use of renewable energy, such as wind. The
legislation identifies Energy Resource Zones to aid the delivery of electricity to Colorado consumers and/or the development of new electric generation facilities, such as wind energy.

As a result of S.B.100, area utilities Xcel Energy and Tri-State Generation and Transmission unveiled two major transmission projects that stretch to eastern Colorado.

First, Xcel's 600 MW Rush Creek wind farm includes a 96-mile, 345 kV transmission line that can accommodate up to 1,600 MW of wind energy.

The second line is Tri-State's Burlington-Lamar, a 90-mile, 230 kV transmission line. Although not as large as the Xcel project, "Tri-State's line is a step in the right direction," Jacobs explains. Both the new Burlington-Lamar line and the new Xcel Rush Creek line generally follow in the path of previously planned transmission projects. And both lines figure to jump-start TradeWind's Cheyenne Ridge wind farm.

"The hope was [the new line] would be 345 kV," he says. Nonetheless, Jacobs notes the lines are significant because they demonstrate that utilities are coming back around in Colorado after years of inactivity.

"A more integrated approach to transmission [meaning fewer long gen ties] and wind over the past decade in the eastern plains would have led to lower-cost wind energy for the ratepayers in Colorado," he says. "It does appear that [development] is starting to change with the two new planned lines in the area."

More importantly, the Xcel and Tri-State lines breathe new life into Cheyenne Ridge, as it features a 115 kV transmission line that runs north to south through the project – meaning both planned transmission lines are interconnecting options for TradeWind.

Although TradeWind Energy has not named a turbine supplier, other aspects of the project are taking shape. In fact, 65,000 acres are currently leased and can accommodate the first phase of development. According to TradeWind, the start of construction will come in 2018 at the earliest. If the project begins construction as planned, the earliest date of commercial operation will come at the end of 2018, according to Jacobs.
Taking Costs Out Of The Transportation Equation

Logistics represent one of the largest cost centers in building a wind farm. But do they have to?

By Mark Del Franco

T

here’s an old axiom in the logistics business: The shorter the distance, the lesser the cost.

However, things are not that cut and dry, especially when you’re dealing with such a weighty topic as heavy industrial and oversize equipment like wind farm components. Invariably, manufactured wind components – longer blades, heavier nacelles and growing tower sections – are coming to other states. And several factors, such as risk potential and distance – even police escorts – can quickly drive up costs.

Given how transportation expenses can quickly escalate, there’s a new movement from the American Wind Energy Association (AWEA) to “harmonize” permits and licenses across state lines.

According to AWEA, longer blades, heavier nacelles and tower sections of a greater diameter require advance planning on a project-by-project basis, and close cooperation among transportation and logistics providers, turbine manufacturers, and state and federal agencies is critical.

Noting the disparities in rules across regional and state lines, AWEA says that efficient transportation is hampered by differing state permitting rules for oversize, overweight loads. These differences may be as small as different-colored flagging required on loads. Harmonizing permit rules among key states can reduce the time and cost of highway transportation.

With that in mind, North American Windpower reached out to some of the leading logistics and transportation professionals to weigh in on the challenges impacting logistic costs – as well as how to keep the lid on expenses. The responders are the following:

- Bill Rhodes, director of reload marketing at Cedar Rapids, Iowa-based Iowa Northern Railway Co.;
- Jim Orr, president at Garden City, Kan.-based TP&L; and
- Brandon Brown, general manager of wind operations at Fort Worth, Texas-based Lone Star Transportation.

NAW: How can wind developers save money on logistics and transportation?

Rhodes: One way is to make sure the distribution center is well served. Speaking as a shortline serving Manly Terminal, we make sure a switch crew is always available. Many things can affect the work schedule at a distribution center, such as weather, train delays and mechanical issues. We understand that we need to be flexible regarding when we are needed to switch trains for the rigging company to maintain its schedules. Without this additional attention to service, truck schedules and, therefore, construction schedules can be affected, causing delays and extensive retention fees.

Orr: One way to shorten last-mile trucking and take away some risk – and cost – would be to rail components to a central distribution yard.

Brown: As long as the components stay at the size and scale they are today, pre-planning and maximizing lead time become critical to organizing and streamlining the deliveries, which results in increased efficiency and cost savings. Increased coordination among the developer, manufacturer, crane companies and transportation providers is key to a cost-efficient project.

NAW: Logistics and transportation costs fluctuate between regions. Can you give an example?

Brown: Due to varying state regulations, third-party charges, such as pilot car and permitting, can be vastly different. For example, an overweight permit for a base section in one Midwestern state is $50; the same permit in an adjoining state is $1,780. One state may require two private pilot cars and no police escorts, while another state may require three private pilot cars and two police escorts. One state may require movement to occur during evening hours only, and another may require movement during the daytime. All of these items are subject to change, and cities, counties and states may enact additional requirements at any time.

Orr: Police escorts add significant costs to transportation. For example, a 56.9-meter blade would need police escorts in Missouri, whereas in Kansas and some surrounding states, it would not.

NAW: AWEA talks about harmonizing permit rules to reduce the time and cost of highway transportation for manufactured components. Do you see that happening in the wind industry? If not, what steps need to happen to bring this change?

Orr: I do not see this happening anytime soon. AWEA needs to team up with the Specialized Carriers & Riggers Association (SCRA) to try and get some traction on this. It also helps to meet ahead of time with the permit offices in states...
that will be seeing multiple loads running the same routes on a daily basis. It helps them get prepared to handle the permit-writing workload, as well as to inform the local municipalities of the influx of trucks headed their way.

**Brown:** There are several ongoing initiatives regarding permit harmonization, and Lone Star is actively involved in these discussions. There has been limited success in harmonization on certain weights and dimensions. However, with loads of this size, the dimensions all fall outside of those harmonized envelopes. These are legislative and regulatory restrictions, and further change will require participation by lead industry associations, such as the American Trucking Associations, the SCRA and AWEA.

**NAW:** How are transportation and third-party logistics providers looking to work more closely with manufacturers to ensure that efficient and cost-effective solutions are available?

**Brown:** Maximum utilization of the equipment is the key to minimizing the cost. We have always worked directly with the original equipment manufacturers (OEMs) to find the best possible solution to minimize the overall cost of transportation, as well as maintain a delivery schedule that aligns with the developers’ plans.

**Rhodes:** At Iowa Northern Railway and Manly Terminal, we are always working with the manufacturers and logistics companies to minimize costs without affecting service. There are many variables that have an effect on the cost of acreage or train service. As projects are under way, more land becoming necessary and additional train service being required are two examples. Planning requires foresight and an understanding that pricing these services properly can avoid additional fees when things are not going smoothly later.

**Orr:** OEMs and manufacturers are starting to engage in conversations with transportation providers to make sure they are staying within certain parameters when it comes to oversize loads. When you get outside certain dimensions and weights, it becomes very expensive to transport loads – in addition to the added risk.

**NAW:** What is your outlook for 2017 with regard to transportation costs?

**Orr:** We don’t foresee much change in the transportation costs unless the fuel costs go up. I think the permit costs should be fairly stable.

**Rhodes:** Manufacturers seem very focused on lowering costs, so I am assuming costs will be lower than past years. Railroads have capacity, so rail shipments should be efficient. However, as busy as it will be, there are many variables that can wreak havoc on the best-laid plans and add unplanned costs. Distribution centers will need to be at their most efficient to handle the volume and keep schedules on track.

**Brown:** Due to the ever-increasing size of the components, regulatory requirements continue to have an upward impact on transportation costs. We don’t see this trend changing for 2017. Forward planning allows us to mitigate and manage those costs as much as possible.

_Cranes stand ready for action at TP&L’s Garden City, Kan.-based laydown yard._

Photo courtesy of TP&L

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North American Windpower • December 2016 • 21
Renewable generation is living up to the promise that it can provide green power at a low cost, but the development of renewables is constrained by the need for new transmission capacity. Although it usually takes only a few years to develop a new renewable generation site, large-scale transmission projects often take much longer – in no small part because of state siting requirements. The ability of a single state to veto a multistate transmission project has been a long-standing dilemma with no easy answers.

Although traditional thermal generation can be constructed near the load it is intended to serve – and fuel transported to the facility site – renewable generation is location-dependent. It must be constructed where there is plenty of wind or sun, or where rivers and geology make hydroelectric or geothermal power feasible. Recent studies have shown that the nation could reduce the carbon output of the power sector by 80% from 1990 levels by 2030 – but only if the transmission grid were to be expanded to move that power to load. Another study finds that 30% of the demand in the Eastern Interconnection could be served by renewables within 10 years, but only with large-scale upgrades to the transmission system. One of the largest barriers to transmission expansion comes from the fact that each state has the power to reject, or may simply lack the power to approve, its portion of a multistate project.

The federal government does not have authority over transmission siting, except where the transmission project crosses federal lands. Thus, a transmission developer must get approval from the regulators in each state through which its transmission line will run. These approvals have not proven easy to come by. The problems with siting large transmission projects are such that a sizable percentage of the successful independent transmission projects over the past decade have been located underwater, which tends to minimize landowner opposition.

For example, the Trans Bay Cable in San Francisco avoided major siting disputes, as did the Cross-Sound Cable and the Neptune Regional Transmission System on the East Coast. The Champlain Hudson Power Express, due in service in 2017, follows a riverbed for much of its length and otherwise uses existing rights of way. But rivers do not conveniently follow optimal transmission paths, and underwater siting is an expensive alternative that poses considerable engineering and environmental challenges.

Some of the problems in getting multiple state approvals lie with outdated state laws. Many state statutes governing transmission siting were written decades ago to regulate development by vertically integrated utilities that would pass on the cost of construction to their customers. Therefore, such statutes often require that the state regulators carefully weigh the benefits of a given project to the public before granting a siting permit to ensure that ratepayers are not paying for unnecessary infrastructure. Confronted with a transmission project that is primarily designed to provide service to other states, some state regulators have concluded that the project does not

No Easy Transmission

By Suedeen G. Kelly & J. Porter Wiseman

Renewable generation is living up to the promise that it can provide green power at a low cost, but the development of renewables is constrained by the need for new transmission capacity. Although it usually takes only a few years to develop a new renewable generation site, large-scale transmission projects often take much longer – in no small part because of state siting requirements. The ability of a single state to veto a multistate transmission project has been a long-standing dilemma with no easy answers.

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Fixes

Until Congress takes action, transmission and renewable developers may have to draw on a variety of legal strategies to get their projects sited.

provide for its citizens the necessary public benefits that are required for permitting under state law. So-called “public benefits” can also provide justification to yield to pressure from local landowners and environmentalists that oppose the project and from local utilities that might prefer to avoid competition from imported power. Other state laws have precluded out-of-state transmission developers from getting status as a public utility, thus preventing the developers from being able to exercise the power of eminent domain. In the absence of eminent domain authority, landowners unwilling to accommodate transmission development can derail the project.

Opposition

Problems with siting transmission are not a red state/blue state issue. Producers of renewable power are found throughout the country in both “red states” and “blue states” that support development of their native wind and solar potential. However, the infrastructure projects needed to support renewable power development are increasingly met with a growing and general bipartisan distrust of both corporations and the government, paired with the power of social media in expanding opposition.

A related complication is the backlash against the Supreme Court’s 2005 controversial decision in Kelo v. City of New London, which found the exercise of eminent domain to transfer land from one private owner to another private owner for the purposes of economic development to be constitutional. In response, activists and state legislatures have become increasingly unfriendly to the idea of exercising eminent domain on behalf of a private company, even when that company is attempting to provide a service that ultimately benefits the public. This is true even where, as is the case with transmission lines, the right of eminent domain does not arise from Kelo. Transmission developers can be seen as profiting at the expense of landowners and communities despite more than a century of precedent recognizing that utilities and common carriers provide a public service and are thus entitled to exercise eminent domain.

Federal solutions limited

Although the Federal Energy Regulatory Commission (FERC) has the authority to grant a natural gas pipeline the right of eminent domain under the Natural Gas Act, it has no equivalent authority for electric transmission under the Federal Power Act (FPA). In 2005, Congress amended the FPA to grant FERC limited “backstop” transmission siting and eminent domain authority for projects in U.S. Department of Energy (DOE)-designated transmission corridors, but the courts have interpreted this authority to apply only when a state fails to approve or deny a transmission siting application within a year. If the state denies the application outright, FERC cannot act. No new transmission has been sited under FERC’s backstop authority.

Congress also provided an option for developers attempting to build transmission in the footprint of either the Western Area Power Administration or the Southwestern Power Administration. Developers in these regions may apply to partner with the DOE to take advantage of the power administrations’ right of eminent domain. Clean Line Energy took this approach for its Plains & Eastern project after the Arkansas Public Service Commission refused to grant Clean Line public utility status.
Major Transmission Lines At A Glance

<table>
<thead>
<tr>
<th>Project Name/ Developer</th>
<th>Approximate Total Capacity</th>
<th>Territory/ Region</th>
<th>Scheduled Completion Date</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>TransWest Express Transmission Project (TransWest)</td>
<td>3,000 MW (this number includes some non-renewable energy, but mainly wind)</td>
<td>Transporting from Wyoming to desert Southwest (CA, NV, AZ)</td>
<td>Under development since 2005; anticipated construction date of 2017-2019</td>
<td>Awaiting BLM and Western Power Administration approval</td>
</tr>
<tr>
<td>Plains &amp; Eastern (Clean Line)</td>
<td>4,000 MW (wind)</td>
<td>Oklahoma/Arkansas/Tennessee</td>
<td>Anticipated construction date of 2017 and in-service date of 2018</td>
<td>Permitted in OK and TN, denied by AR Public Service Commission, received federal approval from DOE</td>
</tr>
<tr>
<td>Rock Island (Clean Line)</td>
<td>3,500 MW (wind)</td>
<td>Iowa/Illinois</td>
<td>In-service date was expected to be 2016</td>
<td>Permitted in IL, though decision reversed by state appellate court; developer plans to appeal. Review in Iowa suspended due to landowner concerns</td>
</tr>
<tr>
<td>New England Clean Power Link (TDI New England)</td>
<td>1,000 MW (mainly hydro)</td>
<td>Canadian border/Vermont</td>
<td>Anticipated in-service date of 2018-2020</td>
<td>Permitted in VT; received federal approval from DOE</td>
</tr>
<tr>
<td>Northern Pass (Eversource Energy)</td>
<td>1,090 MW (mainly hydro)</td>
<td>Quebec/New Hampshire/New England</td>
<td>Anticipated in-service date of 2018-2019</td>
<td>Awaiting state (NH) and federal permits; anticipated state approval by September 2017</td>
</tr>
<tr>
<td>Great Northern Transmission Line (Minnesota Power)</td>
<td>883 MW (mainly hydro)</td>
<td>Canadian border/Minnesota</td>
<td>Anticipated in-service date of June 2020</td>
<td>Permitted in MN; awaiting permits from DOE, Army Corps of Engineers, and U.S. Fish and Wildlife Service</td>
</tr>
<tr>
<td>SunZia Southwest Transmission Project (SunZia Transmission, though sponsoring project along with Salt River and Tri-State)</td>
<td>First Wind Energy has signed a letter of intent to reserve up to 1,500 MW of capacity</td>
<td>Arizona/New Mexico, across desert Southwest</td>
<td>Anticipated in-service date of 2021</td>
<td>Permitted in Arizona; received BLM approval</td>
</tr>
<tr>
<td>Cascade Crossing Transmission Project (Portland General Electric)</td>
<td>N/A</td>
<td>Oregon</td>
<td>Abandoned</td>
<td>Abandoned as a result of changes in demand on the BPA transmission grid</td>
</tr>
</tbody>
</table>

But this option is limited, both in geographic scope and by the need to partner with the DOE.

FERC’s Order No. 1000, which promulgated regulations designed to encourage regional and interregional transmission planning, has had only limited success in facilitating new construction. A recent request by FERC for comments on the Order No. 1000 process resulted in 1,600 pages of comments from vastly different stakeholders, all offering their own critiques of the current regulations. But even if Order No. 1000 were wholly successful, it would not resolve state-level siting problems because FERC has no authority to preempt state or local laws governing transmission siting.

In the 1940s, natural gas pipeline developers faced similar challenges in siting transmission pipelines. Congress responded by amending the Natural Gas Act to give the Federal Power Commission (now FERC) federal eminent domain authority for pipeline siting. Such an amendment to the FPA might resolve many of the problems with electric transmission siting. But it is unclear when Congress would entertain such a “fix” to the FPA, and because pipeline development has become a political flashpoint, politicians may hesitate to promote a solution that evokes a comparison with natural gas pipelines.

In the absence of a legislative fix, the courts may be able to provide some relief. FERC Chairman Norman Bay (then a commissioner) observed in 2015 that although FERC may lack

FERC has no authority to preempt state or local laws governing transmission siting.
the authority to overrule local law, the Constitution “limits the ability of the states to erect barriers to interstate commerce.”

Bay was referring to the dormant commerce clause, a constitutional principle that holds that because Congress was expressly given authority over interstate commerce, the states cannot pass laws that discriminate against interstate commerce or that promote legitimate state interests but do so at a disproportionate cost to interstate commerce. For example, the dormant commerce clause has been invoked to prevent states from prohibiting the export of hydroelectric power to their neighbors. In another case, a state was prohibited from passing trucking regulations that provided little safety benefit but effectively barred many trucks from passing through the state.

The dormant commerce clause has yet to be tested in the context of transmission siting, but such a challenge has promise in the case of egregious and explicit state obstruction of transmission projects. Nonetheless, the doctrine is narrow enough that it may not be available if states were to impose conditions or delays causing the project to become uneconomic rather than deny siting authority outright.

However, use of delaying tactics may allow FERC, under certain circumstances, to invoke its backstop authority under EPAct 2005. Until Congress decides to act, transmission and renewable developers may have to draw on a variety of legal strategies to get their projects sited.

Suedeen G. Kelly is partner and J. Porter Wiseman is an associate at law firm Akin Gump Strauss Hauer & Feld. They are both members of the firm’s energy regulation, markets and enforcement practice, which Kelly chairs. Kelly is also a former commissioner of the Federal Energy Regulatory Commission. They can be reached at skelly@akingump.com and jwiseman@akingump.com.

### Major Transmission Lines At A Glance (continued)

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</tr>
</thead>
<tbody>
<tr>
<td>Texas Competitive Renewable Energy Zone (conglomeration of many transmission projects)</td>
<td>18,500 MW (wind)</td>
<td>Texas</td>
<td>In service</td>
<td>Permitted in TX; parts of some transmission lines canceled due to landowner concerns and the identification of more cost-effective alternatives</td>
</tr>
<tr>
<td>Prairie Wind Transmission Line (Westar and Electric Transmission America LLC)</td>
<td>3,000 MW (wind)</td>
<td>Kansas</td>
<td>In service</td>
<td>Permitted in KS</td>
</tr>
<tr>
<td>Gateway West Transmission Project (Rocky Mountain Power/Idaho Power)</td>
<td>1,500 MW (wind)</td>
<td>Idaho/Wyoming</td>
<td>Anticipated in-service date of 2020-2024</td>
<td>Awaiting BLM approval</td>
</tr>
<tr>
<td>Western Spirit Clean Line (Clean Line)</td>
<td>1,000 MW (wind)</td>
<td>New Mexico/desert Southwest</td>
<td>Anticipated in-service date of 2018</td>
<td>Awaiting authorizations from federal, state, and local governments and agencies – likely to be obtained by the end of 2017</td>
</tr>
<tr>
<td>Centennial West Clean Line (Clean Line)</td>
<td>3,500 MW (wind)</td>
<td>Arizona/New Mexico to California</td>
<td>Unclear</td>
<td>Delayed due to unclear market demand in CA</td>
</tr>
<tr>
<td>Southern Cross Transmission Project (Pattern Energy Group LP)</td>
<td>2,000 MW (wind)</td>
<td>Texas/Southeast</td>
<td>Anticipated in-service date of 2021</td>
<td>Awaiting permits from LA and MS</td>
</tr>
<tr>
<td>Champlain Hudson Power Express (Champlain Hudson Power Express Inc.)</td>
<td>1,000 MW (hydro)</td>
<td>New York/Hudson River Valley</td>
<td>Anticipated in-service date of 2017</td>
<td>Permitted in NY; received federal permits</td>
</tr>
<tr>
<td>Chinook Transmission Project (Chinook Power Transmission LLC)</td>
<td>3,000 MW (wind)</td>
<td>Montana to Las Vegas</td>
<td>Abandoned</td>
<td>Abandoned due to a lack of interest from wind developers</td>
</tr>
</tbody>
</table>

Source: Akin Gump Strauss Hauer & Feld
Colorado’s excellent wind resource, ready workforce and supportive policy environment make it attractive for future investment.

By Sarah Propst

This fall, the Colorado Public Utilities Commission green-lit Colorado’s biggest wind project to date. State regulators approved Xcel Energy’s Rush Creek proposal, allowing the utility to construct and operate a 600 MW wind farm in eastern Colorado.

This new project will generate about 350 construction jobs, building the infrastructure needed to power 180,000 homes with clean electricity. Vestas will manufacture the wind turbines for the project at its local Colorado facilities, while federal tax incentives will reduce project costs by more than $400 million—savings Xcel can pass on to ratepayers over the 25-year life span of the wind farm. The project is an over $1 billion investment, and Xcel chose wind because it was the cheapest source of energy, out-competing traditional fuels over the project’s life span.

The Rush Creek project is just one example of how wind (and solar) energy continues to transform Colorado’s energy industry. This transformation is helping clean Colorado’s air and grow its already booming economy with good local jobs, with over 5,000 in the wind industry—and it is doing so while keeping Colorado’s electricity bills lower than the national average. Renewable energy has quickly become one of the cheapest energy sources utilities pursue when adding new generation to the electrical grid, and Colorado is no exception.

Coloradans enacted the first-ever, voter-approved renewable energy standard in 2004, and the standard has been increased several times over the years. The current standard is 30% by 2020 for investor-owned utilities, and the state’s largest utility, Xcel, is on track to exceed the goal. Large electric cooperatives serving more than 100,000 square meters must achieve 20% renewables by 2020. Another important Colorado law, the 2010 Clean Air Clean Jobs Act, retired older coal-fired power plants in favor of cleaner energy sources and implemented safeguards to limit methane emissions over a short four-year period to meet federal air quality standards.

Colorado has a long history of working to clean its air and has done so in a way that has kept the economy moving along. (The state’s unemployment rate is currently a low 4.2%.) In 2015 alone, Colorado’s installed wind power eliminated 8 million metric tons of carbon-dioxide emissions. And because Colorado has made such tremendous progress in adding new renewables and switching older coal-fired power plants to cleaner fuels, the state has a relatively smooth path toward compliance with the U.S. Environmental Protection Agency’s Clean Power Plan, which would reduce greenhouse-gas pollution if the plan is upheld by the courts.

Wind developers eager to utilize the federal production tax credit have strengthened the wind industry over the past several years, and by using those tax credits, technological advancements have helped bring the cost of wind power down tremendously. The price utilities pay for wind has fallen by 66% in recent years, and it’s now the cheapest source of new electric generating capacity in some parts of the country. Furthermore, Colorado tax policy also has contributed to the renewable energy industry’s growth in the state.

In 2015, the Colorado General Assembly amended the Enterprise Zone Investment Tax Credit (EZ ITC), which provides incentives for businesses to locate and expand in economically distressed areas across the state. Many of those areas are in rural Colorado, where wind capacity factors are high and landowners are eager to host wind turbines. The tax credit update offers renewable energy companies the ability to monetize EZ ITCs associated with new investments made after Jan. 1, 2015. Companies that choose credit monetization would return 20% of the credit value to the state. In exchange, the company would receive 80% of the credit value up to an annual cap of...
$750,000. Therefore, businesses now have an incentive to make significant investments in renewables in places where the state needs them most.

Investment in rural Colorado is needed, and the state is seeing those investments start to pick up. In a recent report released by Progressive 15 (an organization made up of 15 rural counties across Colorado’s eastern plains), renewable jobs in Colorado’s rural eastern counties topped 4,000, along with hundreds of millions of dollars made in local investments. This is a critical financial boost for rural counties, where fewer and fewer individuals and families can make a living in their hometowns. Renewable energy is now providing an anchor for these Coloradans to live where they want and keep local economies strong.

Renewable energy – in particular, wind, with its potential along Colorado’s eastern plains – is making tremendous investments in local economies. The Progressive 15 report finds renewables contributed over $7.2 million in annual property taxes and $7.5 million in annual landowner lease payments, citing wind industry sources. This money provides a new tax base and helps farmers who have been struggling to make ends meet to keep making a living from their land.

And local governments and landowners aren’t the only beneficiaries: From 2000 to 2016, the report estimates $2.7 billion in direct and indirect economic output from the construction of renewable energy facilities in the 10 counties studied.

In 2007, total installed wind capacity in Colorado was 1,067 MW. By the end of 2016, that number will have tripled to over 3 GW. These projects have translated to hundreds of millions of dollars in state and local investments that created thousands of jobs; provided lease payments to farmers and landowners; and added to local government coffers to buy fire trucks, fund public libraries and more. This growth is certainly happening across Colorado’s eastern plains, but it is also happening across the country. Earlier this year, the total installed capacity of wind in the U.S. surpassed 75 GW, and another 20 GW is set to come online in the near future.

Utilities serving Colorado customers, including Xcel, Tri-State Generation and Transmission, and Black Hills Energy, are continuing to acquire wind energy. In ongoing integrated resource planning dockets at the Colorado Public Utilities Commission, both Xcel and Black Hills anticipate competitive procurement that could lead the way to even more cost-effective Colorado wind and solar development.

The core infrastructure needed to expand deployment of wind in Colorado – transmission lines and electricity grid operational improvements – is also advancing. The Mountain West Transmission Group is a new cooperative effort that includes Public Service Co. of Colorado, Basin Electric Power Cooperative, Black Hills Corp., Colorado Springs Utilities, Platte River Power Authority, Tri-State Generation and Transmission, and Western Area Power Administration. The group aims to create a single multi-company transmission tariff and explore market alternatives to existing regional transmission organizations. A stakeholder process and comment period are expected in the first quarter of 2017. The Mountain West Transmission Group’s efforts could have significant impacts on renewable energy development in Colorado, and renewable energy advocates and developers expect to engage as much as possible to ensure that those impacts are positive.

Sarah Propst is executive director of the Interwest Energy Alliance, a regional partner of the American Wind Energy Association. The advocacy is a nonprofit trade association that represents U.S. companies in the renewable energy industry, bringing them together with regional, nongovernmental organizations in Arizona, Colorado, Nevada, New Mexico, Utah and Wyoming. She can be reached at propst@interwest.org.
putting a lid on a seemingly endless presidential campaign full of fiery rhetoric and polarizing promises from both parties, on Nov. 8, the American people voted for the Obama administration to become the Trump administration.

Pushing for what he calls an “America-first energy plan,” President-Elect Donald Trump, as part of his plan for the first 100 days in office, has vowed to salvage the coal industry, take the U.S. out of the Paris Agreement, cancel tax-dollar-funded payments to United Nations global warming programs, and put a close to the U.S. Environmental Protection Agency’s (EPA) Clean Power Plan (CPP), according to a press release Trump issued earlier this year.

However, wanting to “get the bureaucracy out of the way of innovation,” Trump did stress the need to “pursue all forms of energy,” said the press release, which added that this does, indeed, include “renewable energies and the technologies of the future,” such as wind and solar power.

“THe government should not pick winners and losers. Instead, it should remove obstacles to exploration. Any market has ups and downs, but lifting these draconian barriers will ensure that we are no longer at the mercy of global markets,” the release stated under its section of how to “make America wealthy again.”

Naturally, the president-elect’s statements with regard to the support of the coal and natural gas industry and renunciation of major emissions-reducing initiatives are enough to make a stakeholder in the clean energy sector worry – or, at least, think twice – about the future of the industry in the next four years and beyond. (Let’s not forget that 2012 Twitter remark in which Trump claimed that the “concept of global warming was created by and for the Chinese in order to...
make U.S. manufacturing non-competitive.)"

In a prepared statement issued the day after the election, Michael Brune, executive director of the Sierra Club, offered a warning to Trump's climate change nay-saying:

“If Trump does try to undermine climate action, he will run headlong into an organized mass of people who will fight him in the courts, in the states, in the marketplace and in the streets.”

Indeed, according to David Burton, partner at law firm Mayer Brown, the U.S. wind industry has a whole host of “powerful Republican allies in Congress,” including U.S. Sen. Chuck Grassley, R-Iowa, a longtime proponent of wind power and the father of the federal production tax credit (PTC) itself.

“It seems unlikely that Mr. Trump would opt to attack the tax credits for wind in light of wind’s Republican allies and the long list of issues that are higher on his political agenda,” says Burton.

In an interview with North American Windpower a couple months before the election, Grassley said he had “no reason to believe that Mr. Trump [would want] to do away with wind energy.”

However, speaking hypothetically, he clarified that if any president wanted to mess with wind power, the senator would put up a fight to sustain the industry – and the tax incentives in particular, which were approved in December 2015 as part of an omnibus spending bill.

Burton notes that in contrast to the EPA's CPP, the PTC is, in fact, statutory. Thus, he says, “A statute can only be changed by Congress passing a new law.”

As for the investment tax credit (ITC), Merrill Kramer, chair of the sustainable energy practice at law firm Sullivan & Worcester, believes a repeal of the incentive would be unlikely.

“It was enacted as part of a bipartisan package to lift the 40-year ban on oil imports,” Kramer points out. “While omnibus tax legislation is likely this year, it will be very difficult to undo the bipartisan tax package that included the ITC.”

Additionally, because renewable energy legislation is consistently being implemented at the state and local levels, clean energy initiatives, such as renewable portfolio standards, would “largely remain unaffected by the Trump victory,” he says.

However, the CPP could be a different story, Kramer admits. “A Trump-appointed EPA will make every attempt to restrict or repeal the Clean Power Plan,” he says.

The CPP, which was first released in 2014 and finalized in August 2015, calls for reducing carbon emissions from the U.S. power sector 32% below 2005 levels.

The EPA's initiative is no stranger to opposition, though: When the agency published the final rule in the Federal Register in October 2015, a coalition of states filed a lawsuit that claimed the CPP could have “devastating impacts upon the states and their citizens.”

CPP supporters later fought against the stay by filing in federal appeals court, and in January of this year, the federal court rejected the objecting states' request for a stay of the CPP while the legal battle went on. However, in February, the Supreme Court said the CPP would, indeed, be stayed. Most recently, the U.S. Court of Appeals for the D.C. Circuit heard oral arguments for and against the plan, but as of press time, a decision has not yet been reached.

Regardless, according to Kramer, Trump-nominated Supreme Court judges are likely to cast a vote in favor of overturning the CPP.

In addition, he says, “A Trump Justice Department will decline to defend the CPP in courts.”

As for the EPA itself, Trump noted in a September speech in Pittsburgh that one of his goals is to refocus the agency on its “core mission of ensuring clean air and clean, safe drinking water for all Americans,” as well as kill both the CPP and Clean Action Plan – initiatives he said will “increase monthly electric bills by double-digits without any measurable improvement in climate.”

We'll always have Paris – or will we?

On Nov. 4., the United Nations Framework Convention on Climate Change announced that the Paris Agreement had officially entered global force. At last year's COP21 in Paris, more than 190 countries adopted the agreement. The pact, what the White House called “the most ambitious climate change agreement in history,” calls for (among other initiatives) keeping a global average temperature rise this century well below 2°C.

The Sierra Club's Brune noted in his statement that it would be “extraordinarily difficult” for the president-elect to take the U.S. out of the agreement.

“His position is already causing international blowback abroad and in very pointed ways that are, in some respects, unprecedented,” he said.

Mohamed Adow, international climate lead for U.K. charity Christian Aid, said in a statement after the election that the world “will not risk a global climate catastrophe because of one man's opposition.”

“On a practical point,” he said, “now that the Paris Agreement has come into force, no country can easily withdraw for at least three years.”

Ed Einowski, partner at law firm Stoel Rives LLP, although noting the U.S. president’s “significant powers when it comes to foreign affairs, including trade agreements and treaties,” says
Cover Story

the country’s involvement in the Paris Agreement still remains to be seen.

“I suspect – but don’t know for sure – that he can abrogate the Paris accord,” he says.

Wind speaks for itself

Though he has voiced his support for “all forms of energy,” Trump’s stance on renewable energy, says Kramer, is “not clear.”

Mayer Brown’s Burton agrees that, yes, Trump’s views have been conflicting. However, he says, “I would not assume that once he is in presidential mode that he will be an opponent of wind.”

After all, look at where the majority of Trump votes came from: wind-rich states such as Texas and those in the Midwest.

“In those same rural areas, farmers are being compensated well for leasing land to wind farms, and young people are being employed as wind turbine technicians – which, by some accounts, is the fastest-growing job in the country,” says Burton, adding that he doubts Trump would want to “upset those trends.”

In fact, according to a statement from Tom Kiernan, CEO of the American Wind Energy Association (AWEA), more than 80% of all U.S. wind projects are located in “Republican-held congressional districts.”

In turn, he said, “We envision that the Republican leadership in Congress and the White House will want to keep our industry growing.”

The future of wind power is “fundamentally dependent on it being a useful resource at a competitive price.”

Blake Nixon, president of Minnesota-based wind developer Geronimo Energy, believes that Trump’s election will not “fundamentally alter the path of the industry.”

“First off, I don’t believe that Trump will remain negative on wind once he sees the tremendous economic growth it provides to rural American communities and low-cost power for all electricity consumers,” he says.

For Einowski, the future of wind power is “fundamentally dependent on it being a useful resource at a competitive price.”

“It is now competitive with natural gas on a subsidized basis and is within spitting distance on a non-subsidized basis,” he says. “Politics can influence it at the margins, but economics will govern in both the near and long term.”

In fact, he says, coal is “no longer price-attractive,” thanks to the “abundance of cheap alternatives.”

In turn, Einowski says coal could “likely continue its decline, as there seems little in the way of government action that could turn that tide.”

Sullivan & Worcester’s Kramer echoes a similar sentiment, that “economics, as much as energy policy, are driving the markets.”

“Worldwide demand for oil is down, and the cost of coal retrofits is prohibitive,” he says. “Conversely, the cost of solar PV panels and wind turbines continues to decline.”

Additionally, considering the aforementioned Trump support from wind-rich red states, a Trump administration would likely be “pro all energy resource development” rather than anti-renewables, Kramer contends.

2017 and beyond

Since the election, many renewable energy groups have emphasized that Trump’s election is not necessarily doomsday for the industry.

AWEA, for one, remained unequivocally upbeat following Election Day.

“According to [election] exit polls, the top issues on Americans’ minds as they went to vote were the economy, security and health,” said Kiernan. “Wind can help with all three. Our determination to fulfill on the U.S. wind industry’s enormous potential has never been stronger.”

350.org, a nonprofit dedicated to fighting climate change, said in a statement that the world needs to “charge ahead and look beyond the White House to partner with civil society, businesses and local governments who are still committed to climate action.”

“Our work becomes much harder now, but it’s not impossible, and we refuse to give up hope,” the group said.

Geronimo Energy’s Nixon notes that wind is not likely to lose its spot as a “major player in the new electrical generation fleet of America,” which, according to AWEA’s third-quarter report, currently has 20 GW of wind projects either under construction or in late-stage development.

As for the wind developer’s plans going forward, Geronimo Energy doesn’t intend to alter its course of action too much.

“We develop projects that will make sense for communities and customers throughout long cycles, so from a high level, we will not do much differently,” explains Nixon. “However, we will look more closely at regulatory environments, tax qualification and financing structures that could be influenced differently by new leaders at the relevant agencies as part of the Trump administration.”

Of course, only time will truly tell what the next four years (or eight) will bring – and if nationwide support for an increasingly flourishing wind industry can trump any potential hardships coming its way under the new administration.

“There will likely be some uncertainty in the minds of industry participants – which may slow some near-term actions,” says Nixon, “but long term, the industry will continue its growth based upon its strong fundamentals.”
Siemens has been awarded a long-term service contract for the Lower Snake River wind farm, located near Pomeroy, Garfield County, in Washington state. The customer is Bellevue, Wash.-based Puget Sound Energy. Completed in early 2012, the Lower Snake River project comprises 149 SWT-2.3-101 wind turbines that produce up to 343 MW of renewable energy. On average, says Siemens, the facility generates enough electricity to power 82,000 average U.S. homes.

The turbines have been serviced and maintained by Siemens since they began commercial operation in 2012. Under the terms of the new agreement, Siemens will provide long-term service and maintenance for an additional 10 years and install the company’s Power Boost function and High Wind Ride Through (HWRT) turbine modernization products to all 149 units.

Siemens says its Power Boost functionality increases power production of a turbine by raising the output limitation under specific operating conditions. Depending on site conditions, the annual energy production can be increased by up to 4%, the company adds.

Part of the Siemens Digital Services for Energy offerings, the digitally driven HWRT is designed to prevent the wind turbine from shutting down immediately as wind speeds reach above 25 m/s. Siemens says this leads to enhanced grid stability and replaces the high-wind, fixed-threshold shutdown with an intelligent, load-based reduction in output power to help avoid shutdown during high winds.

Siemens says it currently provides service and maintenance for more than 4,000 installed wind turbines in the Americas region and more than 10,000 globally for a combined generating capacity of over 25 GW.

Mars Plans Mexico Project Ahead Of COP22

In an announcement urging the business community and global leaders at COP22 to implement the targets agreed upon last year in Paris for tackling climate change, Mars Inc. has also unveiled plans for a wind farm in Mexico – its third major wind energy commitment.

According to the company, Mars is aiming to eliminate all fossil fuel use from its operations by 2040, and now, the company is encouraging leaders to do the same by setting ambitious goals that go beyond the national targets agreed upon at COP21.

Barry Parkin, Mars Inc.’s chief sustainability and health and well-being officer, says, “This is an important moment in global political and economic history, and we absolutely must come together to solve the immense challenges facing the planet. Climate change, water scarcity and deforestation are serious threats to society. It is imperative that global businesses, like Mars, do their part to face down those threats.”

Mars’ new wind farm in Mexico is the latest in a series of major renewable electricity projects. In just over a year, Mars has announced three new wind projects across three continents:
Projects & Contracts

- In 2015, Mars opened its 118-turbine wind farm in Mesquite Creek, Texas, which now generates the equivalent of 100% of the electricity needed to power the entirety of the Mars U.S. operations;
- In 2016, Mars announced a partnership with Eneco to activate a 20-turbine wind farm in Scotland that is providing electricity from renewable sources equal to what’s required to power all of its U.K. operations; and
- In 2017, Mars will activate its new wind farm partnership with Vive Energia and Envision to provide the equivalent of 100% of the electricity required to power its five Mexican plants, located in Querétaro, Nuevo León and Jalisco – a project that is expected to drive a greenhouse-gas reduction of over 25,000 tons of CO2 emissions.

Damian Ryan, acting CEO of The Climate Group, says, “This latest announcement is another piece in the jigsaw for achieving [Mars’] goal of 100 percent renewable energy globally by 2040. The move will also help to develop a growing renewables market in Mexico. It sends a clear signal of support to the Yucatan government that demand for renewables is rising and that there’s an alternative to using polluting fossil fuels in this environmentally sensitive area.”

At COP21 in Paris, Mars joined several chief executives of the world’s top food companies to publish an open letter to global leaders pledging individual and collaborative action on climate change and urging governments to forge clear international agreements at the meeting.

Also last year, Mars signed on to the American Business Act on Climate, led by the White House, which aims to rally business, government, academic, technical and scientific communities to tackle climate change in the U.S. and on a global scale.

GAMESA NETS U.S. TURBINE SUPPLY CONTRACT

Gamesa says it has been awarded a contract for the supply of 99 MW for a wind farm in the south-central U.S.

According to the company, this U.S. wind farm will utilize 48 G114-2.0 MW and G114-2.1 MW turbines. Under the contract, Gamesa will deliver and commission all of the turbines, which are slated for delivery in 2017.

The project is expected to go into commercial operation later that same year, the company notes.

Gamesa says it has approximately 4,800 MW in firm orders for G114 turbines across the globe, which are optimized for multiple-wind-speed sites. Completion of the project, along with others on order or under construction, will bring Gamesa’s installed capacity in the U.S. to over 5,000 MW.

GREENFIELD WIND FARM CHANGES HANDS

Greenbacker Renewable Energy Co. LLC has acquired a 25 MW operating wind generation facility in Montana.

The Greenfield Wind Farm was sold by Greenfield Wind LLC, which is majority owned and managed by Foundation Windpower LLC, a wind developer based in San Francisco.

The total consideration for the project is approximately $34.5 million. In conjunction with the acquisition, the $26 million turbine-supply loan provided to Greenfield Wind LLC in June has been repaid in full.

The 25 MW project comprises 13 GE 2.3-107 MW wind turbines. Located in Teton County, the wind farm sells power directly to local public utility NorthWestern Energy through a 25-year, fixed-rate power purchase agreement.

ENERCON’S NIAGARA REGION ACHIEVES FINANCIAL CLOSE

Enercon Canada Inc. has closed C$825.5 million in nonrecourse project financing for its 230 MW Niagara Region Wind Farm, located in the Ontario counties of Lincoln, West Lincoln, Wainfleet and Haldimand in the Niagara Peninsula.

The wind farm, which comprises 77 Enercon E-101 3 MW turbines, has a 20-year feed-in tariff contract with the Independent Electricity System Operator of the province of Ontario. It was commissioned on Oct. 30.

The wind farm is owned by Enercon and the Six Nations of the Grand River Development Corp. Boralex Inc. will acquire 25% of Enercon’s interest in the project by the end of the year.

The financing comprises a construction loan of approximately C$789.5 million that will convert into an 18-year amortizing loan after the start of the commercial operation, as well as a letter of credit facility of approximately C$39 million.

A portion of approximately C$252.4 million of the financing will be covered by a guarantee offered to the lenders by the Federal Republic of Germany through its Export Credit Agency Euler-Hermes.


Blake, Cassels & Greydon LLP acted as legal counsel to the lenders. Fasken, Martineau DuMoulin LLP acted as legal counsel to Enercon. Plan A Capital Inc. acted as financial advisor to Enercon.
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Why Are We So White?

"Marketing!" That’s how I was taught to answer the phone in the busy corporate office where I worked as a secretary one summer.

My replacement insisted on saying, “Good morning, you have reached the marketing department. This is Jennifer. How may I help you?”

I tried to get her to change. “Jennifer, they’re going to think you’re wasting time answering the phone like that. Keep it to one word, and you’ll do better around here.”

Two weeks later, when I called to say hello, a new person answered the phone. “Jennifer doesn’t work here anymore.”

I am white, and Jennifer is black.

Without articulating it at the time, I had foreseen that our all-white office would associate her more relaxed manner with her “culture” and would find a reason to fire her. Never mind that a small amount of friendliness at the beginning of a call would likely save time later by putting callers at ease. Never mind that our callers were often customers who had bounced from department to department by people who were too “busy” to figure out what the callers really needed. We had our little white playbook, and that’s how it was done.

Sadly, the wind energy industry is no exception. Just walk around any industry trade show or attend one of the big-ticket seminars. My first thought is always, “Why are we so white?” Women have made great strides in the wind industry, and we need to figure out how we can be more welcoming to people of color.

Ethnic and racial diversity benefits businesses. McKinsey & Company bluntly states that “companies with more diverse workforces perform better financially” and notes an even stronger benefit for ethnic diversity than gender diversity.

In 2009, when President Barack Obama appointed Sonia Sotomayor to the U.S. Supreme Court, Sotomayor’s comment about bringing strength as a “wise Latina woman” sparked vigorous public debate. Sotomayor was not suggesting that her heritage alone qualified her, as some opponents noted; what she meant was that a more diverse court would be stronger.

Along with the recent studies, this perspective turns the old “affirmative action” debate on its head. Now, ethnic and gender diversity is recognized as an essential part of businesses rather than only a matter of access for underrepresented populations.

Having a diverse workforce in itself does not solve the problem; companies need people from many different backgrounds at the highest levels of leadership in corporations. So, how do we make this happen in the wind industry?

It has been shown that top-down diversity programs in corporations, such as diversity training and grievance systems, have not produced noticeable change. Participants even report more animosity toward other groups afterward!

Some of the problem lies in the belief that “welcoming” and “inclusion” are passive concepts. The thinking behind these initiatives goes something like this: “If we do some sensitivity training and stop making racist jokes in the lunchroom, we’ll remove all obstacles, and then we will magically become more diverse.”

At the same time, people tend to tell people they know about job openings, and they tend to hang out with people they feel more comfortable with. What can we, as individuals who work in a largely white industry, do to promote diversity in our ranks?

We need to make a verb out of our diversity initiatives. Locate offices and host events in diverse urban neighborhoods instead of manicured suburban office parks. Engage with a variety of vendors at all levels of business; this will promote professional relationships between your employees and the larger community.

If you’re white, make an effort to get to know all of your colleagues, not just the pink-skinned variety. Learn people’s names. Encourage a person of color to seek a job promotion he or she may not have considered. Walk across the room or across the parking lot to say hello. Welcome the perspectives of others, which sometimes may look like shushing a room full of white people and saying, “I’d like to hear what Jennifer has to say.” Make mistakes, and be awkward.

I’m deliberately not including a paragraph with advice for colleagues of color. I don’t think I’m qualified to do that! The missing piece in this article is exactly the piece that is noticeably missing from our industry.

All those decades ago, if Jennifer’s colleagues had welcomed her perspective, she might be chief marketing officer of the organization now, and it would be nationally known for its efficient handling of calls.

Making an effort to include people of color in the wind energy industry is not “affirmative action” – it’s a matter of survival.

Naomi Pierce is a marketing manager at Vaisala. She can be reached at naomi.pierce@vaisala.com.
Success means driving operational excellence by partnering in four main sectors, health & safety, O&M, workforce training & development, and quality assurance.

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