CLEAN GRID ALLIANCE

Every remarkable way wind is pioneering rural America's bright future

Isak Kvam, Communications/Policy Associate • Mar. 15, 2019

The ultimate, simplified truth about how rural communities benefit from wind power.

As America's wind power boom spreads across the U.S., it's bringing unmatched economic development into rural communities. Wind farms are an investment in a community's future, making it a cleaner, financially-secure community with even deeper roots. For small communities with few opportunities to attract companies that can bring jobs, economic development, and a new source of revenue, wind is a perfect partner.

Rural communities have a lot of questions when a wind project is proposed.

This guide highlights the benefits wind projects bring to the rural communities that host them. Wind is the fastest-growing source of electricity in the U.S., and that's good news for rural Americans who want to benefit from such economic development.

Read on to learn how a wind project can benefit your community today!

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LOCAL TAXES & WIND

When a wind farm is built, the entire community benefits from the project. That's because a wind farm provides a new source of tax revenue for the county. Now, don't let your eyes glaze over at the first mention of tax revenue -- this is important!

Nobody likes paying taxes - but we do it in order to pay for our roads and bridges, local emergency services, schools, and other services we all rely on. When a wind project comes to town, it's often the largest single taxpayer in the county - which helps alleviate your share of the county's taxes! Counties get to choose how to spend this new tax revenue in their community - whether that means investing in county services or lowering taxes on citizens. However a county decides to spend its new wind revenue, it benefits everyone.

Investing in rural America

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According to a recent report from Moody's Investor Services, wind farms have improved the finances in more than 400 counties in 41 states nationwide, which is more than double the counties that had wind farms 10 years ago. This new source of revenue provides funding for local infrastructure projects like

improving roads and bridges, community projects and schools, or holding the line (or even cutting) property taxes paid by citizens. Now, let's dive in to a few Midwestern communities that are benefiting from wind revenue and how they're deciding to reinvest in their future.

99 percent of wind farms are built in rural communities, bringing economic benefits to the places that often need them the most.

New roads and bridges, paid by the wind

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Mower County Commission Board Chairman Tim Gabrielson from Minnesota knows how wind energy helps out his communities. Mower County has the most wind power in Minnesota, and it's reaping the benefits of those investments by reinvesting in local infrastructure and lowering taxes for citizens.

From 2004 - 2017, Mower County received over $17 million in wind energy production tax revenue since 2004. After they received $2.37 million from wind power in 2017, Tim said the county decided to use $400,000 of it to improve their local roads and bridges and used the remaining $1.97 million as tax relief for their nearly 40,000 citizens.

> *Having this new revenue source from wind power reduces the amount of tax dollars that would be needed to be raised from taxpayers to pay for our county operations, Commissioner Gabrielson said. Mower County Administrator Craig Oscarson said the levy would have to increase up to 9 percent if the wind revenue went away.*

One town in New York even eliminated taxes for its citizens after their wind project was finished.

In Iowa, not far from the famous covered bridges of Madison County lies Adair County. Only a decade ago, the county was facing hard economic times. A declining tax base meant there wasn't enough money for the county to maintain its roads and bridges. That spelled trouble for local farmers who relied on local infrastructure to drive large machinery and truckloads of grain. Today, thanks to wind revenue, roads have been improved and a new bridge makes travel safe for everyone.

Adair County now has 400 MW of wind from two wind projects developed by MidAmerican Energy, which paid $2 million to the county in 2018. In all, MidAmerican Energy's wind projects provide 25 percent of the county's budget. Today, Adair officials have completed most of the infrastructure projects that were so sorely needed, and they're even considering property tax cuts. Those benefits are continuing to grow because Adair County is working with MidAmerican for an additional 550 MW of wind energy in the county.

Wind energy is investing in schools

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Local schools often reap some of the largest benefits from wind farms. For example, when Avangrid Renewables built the Blue Creek Wind Farm in Ohio, each of the 115 turbines pays about $18,000 per year to the county. When Van Wert County and Paulding County first received over $2.66 million from the wind project's annual tax payment in 2015, they decided to use the money for their local schools. Local school superintendent Jeff Snyder said wind farm funds have helped his school district grow from two computer labs in the entire district to now providing each of its 915 students with a computer.

"That upgrade has created such a synergy and excitement with our students, teachers, and parents, as we are using new instructional techniques every day in the classroom," Superintendent Snyder said. "In the coming years, we'll expand on this growth and collaborate with local businesses to provide opportunities for our students and grow the economy here in Van Wert County."

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New public works facility from wind power

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In southwest Minnesota, Jackson County is using its wind revenue to pay for a portion of a $14 million public works facility.

"It's been good for us," said Jackson County Commissioner Don Wachal.

Wind energy now pays over 20 percent of Jackson County's annual budget and is one of two counties to receive more than $2.2 million in 2018. Next, the county is considering using their wind money to upgrade heating and cooling equipment for its civic buildings. Using wind revenue for these projects helps every single citizen in the county because without the wind farm revenue, Jackson County would have had to increase property taxes by 14.5 percent to cover these upgrades.

The details on the Wind Energy Production Tax

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Want to really dive into how the wind energy production tax works in Minnesota? Let's roll up our sleeves and talk details.

Basically, this tax applies to each wind energy conversion system (WECS) - think wind turbine - that generates more than 2 megawatts of energy in Minnesota. The amount of the tax depends on the nameplate capacity or combined capacity of WECS that are under common ownership. For purposes of this tax, WECS meeting these criteria are combined if they are located within five miles of each other and were constructed in the same calendar year.

The larger the project size, the higher the tax.

For large-scale wind energy conversion systems (more than 12 MW of nameplate capacity), the tax is $1.20 per megawatt/hour (MW/h). Medium-scale WECS (2-12 MW) pay $0.36 per MW/h. In Minnesota, each county bills and collects the tax then distributes the revenue; 80 percent goes to the county and 20 percent goes to the cities or towns where the wind farm is located. Counties and towns are free to use that new source of revenue for whatever purpose they choose.

Wind's tax revenue makes stronger communities

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Tax revenue is one of the many ways that wind projects are reinvesting in rural communities across the Midwest. Wind projects are multi-million dollar businesses that are hosted in small communities, which means their new tax revenue makes a big difference for every citizen living near them.

The Franklin County Board in Iowa recently voted to lower property taxes after it paid off a bond used to fund $18 million in road and bridge improvements thanks to wind energy payments. Michael Nolte, a farmer on the Franklin County Board, stated, "[Wind] is our financial future. It's helping us survive and

maintain services, whereas other counties have had to make cuts." The counties surrounding Franklin County had recently been closing bridges to heavy farm machinery after lacking the money to fix the bridges.

However counties and towns are deciding to use this revenue - to reinvest in roads and bridges, schools, local emergency services, public works buildings, or to lower taxes on citizens - it's offering a financial boost to communities that need it most.

Want to share the benefits of wind revenue with your neighbors? Print out our fact sheet on how wind energy is reinvesting in Minnesota now.

New tax revenue from wind projects benefit everyone in the community -- not just those with turbines on their land.

AGRICULTURE AND WIND ENERGY

Wind power and farming go hand-in-hand

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Farmers take great pride in being able to make a living for their family from the very land that may have been in their family for generations. And to also serve their country by growing food for the nation adds to their pride. Today, farmers are harvesting the wind blowing over their crops to power the nation, as well.

As wind and solar have grown to become a new cash crop, it's natural for farmers to have a lot of questions about how renewable energy can benefit their farming operation. Let's start with the story of Jim Nichols.

This farmer knows a thing or two about wind power

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Jim Nichols knows a thing or two about agriculture. He owns a farm in southwestern Minnesota on the Buffalo Ridge, and spent time as a Lincoln County commissioner before going on to be a Minnesota state senator and Minnesota Secretary of Agriculture. Jim is also proud to host a wind turbine on his land, calling it his "combine in the sky." "But," he says, "the wind turbine harvests all year long and doesn't sit in the shed 11 months out of the year."

Jim has been a strong advocate for wind energy as a way to reinvest in local economies and provide farmers with a well-deserved new source of income. He's spent his life raising crops on his land, and decided that he should begin harvesting the wind blowing over them as well. The wind blows, the turbine blades spin, and electricity flows from his farm to the electric grid.

Farmers have learned to love wind energy as a common-sense companion crop. Requiring just an acre or less per turbine, harvesting the wind makes good economic sense as a drought-resistant cash crop that offers a guaranteed, stable land-lease payment year after year. Farmers can continue to farm the land almost right to the base of the turbine, and when developers build an access road to the turbine, they work alongside farmers to ensure they are built in a location that works for both parties. Farmers have found the roads to be very helpful for parking their grain trucks, tractors, and combines during harvest season. Talk about a win-win!

But one of the main benefits for farmers with a wind turbine is the land-lease payments. American wind power paid rural landowners $267 million in lease payments in 2017 alone - and that number is growing every year. In Minnesota, where Jim lives, land lease payments add $5-10 million per year to rural landowner pocketbooks - and this income ripples through the local economy.

A 2014 study by Dr. Sarah Mills from the Gerald R. Ford School of Public Policy at the University of Michigan found interesting results. Mills found that landowners with wind turbines on their property invest twice as much money into their farms for things like home improvements, outbuildings, and equipment compared to landowners who lived in townships without windfarms. They also purchase more farmland and plan for their farm to continue in the future. Wind energy has a proven track record of helping farmers reinvest in their farming operation.

Question: Since 2008, about how much money have you spent on . . .		
	Average of all responses	**Average of those with turbines on their property**
...improvements to your home?	$26,897	$41,970
...improvements to your outbuildings?	$36,521	$71,780
...improvements to your field drainage and irrigation?	$25,321	$57,863
...purchasing new or used farm equipment?	$125,027	$279,539

Wind turbines are a stable income source during uncertain times

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Farmers make tough decisions. They work hard on their land all year, follow commodity markets through the ups and downs, and are constantly making decisions that affect not only their farming operation, but the future of a farm that's often been handed down for generations.

According to the U.S. Department of Agriculture, net farm income is expected to decline 6.7 percent in 2018 to $59.9 billion, a level not seen since 2006. Since 2012, rates have steadily declined due to strong supply and weak demand for many crops. In situations like this, with declining income and razor-thin margins, wind energy has emerged as a new cash crop for farmers, allowing them to diversify their farming operation and help keep the farm in the family. Some have even called wind energy the new corn for struggling farmers. Wind turbines offer a guaranteed, fixed income every year that a farmer can use to ride out tough years, save for a downpayment to invest in a new shed or grain bin, or to help the next generation start farming. Some even choose to help grandchildren attend college with this income.

Wind farms can improve crop production

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Interesting research from Iowa State University indicates that wind farms can improve crop production. Corn and soybeans can benefit from the turbulence produced by wind turbines because the blades slightly decrease temperature during the day and increase the temperature at night. That can suppress the formation of dew and dries the crops, which can help combat harmful molds and fungi.

Gene Takle led the multi-year study from data gathered from 2010-2013. "On balance, it seems turbines have a small, positive impact on crops," he said. Takle thinks that this turbulence positively changes the biomass uptake of plants and if it can improve plant size or functions or yield and is working to address these questions.

Wind energy is a new cash crop allowing farmers to diversify and reinvest in their farming operation.

Wind farms can fund road, bridge improvements for farmers

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We already discussed above that wind farms provide new tax revenue for the county and townships that host them. Most often, counties and townships use this to improve roads, bridges, or reduce taxes for citizens. Not only does this help the whole community, but this can be a huge benefit for farmers to ensure they can continue operating heavy machinery on the roads and bridges surrounding their fields.

Farmers love wind energy

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"I think it's one of the greatest things that ever happened," said Chuck Goodman in *Successful Farming*. "It's good for my pocketbook. It's good for the environment. And wind is replenishable; we're not digging it out of a hole in the ground." Goodman leases land for three turbines on his farm near Alta, Iowa, and in all they take up about 1.3 acres of land, including the access road. While land lease payments differ based on location, the wind resource, and many, many other factors, farmers can expect between $5,000 - $15,000 per turbine per year on their land.

"Everybody is getting excited about [wind] now, because it isn't just a paycheck," says David Day, a rancher in North Dakota. "For older people, now I have a retirement deal that I can look at, that I can go travel . . . For the middle-aged ranchers - it's a security net for us to look at . . . [to] do the upgrades that we need on the ranch now and still secure our future for our children."

Gary Baldosser is a fourth-generation farmer who raises corn, soybeans, and wheat in Republic, Ohio. When Ohio state lawmakers considered making strict rules about how wind turbines can be built, Gary testified before the panel to help them understand how wind energy helps move farmers forward.

Open YouTube Video

Gary held a meeting in his shop for his friends and neighbors when the wind farm was first proposed for the area. "I have to admit, I was surprised at the overwhelming acceptance [they] had for the project," he said. "This community, my community, has recognized and embraced the opportunities that the wind farm would bring. Opportunities like diversified farm income, improved tax revenue for our schools, . . . jobs for neighbors and families. . . . Everyone wins with wind in their community."

When Gary told his story of his family legacy, he was brought to tears: "My father taught me that working hard with a sense of community will make me successful. This is the legacy he left me; this is the legacy that I would like to leave my children - that they had a part in providing Ohio and America a renewable source of power."

Farmers are winning with wind

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Wind energy and agriculture go hand in hand. By leasing small amounts of their land to a wind turbine, farmers are provided a guaranteed, stable source of income that they can use to diversify their farm, ride out tough commodity markets, and invest in their future. It provides flexibility, certainty, and the freedom to continue working their land as they see fit.

To share the benefits that wind projects bring to farmers, print out our "Wind Benefits Agriculture" fact sheet to share with your neighbors.

NEW JOBS FROM WIND ENERGY

Wind farms bring family-supporting careers

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When a wind project comes to a small town, it generates temporary and full-time jobs for the local community. During construction of the wind farm, hundreds of construction workers are needed. Once it's complete, the wind project often becomes a new town employer, creating family-supporting careers for wind technicians, site managers, and office staff, as well as providing opportunities for existing service providers like landscapers and snow plow operators.

Wind energy now employs over 105,000 Americans, nearly 32,000 of which are in the Midwest. The good news? This is just the beginning! The McKnight Foundation, based in Minneapolis, recently found that Minnesota could create an additional 44,000 jobs in the wind and solar industries by 2050. Wind energy has become the cheapest new way to generate electricity in the Midwest -- and that means a lot more wind workers will be needed as we continue to invest in our future. With wind, opportunity is knocking for younger generations looking for careers in their hometown.

What is a wind technician?

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Wind turbine technician is the second-fastest growing job in the nation, second only to Solar PV Installer. While the average growth rate for all occupations is seven percent, wind technicians have been growing at 108 percent. In fact, men and women working on wind towers will more than double from 2014 to 2024. To say there's a high demand for this new career would be an understatement.

Wind turbines have electrical, mechanical, and communication systems similar to an airplane. That means they require skilled workers to keep them harvesting the wind hundreds of feet in the air. Wind techs work on inspections, repairs, maintenance, testing & fixing components, collecting data, and general upkeep of the wind turbine. Techs must have to have stamina and physical strength to climb a tower and lift equipment hundreds of feet in the air. Being a wind tech doesn't require work experience in a related occupation, offers on-the-job training and a median pay of $53,880 per year. Wind farms are built in small, rural communities 99 percent of the time. They are creating family-supporting careers for young folks looking to stay in the small community they were raised in.

Open YouTube Video

A wind technician requires a two-year degree, and these programs are cropping up all over the Midwest's community colleges -- thanks to people like Steve Vietor.

Community colleges are training the career of the future

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Steve Vietor has a contagious enthusiasm for his job at Riverland Community College in Albert Lea. Steve has been an electrical instructor there for the past 23 years, most recently running the school's electrical, solar and wind training program. In fact, the students wouldn't be able to take the courses if it weren't for him.

Open YouTube Video

"Around the year 2005, with the sudden growth of wind in Minnesota, I realized this is a career opportunity for our electrical students." Steve said. "So, we got involved in analyzing renewable energy as it is developing around us and wondering what we'd need to add for curriculum."

The best part about Steve's job? He's training his students for careers they can find in their own community. He says one of the best things about the fast-growing clean energy sector is that they're popping up throughout rural Minnesota, helping small towns keep their local talent and contributing to their economy. Minnesota has 57,000 clean energy jobs, and 30 percent of those jobs are in Greater Minnesota.

"As an instructor, I realize that we are today responsible for starting these students on career paths and because of that, I consider that training to be my greatest responsibility," Steve said.

Wind power is providing small communities with new careers

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Wind power has delivered careers of the future to hundreds of rural communities across the Midwest. They require many different occupations to help construct them, using a variety of businesses in the community. And once they're fully erected, they're providing a well-paying career to young folks living in the community that are looking for a steady, respected job. As we work on powering our future with more wind power, we are reinvesting in our local communities and providing a better future for our society.

Looking for a job in the wind industry? Check out American Wind Energy Association's Careers in Wind which helps job seekers find a variety of careers in the U.S. wind industry. The Minnesota Clean Energy Resource Teams' job board also lists clean energy job opportunities in Minnesota.

WIND IS BOOSTING THE LOCAL ECONOMY

Wind is good for rural communities and businesses

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We've already discussed many of the important benefits a wind farm brings to the rural communities that host them -- a new source of tax revenue, a new source of income for rural landowners, and new careers -- but wind projects also bring a significant amount of economic development, which benefits the larger community.

For example, the Red Pine project in southwestern Minnesota has invested more than $18 million in the local economy. This kind of investment occurs when the developer purchases things like supplies, rents equipment or pays for utilities from local businesses. While all the construction workers are in town -- the local hotels are full, the restaurants are packed every night, and the grocery stores get an added boost.

But the benefits of wind power don't stop when the wind farm is completed. Once the turbines blades are spinning, the farm continues to bring a boost to local businesses. The wind farm's company vehicles require maintenance at local service stations and gas from local convenience stores. Tools are purchased at local hardware stores. Ground maintenance and snow plowing contracts are secured with local contractors. It doesn't stop there -- full-time employees move into the community, eat at local restaurants, buy a house to settle down in, shop at the grocery store, and enroll their students in the public school.

It's not very often that a multi-million dollar business opportunity comes to small towns in the Midwest. When wind projects come knocking, it brings a significant financial boost to these communities that need it most.

Wind turbine technician is the second-fastest growing job in the nation -- second only to Solar PV Installer.

Wind projects invest in small communities

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> *The Red Pine Project has given Ivanhoe a 75 percent boost in the economy, said Ivanhoe Mayor Dennis Klingbile. Every available rental unit has been rented, and at least eight houses have sold. There has been an*

> *increase in elementary student population, too, due to this project. Crew members are staying (in the community to maintain the turbines). And, the tax revenue base has been increased to about a million dollars a year.*

Ivanhoe is a small town of less than 600 in Lincoln County, Minnesota. It was facing tough economic times before the wind farm came to town. Now, this small community is thriving thanks to the economic boost from the wind project outside of town.

In 2017, EDF Renewable Energy held a wind turbine blade signing event for their 200MW Red Pine Wind Farm. A few members of the community spoke about what the wind farm has meant to them.

Wind farms provide jobs - and those jobs boost the local economy

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The Wall Street Journal has a fantastic feature story about why rural America communities like Benton County, Indiana are embracing wind power. Benton County is home to 8,600 people, and about half of the state's installed wind farms. In total, these wind projects have brought almost $2 billion of investment to the area. WSJ notes that wind projects have been "a boon for an economically struggling community that about a decade earlier considered hosting a waste dump to generate jobs and government revenue."

Benton County has added 110 permanent jobs - most of which are wind technicians making over $50,000 a year - to their communities. Hundreds of construction workers spent years erecting the wind towers, too. Building and operating the wind farm takes people -- and it's people that make up the fabric of all the communities' businesses.

"Benton County didn't see the recession until 2011," said county commission president Bryan Berry, who has three turbines on his farmland. "The wind industry helped keep things open."

Local economies benefit from wind power

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Wind farms tend to be sited in rural areas, many of which are struggling to stimulate economic growth. On average, a wind project costs $2,000 per kilowatt installed, making the average wind farm worth hundreds of millions of dollars. The best news for communities that host wind projects is that much of this investment stays local. Every 100 megawatts of windpower installed brings roughly 100 net jobs for a typical rural county - and that money flows through the local economy.

Over the last 10 years, the wind industry has invested $143 billion in U.S. wind projects nationwide, but it's not stopping there. Navigant Consulting predicts the wind industry will drive $85 billion more in economic activity through 2020. 2016 alone invested $14 billion in the U.S. - more than the annual revenue of the National Football League. With 71 percent of wind farms in low-income counties, wind projects are delivering economic development straight to the communities that need it the most. Now that's an American success story!

COMMUNITY FUNDS

Wind energy funds communities

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The companies that own wind projects want to be good corporate citizens in the communities they work in. That's why many wind companies donate directly to local charities, youth clubs, restoration efforts, and projects that benefit the entire community.

For example, one Minnesota-based developer establishes a community fund for every wind farm that it builds. These are 501(c)(3) organizations that guarantee annual payments to the local community for a 20 year period. Local community members become the fund's board of directors and decide which local projects to invest in. Investments may include educational scholarships, grants for local businesses, or helping the local fire department purchase a new fire truck, to name a few.

Wisconsin looks extra spectacular from atop a wind turbine.

Odell Wind Farm Gives Back

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Here's how the Odell Wind Farm gives back to the four counties where it harvests the wind. The project, which was developed by Geronimo Energy and now owned by Algonquin Power & Utilities Corporation, provides a unique opportunity for area communities through the Odell Wind Farm Community Fund. This fund receives annual monetary contributions from the wind project for charitable community projects and opportunities. The Fund's board of directors recently awarded $39,000 for Chromebooks at schools and funding for a local library, fire departments, ambulance services, 4-H, FFA, robotics, and more.

For rural counties with an average population of 13,000 for each county, stories like this show the true benefits of wind!

ENVIRONMENTAL BENEFITS OF WIND POWER

Wind energy helps our environment

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One of the most well-known benefits of wind energy is that it is a clean source of electricity. Wind power is a clean fuel in our national energy mix that does not pollute our communities. That leads to better public health for our nation. Generating power from wind energy uses virtually no water and does not emit air pollutants like carbon dioxide, sulfur dioxide, nitrous oxides, and fine particulate matter. We all benefit from cleaner air, cleaner water and fewer greenhouse gas emissions - and renewable energy is delivering a cleaner future for everyone.

Wind energy reduces air pollution

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> *A neat fact: a typical wind project repays its carbon footprint in six months or less, and afterward, it provides decades of zero-emission energy.*

Clean energy like wind and solar is making a big difference in the air we breathe and our quality of life. A recent report from EMPG estimates that wind and solar have avoided 8,000 mortalities and saved $60.5 billion from avoided air pollution, as well as $31.5 billion in climate savings. In total, wind and solar have saved Americans about $92 billion in health and environmental costs over the past eight years. I think we can all breathe a (cleaner) sigh of relief that clean energy has led to steep cuts in harmful pollutants.

In 2017, the electricity generated from wind turbines avoided an estimated 189 million tons of carbon pollution -- about 40.3 million cars' worth! This reduction is equal to about 11% of 2017 power sector emissions.

Wind power saves water

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Nuclear, natural gas and coal plants all rely on using plenty of water to generate electricity. In fact, the power sector uses more water than any other sector in the U.S., including agriculture. Thermal generation plants withdraw water to circulate for cooling, and a fraction of it is consumed via evaporation or transpiration. In all, thermoelectric power plants consume up to 5.9 billion gallons of fresh water daily from rivers, lakes, streams and aquifers.

In contrast, wind energy uses virtually no water to generate electricity. In 2017, wind power saved roughly 95 billion gallons of water -- that's the equivalent of 290 gallons per person in the U.S. To put it in perspective, that's the equivalent of 144,000 Olympic-sized swimming pools.

In a time of more extreme natural disasters and weirder weather, wind energy is helping us to save our water for other uses. During California's 2014 drought, for example, wind energy saved 2.5 billion gallons of water that the state could use for other purposes.

WIND ENERGY IS GOOD FOR AMERICA

Wind supports American manufacturing jobs

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There are more than 8,000 components in one turbine. Fortunately, over 500 U.S. wind factories across 41 states are making some of these parts, which is helping lower the cost of wind energy. More than 25,000 U.S. workers have wind manufacturing jobs today -- and that could grow by 8,000 by 2022.

The Midwest in particular benefits from wind power's manufacturing needs: Ohio has the most in the nation with 60 wind manufacturing facilities, Illinois has 35, Wisconsin has 26, and Michigan is right behind with 25 factories. Over 88 percent of U.S. windpower components come from U.S. manufacturing facilities.

Open YouTube Video

As windpower grows, America's wind energy manufacturing sector will thrive and continue to provide well-paying careers for tens of thousands of U.S. workers and their families.

Creating a reliable, energy independent future

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One very important component that helps keep the U.S. economy humming is the availability of cheap, reliable electricity to power our lives. Investing in homegrown, low-cost wind energy provides a hedge against market fluctuations in the fossil fuel supply, and bolsters our energy independence by diversifying our energy mix. The U.S. will always have its wind resource -- and it's a free fuel on which to build our economy.

> *Wind is a critical part of our nation's all-of-the-above energy strategy. It creates thousands of jobs, generates billions of dollars across Iowa and the nation, it's safe for the environment and it helps ensure American energy independence, said Iowa Senator Chuck Grassley. Wind is an efficient, cost-effective energy alternative. I'm proud to support wind energy and I'll continue to do what I can in the Senate to help it grow and flourish.*

Just like a retirement planner will tell you to diversify your portfolio, the electricity grid becomes more reliable and flexible by having diverse sources of energy -- and the wind power boom plays a key part in our national energy mix. In fact, wind energy is uniquely poised to guarantee cheap power for decades. That's because wind doesn't have a fuel cost unlike other forms of electricity generation like natural gas and coal, whose prices fluctuate (and oftentimes can be quite volatile). Wind energy is already the least-cost form of new electricity in the Midwest, and its low price can be guaranteed for the next 25 years. Electric grid managers have effectively balanced more than 60 percent of their systems using wind power - and they say they can manage even more low-cost wind power. By investing in wind, we are giving

ourselves the freedom to choose cheap, clean energy instead of being held hostage by volatile fossil fuel markets.

The cost of wind energy

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Across the Midwest, wind energy has become the cheapest new source of electricity generation. Wind power's price has dropped 67 percent in 7 years thanks to siting and technology improvements and more domestic manufacturing. Many utilities have announced they are investing in wind power thanks to its low cost and great value for their commercial and residential customers. Wind power is uniquely able to offer fixed-priced contracts because renewable energy has no fuel cost -- and therefore no fuel risk. In fact, a recent report from the U.S. Department of Energy (DOE) found that long-term wind electricity prices available are coming in at about half the expected cost of just running a natural gas power plant. The best part is that these savings are passed on to ratepayers.

Rapid cost declines for wind power, even without subsidies, has made wind energy an American success story. In many parts of the U.S., building a new wind farm is cheaper than running an existing coal plant -- and nuclear and natural gas aren't far behind. Lazard's Levelized Cost of Energy accurately compares the unsubsidized economics of different generation technologies, which lets us compare energy sources in an apples-to-apples approach. Unsubsidized onshore wind is the cheapest form of electricity generation, period, weighing in at $30-60/MW/h. That means clean energy has become cheap energy -- and cheap energy is something that every American can agree on.

Want to share the good news about wind energy's low cost with your neighbors? Check out our Fact Sheet webpage, which includes fact sheets like "Wind is Cost Competitive" and "Wind Offers No Fuel Costs, Less Risk for Customers."

Wind has no fuel cost and is made right here in America - which helps to make it the cheapest source of electricity in the Midwest.

WHAT MIDWESTERNERS ARE SAYING ABOUT WIND POWER

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We've already discussed many of the benefits wind power brings to rural America: a new source of tax revenue for counties and townships, a new cash crop for farmers, new family-supporting careers, a boost to the local economy, donations to community funds, environmental benefits of cleaner air and water, new business for manufacturing facilities, increased energy independence for our nation, and a lower electric bill.

But don't just take it from us -- hear what Midwesterners are saying about wind energy below!

> "That's income they can count on, rain or shine."

That's Christina Dexter, with the South Dakota Farmers Union, talking about the millions of dollars in lease payments helping ranchers and farmers in her state who are hosting turbines on their land. In South Dakota, wind is currently providing about 30 percent of the state's electricity, and supports nearly 2,000 jobs.

> "Having windmills on your property might generate $30,000 a year, and that money goes directly back into the community. Whether it's in goods or services, to the auto dealership or upgrading your house, it's a huge financial benefit to the community."

That's John Hardman, a farmer in Gratiot County in central Michigan, where a wind project has helped make possible infrastructure upgrades like roads as well as better support for fire and rescue, road maintenance, and schools.

> "The wind farms, for our district, have been a wonderful contribution to the educational capabilities that we have here at Akron-Fairgrove."

That's Diane Foster, superintendent of the Akron-Fairgrove Public School District in Michigan's 'thumb' region. School upgrades made possible by revenues from wind farms have included the addition of a drama program and stage for school and community productions, a new technology program, a new community center at the high school, and upgrades to school entries, electrical, lighting, buses, lockers, windows, boilers, bleachers, and parking lots.

According to the American Wind Energy Association's analysis of Michigan Department of Treasury data for 2011-2015, countywide tax bases increased by 38 percent, 34 percent and 26 percent, respectively, in the three Michigan counties where wind development is most active (Gratiot, Huron and Tuscola counties). In addition to tax revenues from wind projects, there's also economic stimulus during the construction phase. The Gratiot County Wind project in Michigan generated more than $30 million in direct payments to Michigan construction contractors and material and equipment suppliers, according to DTE Energy, and about three quarters of a million dollars was spent with local suppliers for food, lodging and other expenses.

Midwesterners of all stripes are benefiting from wind power.

> "We have generations of farmers in our community. We all know the challenge of agriculture, considering weather, markets and production. For some farmers it's becoming a financial burden to bring children into the operation. Now wind energy is offering these families an additional way to help support future generations of farmers."

That's Dick Kirksey, a resident in Clay County, Iowa, who spoke along with other area residents at a local zoning commission meeting considering a new wind project expected to provide power for about 100,000 homes for 30 years, generate $40 million in landowner payments and 250 full-time jobs during construction.

The Republican governor of Iowa, Kim Reynolds, authored a column outlining why her state emphasizes wind and solar.

> "We've found that renewable energy distinguishes Iowa from other industrialized states competing for projects. That's why we don't just mention wind energy on recruitment trips - we lead with it,"Governor Reynolds wrote. "Last year, nearly 37 percent of Iowa's power came from wind. Wind energy brings 9,000 jobs and more than $13.5 billion in investments -- and we've done it all without sacrificing price or reliability. In fact, Iowa has the most reliable electric grid in the country."

> "You might recognize Republic, because it looks a lot like rural America. We have two mom and pop restaurants, a lumber yard and a hardware store, a local elevator that supports farmers and agriculture. There's no manufacturing, there's no retail outlet stores in Republic. The wind project is extremely important to our community. My friends and neighbors look forward to the opportunity to farm the wind as a resource and let that resource provide for their families."

That's Gary Baldosser - who farms corn, soybeans, wheat and cattle in the village of Republic in Seneca County, Ohio - telling state legislators why he wants to participate in a new wind project being proposed for his area. Baldosser, a fourth-generation farmer and 27-year volunteer firefighter, explained in his

testimony to state officials how important the diversification of income will be toward being able to give the next generation the opportunity to continue farming.

> "Wind has become very, very important to Mower County, its taxpayers and our environment."

That's Tim Gabrielson, Chairman of the Board of Commissioners for Mower County, Minnesota. Wind projects in Mower County have contributed $2.3 million in tax revenue, about $400,000 of which is going toward funding local road and bridge work, and the remainder toward tax relief for residents. Statewide, Minnesota has seen nearly $7 billion in investment from wind, and the state now ranks in the top 10 nationally for both wind installations and the total share of electrical generation being produced by wind turbines.

> "In Minnesota, wind-related jobs are found from corner to corner. The Port of Duluth expertly handles wind turbine component shipments, our railroads and specialized trucking companies transport parts across the nation. And, steel from our Iron Range is used to manufacture towers in Wisconsin."

That's Chris Thomas, who lives in Hadley/Lake Wilson in southwestern Minnesota and works for EDF Renewable Energy. Chris moved with his family to Minnesota about 10 years ago because of his experience in wind energy the potential in the state for his and his family's future. "My children attended school in Minnesota, and we bought and remodeled a home here. We are grateful for my job and opportunities and benefits that we have,"Chris wrote in a column in the Marshall Independent on Minnesota jobs and economic activity connected to the wind industry.

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