



Ohio HB 738 & 746
Proponent Testimony of Erin Bowser, EDP Renewables North America
Ohio House of Representatives Select Committee on Energy
Wednesday, September 30, 2020
1 p.m.

Good morning Chairman Hoops, Vice Chair Abrams, Ranking Member Leland, and members of the committee. I am Erin Bowser, the Director of Project Management for EDP Renewables North America. We are a proponent of House Bills 746 and 738 to repeal HB 6 because we think Ohio has an exciting opportunity to craft a more forward-looking energy policy that embraces a clean energy future while attracting billions of dollars of investment to the State.

EDP Renewables is the largest developer, owner and operator of wind farm assets in Ohio. We are the fourth largest owner/operator in the world and within the United States we own and operate 50 wind farms and 4 solar facilities. I was hired by EDP Renewables in 2008 just two months after the bipartisan passage of Senate Bill 221 and led the development teams for our successful Ohio projects. My job is to deliver late stage projects through development and construction in Ohio and across the region. I have lived in Ohio most of my adult life and am a constituent of Representative Romanchuk's.

In the wake of Ohio's adoption of an Alternative Energy Portfolio Standard in 2008, EDP Renewables and many of our competitors rushed to the state eager to invest hundreds of millions of dollars employing people, securing land leases, and performing due diligence studies for wind farm permitting. While the Renewable Portfolio Standard (RPS) component was relatively modest compared to some other states, we responded to this market signal and invested heavily in helping Ohio deploy renewables in a conservative and incremental fashion.

The RPS set a 12.5% clean energy target by 2025 and included a cost cap to protect ratepayers.¹ It also contained a 50% in-state requirement to bring investment within the state's borders. This approach established a relatively conservative path for Ohio to diversify its electricity supply through a market-based mechanism, touching off a fierce competition to provide utilities with least cost renewables. In the process, Ohio would attract billions of dollars of investment to the state's rural communities, bolster our manufacturing sector to feed the clean energy supply chain, and add jobs and tax revenue.

The policy worked. Since 2008, EDP Renewables has invested more than \$700 million in Ohio through the development, construction and operation of 4 wind farms in Paulding and Hardin counties. These projects have paid more than \$21 million to hundreds of private landowners and nearly \$9 million

¹ Incidentally, SB 221 also set up an "Advanced" tier of the Alternative Energy Portfolio Standard dedicated to nuclear energy and clean coal, though the legislature repealed that section several years ago.

in property tax revenue for schools and localities while providing clean energy to Ohio utilities and some of the state's most important employers.

Our competitors did likewise. The wind industry has now invested more than \$1.4 billion in Ohio in new steel in the ground that took thousands of Ohio men and women to build. We pay \$7 million in property tax revenue each year and \$6 million to private landowners in annual lease payments. And despite what has at times been a challenging policy environment, the industry has delivered. Since 2008, Ohio has never once fallen short of a renewable benchmark and never come close to hitting the statutory cost cap.

But we could be doing much more. Just as passage of the RPS was a market signal to attract our capital to Ohio, HB 6 sent an equally powerful but opposite message: Ohio is less concerned with new investment in new projects and instead prioritized propping up aging legacy plants. As such, our company has de-emphasized Ohio wind and is pursuing those projects in more promising markets.

As you review energy policy anew in the Ohio House, we would posit that HB 6 created a false dichotomy: that Ohio must sacrifice a clean energy future at the expense of its energy past. But rather than pit technologies against each other, we encourage the State to leverage the strengths of each and maximize the contributions that can come from various energy sectors. The wind industry stands ready and willing to work with you on a twenty-first century energy policy that delivers least cost renewables at scale. The RPS is a proven, efficient market-based mechanism to deliver that outcome and is trusted by the capital markets. We can provide feedback on how it might be adjusted to meet certain policy objectives. Similarly, if the legislature wishes to pursue a different construct to attract investment in renewables, we are happy to bring our experience to that discussion as well.

Last, as you consider an energy policy for Ohio, we welcome all of you to visit one of our operational Ohio projects and learn more about how wind energy is contributing to the energy landscape. Thank you and I am happy to answer questions.

Erin Bowser
Mansfield, OH

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Attachments

EDPR Ohio Fact Sheet
AWEA Ohio Fact Sheet
EDPR Ohio Testimonials



OHIO

EDP Renewables is a wind industry leader in Ohio. The company's footprint in the state includes the two phases of the Timber Road Wind Farm, Hog Creek Wind Project, and Amazon Wind Farm Ohio-Timber Road.



391.6 MW in Ohio



EDPR's Ohio wind farms produce enough electricity to power more than **137,000** Ohio homes.¹

Economic Benefits



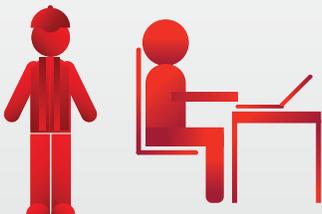
Our Ohio projects represent a capital investment of approximately **\$670 million**.²



Approximately **\$8.6 million** in cumulative payments to local governments through 2019.³



More than **\$21.5 million** paid to local landowners through 2019.



Supported **551** jobs during project construction and created **55** permanent jobs in Ohio.



\$113.5 million spent within the state of Ohio through 2019.⁴



Median annual salary for a wind technician is **\$54,370**.⁵

About Us

EDP Renewables North America LLC (EDPR NA) and its subsidiaries develop, construct, own, and operate wind farms and solar parks throughout North America. Headquartered in Houston, Texas, with 52 wind farms, eight solar parks, and seven regional offices across North America, EDPR NA has developed more than 7,300 megawatts (MW) and operates more than 7,000 MW of renewable energy projects. With more than 700 employees, EDPR NA's highly qualified team has a proven capacity to execute projects across the continent.

EDPR NA is owned by EDP Renováveis, S.A. (EDP Renewables or EDPR), a global leader in the renewable energy sector and the world's fourth-largest wind energy producer. With a sound development pipeline, first-class assets, and market-leading operating capacity, EDPR has undergone exceptional development in recent years and is currently present in 14 markets (Belgium, Brazil, Canada, Colombia, France, Greece, Italy, Mexico, Poland, Portugal, Romania, Spain, the United Kingdom, and the United States). Energias de Portugal, S.A. ("EDP"), the principal shareholder of EDPR, is a global energy company and a leader in value creation, innovation, and sustainability. EDP has been included in the Dow Jones Sustainability Index for 13 consecutive years.

For more information, visit
www.edpr.com or www.edprnorthamerica.com

Wind Power In Ohio⁷

Total Installed Wind Capacity: **738 MW**
State Ranking for Installed Capacity: **25th**
Wind Projects Online: **39**
Number of Wind Turbines: **388**
Percentage of In-State Energy Production: **1.7%**
Equivalent U.S. Homes Powered: **186,100**
Wind Industry Employment: **1,001 to 2,000**
Wind Manufacturing Facilities: **61**
Total Project Investment: **\$1.4 Billion**
Annual Land Lease Payments: **\$6.2 Million**

⁷Power generation calculated using a 35% capacity factor for wind. Household consumption based on the [2018 EIA Household Data monthly average consumption by state](#).

⁸Assumes the average cost of an installed wind farm is \$14 million/MW for projects built after 2018, \$17 million/MW for projects built between 2012 and 2016, and \$22 million/MW for projects built before 2012. Based on [U.S. DOE 2018 Wind Technologies Market Report](#) and [U.S. DOE 2015 Wind Technologies Market Report](#).

⁹Cumulative local government payments from 2010 through 2019.

¹⁰Includes vendor spending, property taxes, landowner payments, and wages from site jobs. These numbers are presented for example purposes only, and actual payments may vary.

¹¹Based on 2018 average wages from [Bureau of Labor Statistics for wind technicians](#).

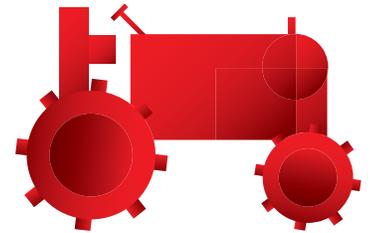
¹²Assumes 0.58 gallons of water consumed per kWh of conventional electricity from [Lee, Han & Elknowainy, 2016](#).

¹³Statistics provided by [AWEA State Wind Energy Fact Sheets](#).

¹⁴Based on [2019 AWEA Wind Powers America Annual Report](#).



EDPR's Ohio projects save more than **695 million** gallons of water each year.⁶



EDPR's projects are compatible with other land uses.



POWERING THE USA
Wind is the top renewable energy source in the U.S., supplying 7 percent of all electricity.⁸



EDPR's clean energy projects provide energy security and help diversify supply.



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EDP Renewables

Timber Road Wind Farm O&M Office
9630 State Road 49 • Payne, OH 45880
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WIND ENERGY IN OHIO



Ohio is a national leader in wind-related manufacturing.

Ohio has more wind-related manufacturing facilities than any other state in the nation, with 61 manufacturing facilities producing components for the wind industry and providing high-quality jobs. Ohio also has 864 MW of operating wind capacity, representing \$1.4 billion in capital investment. In 2019, the wind industry supported over 1,000 direct jobs in the state. Ohio has significant wind resource potential, both on- and offshore. By developing more of these resources, the state can create new economic development and allow the manufacturing sector to attract larger investments.

BENEFITS Jobs & Economic Benefits

The U.S. wind industry is a major economic development driver. In addition to job creation and billions of dollars in project investment, the wind industry invests heavily in local communities, providing significant revenue in the form of property, state, and local taxes.

- Direct wind industry jobs in 2019: **1,001 to 2,000**
- Capital investment in wind projects through 2019*: **\$1.4 billion**
- Annual state and local tax payments by wind projects**: **\$7 million**
- Annual land lease payments: **\$6.2 million**

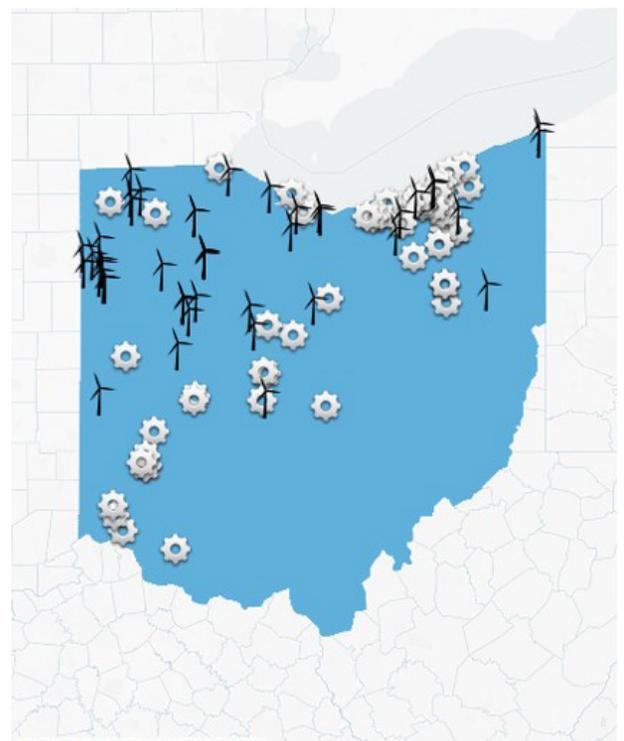
*Based on state and national averages from LBNL, NREL.

**Based on member data. Includes PILOT payments.

Wind-Related Manufacturing

Over 500 manufacturing facilities in the U.S. make products for the wind industry, from blades, towers, and turbine nacelles to raw components such as fiberglass and steel.

- Number of active manufacturing facilities in the state: **61**



 Online Wind Project

 Wind-related Manufacturing Facility

Wind Projects as of Q2 2020

- Installed wind capacity: **864 MW**
 - » State rank for installed wind capacity: **24th**
- Number of wind turbines: **419**
 - » State rank for number of wind turbines: **24th**
- Wind projects online: **39** (Projects larger than 10 MW: 4)
- Wind capacity under construction: **250 MW**
- Wind capacity in advanced development: **261 MW**

Wind Generation

In 2019, wind energy provided **1.70%** of all in-state electricity production.

- State rank for share of electricity: **31st**
- Equivalent number of homes powered by wind in 2019: **186,100**

Wind Energy Potential

- Land-based technical wind potential at 80 m hub height: **119,128 MW**
(Source: AWS Truepower, NREL)
- Offshore net technical wind potential at 100 m hub height: **17,990 MW** (Source: NREL)

Environmental Benefits

Wind energy reduces emissions and water consumption by avoiding generation from fossil-fuel power plants.

- In-state carbon dioxide emissions avoided in 2019*: **3.4 million metric tons**
 - » Equivalent cars' worth of emissions avoided: **710,000**
- In-state water consumption savings in 2019**: **1.9 billion gallons**

*Estimated using Aurora power sector model.

**Based on national average water consumption factors for coal and gas plants.

Renewable Portfolio Standard

Ohio first passed an Alternative Energy Portfolio Standard (AEPS) in 2008, requiring utilities to provide 12.5% of their electricity sales from renewable resources by 2025. In 2019, with the passage of HB 6, Ohio became the only state to subsequently reduce the RPS goal to 8.5% and end the RPS altogether after 2026.





Landowner Mike Brady

Payne, Ohio

I've been in the area all my life—since 1954. Our family owns farmland. We have a total of 11 turbines and we're hoping to get a couple more in the future. It's been great for our family and they've been great for the community.

The township has benefitted from the extra tax revenue. And the county. Everybody. When I was on the local school board we had enough to just do the basics. Now we can offer the people something more than just the basics. Our children will benefit from it in the long run. In the county they are able to operate the courthouse five days a week instead of four. The county put in a new jail and didn't have the money to fund it—now they have the money to fund it.

EDP Renewables was very transparent during the construction. We knew what was going to happen, where it was going to happen, when they were going to be on your land. If conditions were such that they were going to make a horrible mess, they wouldn't do it. They would wait. I think a lot of the landowners appreciated that—I know I did. It's probably one of the big concerns I had: how bad are they going to destroy the land? And they didn't.

**EDP Renewables
will work with the
farmer and say
'now what works
best for you?'**

**They want to know
so they can make it
as easy as possible
for the farmer.**

These quotes are from an interview with Mike Brady on May 31, 2018. They have been edited for clarity.

"You know, really and truly I don't hear anybody complain now. I mean, the wind turbines have been here 10 years. They're part of the community. They're part of the landscape."





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WIND TURBINE TRAINING SYSTEM

Lab-Volt®

NACELLE

Lab-Volt®

Vantage Career Center Adult Education Director Pete Prichard

I believe **wind jobs** are having a **positive impact** on the local economy.

When jobs are brought to our area, they have an **immediate impact** on commerce.

I am the Ohio Technical Center Director at Vantage, and my job is to oversee the postsecondary operations. Vantage has been in operation for 42 years, and we have thousands of high school and adult students who are very successful in our communities.

The immediate impact wind farms have on our community is bringing additional economic opportunities such jobs, support for businesses, and innovation. For Vantage, it also brings partnering, programming, and training opportunities for a more diversified workforce.

Working with EDP Renewables has been wonderful. As the demand for wind turbine technicians increases, their participation has given us the tools to meet that anticipated demand. EDP Renewables provided us with scholarships for students as well as funding to purchase a Wind Turbine Nacelle Trainer. With this Trainer, we can provide simulations preparing students for real life events.

These quotes are from an interview with Pete Prichard conducted on October 27, 2017. They have been edited for clarity.



"We are looking forward to continuing to work with EDP Renewables to meet the industry's workforce needs."

Landowner Karl Mielke

Farmer
Antwerp, Ohio

We raise beans.
We raise corn.
We raise oats as a
cover crop to keep
the dirt blowing from
west to east.

**And now, we raise
wind turbines.**

These quotes are from an interview with Karl Mielke conducted on October 24, 2017. They have been edited for clarity.

I was born and raised here in Antwerp, Ohio. My mom and dad lived in this house before my wife and I moved in about 10 years ago. Our farm is cash rented. The renters have been thrilled with the turbine layout and the kind of repair work that's been done after construction. EDPR talked to them about locations and all of the access roads were laid out to do minimal amount of interference.

EDP Renewables' employees were good people to work with. They speak clearly and if you ask questions, they make sure you get answers.

If someone was thinking about leasing their land for a wind farm, they should look at the benefits that you offer the community. That money comes back to school districts, trustees, road improvements, and government agencies. Getting this wind energy money into their treasuries helps them function in a better way to serve the community.

"As I look out back and see the turbines,
I know our community is benefiting."



County Sheriff Keith Everhart

Ada, Ohio

I am the Hardin County Sheriff and have been with the Sheriff's Office for 25 years. We have the Hog Creek Wind Project up in the northern part of the county. If you sit on my parents' porch you can actually see it.

My deputies have made a lot of decent money working extra detail with the wind farm and EDPR has been good to work with. Any time my staff gets an opportunity to make extra money, it's just better for them and their families. And it's better for the economy of Hardin County, because then they're going out and taking the wife out to supper more, and buying the kids maybe a few more toys. It's a win-win for everyone.

I know that the schools, the townships, and the county all benefit from the tax revenue. My guess is there were not any vacancies in any of the local hotels or campgrounds for months during construction. The restaurants always had the wind farm trucks there, the grocery stores, you name it—they were there.

I personally think it's been a very good thing for Hardin County and I'm looking forward to the next one being built, because that's more revenue for a lot of people.

When you have local businesses being successful because of these wind farm projects,

I don't see a downside.

These quotes are from an interview with Keith Everhart on May 31, 2018. They have been edited for clarity.

"EDP Renewables has been phenomenal to deal with. And from a financial standpoint, **the wind farm is benefitting a lot of people.**"



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Landowner Earl Huebner



Farmer
Antwerp, Ohio

The wind farm
helps the
schools a lot.

Kids will
get a better
education.

I'm from Antwerp, Ohio. I grew up in Payne and was on a farm all my life. I farm corn, beans, and wheat. I'm also a wind farmer. I have one turbine on my property.

I chose to put a wind turbine on my property because I thought it would help out the county, the schools, and a lot of different things. The schools have a little more money to work with now. I think it will help the schools grow more. The wind farm helps me out, too. The crops are down right now and the lease payments do help. They'll help me retire sooner.

The wind farm did pretty well taking care of the land during construction. The construction was done in an orderly manner and the people are still here. EDP Renewables is taking care of the turbines very well. They're repairing different roads and made some of them a lot better than what they were to start with. I use the wind farm road as an access road.

I had no problem really. If I was a farmer considering wind turbines, I would say go ahead and do it. It would be to their advantage.

These quotes are from an interview with Earl Huebner conducted on May 31, 2018. They have been edited for clarity.

"I think the wind turbines are great.
It was fun watching the turbines go up and
taking the grandkids down to watch them."



Jay and Jason Dangler Dangler Excavating

Business Owners
Paulding, Ohio

Our guys really look forward to the wages from a project like this, and it's beneficial to us as a company.

We were able to buy new equipment, new service trucks.

These quotes are from an interview with Jay and Jason Dangler conducted on October 24, 2017. They have been edited for clarity.

We turned in a bid to White Construction to do all the tile repair for the project. I went out and they interviewed me, I interviewed them. One of my big pushes was for us to have the project was that we knew 90 percent of the landowners. Know the landowners, know the farmers, know how things are tiled around here, know the system.

At the beginning, we did the septic system at the new office facility, and then on the Timber Road Wind Farm III project we'd done all the tile repair. The project probably had four guys busy for... How long? A year. Four guys full-time for eight months. And good wages for the guys. All the guys out there were making what we call "prevailing wage."

There's always more work down the road. There's more work, more stone hauling, more everything, and not just for us either. Look at what it brings to our community. Up foremost is tax dollars but also the money that it brings to the local businesses as it's being built. As far as more benefit to the county, more turbines, by all means.





Landowner Dave Greulach

Farmer
Paulding, Ohio

I'm from about 20 miles south of Convoy, Ohio. I'm 76 years old, and I help my son farm. I've been farming probably 25 years. We farm roughly 450 acres.

Paulding County was the first to start renewable energy in Ohio. When the opportunity came to get into the business, we had to make a decision we were going to go with. We went with EDP Renewables, and they were very wonderful to work with. If we had a problem, we'd give them a call and they would be there about as quick as they could get there.

You hear people say, "I've read articles that claim, 'You get nosebleeds and all this and that.'" There's none of that. You got to be pretty close to hear the noise. And we farm right under them, go right under them and so forth. It doesn't bother us any.

They're hoping to put up another wind farm pretty close to where I live. We own some ground a little ways down the road here. I hope they can put a turbine there. I hope I get another one.

“The **best thing** about having a wind turbine, when you think about it? Well, it's a start of a **new phase of energy.**”

That's the future.
You're part of history starting.”

These quotes are from an interview with Dave Gruelach conducted on October 25, 2017. They have been edited for clarity.

“Over a period of time, it's like anything else. **Once you see 'em, and the longer they're there, it's just a part of the landscape.**”





Landowner Nedra Mielke

Farmer
Antwerp, Ohio

I think they're beautiful. I think they're like big, moving sculptures—gentle giants.

We even named our wind turbine Synchronicity.

I'm Nedra Mielke and I'm 71. I am an educator and have spent 35 plus years in a classroom. I was born in Southern Ohio, south of Greenville, and grew up in a little town called Eaton. I've always been a farm kid. We're just ordinary people. We love the country, we love working with people.

The turbines are certainly just as aesthetically prominent and good as electric poles. Our wind turbine is located right behind our house and it's rare that we even hear it at all. The sound isn't nearly as bad as our road traffic from Highway 24, a mile down the road.

We view the wind farm as a win-win for everybody involved. It's how we have approached it from the start. I think the economic development director is thrilled to have the wind farm here because it's provided something that was lacking.

These quotes are from an interview with Nedra Mielke conducted on October 24, 2017. They have been edited for clarity.



"The most beneficial thing a community can do is provide green energy."