

Before the Senate Energy and Public Utilities Committee

June 5, 2019

Prepared Statement of Sam Randazzo

Good afternoon Chair Wilson, Vice Chair McColley, Ranking Member Williams and Members of the Committee. My name is Sam Randazzo. On April 11, 2019 I began serving a five year term as a Public Utilities Commission of Ohio (PUCO) commissioner. Governor DeWine also appointed me to serve as the chair of the PUCO and my chair status at the PUCO also makes me chair of the Ohio Power Siting Board (OPSB), an agency that resides within the PUCO. Prior to my current positions and over a period spanning five decades, I worked on issues affecting the wholesale and retail price and availability of energy, communications and other services.

Through my appearance today, I hope to provide information that may be useful to you as you begin your review and consideration of Substitute House Bill 6 (HB 6).

Simplified History of Ohio's Portfolio Mandates/Standards

As you may know, Ohio substantially altered the legal framework within which the bulk of the intrastate and retail electric sector resides. Some people prefer to call this legislative change "deregulation". I believe that it is more accurate to describe the legislation as "restructuring" legislation. In any event, most of Ohio's legal framework changes for the electric sectors were designed to fit with changes at the federal level. And as in the case of the communications and natural gas sectors, the federal level electric sector changes were focused on remedying an anti-competitive industry structure. Most of the Ohio electric legal framework changes went into effect on January 1, 2001.

Among other things, Ohio's "deregulation" or "restructuring" legislation assumed that the wholesale electric market (which is exclusively regulated at the federal level) would develop and mature at a much faster pace than actually occurred. Because of this mismatch between expectations and actual conditions, the General Assembly enacted

course-correction legislation in 2008 [Amended Substitute Senate Bill 221 (SB 221)]. SB 221 went into effect in July, 2008.

The main focus of and motivation for SB 221 had to do with the statutory process by which the PUCO authorizes pricing for generation supply for customers that are not served by a competitive retail electric services (CRES) supplier. This supply is sometimes referred to as “default supply” or the standard service offer (SSO). But SB 221 also included supply-side and demand-side compliance requirements that were either imposed, at customers’ expense, on electric distribution utilities (EDUs) and CRES suppliers (supply-side) or on EDUs (demand-side).

The SB 221 supply-side compliance requirements originally called for a specified percentage of the kilowatt hours supplied to a customer by an EDU or CRES to come from “alternative energy resources”; this compliance obligation was subsequently modified to confine the entire compliance obligation to supply from “renewable energy resources” (a defined term).

The SB 221 demand-side compliance obligations involved two categories of compliance; an “energy efficiency” (EE) category and a “peak demand reduction” (“PDR”) category. As with the supply-side compliance structure, compliance with the EE requirement was tied to specified and escalating reductions in the annual quantity of kilowatt hours distributed by an EDU to its Ohio retail customers. And, similarly, compliance with the PDR requirement was tied to specified and escalating reductions in the annual quantity of the kilowatt demand of retail customers served by Ohio EDUs.

The escalating annual supply-side and demand-side compliance requirements were not based on any studies or analysis. They were and are arbitrary. But more importantly, the compliance obligations were proposed and considered based on some assumptions about the future; assumptions that sharply conflict with our current reality.

For example, at the time the General Assembly was considering SB 221’s provisions, conventional wisdom held that: the nation was running out of natural gas; the available natural gas supply would increasingly be supplied from foreign nations; an “overheated” economy would continue without interruption by such things as the Great Recession;

relatively high growth rates in the demand for electricity would continue without regard to such things as the Great Recession; and, the cost of electricity produced by conventional technologies would sharply increase thereby producing “rate shock” for customers. Based on these scarcity-oriented assumptions, one might see some wisdom in the General Assembly’s adoption of the supply-side and demand-side requirements that found their way into SB 221. But these assumptions failed to materialize after SB 221 went into effect.

For example, our current reality includes an abundant domestic supply of relatively low-priced natural gas; Ohio’s plentiful natural gas is being produced at prices that are among the lowest in the world. Our current reality includes an abundant supply of electricity at relatively low prices. Our current reality includes a significantly expanded electric grid that has increased import and export capabilities within and between regions and the opportunity for more electric generators to compete with each other for market share. There is currently a long line of new electric generating projects seeking an opportunity to enter the market (a line the length of which is also influenced by the preferences extended to some technologies and denied to others). The growth rate in the demand for electricity is relatively flat and has been negative in some cases. Wholesale electric prices did not rise to rate shock levels; instead they dropped and have been relatively stable.

In summary, the energy scarcity and rate shock forecasts that were behind the supply-side and demand-side portfolio requirements embedded in SB 221 are at odds with our current reality as well as present-day forecasts of energy supply and pricing.

In any event, the combination of these supply-side and demand-side compliance obligations works to incent entry by generating technologies preferred by the compliance requirements while the demand-side requirements work to reduce the size of the overall electricity market. In so doing, it is reasonable to expect that the potential market share available to non-preferred technologies (supply and demand-side) will be reduced. And the force of this squeeze is not confined to the Ohio compliance requirements. Indeed, similar requirements have been established by other states and regional transmission organizations. And of course, when you add things like the fundamental force of a plentiful supply of relatively cheap natural gas to this picture and the increased import and

export capability of the transmission grid, it is reasonable to expect that the financial stress on legacy and non-preferred technologies will grow. So, from these government-imposed and fundamental forces and regardless of what may be “right” or “wrong”, it is not surprising to see state and federal proposals to grant non-preferred technologies financial assistance so that they can “stay in the game”.

The Out-of-Pocket Compliance Costs of Ohio Retail Electric Customers

The cost of complying with the supply-side and demand-side requirements fell and still falls on Ohio’s retail electric customers served by EDUs and CRES providers (municipal and cooperative customers do not help pay for the compliance programs although their electric suppliers do obtain benefits from the portfolio requirements). This cost began to hit electric bills as Ohio citizens were dealing with the financial stress which started with the collapse of the housing market and continued through the Great Recession.

I asked the PUCO’s dedicated technical staff to assemble some information to show how these compliance requirements are affecting retail electric bills in Ohio. I will share that information now.

Based on the PUCO’s staff’s review, the estimated out of pocket customers’ cost for the supply-side compliance requirements for the years 2014, 2015, 2016 and 2017 was \$205,361,838, an average of about \$51 million per year. The build up of this amount is shown in Schedule 1 which is attached to my prepared statement. But for some post-SB 221 changes the General Assembly made to the measurement of the supply-side compliance obligation, this out of pocket cost would have likely been higher. I believe that it is also clear that but for the competitive pressure supplied by the CRES providers’ compliance strategies, the total cost of compliance would have been much greater.

The estimated customers’ out of pocket cost for the demand-side compliance requirements for the years 2014, 2015, 2016 and 2017 was \$1,157,959,550 or an annual average of about \$289 million. The build up of this amount is shown in Schedule 2 which is attached to my prepared statement. Again, but for some post-SB 221 changes the General Assembly made to the measurement of the demand-side compliance obligation, this out of pocket cost would have been higher. Going forward, it is important to note that

the current EE annual compliance obligation of 1% of the baseline quantity jumps to 2% starting in 2021 (see Schedule 3 attached to my prepared statement).

Combining the total out of pocket cost of the supply-side and demand-side requirements, produces a four-year total of \$1,363,321,338 or an annual average of \$340,830,347.

For reasons I will not go into here, the EDUs have been over-complying with the statutory demand-side compliance requirements. This over-compliance is reflected in the EE “compliance banks” that have been accumulated by each EDU. Schedule 4, which includes 2018 compliance information, shows the current status of each EDU’s compliance bank. Based on past experience and the incentives that each EDU presently is receiving, it is reasonable to expect that this over-compliance trend will continue into the future. Nonetheless, if we assume that future compliance occurs at the current statutory levels, the current compliance banks are sufficient to hit the statutory compliance quantities prior to 2027 when the annual escalation in the compliance requirement ends (stays at 22.2%). For example, it appears that Duke Energy Ohio’s compliance bank may be sufficient to allow it to discontinue incremental compliance in 2020 and still meet the 22.2% compliance requirement in 2027. And based on the compliance through 2018, every electric distribution utility will hit the 22.2% compliance target in 2024 or before even if you assume that there is no overcompliance in 2019 and beyond. Of course, continuing the demand side compliance requirements would also continue to impose compliance costs on customers.

Illustrations

Before I attempt to respond to any questions you might have, I would like to direct your attention to some illustrations that I have also attached to my testimony.

Schedule 5 illustrates the locations of various types of renewable energy resources that have been certified by the PUCO. This certification authorizes these resources to obtain renewable energy certificates or RECs that can be sold and are available to satisfy the supply-side compliance requirements. For what it may be worth, HB 6 does not interfere with the opportunity for existing or new renewable energy resources to obtain RECs. It

may change the business case based motivation for seeking certification from the PUCO so as to receive RECs.

Schedule 6 provides a more quantitative look at the renewable resources that have already been certified by the PUCO. Schedule 6 also identifies the electricity production technologies that Ohio law prefers through inclusion within the “renewable” definition.

Schedule 7 A graphically illustrates the location of solar electric generation projects that have been either approved by the OPSB or are currently pending at the OPSB. It also provides the information on the size of each project (stated in megawatts). Schedule 7 B identifies the OPSB case number, approved date or filing date, county and size (stated in megawatts) of each project. As you may know, the OPSB has jurisdiction over solar electric generation projects that are 50 megawatts or larger. HB 6 provides an opportunity for solar electric projects certified by the OPSB prior to June 1, 2019 to obtain \$9.00 per megawatt hour. The solar electric generating projects that obtained a certificate from the OPSB prior to June 1, 2019 have a combined nameplate rating of about 1,020 megawatts.

Schedule 8 A graphically illustrates the location of wind-powered electric generation projects that have been either approved by the OPSB or are currently pending at the OPSB. It also provides information on the size of each project (stated in megawatts). Schedule 8 B identifies the OPSB case number, approved date or filing date, county and size (stated in number of turbines and megawatts) of each project. This schedule does not include the “behind the meter” wind-powered generation facilities that have been installed or proposed to the extent these projects are less than 5 megawatts.

Schedule 9 A illustrates the location of natural gas fired electric generation projects that have been either approved by the OPSB since 2010¹ or are currently pending at the OPSB. It also provides information on the size of each project (stated in megawatts). Schedule 9 B identifies the OPSB case number, approved date or filing date, county and size (stated in megawatts) of each project.

¹ Schedule 8 A does not show the natural gas fired electric generating stations that were constructed in Ohio between 1999 and 2010.

Before construction can commence on projects that are subject to the OPSB's jurisdiction, the OPSB must issue a certificate in accordance with the requirements in Section 4906.10 of the Revised Code. Certificate applications filed at the OPSB do not necessarily mean that the projects will be built. The same is true for projects that have received certificates from the OPSB.

Electric generation projects that are not subject to the OPSB's jurisdiction and certification are subject to local land use regulation and control. The OPSB's current jurisdiction over wind-powered electric generation projects reaches much smaller projects (5 megawatts and above) than is the case with any other generating technology (50 megawatts and above). HB 6 seeks to raise the OPSB's wind-powered electric generation jurisdiction to 20 megawatts and above while providing an opportunity for local control following the OPSB's issuance of a certificate for a wind-powered electric generation project located in an unincorporated area of a township.

Closing

I hope the information I have provided in my prepared statement is useful.

From this point forward, I will do my best to respond to your questions.

Total Annual RPS Compliance Costs

	EDU Totals	CRES Totals	Grand Totals
2014	\$42,304,039	\$30,361,710	\$72,665,749
2015	\$22,923,130	\$24,201,631	\$47,124,761
2016	\$21,352,174	\$23,559,274	\$44,911,448
2017	\$20,922,432	\$19,737,448	\$40,659,880
	\$107,501,775	\$97,860,063	\$205,361,838

Actual Program Costs and Shared Savings
All EDU Total for 2014 - 2017

Program Costs	\$	670,198,213
Shared Savings		233,717,878
ELR Program Discounts		123,308,420
Capital Costs		207,950
IRP-D Credit		19,337,934
Market Offset		(59,348,057)
Total	\$	<u>1,157,959,550</u>

Statutory Compliance Escalation		
Year	Annual Reduction	Cumulative Reduction
2009	0.3%	0.3%
2010	0.5%	0.8%
2011	0.7%	1.5%
2012	0.8%	2.3%
2013	0.9%	3.2%
2014	1.0%	4.2%
2015	0.0%	4.2%
2016	0.0%	4.2%
2017	1.0%	5.2%
2018	1.0%	6.2%
2019	1.0%	7.2%
2020	1.0%	8.2%
2021	2.0%	10.2%
2022	2.0%	12.2%
2023	2.0%	14.2%
2024	2.0%	16.2%
2025	2.0%	18.2%
2026	2.0%	20.2%
2027	2.0%	22.2%

Annual EE Compliance Data (through 2018)

	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>
First Energy											
Benchmark	473,203	455,757	455,757	455,757	911,514	911,514	911,514	911,514	911,514	911,514	911,514
Achievement	697,217	903,000	455,757	455,757	911,514	911,514	911,514	793,629	-	-	-
Bank	2,405,184	2,852,427	2,852,427	2,852,427	2,852,427	2,852,427	2,852,427	2,734,542	1,823,028	911,514	0
2017 Baseline	47,320,328										
AEP Ohio											
Benchmark	385,295	377,466	377,466	377,466	754,932	754,932	754,932	754,932	754,932	754,932	754,932
Achievement	533,440	537,100	377,466	377,466	754,932	754,932	754,932	639,192	-	-	-
Bank	2,220,902	2,380,536	2,380,536	2,380,536	2,380,536	2,380,536	2,380,536	2,264,796	1,509,864	754,932	0
2017 Baseline	38,529,489										
Duke											
Benchmark	197,555	197,554	197,554	197,554	395,108	395,108	395,108	395,108	395,108	395,108	395,108
Achievement	440,760	606,640	197,554	160,622	-	-	-	-	-	-	-
Bank	2,393,602	2,802,688	2,802,688	2,765,756	2,370,648	1,975,540	1,580,432	1,185,324	790,216	395,108	0
2017 Baseline	19,755,498										
DP&L											
Benchmark	126,587	127,408	127,408	127,408	254,816	254,816	254,816	254,816	254,816	254,816	254,816
Achievement	200,759	206,784	127,408	127,408	254,816	254,816	18,780	-	-	-	-
Bank	1,175,924	1,255,300	1,255,300	1,255,300	1,255,300	1,255,300	1,019,264	764,448	509,632	254,816	0
2017 Baseline	12,658,728										

Annual benchmarks calculated from 2017 baselines, which excluded opt-out customers

2018 data as reported in each EDU compliance filing.

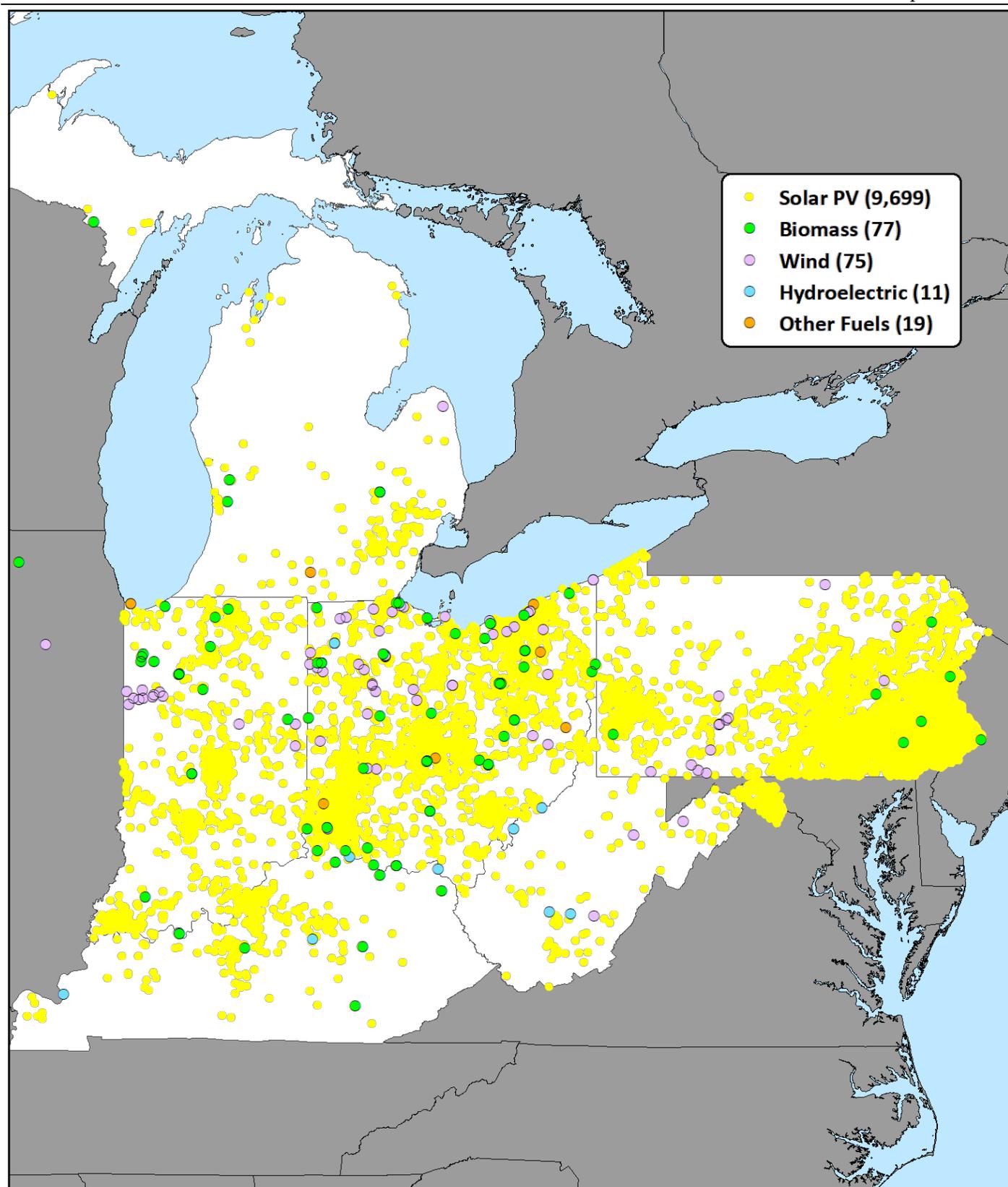
* Assumes EDUs will achieve the mandated requirement until bank will satisfy remaining cumulative mandates

* Assumes zero mandate in 2015/2016 per SB 310

* All reported in MWH

All Certified Renewable Energy Facilities - Map

As of April 30, 2019



"Other fuels" includes abandoned coal mine methane, fuel cell, heat, solid waste, compressed natural gas, and waste energy recovery.

Source: PUCO Rencert Database

Certified Renewable Energy Facility Summary

As of April 30, 2019

These facilities represent the compliance supply pool for the renewable portfolio standard (RPS).

Certification in Ohio does not guarantee that the facility's renewable energy credits (RECs) or solar RECs (S-RECs) will go toward compliance with the Ohio RPS.

Renewable Generation Type	CERTIFIED			CAPACITY (megawatts)		
	Total Count	Ohio	Outside Ohio	Capacity	Ohio	Outside Ohio
<i>Biomass/Biogas</i>						
Landfill Gas	46	14	32	416.5	130.8	267.9
Biomass - Co-fired*	10	8	2	-	-	-
Anaerobic Digestion	9	5	4	10.5	5.3	5.2
Food Processing	5	5	-	2.6	2.6	-
Other	4	4	-	3.5	3.5	-
Wastewater Treatment	2	2	-	2.0	2.0	-
Paper Manufacturing	1	-	1	31.0	-	31.0
<i>Biomass/Biogas Total</i>	77	38	39	466.1	144.2	321.9
<i>Non-Biomass/Biogas</i>						
Solar Photovoltaic	9,669	2,673	7,026	628.0	209.3	418.7
Wind	75	44	31	4,327.4	653.8	3,673.6
Hydroelectric	11	3	8	514.8	76.2	438.7
Heat	8	8	-	6.0	6.0	-
Waste Energy Recovery	4	2	2	164.0	54.4	109.6
Solid Waste	3	2	1	97.8	42.8	55.0
Coal Mine Methane	2	2	-	50.0	50.0	-
Compressed Natural Gas	1	1	-	1.0	1.0	-
Fuel Cell	1	1	-	1.0	1.0	-
Not Entered	1	1	-	2.3	2.3	-
<i>Non-Biomass/Biogas Total</i>	9,805	2,737	7,068	5,792.2	1,096.8	4,695.5
Grand Total	9,882	2,775	7,107	6,258.3	1,241.0	5,017.3

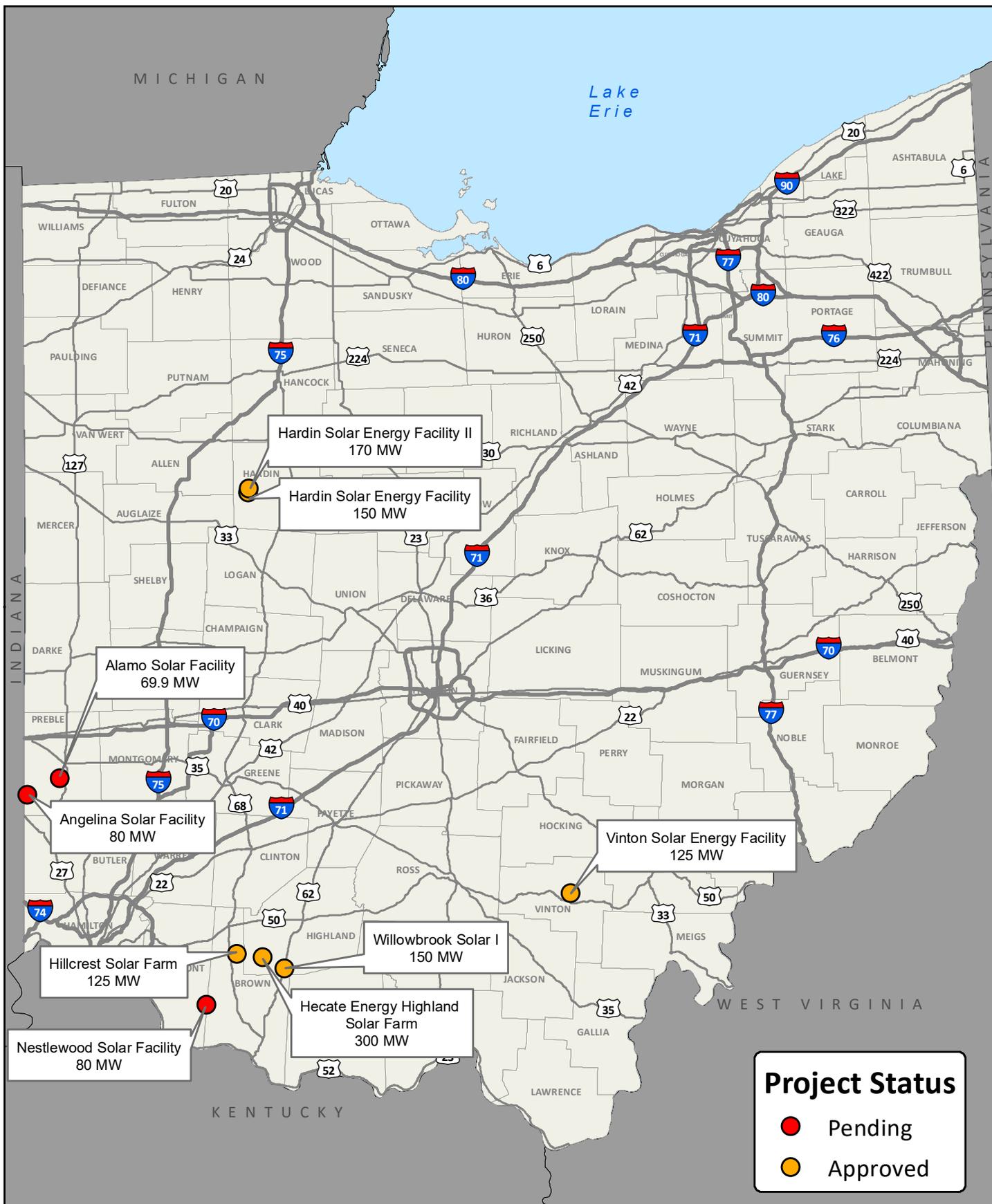
*Co-fired means simultaneously using multiple fuels in the generation of electricity. For co-fired facilities, the proportion of energy input comprised of a renewable energy resource shall dictate the proportion of electricity output from the facility that can be considered a renewable energy resource. Co-fired renewable sources include woody biomass, biodiesel and switch grass.

Source: PUCO Rencert Database



Power Siting Solar Case Status

As of 5/17/2019

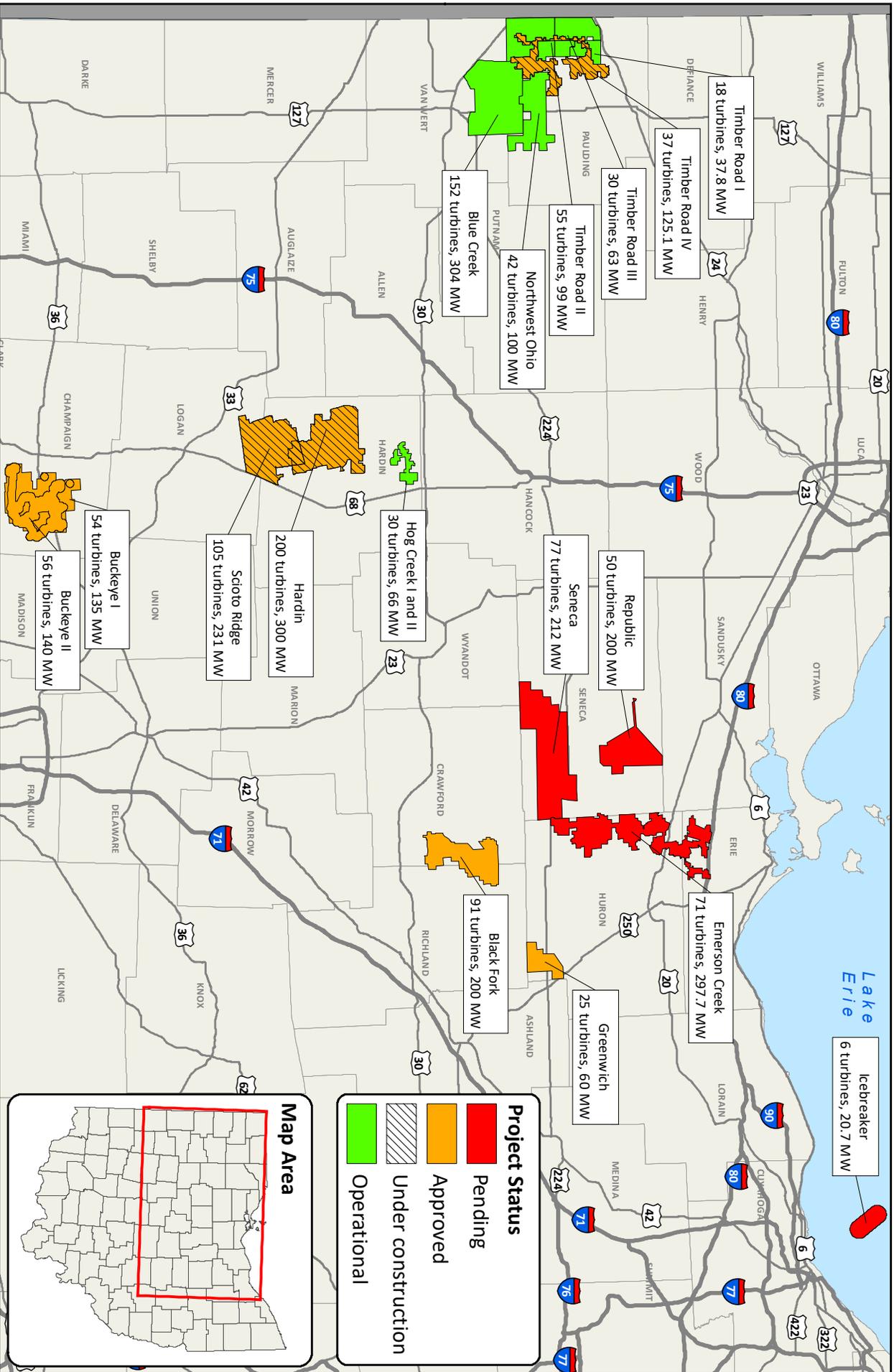


Notes: Project locations are provided by applicants. Case and construction status is determined by the case filings. The nameplate capacity shown is the maximum capacity that could be built based on the number of approved photovoltaic panels and the highest nameplate capacity of the approved panel models. Map produced on 5/17/2019.

Operational Solar Facilities		Potential Solar Facilities (Approved and Pending)			
Operational Megawatts (MW):		NA	Potential Solar Facilities (Approved and Pending) Potential Megawatts (MW): 1,324.9		
Approved Solar Facilities (50 MW or greater)					
Case Number	Related Cases	Project Name	Approval Date	County	MW
17-0773-EL-BGN	NA	Hardin ¹	2/15/18	Hardin	150
17-0774-EL-BGN	NA	Vinton	9/20/18	Vinton	125
17-1152-EL-BGN		Hillcrest	2/15/18	Brown	200
	18-1267-EL-BGA		2/21/19		
18-1024-EL-BGN	NA	Willowbrook I	9/17/18	Brown, Highland	150
18-1334-EL-BGN	NA	Hecate Energy Highland	5/16/19	Highland	300
18-1360-EL-BGN	NA	Hardin II ¹	5/16/19	Hardin	170
TOTALS:					1095
¹ OPSB certificates merged 5/16/19					
Pending Solar Facilities (50 MW or greater)					
Case Number	Project Name	Filing Date	County	MW	
18-1546-EL-BGN	Nestlewood	12/14/18	Brown, Clermont	80	
18-1578-EL-BGN	Alamo	12/10/18	Preble	69.9	
18-1579-EL-BGN	Angelina	12/3/18	Preble	80	
TOTALS:				229.9	

Power Siting Wind Case Status

As of 4/18/2019



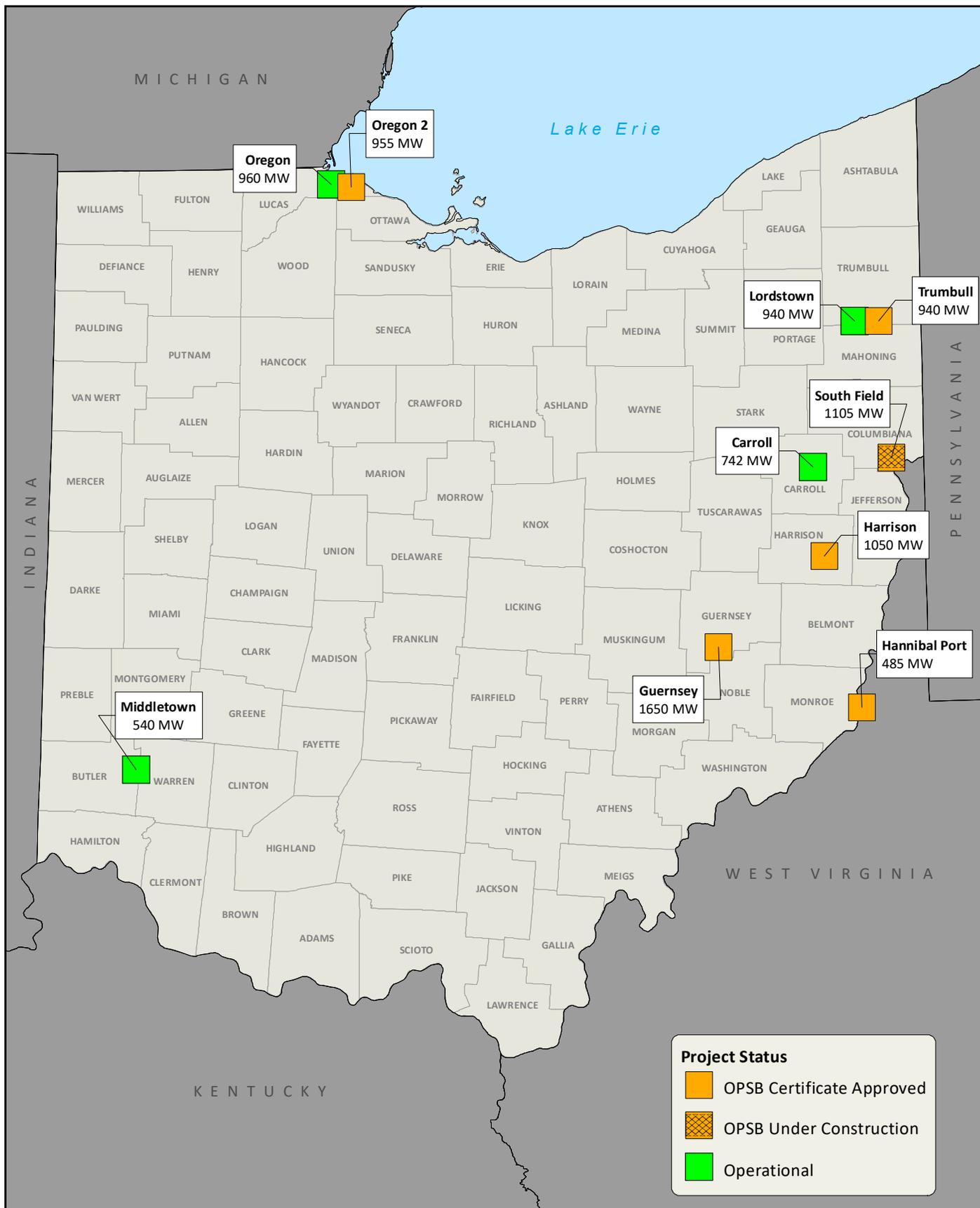
Notes: Project area boundaries are provided by applicants. Case and construction status is determined by the case filings. The nameplate capacity shown is the maximum capacity that could be built based on the number of approved turbines and the highest nameplate capacity of the approved turbine models. Map produced on 4/18/2019. Prepared by: Adam Bargar

Operational Wind Facilities			Potential Wind Facilities (Approved, Pending and Pre-application)				
Operational Megawatts (MW):		669.8	Potential Megawatts (MW):		1,921.5		
Operational Turbines:		327	Potential Turbines:		772		
Case Number	Related Cases	Project Name	Online Date	County	Turbines	MW	
09-1066-EL-BGN	11-1995-EL-BGA 11-3644-EL-BGA	Blue Creek	6/14/12	Paulding, Van Wert	152	304	
09-0980-EL-BGN	15-2031-EL-BGA	Timber Road I	12/8/16	Paulding	18	37.8	
10-0369-EL-BGN	10-3128-EL-BGA	Timber Road II	7/19/11	Paulding	55	99	
10-0369-EL-BGN	15-2030-EL-BGA	Timber Road III	12/8/16	Paulding	30	63	
09-0277-EL-BGN	11-0757-EL-BGA 11-5542-EL-BGA 16-1422-EL-BGA	Hog Creek I	12/19/17	Hardin	30	66	
10-0654-EL-BGN	11-5543-EL-BGA 16-1423-EL-BGA 17-0627-EL-BGA	Hog Creek II	withdrawn				
13-0197-EL-BGN	16-0343-EL-BGA 16-1687-EL-BGA 17-1099-EL-BGA	Northwest Ohio	9/10/18 withdrawn 9/10/18	Paulding	42	100	
TOTALS:						327	669.8
Approved Wind Facilities							
Case Number	Related Cases	Project Name	Approval Date	County	Turbines	MW	
08-0666-EL-BGN	13-0360-EL-BGA 17-2516-EL-BGN	Buckeye I	3/22/10 2/18/14 pending	Champaign	54	135	
09-0479-EL-BGN	11-3446-EL-BGA 14-1030-EL-BGA 16-0469-EL-BGA 16-2404-EL-BGA 18-0577-EL-BGA	Hardin ¹	3/22/10 12/5/16 withdrawn 2/2/17 3/2/17 6/21/2018	Hardin	200	300	
10-2865-EL-BGN	14-1591-EL-BGA 17-1148-EL-BGA 18-1346-EL-BGA	Black Fork	1/23/12 8/27/15 12/7/17	Crawford, Richland	91	200	
12-0160-EL-BGN	17-2577-EL-BGA	Buckeye II	5/28/13	Champaign	56	140	
13-0990-EL-BGN	15-1921-EL-BGA	Greenwich	8/25/14 5/19/16	Huron	25	60	
13-1177-EL-BGN	14-1557-EL-BGA 16-0725-EL-BGA 16-1717-EL-BGA 17-0759-EL-BGA 17-2108-EL-BGA 18-1473-EL-BGA	Scioto Ridge ¹	3/17/14 1/12/15 5/19/16 10/25/16 7/6/17 3/15/18 withdrawn	Hardin, Logan	105	231	
18-0091-EL-BGN		Timber Road IV ¹	2/21/2019	Paulding	37	125.1	
TOTALS:						568	1,191.1
Pending Wind Facilities							
Case Number	Project Name	Filing Date	County	Turbines	MW		
16-1871-EL-BGN	Ioabreaker	2/1/2017	Cuyahoga	6	20.7		
17-2295-EL-BGN	Republic	2/2/2018	Seneca, Sandusky	50	200		
18-0488-EL-BGN	Seneca	7/16/2018	Seneca	77	212		
18-1607-EL-BGN	Emerson Creek	1/31/2019	Erie, Huron	71	297.7		
TOTALS:						204	730.4



OPSB Gas Generation Case Status

As of March 29, 2019



Notes: Facility locations are provided by applicants. Case and construction status is determined by the case filings. The capacity shown is the highest nameplate capacity of the approved units in the original case and any amendments. Map produced on March 29, 2019.

