

Before the House Energy and Natural Resources Committee

May 7, 2019

Prepared Statement of Sam Randazzo

Good morning Chair Vitale, Vice Chair Kick, Ranking Member Denson and Members of the Committee. My name is Sam Randazzo. I recently 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.

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 electric sector changes at the federal level 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 sourced from foreign sources (rather than domestic); an “overheated” economy would continue without interruption by such things as the Great Recession; the historic growth in electricity demand would continue with out 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 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.

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.

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 likely been higher. I would also note that the current EE annual compliance obligation is 1% of the baseline quantity and the annual compliance obligation jumps to 2% 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 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 2021 and still meet the 22.2% compliance requirement in 2027.

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 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.

Schedule 8A 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 number of turbines and megawatts) of each project.

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 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).

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. In doing so, please remember I am but one PUCO Commissioner and one OPSB member. Anything I may say here today should not be understood to represent the views of the PUCO or the OPSB.

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

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%

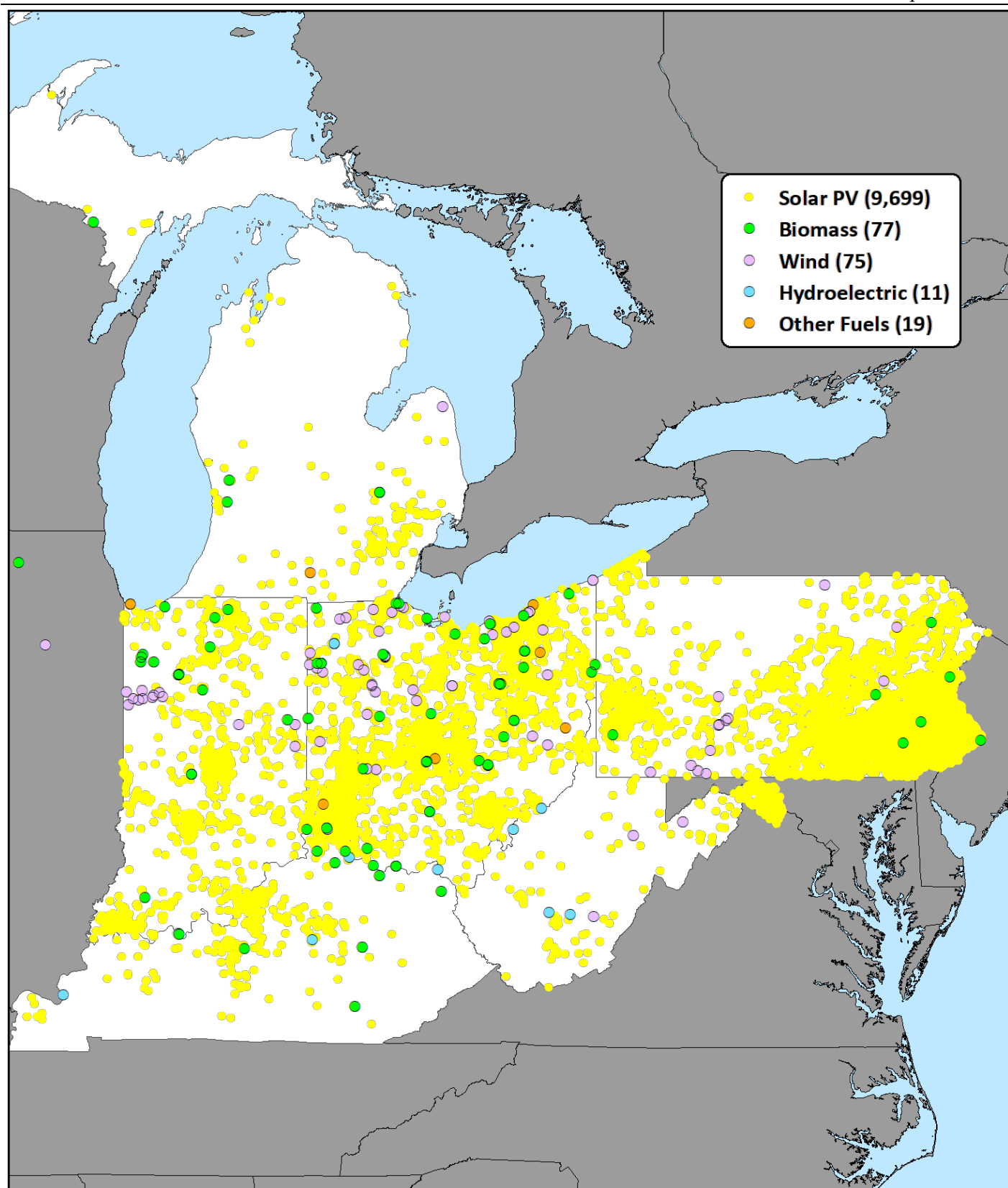
Annual EE Compliance Data (through 2017)

	<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>
<u>First Energy</u>											
Benchmark	473,203	473,203	473,203	473,203	946,407	946,407	946,407	946,407	946,407	946,407	946,407
Achievement	697,217	473,203	473,203	473,203	946,407	946,407	946,407	946,407	434,036	-	-
Bank	2,405,184	2,405,184	2,405,184	2,405,184	2,405,184	2,405,184	2,405,184	2,405,184	1,892,813	946,407	0
2017 Baseline	47,320,328										
<u>AEP Ohio</u>											
Benchmark	385,295	385,295	385,295	385,295	770,590	770,590	770,590	770,590	770,590	770,590	770,590
Achievement	533,440	385,295	385,295	385,295	770,590	770,590	770,590	770,590	90,867	-	-
Bank	2,220,902	2,220,902	2,220,902	2,220,902	2,220,902	2,220,902	2,220,902	2,220,902	1,541,179	770,589	0
2017 Baseline	38,529,489										
<u>Duke</u>											
Benchmark	197,555	197,554	197,555	197,555	395,110	395,110	395,110	395,110	395,110	395,110	395,110
Achievement	440,760	606,640	197,555	160,637	-	-	-	-	-	-	-
Bank	2,393,602	2,802,688	2,802,688	2,765,770	2,370,660	1,975,550	1,580,440	1,185,330	790,220	395,110	0
2017 Baseline	19,755,498										
<u>DP&L</u>											
Benchmark	126,587	126,587	126,587	126,587	253,175	253,175	253,175	253,175	253,175	253,175	253,175
Achievement	200,759	126,587	126,587	126,587	253,175	253,175	89,949	-	-	-	-
Bank	1,175,924	1,175,924	1,175,924	1,175,924	1,175,924	1,175,924	1,012,698	759,524	506,349	253,175	0
2017 Baseline	12,658,728										

Annual benchmarks calculated from 2017 baselines, which excluded opt-out customers
 2017 data as reported in each EDU compliance filing. 2018 data due May 15, 2019 (Duke filed early)
 * 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

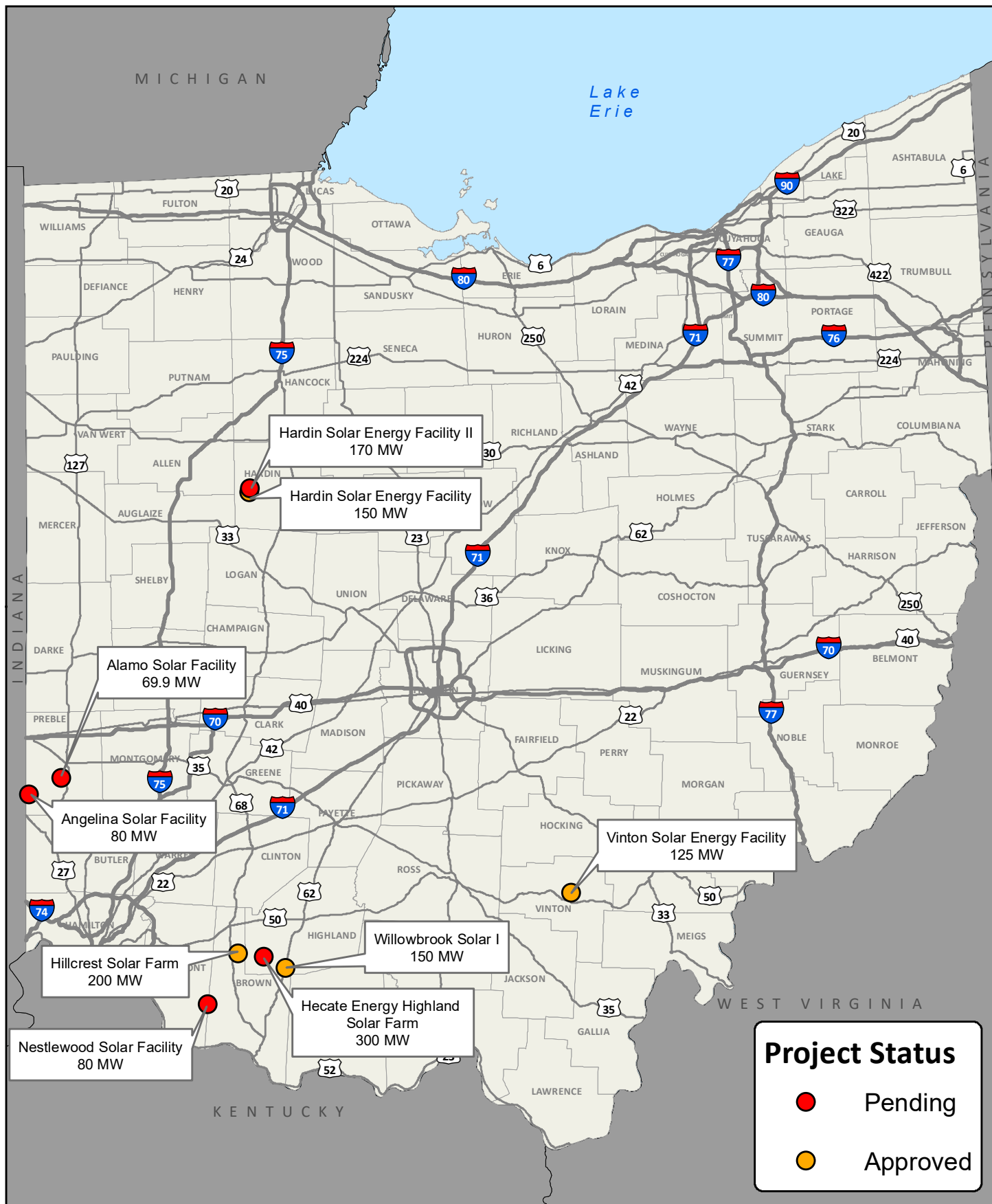
These facilities represent the compliance supply pool for the renewable portfolio standard (RPS).

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

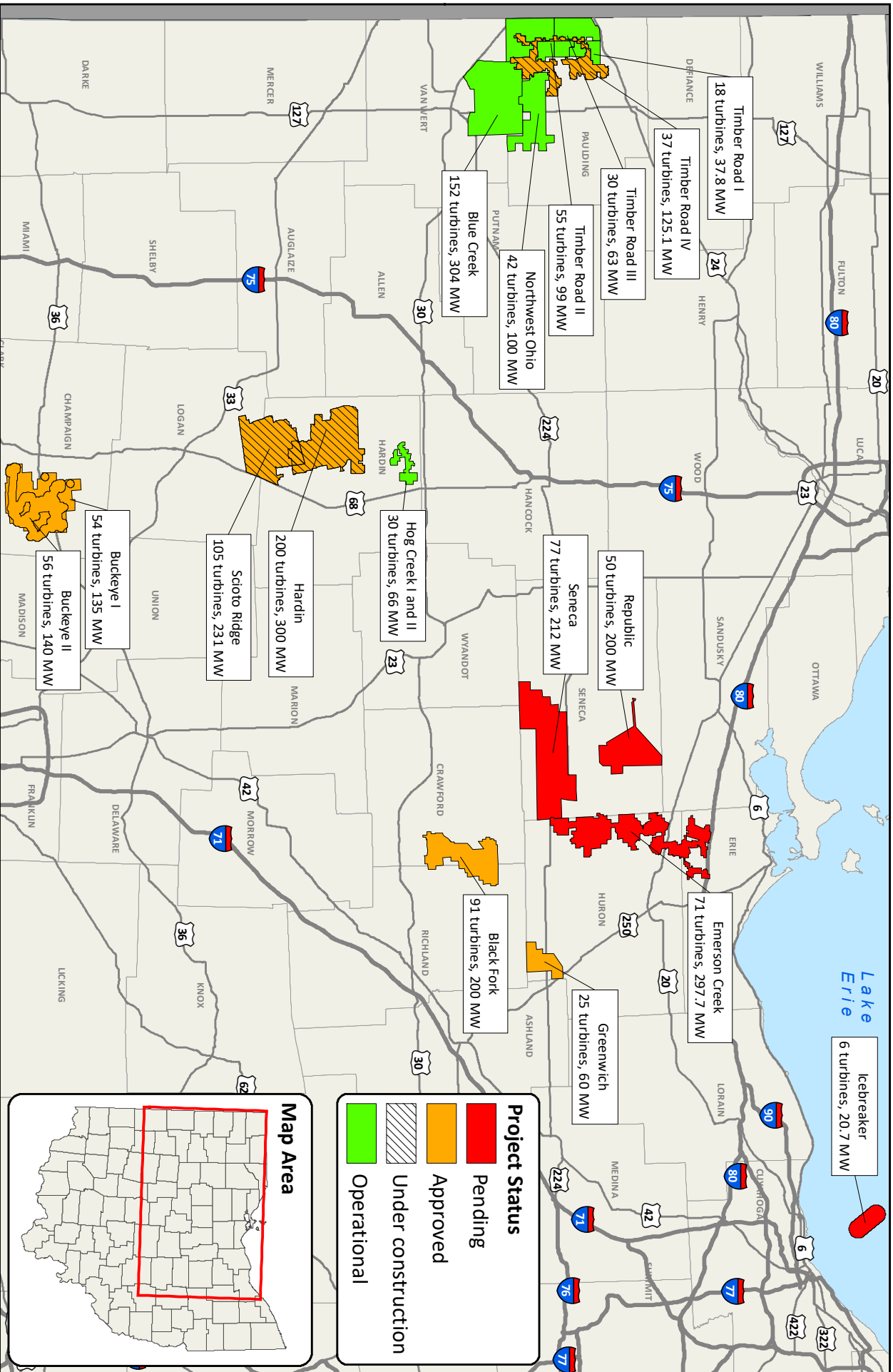


Notes: Project locations are provided by applicants. Case and construction status is determined by the case filings. The nameplate capacity shown is the maximum capacity that could be built based on the number of approved photovoltaic panels and the highest nameplate capacity of the approved panel models. Map produced on 4/15/2019.

Operational Solar Facilities		Potential Solar Facilities (Approved and Pending)			
Operational Megawatts (MW):		NA	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	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	9/17/2018	Brown, Highland	150
TOTALS:					625
Pending Solar Facilities (50 MW or greater)					
Case Number	Project Name	Filing Date	County	MW	
18-1334-EL-BGN	Hecate Energy Highland	10/10/2018	Highland	300	
18-1360-EL-BGN	Hardin II	10/12/2018	Hardin	170	
18-1546-EL-BGN	Nestlewood	12/14/2018	Brown, Clermont	80	
18-1578-EL-BGN	Alamo	12/10/2018	Preble	69.9	
18-1579-EL-BGN	Angelina	12/3/2018	Preble	80	
TOTALS:				699.9	

Power Siting Wind Case Status

As of 4/18/2019



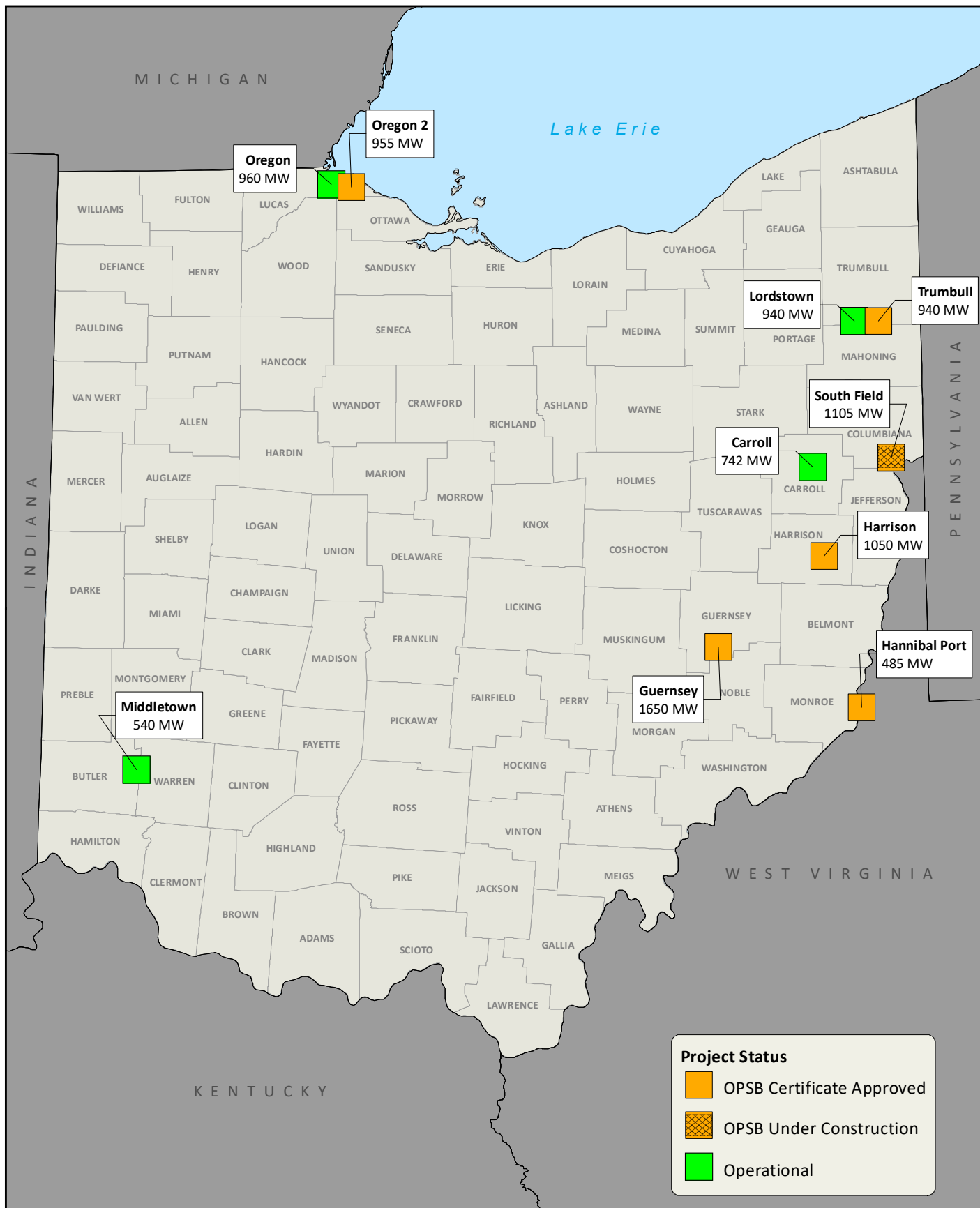
Notes: Project area boundaries are provided by applicants. Case and construction status is determined by the case filings. The nameplate capacity shown is the maximum capacity that could be built based on the number of approved turbines and the highest nameplate capacity of the approved turbine models. 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
Approved Wind Facilities						327
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 pending	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
Under construction						568
Pending Wind Facilities						1,191.1
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.

Operational Gas Generation Facilities		Approved Gas Generation Facilities				
Operational Megawatts (MW):		3,182	Potential Megawatts (MW):			
		Operational Gas Generation Facilities (50 MW or greater)				
Case Number	Related Cases	Project Name	Operational Date	County	MW	
12-2959-EL-BGN	14-1396-EL-BGA	Oregon	7/1/2017	Lucas	960	
	15-0297-EL-BGA					
	15-0853-EL-BGA					
	16-0518-EL-BGA	18-1466-EL-BGA				
	18-1466-EL-BGA					
13-1752-EL-BGN	14-2085-EL-BGA	Carroll	1/10/2018	Carroll	742	
	16-0841-EL-BGA					
	17-0925-EL-BGA					
14-0534-EL-BGN	16-0062-EL-BGA	Middletown	5/18/2018	Butler	540	
	16-0076-EL-BGA					
14-2322-EL-BGN	16-0131-EL-BGA	Lordstown	9/30/2018	Trumbull	940	
	16-0494-EL-BGA					
	16-0494-EL-BGA					
Total						
3,182						
Approved Gas Generation Facilities (50 MW or greater)						
Case Number	Related Cases	Project Name	Approval Date	County	MW	
15-1716-EL-BGN	19-0638-EL-BGA	South Field ¹	9/22/16	Columbiana	1,105	
			pending			
16-2443-EL-BGN	18-0090-EL-BGA	Guernsey	10/5/17	Guernsey	1,650	
			3/15/18			
16-2444-EL-BGN	NA	Trumbull	10/5/17	Trumbull	940	
17-0530-EL-BGN		Oregon 2	12/7/2017	Lucas	955	
			5/17/2018			
17-1091-EL-BLN	NA	Hannibal Port	7/28/2017	Monroe	485	
17-1189-EL-BGN	NA	Harrison	6/21/2018	Harrison	1,050	
¹ under construction					Total	5,135