

**Interested Party Testimony of  
Kevin Murray  
Executive Director, Industrial Energy Users-Ohio  
Before the  
Select Committee on Energy Policy and Oversight  
Ohio House**

**HB 738 AND HB 746**

**September 23, 2020**

Chairman Hoops, Vice Chair Abrams, Ranking Minority Member Leland and members of the Committee. Thank you for the opportunity to provide testimony today.

My name is Kevin Murray and I serve as the Executive Director of the Industrial Energy Users-Ohio (“IEU-Ohio”). IEU-Ohio is a trade association that works on behalf of its members on matters that affect the price, availability, and reliability of energy. We are active in matters before the Public Utilities Commission of Ohio (“PUCO”), in legislative activity before the General Assembly, and before federal agencies such as the Federal Energy Regulatory Commission (“FERC”). As an organization, we have been involved in every major piece of energy legislation that has been considered by the General Assembly in the last 25 years. I have included additional information on IEU-Ohio in an appendix to my written testimony.

I am testifying today as an interested party.

Last year when the General Assembly was considering HB 6 our organization actively supported provisions of the legislation because they reduced customers electric bills. In fact, as the Legislative Service Commission confirmed in May of this year, if the General Assembly were to simply repeal HB 6, customers would be expected to see a statewide increase in their electricity bills exceeding \$2.3 billion dollars over the next ten

years.<sup>1</sup> These increases would begin to hit customers at a point-in-time when many businesses and individuals are struggling to deal with the financial impacts from the COVID-19 pandemic.

Much of the media attention on HB 6 has focused on the fact that it provided financial support for two nuclear facilities in Northern Ohio. While that is true, HB 6 was much broader in nature in terms of addressing the state's energy policies, and the General Assembly needs to recognize this when considering SB 346 or similar legislation.

HB 6, once fully implemented, eliminates the mandates for customer funded energy efficiency programs by utilities that were enacted in 2008 as part of SB 221. When SB 221 was under consideration by the 127<sup>th</sup> General Assembly, our organization opposed these mandates. They made little sense then, and they make even less sense today. All of the assumptions that were relied upon to support the mandates in 2008 have turned out to be false. As a nation and as a state, we are awash in abundant and relatively low-priced natural gas, contrary to predictions made in 2008 about the expected state of the nation's energy supply. As a state, we should be reaping the bounties of these benefits. For those committee members that were present during the 131<sup>st</sup> General Assembly you may recall that both chambers of the General Assembly passed legislation in 2016 (HB 554) that would have also rolled back the energy efficiency mandates. Unfortunately, then Governor Kasich vetoed that legislation. I remind the committee members of this fact to note that the debate about rolling back energy efficiency mandates

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<sup>1</sup> I have attached the analysis issued by the Legislative Service Commission as Appendix B to my testimony.

is not a new issue and has been under consideration by the General Assembly for many years.<sup>2</sup>

The most recently authorized energy plans from the PUCO totaled approximately \$300 million per year across the State. Included within this amount was essentially guaranteed utility profit (called “shared savings” in utility speak) for running these programs and doing what the law already required. In addition to paying many tens of millions of dollars a year in shared saving profits to the utilities, customers then had to pay the hypothetical income taxes on this profit regardless of whether the utilities paid any actual income tax. The utilities also routinely sought to charge customers for financial incentives handed out to utility employees including those that had nothing to do with the energy efficiency programs. As the PUCO Staff noted in one such audit, the utility had sought to recover the costs of “incentive pay, performance awards, *executive short-term incentives, and restricted stock units*” as part of the energy efficiency program.<sup>3</sup> Utilities also included the costs of sponsoring minor league baseball teams as part of the costs of the energy efficiency program.<sup>4</sup>

Businesses have every incentive to lower their energy bills through energy efficiency measures that make sense for their individual businesses. However, mandating that customers do so through an inefficient government-mandated programs that add unnecessary costs to the equation, provide additional unearned bonus payments to the utilities, and reduce energy efficiency choices for businesses will only hinder the

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<sup>2</sup> I have attached to my testimony as Appendix B a matrix illustrating the impacts of Ohio’s energy efficiency and renewable mandates on typical types of customers.

<sup>3</sup> PUCO Case No. 19-622-EL-RDR, PUCO Staff Review and Recommendation (emphasis added), available at: <http://dis.puc.state.oh.us/ViewImage.aspx?CMID=A1001001A19L12B40959H01516>;

<sup>4</sup> PUCO Case 14-1080-EL-RDR, PUCO Staff Review and Recommendation, available at: <http://dis.puc.state.oh.us/ViewImage.aspx?CMID=A1001001A17A25B53138C01423>.

ability of Ohio businesses to compete in the regional, national, and global economies. We urge the General Assembly to not repeal these aspects of HB 6 that were long pursued and were approved by the General Assembly in HB 554 before any of the allegations of wrongdoing occurred.

HB 6 also allows the state's largest businesses (customers that qualify for the self-assessor kilowatt ("kWh") Tax option) to opt-out of the state's renewable energy mandates. As a generation choice state, renewable energy mandates are unnecessary. Any organization can choose to source some or all of the generation supply from a renewable energy resource. For those that believe HB 6 may have had a negative impact on Ohio's renewable energy portfolio, I can assure you that is not the case. I have attached to my testimony a copy of a recent presentation by staff members to the Ohio Power Siting Board which is responsible for approving the construction of major utility facilities in the state. The presentation highlights the status of utility scale wind generating facility projects in the state as well as the status of utility scale solar projects in the state area. It shows that as of August 2020, there are a total of 12,351 megawatts ("MW") of solar generating facilities, 1,789 of wind facilities and 2,569 of hybrid renewable facilities in the interconnection queue.<sup>5</sup> These represent an all time high of interconnection requests. And while it is true that it is not likely that all of these interconnection requests may result in the construction of new generating facilities, the high level of activity illustrates that HB 6 did not suppress renewable generation activity in Ohio.

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<sup>5</sup> The interconnection queue process is the way that new generation resources seek permission from PJM Interconnection to connect to the transmission grid at a particular location. If the interconnection would create reliability issues the interconnecting generator must accept responsibility to pay for any transmission upgrades to resolve the reliability issues.



Finally, HB 6 does provide for a modest level of financial support for two generating facilities owned by the Ohio Valley Electricity Corporation (“OVEC”). These facilities were originally constructed to supply electricity to Department of Energy owned uranium enrichment facilities. Support for these facilities had already been authorized by the PUCO. HB 6, however, limited the existing monthly charge to \$2,500 per month from Ohio’s largest customers to support continued operation of these facilities through 2029. To put this in perspective, prior to HB 6, mechanisms approved by the PUCO to support OVEC owned generating facilities were costing the state’s largest customers over \$50,000 per month.

In conclusion, several provisions of HB 6 provide benefits for Ohio customers. For that reason, we urge the General Assembly to carefully consider what provisions of HB 6 it may repeal, and if the General Assembly chooses to repeal the entirety of HB 6, we would urge them to be prepared to act swiftly to reinstate the policies underlying HB 6 that significantly reduced electricity bills for Ohio businesses.

Thanks again for the opportunity to offer testimony. I am happy to answer any questions.

**ABOUT INDUSTRIAL ENERGY USERS-OHIO**

The Industrial Energy Users-Ohio (“IEU-Ohio”) is a group of energy-intensive manufacturing and business customers that have experienced changing, volatile energy markets across the country. As contributors to Ohio's economy, IEU-Ohio wants to use that expertise to assist other business customers to understand and benefit from opportunities in emerging energy markets.

As an organization, IEU-Ohio works proactively to address potential issues and decisions before they become problems. We are active in legislative, regulatory and technical venues so that rules and regulations established in competitive markets provide opportunities for all consumers. A primary goal is to help shape Ohio energy policy and enable effective competitive retail energy markets that can then assist Ohio's businesses in becoming strong global competitors.

IEU-Ohio's members work together to address matters that affect the availability of utility services and the cost of such services. IEU-Ohio seeks to promote rational and consistent policies that will assure an adequate, reliable and efficient supply of energy for all consumers at competitive prices.

**LEGISLATIVE SERVICE COMMISSION ANALYSIS**



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# OHIO LEGISLATIVE SERVICE COMMISSION

Wendy Zhan, Director

Office of Research  
and Drafting

Legislative Budget  
Office

R-133-4096

**To:** Pat Tully, Senior Policy Advisor  
House Majority Caucus

**From:** Russ Keller, Senior Economist *RK*

**Date:** May 22, 2020

**Subject:** Customer charges and associated compliance costs for electric utilities

You previously requested information about electric bill charges paid due to several different utility provisions required under the Ohio Revised Code. H.B. 6 of the 133<sup>rd</sup> General Assembly modified several provisions of law affecting electric distribution utilities (EDUs). Since all six of Ohio's EDUs operate under electric security plans (ESPs), the Public Utilities Commission of Ohio (PUCO) relies on the Revised Code to determine which costs EDUs may recover through electric bill riders paid by consumers. Table 1 estimates compliance costs for only those riders affected by H.B. 6. Please note that Table 1 assigns ratepayers and their associated charges to the applicable EDU territories.

Table 1. Total EDU Compliance Costs (in Millions) Attributable to H.B. 6		
Year	Compliance Costs	Annual Difference, as Compared to 2019
2019 (prior to H.B. 6)	\$466.3	n/a
2020	\$460.5	(\$5.8)
2021	\$322.2	(\$144.1)
2022	\$314.8	(\$151.5)
2023	\$310.9	(\$155.4)
2024	\$306.7	(\$159.6)
2025	\$305.4	(\$160.9)
2026	\$311.2	(\$155.2)
2027	\$237.5	(\$228.8)
2028	\$67.5	(\$398.8)
2029	\$67.5	(\$398.8)
2030	\$67.5	(\$398.8)
<b>Total Reduction in Costs, 2020 through 2030</b>	<b>n/a</b>	<b>(\$2,357.6)</b>

Note: The alternative energy rider is bypassable whereas all other applicable riders are nonbypassable. To maintain comparability, the alternative energy compliance costs for customers not supplied by an EDU are separately estimated but still allocated to their EDU territory. Estimates for 2020 through 2030 depend on various assumptions detailed in this memorandum and LBO cannot guarantee their accuracy.

## Alternative energy

H.B. 6 reduced the alternative energy (AE) portfolio standards beginning with calendar year (CY) 2020. It eliminated the “solar carve-out” for the comparatively more expensive solar energy resources, while simultaneously lowering the annual benchmarks for renewable energy resource procurement. EDUs and competitive retail electric service (CRES) providers must now generate 8.5% of their energy supply from renewable energy sources by CY 2026, but no such requirement will exist for CY 2027 and successive years. Prior to these H.B. 6 changes, the renewable standard for CY 2026 and years thereafter was 12.5%.



Eliminating the solar carve-out and reducing the overall benchmark should lower compliance costs, as fewer megawatt hour (MWh) purchases will be reimbursed by ratepayers. For customers of EDUs, the lowered expense has a direct correlation with ratepayers' savings because the ESP for all but one utility currently levies an alternative energy rider (AER).<sup>1</sup> CRES providers do not rely on riders, so their ratepayers might not claim the full benefit of reduced compliance costs, especially if they purchase under a fixed-term contract. However, over the long run, economic theory suggests these consumers will save money if their energy supplier has lower expenses.

Beginning with compliance year 2020, PUCO must reduce the number of kilowatt-hours (kWh) required by the renewable portfolio standard for all EDUs and CRES providers. PUCO must determine each EDU's and each CRES provider's reduction by taking the total amount of kWh produced, if any, by all "qualifying renewable resources," as defined in R.C. 3706.40, during the preceding compliance year, and allocate that total among all EDUs and CRES providers in proportion to their baselines for the subject compliance year. The amount otherwise required for compliance with the renewable portfolio standard will be reduced by the allocated amount. Table 2 identifies the qualifying renewable resources and LBO's assumed date for when the resource will begin operations.

<b>Solar Project Applicant</b>	<b>County</b>	<b>Nameplate Capacity</b>	<b>Assumed In-service Date</b>
Hardin Solar Energy, LLC	Hardin	150	12/01/2020
Vinton Solar Energy, LLC	Vinton	125	9/01/2021
Willowbrook Solar I, LLC	Brown, Highland	150	9/01/2021
Hardin Solar Energy II, LLC	Hardin	170	6/01/2021
Hillcrest Solar I, LLC	Brown	200	12/01/2020
Hecate Energy Highland, LLC	Highland	300	9/01/2021
<b>Total</b>	<b>n/a</b>	<b>1,095</b>	<b>n/a</b>

Note: LBO estimated the date each solar farm begins operations by reviewing progress reported by project applicant in OPSB application and the company's website. Actual dates may vary from those assumed by LBO in this memorandum. The 150 MW Hardin Solar Energy LLC project subsequently transferred and merged its OPSB certificate with Hardin Solar Energy II LLC's 170 MW project.

<sup>1</sup> The lone exception is for DP&L, which does not levy a rider, but instead quantifies the impact of R.C. 4928.64 on their Standard Service Offer.

Another prominent change made by H.B. 6 excludes certain large customers from the renewable portfolio standard. Recent statistics suggest this provision excludes 23.7 million MWh from the statewide baseline of 115.4 million MWh, which is a reduction of nearly 21%. These 150 (approximately) customers are so large that the Revised Code permits them to “self-assess” the kWh excise tax applicable to electricity consumption.<sup>2</sup> H.B. 6 required EDUs and CRES providers to exclude consumption of self-assessing purchasers (or “self-assessors”) from the baseline against which compliance is measured. Accordingly, CRES providers will purchase a smaller quantity of renewable energy to meet the standard for these unique customers.

This analysis assumes every self-assessor is a nonresidential customer that obtains their electric supply from a CRES provider. Since Table 1 reflects all customers in a delivery territory, the self-assessors were sorted into EDU service areas based on imputed statistics. The Ohio Department of Taxation only delineates kWh excise tax payments by two general sources: (1) a self-assessor or (2) an EDU. Consequently, this memorandum’s allocation method relies on EDUs’ annual reporting to the Federal Energy Regulatory Commission (FERC), which entails disclosure of their Ohio kWh excise tax liability.

### **Variation in compliance strategy and marketplace volatility**

Duke Energy currently levies the lowest AER, as measured on a per kWh basis. Duke’s kWh charge is even lower than the equivalent kWh amount implied by the aggregate costs of CRES providers. This latter supplier group does not recover expenses through a PUCO-authorized electric bill rider, so marketplace competition incentivizes them to keep compliance costs low.

Exhibit 3-16 in the Appendix of this memorandum graphically displays AER amounts over ten previous quarters. The illustration demonstrates how different procurement strategies yield divergent results. The EDUs’ variation makes LBO’s projections of future compliance costs unavoidably rough. In the absence of a reliable basis for predicting future energy prices through CY 2026, this analysis estimates subsequent compliance costs using current prices paid for a single MWh of nonsolar renewable energy.

Such an approach is likely to yield mixed results. AEP Ohio relies on long-term contracts, which are inherently predictable. On the other hand, the FirstEnergy companies recently shed their renewable power purchase agreements in bankruptcy court. Therefore, future AE costs incurred by their three EDUs could decrease. Nevertheless, purchasing renewable energy credits (RECs) in lieu of long-term agreements incurs more volatility, as seen in Exhibit 3-7 within the Appendix. For this memorandum, LBO held current prices constant and adjusted for future MWh quantities, as specified by the Revised Code. The simplistic approach is necessary, given the lack of reliable information about future energy markets.

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<sup>2</sup> This direct payment option contrasts with the convention used by other electric customers. EDUs levy a rider for the kWh tax on electric bills of ordinary consumers and subsequently remit their collections to the state.



## Duke Energy's experience

Larkin & Associates, PLLC's conducted a management and financial audit of Duke Energy's AER for the period January 1, 2017, through December 31, 2018.<sup>3</sup> Several observations and two exhibits from their analysis are reprinted in the appendix because they illustrate how Duke Energy's decisions and other marketplace factors can affect compliance costs. The report states the following:

Duke Energy (or "DEO") "met the compliance in 2017 and 2018 with the alternative energy standards with purchased RECs... DEO's REC purchases are limited to short-term purchases. There are no long-term contracts in place... DEO's strategy of purchasing RECs to meet AER compliance requirements has consistently resulted in DEO having lower AER rates than Ohio Power Company [refer to Exhibit 3-16], which has used a different strategy for compliance that has included renewable purchase power agreements."

## Energy efficiency and peak demand reduction

The energy efficiency and peak demand reduction (EE/PDR) savings requirements terminate on December 31, 2020. The annual benchmarks were replaced by a statewide collective measure of "at least 17.5%" in H.B. 6. PUCO staff estimated the EDUs' compliance at 17.35% by the end of CY 2019, so the threshold will almost certainly be reached before the EE/PDR portfolio plans' expiration date.

PUCO recently issued an order directing EDUs to wind-down the statutorily required EE programs on September 30, 2020.<sup>4</sup> The Commission expects EDUs "to plan and implement an orderly wind-down of the energy efficiency programs, with the ability to ramp down and minimize post-2020 cost reconciliation." Since LBO cannot reliably forecast the reconciliation costs charged (or credited) to ratepayers in CY 2021, the estimated rider amounts are assumed to be zero next year.

Table 1 reflects each EDU's approved EE/PDR budget for CY 2020, as authorized by PUCO and H.B. 6. An EDU's overall compliance cost is the sum of the program budget and its shared savings incentive. The three FirstEnergy EDUs are assumed to collect \$25 million in shared savings, on an after-tax basis. Whereas the cap was formerly \$10 million, PUCO predicated this lower cap on FirstEnergy collecting revenue from its distribution modernization rider (or "Rider DMR"). The Ohio Supreme Court issued a ruling (Case No. 2019-Ohio-2401) in June 2019 that immediately removed Rider DMR from FirstEnergy's three ESPs.

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<sup>3</sup> Management/Performance Audit Prepared by Larkin & Associates (August 28, 2019), PUCO Case No. 19-0051-EL-RDR, <http://dis.puc.state.oh.us/TiffToPdf/A1001001A19H28B13155B04336.pdf>.

<sup>4</sup> PUCO's order was filed February 26 under the EDUs' applicable EE/PDR dockets; Case Nos. 16-0574-EL-POR (AEP Ohio), 16-0576-EL-POR (Duke), 16-0743-EL-POR (FirstEnergy), and 17-1398-EL-POR (DP&L).

H.B. 6 enables mercantile customers to opt-out of the EE/PDR programs beginning January 1, 2020. Continuing law defines a mercantile customer as a commercial or industrial customer that consumes more than 700,000 kWh per year. Information compiled by the Development Services Agency (DSA) for the Universal Service Fund rider indicates that mercantile customers comprise more than 30% of all kWh sales to statewide customers. Although these customers will avoid paying the EE/PDR rider when they opt out, EDUs are not required to reduce their approved budgets for these excluded mercantile customers. It remains to be seen whether they will elect to do so; LBO did not reduce EDU compliance costs in this memorandum on behalf of the mercantile opt-out.

## **Legacy generation**

The legacy generation rider (LGR) is a nonbypassable charge enabling EDUs to recover prudently incurred costs related to the Ohio Valley Electric Corporation (OVEC). H.B. 6 mandated that each EDU replace their existing riders with the LGR on January 1, 2020. Prior to this date, half of the EDUs (with FirstEnergy companies as the exception) levied a nonbypassable rider for the same purpose. To accommodate this dichotomy, PUCO split the LGR into a pair of provisions that provide for a statewide rate (“Part A Rate”) and a specific EDU true-up rate (“Part B Rate”) that reconciles earlier collections. PUCO implemented a single, flat Part A Rate of \$0.50 per month for all residential customers, which is below the \$1.50 cap in codified law. Predictably, the Part B Rate varies among EDUs based on their pre-H.B. 6 circumstances. Since the three FirstEnergy EDUs were not previously recovering OVEC-related costs, their Part B Rate is zero. For the sake of simplicity, this analysis assumes no further true-up will be necessary after CY 2020. Consequently, LGR collections for CY 2021 and years thereafter only include Part A Rate receipts of residential and nonresidential customers. The latter group pays a kWh charge based on their monthly energy usage.

The LGR works as either a charge or a credit to an EDU’s retail customers, depending on how OVEC’s costs compare to the market rate. PJM Interconnection, LLC. (PJM) operates a competitive wholesale electricity market where rates are set. If the revenue generated from sales to the PJM market is lower than the costs of the power, customers would pay a surcharge to make up the difference. But if the PJM market rates are higher than the power costs, customers would receive a credit on their monthly bills due to this rider. Although PJM wholesale markets will surely experience fluctuations over the coming decade, LBO assumes the LGR will remain constant until its statutory expiration date of December 31, 2030.

## **Capacity auction certainty provided by FERC**

The Part A Rate collects the forecasted net costs of OVEC. PUCO calculated the statewide rate based on forecasted data provided by EDUs, and it will update the LGR semiannually.<sup>5</sup> OVEC’s operating margins will not be negatively impacted by a recent order of the FERC.<sup>6</sup> In December 2019, FERC issued an order extending its existing “minimum offer price

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<sup>5</sup> PUCO staff’s comments (September 25, 2019) filed for Case No. 19-1808-EL-UNC.

<sup>6</sup> <https://www.ferc.gov/media/news-releases/OV2019/2019-4/12-19-19-E-1.asp>.



rule” (MOPR) to include both new and existing electric generation resources that receive, or are entitled to receive, certain “out-of-market payments.” Previously, FERC defined these payments as “out-of-market revenue that a state either provides, or requires to be provided, to a supplier that participates in the PJM wholesale capacity market.” However, FERC ruled in April 2020 that OVEC riders are exempt from the application of the MOPR because “such a retail rider is appropriately treated in a manner similar to existing self-supply arrangements.”<sup>7</sup> As of this writing, the overall cost for the Part A Rate is about \$68 million in CY 2020. The projected amount is nearly identical to LBO’s assumptions last July.

## Decoupling mechanism

H.B. 6 codified authority for a decoupling mechanism pertaining to base distribution rates and the associated impact of EE/PDR programs. In doing so, the kWh sales are separated (or “decoupled”) from revenues so an EDU can recover a predetermined level of distribution revenue regardless of its actual volume of energy sold. PUCO previously approved a target amount for each EDU’s base distribution revenue, but actual amounts collected may be greater or less than the revenue target due to energy conservation, weather, and business-cycle fluctuations.

H.B. 6 requires PUCO to use CY 2018 receipts as the baseline and that year had abnormally hot weather. PUCO staff researched National Weather Service data going back more than 130 years and determined the 2018 summer to be one of the two warmest on record.<sup>8</sup> Prospectively, an EDU will be made whole for revenues received in CY 2018, so the rider will likely yield a charge rather than a credit in most years. The three FirstEnergy EDUs are on pace to collect a combined \$17.1 million in CY 2020, which will only be recovered from residential and commercial customers, as industrial customers are statutorily excluded.<sup>9</sup>

As of this writing, LBO only found evidence of the FirstEnergy EDUs levying this rider. The bill effectively prohibits Duke Energy from submitting an application to PUCO. A separate H.B. 6 provision prohibiting “double recovery” limits the appeal to AEP Ohio given that it already has a related, albeit not identical, Pilot Throughput Balancing Adjustment Rider (PTBAR). DP&L previously had a decoupling rider, but that was removed on December 19, 2019, when it withdrew its ESP III in favor of its ESP I. Potentially, they could apply for this H.B. 6 decoupling rider, but LBO is unaware of any pending applications or financial incentive for DP&L to submit one. Their current base distribution rates became effective October 1, 2018. PUCO’s approval reflected a \$29.8 million annual increase to distribution revenues.<sup>10</sup> The 13.7% increase in rates was only effective for three months of CY 2018, so a decoupling rider makes little sense for DP&L over the next few years. LBO does not have access to company financials for CY 2019, but those receipts were almost assuredly higher than DP&L’s comparable revenues in the baseline year.

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<sup>7</sup> FERC Order on Rehearing and Clarification (April 16, 2020), Docket Nos. EL16-49-002 and EL18-178-002.

<sup>8</sup> PUCO staff’s comments (January 8, 2020) filed for Case No. 19-2080-EL-ATA.

<sup>9</sup> Exhibit A in FirstEnergy’s Application (November 21, 2019), PUCO Case No. 19-2080-EL-ATA.

<sup>10</sup> FERC Form 1, 2018 Annual Report of Major Utilities, filed by DP&L.



Any decoupling mechanism relying on the H.B. 6 legal authority “shall remain in effect until the next time that the electric distribution utility applies for and the commission approves base distribution rates for the utility.”<sup>11</sup> The three FirstEnergy EDUs are currently operating under a base distribution rate freeze through May 31, 2024.

## **H.B. 6 charge for Nuclear and Renewable Generation funds**

A new nonbypassable charge authorized by H.B. 6 will begin January 1, 2021, and end on December 31, 2027. The bill created the Nuclear Generation Fund and the Renewable Generation Fund to support electric generation facilities with designated characteristics. PUCO retains discretion for establishing the structure and design of this monthly charge, but it must implement a rate design sufficient to raise \$170 million in revenue.

H.B. 6 enacted R.C. 3706.46(B), which directs PUCO to design a nonresidential rate (for customers that do not self-assess their kWh tax) “that avoids abrupt or excessive total net electric bill impacts for typical customers.” In the absence of specific guidance, LBO simply estimated a uniform kWh charge applicable to all nonresidential customers. The assumed charge raises enough money from this customer class to equal \$170 million per year, when added to the anticipated receipts from residential ratepayers. PUCO retains discretion to use a different rate design or perhaps suggest a revenue target less than \$170 million, so the CY 2021 compliance costs estimated for Table 1 will need to be updated once PUCO offers guidance.

I hope you find this information helpful. If you have any questions, please contact me at (614) 644-1751 or [russ.keller@lsc.ohio.gov](mailto:russ.keller@lsc.ohio.gov).

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<sup>11</sup> R.C. 4928.471(C).

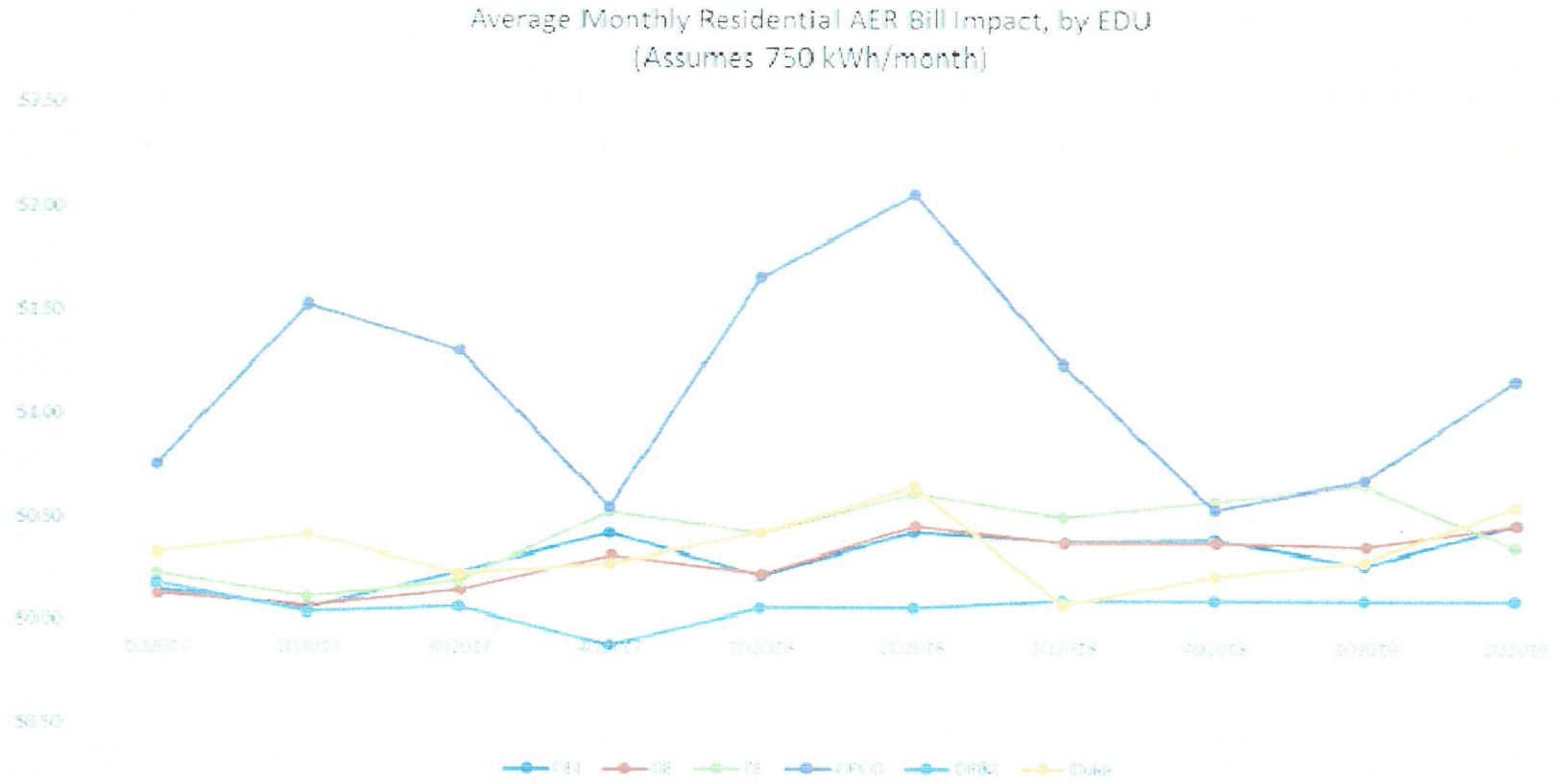
## Appendix

### Exhibit 3-7. Ohio Solar REC Prices July 2017 - May 2019

Month	Range of Market Prices	
	Bid	Offer
March 2017	None Stated	None Stated
April 2017	None Stated	None Stated
May 2017	None Stated	None Stated
June 2017	None Stated	None Stated
July 2017	\$ 3.75	\$ 3.75
August 2017	\$ 4.25	\$ 4.25
September 2017	\$ 4.50	\$ 4.50
October 2017	\$ 4.50	\$ 4.50
November 2017	\$ 3.50	\$ 4.25
December 2017	\$ 5.00	\$ 5.00
January 2018	\$ 3.50	\$ 4.50
February 2018	\$ 5.00	\$ 5.25
March 2018	\$ 5.00	\$ 5.00
April 2018	\$ 5.00	\$ 5.25
May 2018	\$ 5.50	\$ 5.50
June 2018	\$ 6.00	\$ 6.00
July 2018	\$ 8.00	\$ 8.00
August 2018	\$ 7.00	\$ 7.00
September 2018	\$ 8.00	\$ 8.00
October 2018	\$ 6.50	\$ 6.50
November 2018	\$ 6.50	\$ 6.50
December 2018	\$ 10.00	\$ 13.00
January 2019	\$ 10.00	\$ 10.50
February 2019	\$ 10.50	\$ 20.00
March 2019	\$ 22.00	\$ 28.00
April 2019	\$ 22.75	\$ 29.25
May 2019	\$ 27.50	\$ 32.50

Source: LARKIN-DR-02-007, Attachments 01 - 27

### Exhibit 3-16. Rate Impact for 2017 through 2Q2019



The above exhibit from Duke Energy’s management and financial audit graphically displays AERs for Cleveland Electric Illuminating Company (CEI), Ohio Edison (OE), Toledo Edison (TE), AEP’s Ohio Power Company (OPCO), The Dayton Power and Light Company (DP&L), and Duke Energy.

OHIO MANDATE BILL IMPACTS

## Impacts of Ohio's Electricity Usage Reduction Mandate and Alternative Energy Resource Mandate

### Residential Customers

#### 750 kWh per month usage

#### 1,000 kWh per month usage

<u>Location</u>	<u>Electricity Usage Reduction Mandate</u>		<u>Alternative Energy Resource Mandate</u>		<u>Electricity Usage Reduction Mandate</u>		<u>Alternative Energy Resource Mandate</u>	
	<u>Monthly Total</u>	<u>Annual Total</u>	<u>Monthly Total</u>	<u>Annual Total</u>	<u>Monthly Total</u>	<u>Annual Total</u>	<u>Monthly Total</u>	<u>Annual Total</u>
Cleveland	\$3.55	\$48.43	\$0.48	\$4.04	\$4.74	\$64.57	\$0.65	\$5.38
Columbus	\$2.20	\$43.05	\$1.39	\$3.59	\$2.93	\$57.40	\$1.86	\$4.78
Toledo	\$3.46	\$46.92	\$0.45	\$3.91	\$4.61	\$62.56	\$0.60	\$5.21
Dayton	\$1.62	\$22.92	\$0.29	\$1.91	\$2.16	\$30.56	\$0.38	\$2.55
Cincinnati	(\$0.99)	(\$11.48)	\$0.03	(\$0.96)	(\$1.32)	(\$15.30)	\$0.04	(\$1.28)
Akron	\$2.97	\$40.93	\$0.44	\$3.41	\$3.96	\$54.58	\$0.59	\$4.55

Reflects mandate tax rates in effect as of Sept. 1, 2020



## Impacts of Ohio's Electricity Usage Reduction Mandate and Alternative Energy Resource Mandate

### State University

7,000,000 kWh per month usage

14.8 MW demand (65% LF)

<u>Location</u>	<u>Rate</u>	<u>Electricity Usage Reduction Mandate</u>	<u>Alternative Energy Resource Mandate</u>	<u>Monthly Total</u>	<u>Annual Total</u>
Cleveland	GSU	\$13,069	\$4,522	\$17,591	\$211,092
Columbus	GS3-P	\$8,643	\$12,545	\$21,187	\$254,248
Toledo	GSU	\$28,651	\$4,200	\$32,851	\$394,212
Dayton	P-Sub	\$8,079	\$2,689	\$10,769	\$129,226
Cincinnati	DP	\$36,211	\$301	\$36,512	\$438,144
Akron	GSU	\$15,169	\$4,130	\$19,299	\$231,588

Reflects mandate tax rates in effect as of Sept. 1, 2020

## Impacts of Ohio's Electricity Usage Reduction Mandate and Alternative Energy Resource Mandate

### Fast Food Restaurant

47,000 kWh per month usage

<u>Location</u>	<u>Rate</u>	<u>Electricity Usage Reduction Mandate</u>	<u>Alternative Energy Resource Mandate</u>	<u>Monthly Total</u>	<u>Annual Total</u>
Cleveland	GS	\$73.09	\$30.36	\$103.45	\$1,241.36
Columbus	GS1	\$27.39	\$87.26	\$114.65	\$1,375.80
Toledo	GS	\$71.02	\$28.20	\$99.22	\$1,190.60
Dayton	Sec	\$99.46	\$18.06	\$117.51	\$1,410.17
Cincinnati	DS	\$243.13	\$2.02	\$245.15	\$2,941.82
Akron	GS	\$139.50	\$27.73	\$167.23	\$2,006.71

Reflects mandate tax rates in effect as of Sept. 1, 2020

## Impacts of Ohio's Electricity Usage Reduction Mandate and Alternative Energy Resource Mandate

### Foundry/Forging Manufacturer

100,000 kWh per month usage  
kW demand - 170 kW (80% LF)

2 million kWh per month usage  
Demand - 3.4 MW (80% LF)

Location	Rate	<u>Electricity Usage Reduction</u>				<u>Alternative Energy Resource</u>			
		<u>Mandate</u>	<u>Mandate</u>	<u>Monthly Total</u>	<u>Annual Total</u>	<u>Mandate</u>	<u>Mandate</u>	<u>Monthly Total</u>	<u>Annual Total</u>
Cleveland	GP	\$300	\$65	\$365	\$4,378	\$6,004	\$1,292	\$7,296	\$87,552
Columbus	GS3-P	\$193	\$179	\$372	\$4,468	\$3,862	\$3,584	\$7,447	\$89,359
Toledo	GP	\$185	\$60	\$245	\$2,944	\$3,706	\$1,200	\$4,906	\$58,872
Dayton	P	\$133	\$38	\$172	\$2,062	\$2,668	\$748	\$3,417	\$40,999
Cincinnati	DP	\$517	\$4	\$522	\$6,259	\$10,346	\$86	\$10,432	\$125,184
Akron	GP	\$146	\$59	\$205	\$2,464	\$2,926	\$1,180	\$4,106	\$49,272

Reflects mandate tax rates in effect as of Sept. 1, 2020

## Impacts of Ohio's Electricity Usage Reduction Mandate and Alternative Energy Resource Mandate

### Steel Manufacturer

50 million kWh per month usage

MW demand - 98 MW (70% LF)

<u>Location</u>	<u>Rate</u>	<u>Electricity Usage Reduction Mandate</u>	<u>Alternative Energy Resource Mandate</u>	<u>Monthly Total</u>	<u>Annual Total</u>
Cleveland	GT	\$327,400	\$32,300	\$359,700	\$4,316,400
Columbus	GS4- T	\$107,350	\$87,815	\$195,165	\$2,341,980
Toledo	GT	\$90,300	\$30,000	\$120,300	\$1,443,600
Dayton	HV	\$38,540	\$19,210	\$57,750	\$693,000
Cincinnati	TS	\$258,650	\$2,150	\$260,800	\$3,129,600
Akron	GT	\$130,200	\$29,500	\$159,700	\$1,916,400

Reflects mandate tax rates in effect as of Sept. 1, 2020

## Impacts of Ohio's Electricity Usage Reduction Mandate and Alternative Energy Resource Mandate

### Small Coal Mine

1.8 million kWh per month usage

Demand - 6.3 MW (40% LF)

<u>Location</u>	<u>Rate</u>	Electricity Usage Reduction <u>Mandate</u>	Alternative Energy Resource <u>Mandate</u>	Monthly <u>Total</u>	Annual <u>Total</u>
SE Ohio	GS3-S	\$6,165	\$3,342	\$9,507	\$114,087

### Area Transportation Provider

4.8 million kWh per month usage

	<u>Rate</u>	Electricity Usage Reduction <u>Mandate</u>	Alternative Energy Resource <u>Mandate</u>	Monthly <u>Total</u>	Annual <u>Total</u>
Northern Ohio	GSU	\$8,962	\$3,101	\$12,062	\$144,749

Reflects mandate tax rates in effect as of Sept. 1, 2020



## Impacts of Ohio's Electricity Usage Reduction Mandate and Alternative Energy Resource Mandate

### Brewery

7.6 million kWh per month usage

Demand - 11.6 MW (90% LF)

<u>Location</u>	<u>Rate</u>	Electricity Usage Reduction <u>Mandate</u>	Alternative Energy Resource <u>Mandate</u>	Monthly <u>Total</u>	Annual <u>Total</u>
Central Ohio	GS4- T	\$13,582	\$13,348	\$26,929	\$323,153

Reflects mandate tax rates in effect as of Sept. 1, 2020

**APPENDIX D**

**OHIO POWER SITING BOARD PRESENTATION**



Public Utilities  
Commission

# Lori Sternisha

Director, Office of the Federal Energy Advocate  
Public Utilities Commission of Ohio



## O.R.C 4928.24 Federal energy advocate, duties

The public utilities commission shall employ a federal energy advocate to monitor the activities of the federal energy regulatory commission (FERC) and other federal agencies and to advocate on behalf of the interests of retail electric service consumers in this state. The attorney general shall represent the advocate before the federal energy regulatory commission and other federal agencies.

Effective Date: 2008 SB221 07-31-2008



# Who does what?

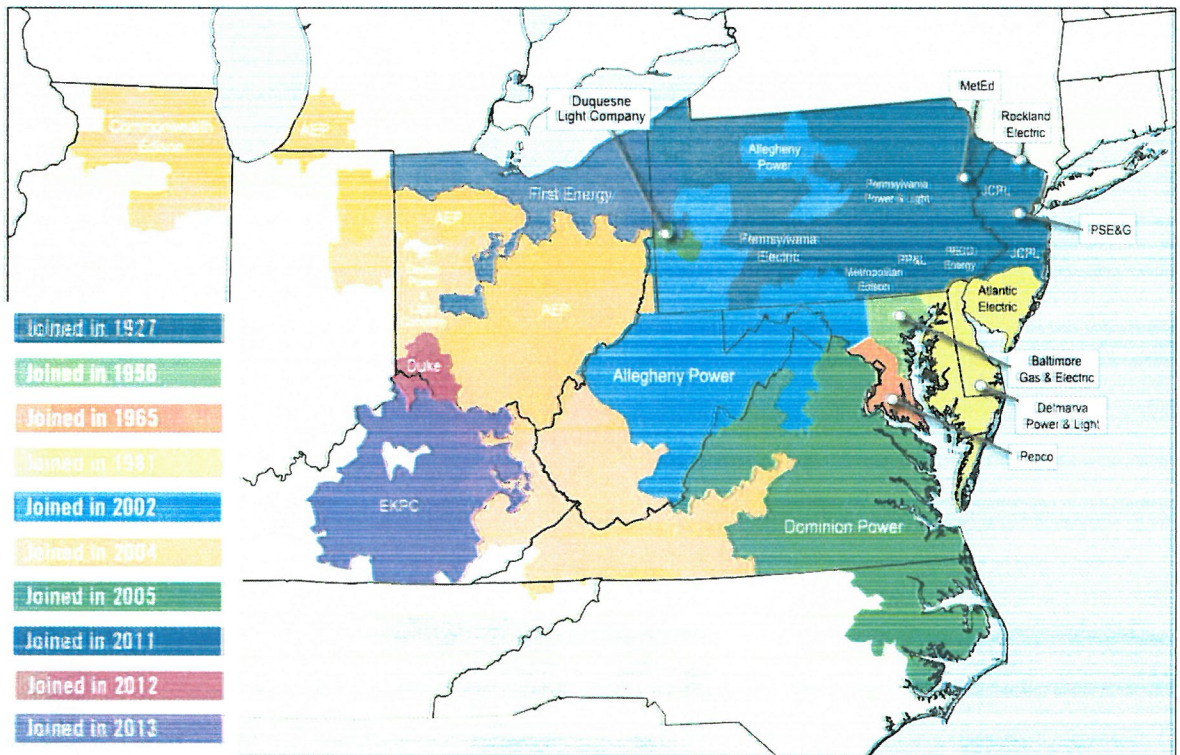
## FERC Oversight

- Wholesale Electricity Markets
- Wholesale of Natural Gas
- Transmission of Energy
- Wholesale Market Monitoring
- Reliability Assurance
- Interstate Pipeline Siting

## State Oversight

- Retail Electric Sales
- Retail Natural Gas Sales
- Distribution System Infrastructure Development & Maintenance
- Safety of Service
- Intrastate Pipeline Siting

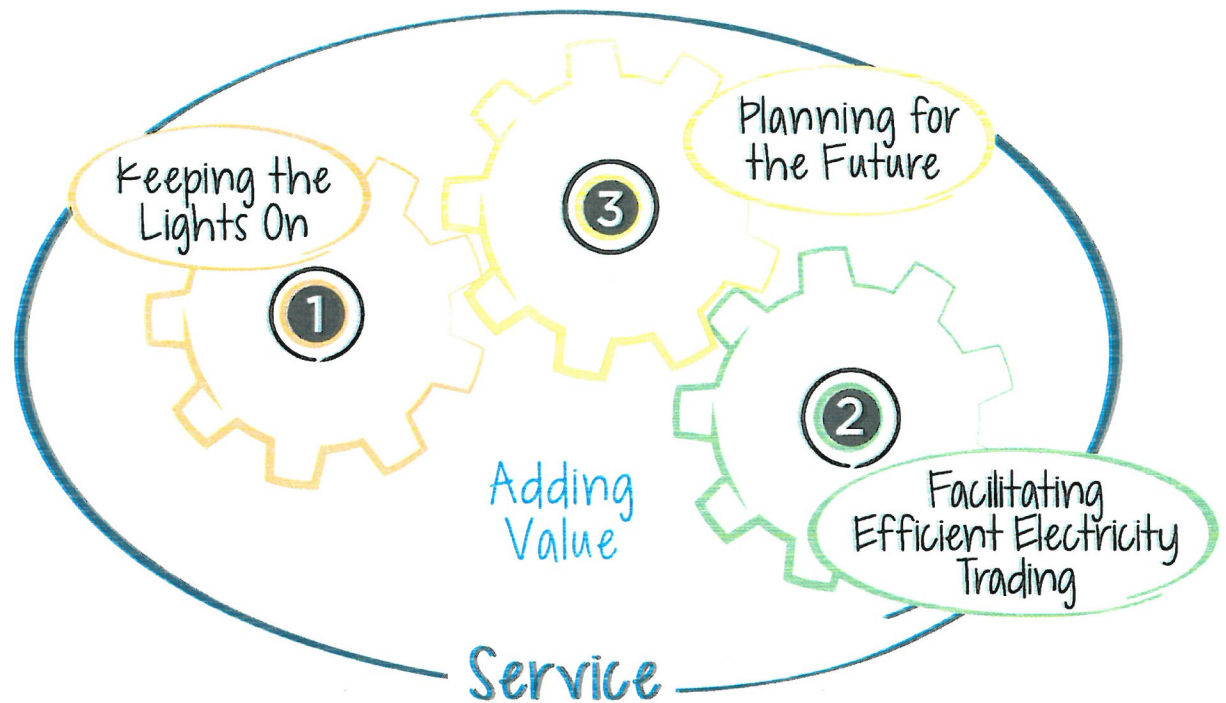
**PJM Interconnection, LLC** is a regional transmission organization (RTO) regulated by FERC that coordinates the movement of wholesale electricity across 13 states, including Ohio.



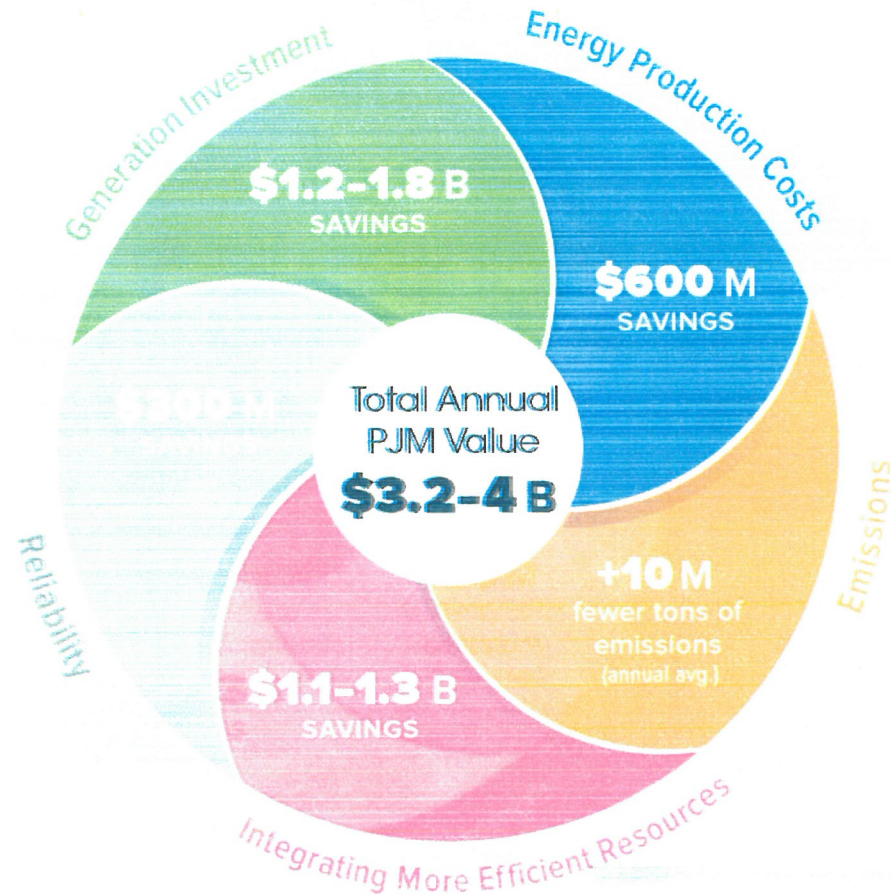


**PJM's Role:**

1. Continuously monitor the grid to balance the supply and demand of electricity; interstate transmission service
2. Administer competitive wholesale markets
3. Conduct long-range planning to identify any improvements needed to ensure reliability in its territory



### PJM Markets Estimated Value Proposition



Source: PJM





Public Utilities  
Commission

# PJM's 2019 State Infrastructure Report Ohio

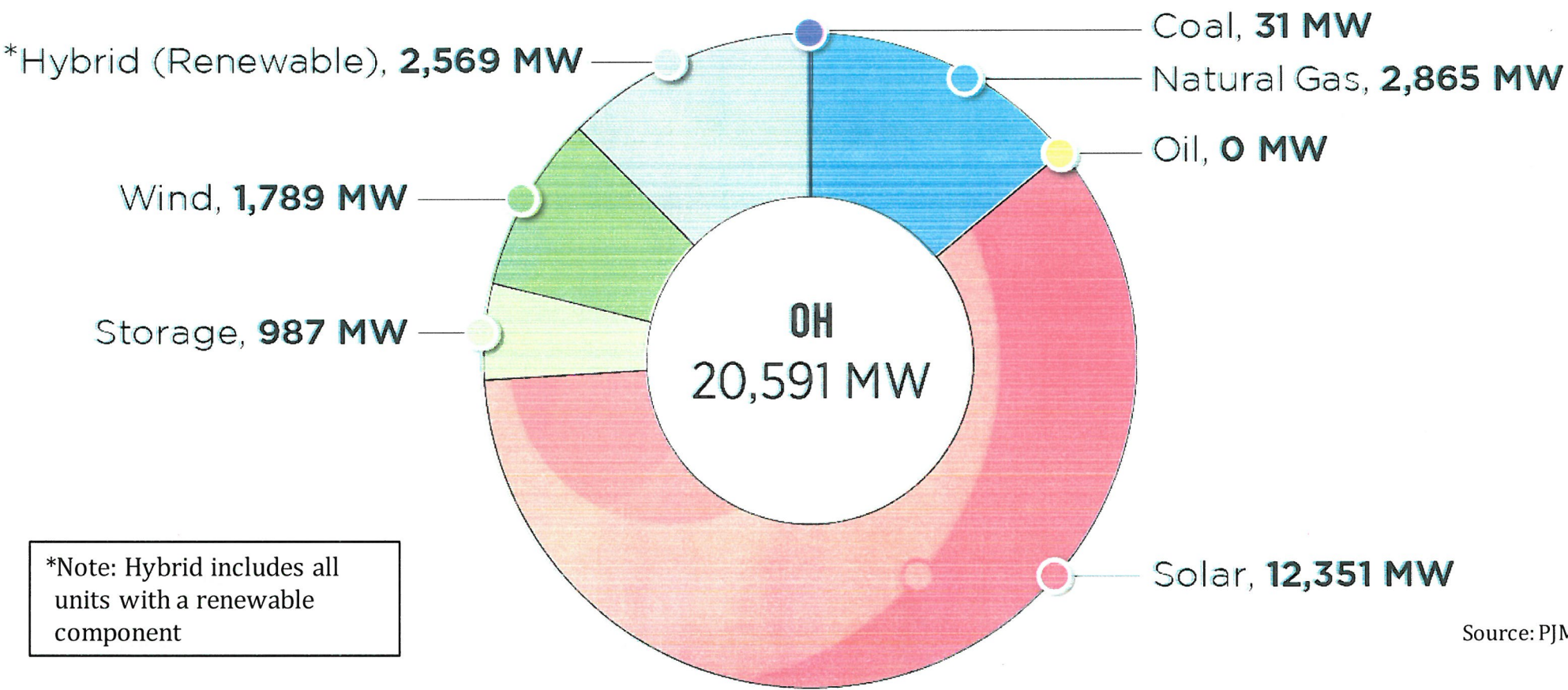
<https://www.pjm.com/-/media/library/reports-notices/state-specific-reports/2019/2019-ohio-state-infrastructure-report.ashx?la=en>



Public Utilities  
Commission

# Generation Interconnection

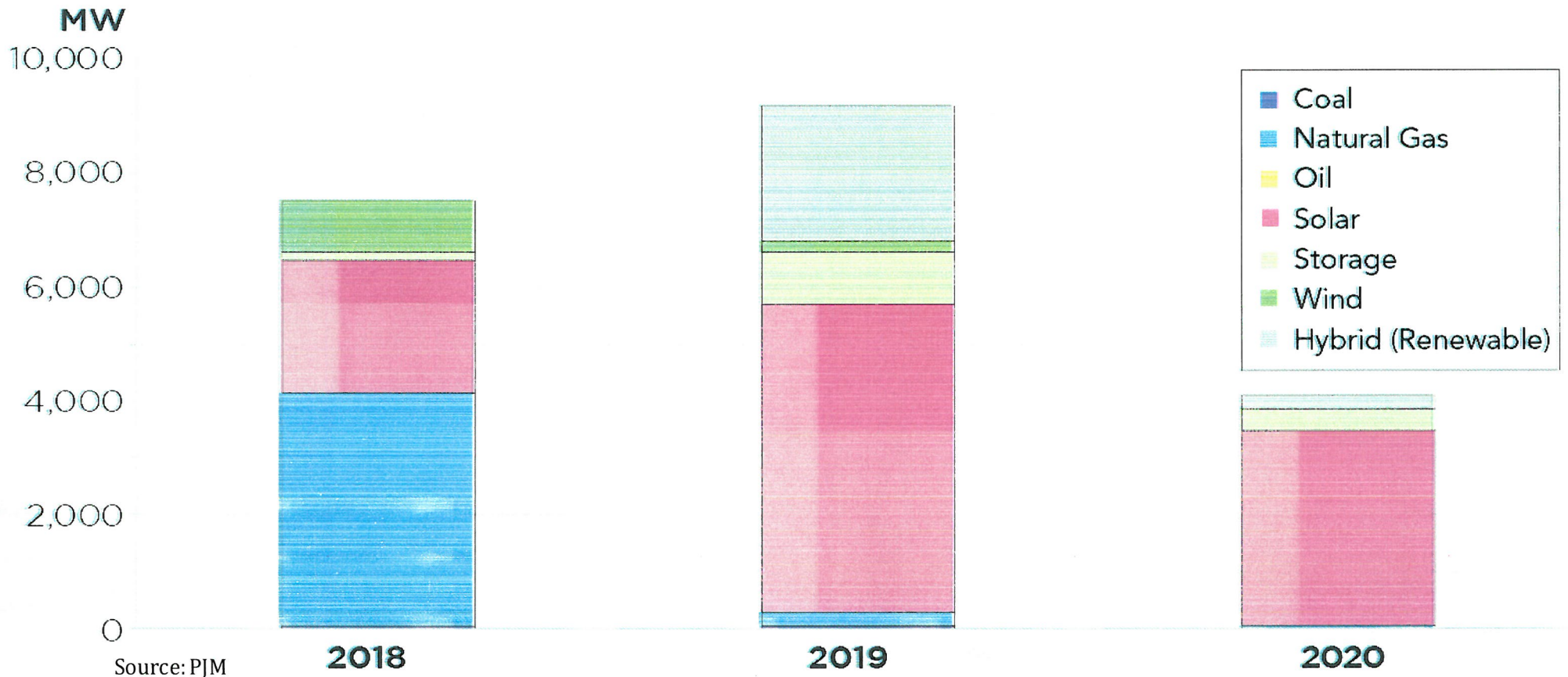
### Snapshot of Existing Interconnection Requests by Fuel type (August 2020), Nameplate Capacity



\*Note: Hybrid includes all units with a renewable component

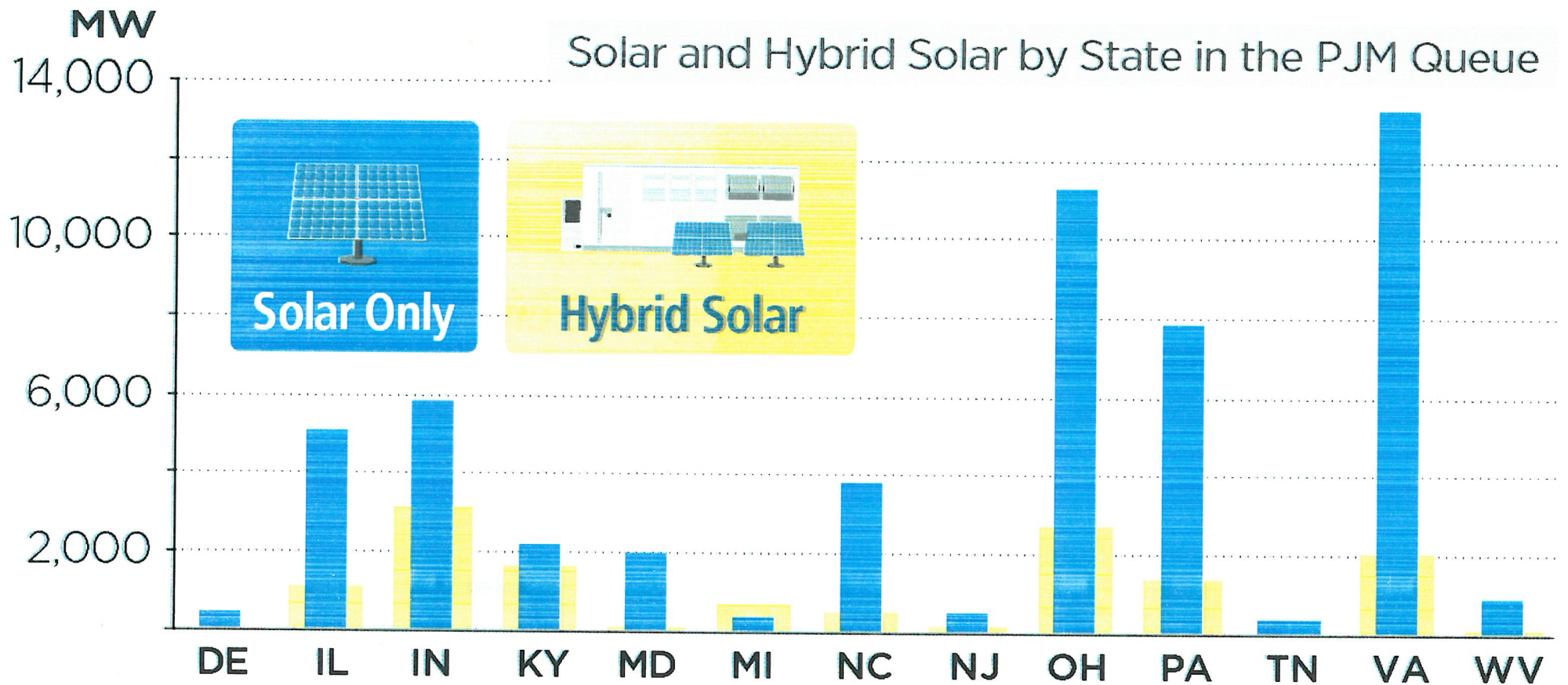


### Interconnection Requests 2018-2020 YTD



Source: PJM

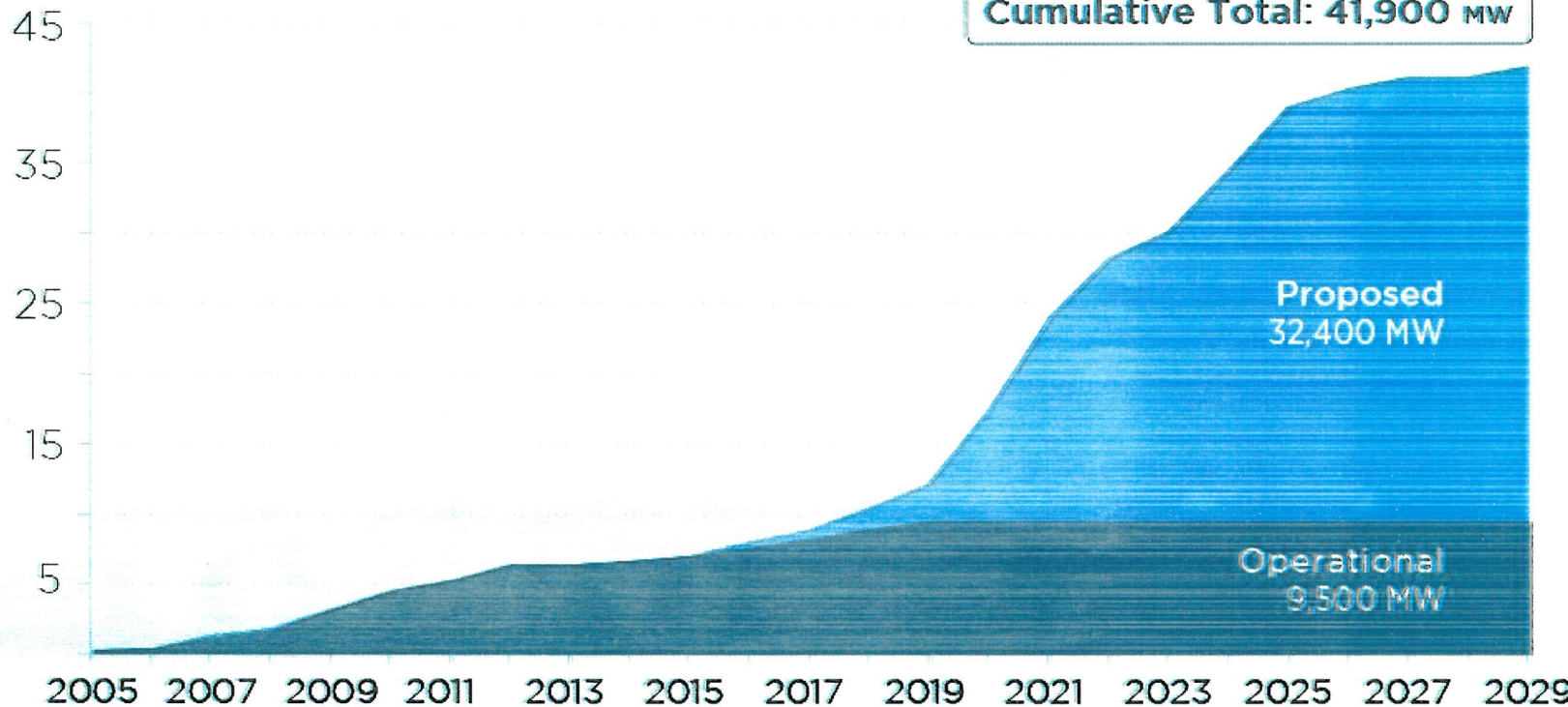




Source: PJM

### 2019 Wind Capacity in PJM

Cumulative Nameplate  
Thousands (MW)

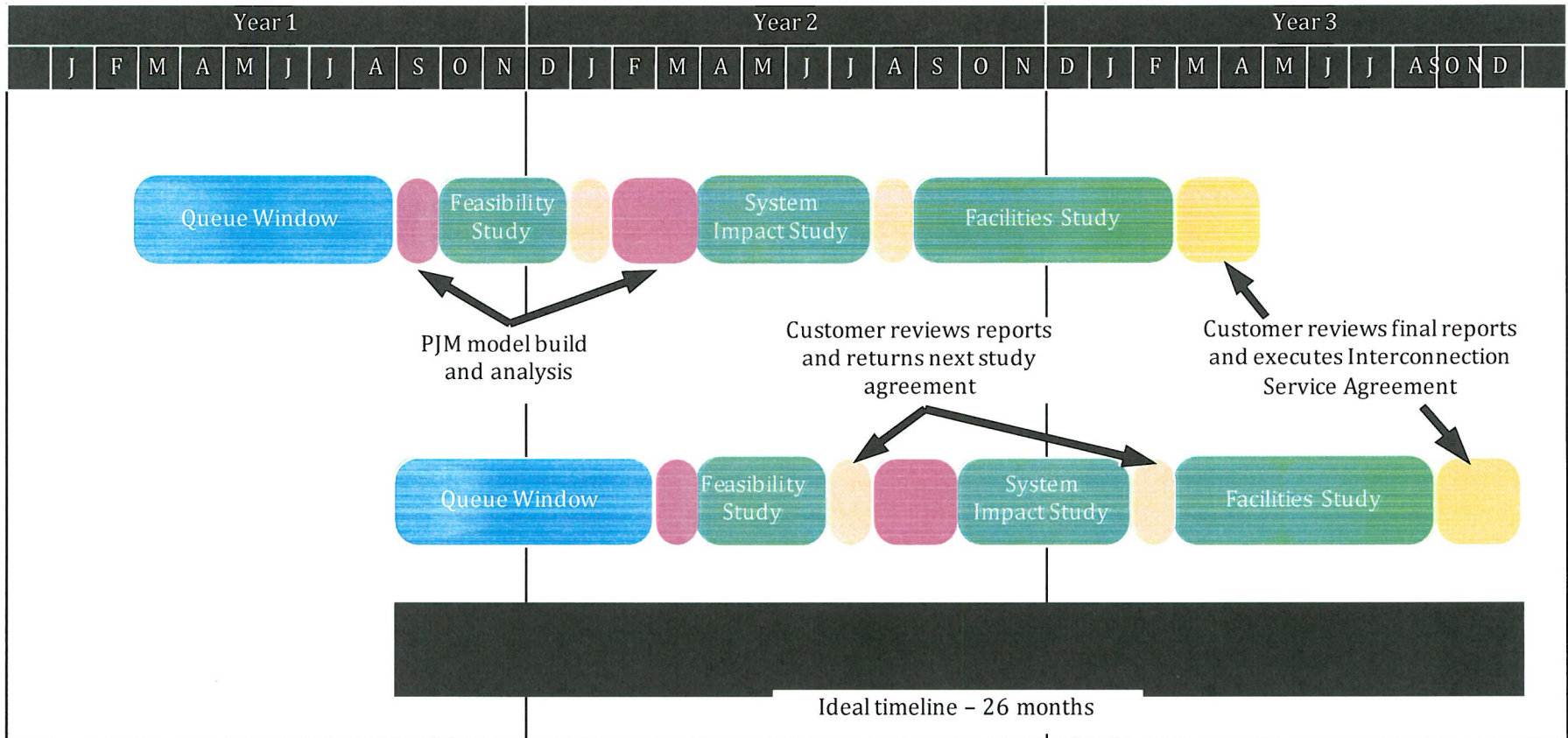


Source: PJM



## Generation Interconnection Process at PJM

- New or expanded project proposals by a developer for a generating facility are entered in a calendar-based queue at PJM.
- PJM Conducts -
  - Feasibility Study
  - System Impact Study
  - Interconnection Facilities Study
- The process places increasing financial obligations on the developer, who has the right to withdraw the project at any point. PJM does not approve projects
- Results in an Interconnection Service Agreement
  - Approximately 26 months but can be longer



Source: PJM

PJM Interconnection Queue Process

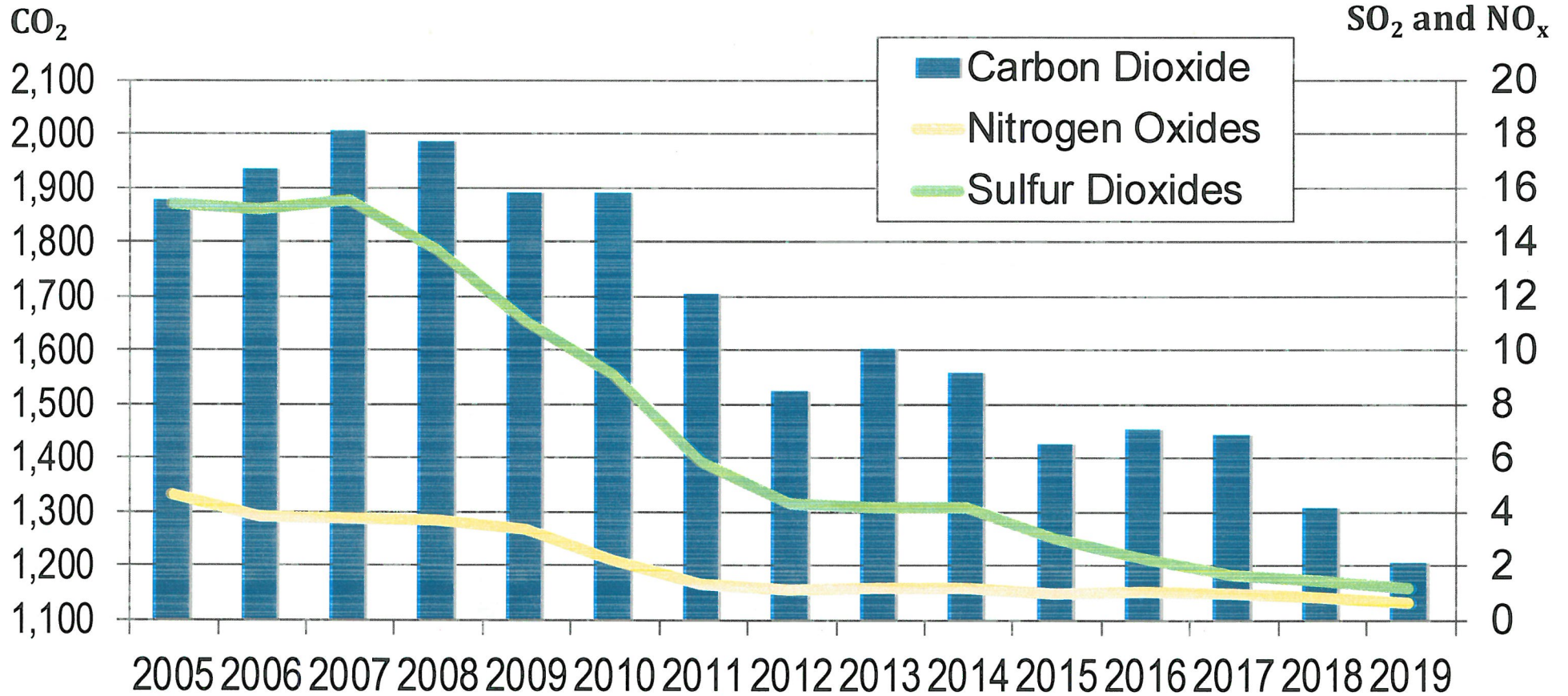




“Queue activity simply reflects ongoing business decisions by developers in response to changing public policy, regulatory, industry, economic and other competitive factors.” PJM, 2018



# Ohio Electric Generator Average Emissions



Source: PJM

Ohio - Average Emissions (lbs/MWh) (Feb. 7, 2020)

## OPSB Maps



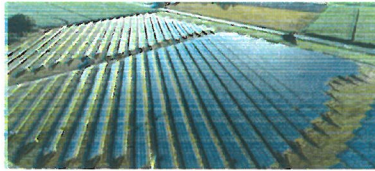
### Natural Gas-Fired Power Plant Map and Statistics

Map shows the locations and status of natural gas-fired power plants before the OPSB.



### Wind Farm Map and Statistics

Map shows the locations and status of wind farms before the OPSB.



### Solar Farm Map and Statistics

Map shows the locations and status of solar farms before the OPSB.



[PJM Reports & Notices](#)