

~~House Select Committee on Energy Policy and Oversight~~

~~Senate Energy and Public Utilities Committee~~

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Prepared Statement of Sam Randazzo  
Chairman,  
Public Utilities Commission of Ohio  
and  
Ohio Power Siting Board  
September ~~16~~23, 2020

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**Senate Energy and Public Utilities House Select Committee on Energy Policy and Oversight**

**Prepared Statement of Sam Randazzo, Chairman,  
Public Utilities Commission of Ohio and  
Ohio Power Siting Board**

Chairman WilsonHoops, Ranking Member WilliamsLeland, Vice Chair McColleyAbrams, Members of the Senate House Select Energy and Public Utilities Committee on Energy Policy and Oversight, my name is Sam Randazzo. I currently serve the citizens of Ohio in the capacity of Chairman of the Public Utilities Commission of Ohio (PUCO) and the Ohio Power Siting Board (OPSB). I appear here today at the request of Chairman HoopsWilson and hope to make a positive contribution to your efforts to consider Senate Bill 346 (SB 346), House Bill 738 (HB 738) and House Bill 746 (HB 746) as it they may affect current law.

My prepared statement does discuss suggestions that this Committee and the General Assembly invest time and resources in the development of a comprehensive energy policy. As prior-witnesses have explained in testimony discussing the House's companion legislation, the policies and practices of the federal government control much of what happens inside Ohio when it comes to electricity. The same is true when it comes to the natural gas and communications sector. Also, Ohio has codified customer-centric energy policies for retail electric and natural gas services in R.C. 4928.02 and 4929.02 respectively. Similar policies have been codified for the communications sector in R.C. 4927.02. In any event, if there are questions about where Ohio stands with regard to energy policy, I would be happy to discuss them with the members of this Committee.

## Section 1 What Has Happened on the Implementation Side of Amended Substitute House Bill 6 (HB 6) and Unwinding Challenges

I begin by expressing my appreciation to the Legislative Service Commission (LSC) for the quantity and quality of the information shared with the [House Select Committee on Energy Policy and Oversight](#). [I believe LSC will share the same or similar information with this Committee last week.](#) I will use the information provided by LSC as a foundation for some of the information that I will share with you today. More specifically, I will use the headings in the presentation provided by Mr. Clark to organize part of my prepared statement. For your convenience, I have attached Mr. Clark's presentation to my prepared statement as Attachment A. I will supplement the information provided by LSC based on a perspective gained from the PUCO's work on the implementation side of the law.

### Payments for qualifying nuclear and renewable resources

As ~~reported~~ ~~stated~~ by LSC, no payments have been made to the eligible nuclear or renewable resources and no charges have been imposed on customers. The PUCO has, in accordance with the statutory requirements, established the charges customers will begin to pay starting in January 2021. The Ohio Air Quality Development Authority (OAQDA) is currently obligated to commence distribution of the revenue produced by the charges in April 2021.

As you know, the maximum monthly charges payable by customers are capped by statute. While the charges are designed to provide a target level of funding, the actual revenue collected and deposited in the two separate nuclear and renewable funds will be different just like actual tax revenue is either above or below projections. To the extent that the revenue collected is less than the target, OAQDA will reduce the amount of the payout accordingly. To the extent that the revenue collected is in excess of the target level, the excess will reduce future funding levels. Current law includes

reconciliation mechanisms to ensure that the total amount collected from customers and paid to the eligible resources will not exceed \$170 million per year over the term of the program.

Representative Greenspan's [testimony before the House Select Committee on Energy Policy and Oversight two weeks ago](#) ~~testimony last week~~ brought some attention to provisions in current law that are not typically noticed and I commend him for his education effort. More specifically, I am referring to the audit requirements in current law that are attached to the opportunity for eligible nuclear resources to obtain the \$9 credit. [As you may recall, the Senate included these](#) ~~this committee inserted the version of the audit provisions when it modified HB 6 and the Senate's version of HB 6 was the version that became law.~~

Beginning in 2021, current law requires the PUCO to perform an annual retrospective management and financial audit of the owner/operator of the nuclear resources receiving the credits. The PUCO is currently developing the RFP to select an independent auditor to perform the first retrospective audit (audit of 2020) in 2021.

Current law requires the PUCO to provide [OADQA-OAQDA](#) and General Assembly with a report of the audit results and recommendations. The PUCO must also make the report available to the public. Based on these audit results and recommendations and in certain circumstances, OAQDA has the discretion to reduce or eliminate the \$9 credit payment (with current law providing for corresponding reductions in customer charges). As Representative Greenspan explained, it appears that OAQDA may not reduce or eliminate the \$9 credit simply because one or both of the nuclear resources do not require financial assistance to continue their zero emitting electricity production. Current law does permit OAQDA to eliminate or reduce the \$9 credit if the Federal Energy Regulatory Commission (FERC) or the Nuclear Regulatory Commission (NRC) has established a monetary benefit or other incentive payment to continue commercial

operation.<sup>1</sup> So, there is some recognition in current law of how financial need for the \$9 credit might be affected by federal assistance programs.

For what it may be worth, the June 2020 US House Majority Staff Report submitted to the House Select Committee on the Climate Crisis contains the following statement and recommendation:

Nuclear power is a zero-carbon source of electricity that made up 20% of the nation's electricity generation in 2019 and more than half of all zero-carbon electricity. The nuclear power sector supported more than 70,000 jobs in the United States in 2019.

Above, the majority staff for the Select Committee recommends that Congress establish a federal clean energy standard that would allow electricity generated from existing nuclear power plants to qualify for credits.<sup>2</sup>

To the extent the General Assembly acts—and I take no position on this one way or the other— to modify current law to more clearly or comprehensively allow the \$9 credit and corresponding customer charges to be reduced based on a financial need assessment, I believe this could be accomplished by making relatively modest adjustments to current law. Moving in this direction might also be accompanied by modifications to current law to defer any cash payment for the credits and the imposition of the customer charges to fund the credits until the financial need has been assessed through the retrospective audit process.

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<sup>1</sup> As currently structured, FERC's latest version of the minimum offer price rule (MOPR) as it may be triggered by "state subsidy" eligibility would not, in my view, be triggered by the availability of federal support payments.

<sup>2</sup> "Solving the Climate Crisis: The Congressional Action Plan for a Clean Energy Economy and a Healthy, Resilient, and Just America," pg. 46, available at: <https://climatecrisis.house.gov/sites/climatecrisis.house.gov/files/Climate%20Crisis%20Action%20Plan.pdf>.

### Nuclear and renewable resource credit program

While customer charges and cash distribution will not occur until next year, current law allows eligible resources to earn credits in 2020 based on the megawatt hours (MWH) of production. Current law calls for the credits earned in 2020 to be redeemed beginning in 2021 at a maximum rate of \$9 per MWH which is \$0.009 per kilowatt hour (kWh), or nine tenths of one cent per kWh. While ~~SB 346, HB 738 and HB 740~~ repeals the credit program ~~as LSC has explained, neither bill addresses~~ the bill does not address explicitly what some may argue is a credit redemption obligation created by current law.

### Monthly customer charges

As noted above, the monthly customer charges have been established but they will not go into effect until the beginning of 2021.

### Nuclear Generation and Renewable Generation Fund

As already explained, these fund credits are currently being earned by eligible resources, but the cash redemption of these credits does not commence until April 2021.

### Renewable energy benchmarks

The lessened or eliminated compliance requirements of current law are in effect and are being observed by competitive retail electric service (CRES) providers and electric distribution utilities (EDUs) based on compliance benchmarks applied to their respective retail sales. ~~SB 346, Both HB 738 and HB 740~~ would restore the higher compliance mandates for 2020 (6.5% versus 5.5% renewable, with 0.26% versus 0% specifically from solar). SB 346 does ~~HB 738 and HB 740 do~~ not address the potential non-



compliance hardship imposed on CRES providers and EDUs from the change to a higher compliance requirement for calendar year 2020 nine months into the year.

To the extent the General Assembly elects to restore the renewable resource purchase obligation mandate that existed in prior law, I recommend that some consideration be given to providing a transition period to avoid the abruptness and hardship discussed above. Also, current law allows some of Ohio's largest electricity users to opt out of the renewable resource purchase mandate and reversing this status (returning to prior law) will likely require some transition thinking/planning as well.

#### Renewable energy compliance reduction

Current law calls for the MWH production from the solar projects receiving credits from OAQDA to be counted towards compliance with the renewable portfolio mandate. Since customers would be paying for the credits for the solar projects, current law recognizes that customers get the benefit of the renewable production associated with the credits by, in effect, reducing the amount of the renewable mandate compliance for which customers would otherwise be required to pay. In more practical terms, this crediting against the renewable compliance mandate protects customers against being "double dipped". ~~As LSC has explained, t~~his reduction in the renewable compliance mandate related to the production from the benefited solar facilities would be eliminated by ~~SB 346~~~~HB 738 and HB 740~~.

#### Renewable energy credit: double counting prohibition

Current law allows a renewable resource certified by the PUCO to obtain a renewable energy certificate (REC) for each MWH of electricity generated. RECs have been part of Ohio law since 2009 and, because of their market-based convenience, are the primary means of compliance with the renewable mandate.

RECs are sold or otherwise used to capture value in the marketplace based on the value assigned by willing sellers and buyers. This REC commerce provides a secondary market, a virtual means for renewable resources to obtain financial support and an opportunity for customers who wish to buy RECs to meet their renewable technology preferences, sustainability or other goals.

Because current law provides an opportunity for some solar projects to obtain up to \$9 per MWH, current law also precludes getting both the \$9 credit and a REC. This provision in current law eliminates the potential for double dipping that might otherwise exist. ~~SB 346 HB 738 and HB 740~~ would continue current law which allows renewable resources to seek and obtain RECs, and remove the double dipping protection since the proposed legislation eliminates the \$9 credit.

For what it may be worth, Ohio-~~eligible -located~~ renewable resource REC prices have recently been in the \$8 to \$10 per MWH range. [Based on this price range, solar resources in Ohio can obtain financial support from Ohio's REC program in about the same dollar amount as provided by the per MWH credit that is available as a result of HB 6. As explained above, HB 6 precludes obtaining financial support from both the REC opportunity and the HB 6 credit.](#)

### Cost recovery

Current law allows an EDU to pass on to customers, through a bypassable charge, the costs associated with certain legacy contracts which the EDU entered into prior to 2015 for the purchase of the output of renewable resources. These contracts were entered into after generation supply became a competitive service. In this context, a bypassable charge is a charge that can be avoided by customers that obtain their generation supply (the competitive service) from a CRES provider serving as a generation supplier rather than from an EDU. Current law limits the time an EDU can transfer these above-market legacy contract costs to customers.

~~SB 346, HB 738 and HB 740~~ would remove the above-market cost recovery time limitation in current law and allow the transfer of above-market costs to continue until all the costs are fully recovered. ~~SB 346, HB 738 and HB 740~~ does not address the potential for the duration of this cost transfer to be extended by the EDU by modifying and extending the term of these legacy contracts. This contract extension potential can be observed in the case of other legacy generation contracts associated with the Ohio Valley Electric Corporation (OVEC).

### Energy efficiency benchmarks & cumulative energy savings determinations

~~As explained by LSC, SB 346, HB 738 and HB 740~~ would restore the higher energy efficiency (EE) mandates in prior law. ~~This~~ ese bills would also restore the uncertainty regarding the duration of these mandates and the duration of the resulting charges paid by customers. Current law addresses a duration ambiguity that was in prior law by ending the mandates and the charges by a date certain.

Current law calls for an end to the EE mandates when the PUCO determines that the aggregate statewide EDU compliance hits 17.5% as measured against the applicable kWh compliance baseline.

The PUCO continuously monitors the level of EE compliance as adjusted for the compliance baseline changes required by current law. Based on that review, it is clear the 17.5% threshold will be met and exceeded in 2020. Accordingly, on February 26, 2020, the PUCO directed the EDUs to begin winding down their energy efficiency programs on September 30, 2020 and to terminate the mandated programs on December 31, 2020. EDUs have made business decisions regarding employment levels and human resource allocations based on current law and this wind down process, as has the PUCO.

When current law reduced the mandated compliance levels and provided for a certain end date, it also provided for a transition for EDUs that did not have approved

compliance plans to extend them through the end of 2020. [SB 346 HB 738 and HB 740](#) increases and extends the mandated compliance levels and the costs that will be paid by customers. However, the ~~bills do~~ [bill does](#) not address the somewhat challenging logistics associated with getting compliance plans in place to meet the higher and extended compliance mandates beginning in 2021. The process to get these compliance plans approved can include informal stakeholder meetings, formal hearings before the PUCO, and potential appeals to the Supreme Court of Ohio.

Given the transitional realities presented by reverting to the higher, longer and more expensive EE mandate shortly before 2021 and the fact that stakeholders have made adjustments to their human and other resource allocations based on current law, I don't think it is possible, in a practical sense, to put the toothpaste back in the tube in the timeframe implicit in [SB 346 HB 738 and HB 740](#). The procedural requirements associated with establishing new EE mandate compliance plans, if nothing else, make it challenging to revert to prior law without an appropriate transition period and transition plan.

#### Discontinuance of energy efficiency cost recovery mechanism upon full compliance

As already explained, current law ends the mandated compliance obligation on EDUs for EE programs as of a date certain, December 31, 2020. Current law also ends the charges customers are compelled to pay as a result of the mandates at the same time, subject to a limited extension as may be necessary to reconcile or zero out any prior period over or under recovery. The steps the PUCO has taken to wind down the compliance programs should help to minimize the extent to which any charges continue into 2021.

[SB 346 HB 738 and HB 740](#) would restore the charges made necessary by the mandated compliance requirements; and, because of the escalation in the compliance required in 2021 relative to 2020 (a jump from 1% to 2%) it is reasonable to expect that

the mandate charges paid by customers will increase significantly in 2021. It is also reasonable to expect that the logistical challenges associated with reverting to prior law in the short amount of time available prior to the start of 2021 will contribute to the escalation in the costs that will be passed on to customers. Haste makes waste, as they say.

I will discuss the compliance cost experience and all the categories of cost that are reflected in this experience later in my prepared statement.

#### Reporting requirement for customers that opt out of portfolio plans (mandate compliance plans) & mercantile customer opt out

Current law streamlines the opportunity for mercantile customers (defined as non-residential customers consuming above 700,000 kWh per year or part of a national account involving multiple facilities<sup>3</sup>) to opt out of the EE mandate compliance plans. ~~SB 346 HB 738 and HB 740~~ would revert to the more complicated opt out process contained in prior law. It is important to note that both current law and prior law called for the EE compliance baseline to be adjusted to remove opt-out customers' kWh from the compliance baseline. This adjustment is necessary to avoid transferring to other customers the compliance obligation created by the opt-out customers' kWh. During 2020, mercantile customers have utilized the streamlined opt out process in current law, and the associated baseline adjustments have been implemented. If the law reverts to the more complicated opt-out process, ~~SB 346 HB 738 and HB 740 is~~ are silent on what is to be done regarding the streamlined opt outs that have already taken place and the corresponding baseline adjustments that have already been made. It is reasonable, in practical terms, to expect that, upon reversion to prior law, mercantile customers would become subject to a mandate-imposed competitive disadvantage and the total compliance baseline that would otherwise occur under current law would be greater. All of this trends toward higher mandate costs payable by customers and particularly Ohio businesses.

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<sup>3</sup> R.C. 4928.01(A)(19).

### Legacy generation resource recovery (OVEC)

~~As explained by LSC, SB 346, HB 738 and HB 740~~ would eliminate language in current law that provides EDUs with the right to pass on to customers the above-market costs associated with their contracts, as extended, with legacy generation resources which, as defined, are the generation resources owned and operated by OVEC. Current law allows EDUs to recover eligible above-market costs, contains limits on the amount of legacy generation costs that can be included in a customer's monthly bill, excludes any allowance for a return on equity, spreads the cost to customers of all EDUs, requires prudence audits by the PUCO and time limits the recovery period to December 31, 2030, subject to a reconciliation period to account for over or under recovery.

Prior to current law, the PUCO authorized above-market OVEC costs to be recovered from the customers of three EDUs. This recovery was included within the electric security plan (ESP) for each of the three EDUs with no caps on customers' monthly charges. Because these OVEC-related charges were part of the ESPs, I believe it is reasonable to assume that the duration of the charges would have been the same as the duration of the ESPs.

~~SB 346, HB 738 and HB 740~~ does not address questions about how the repeal of the provisions governing cost recovery for OVEC would or would not restore the prior PUCO-approved OVEC-related charges. If the prior PUCO-approved recovery mechanisms are restored for the three EDUs that had them, then the customers of the three EDUs would see an electric bill increase effective with the restoration, and customers of the other EDUs would see this charge eliminated (a bill decrease).

### Agreements for customer-sited renewable energy resources

Current law allows EDUs to enter into a contract with a mercantile customer or group of mercantile customers to construct a customer-sited renewable energy resource in Ohio

that is primarily used to meet the electricity needs of the customer provided that the project is not subsidized by other customers. ~~SB 346 HB 738 and HB 740~~ would eliminate this provision in current law but do not address the implications for projects that may have already been commenced based on current law.

### Decoupling

Under prior law, the PUCO approved decoupling mechanisms for three EDUs.<sup>4</sup> Current law allows the EDUs without a decoupling mechanism to establish a mechanism based on procedural and substantive details laid out in the law. This aspect of current law has been implemented.

~~SB 346 HB 738 and HB 740~~ would eliminate some of the decoupling enabling language in current law (while not affecting other decoupling enabling language as described by LSC during the presentation to the House Select Committee). Thus, the aggregate effect of a repeal on the decoupling provision in R.C. 4928.471 is unclear. Does the decoupling mechanism the PUCO approved under that statute terminate? Do the EDUs that did not have a decoupling mechanism under prior law get to request PUCO approval of a decoupling mechanism if current law is repealed? What happens to the money the EDU collected from customers under the decoupling mechanism approved under that statute? If the decoupling mechanism approved under the statute requires the EDU to refund money to customers and current law is repealed, does the EDU get to keep the money?

### Wind farms of 5 – 20 megawatts (MWs) and net metering systems using wind under 20 MW

As LSC explained to the House Select Committee, HB 6 reduced the certification jurisdiction of the OPSB for wind turbine generation projects less than 20 MW if the projects are primarily dedicated to providing electricity to a single customer. This

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<sup>4</sup> Decoupling mechanisms have also been approved for Ohio natural gas local distribution companies.

means that land use regulation associated with these projects occurs at the local level as is the case with most land use regulation. Current law also includes a complementary change to Ohio's net metering eligibility and measurement requirements. ~~SB 346 HB 738 and HB 740~~ eliminates these changes but does not address the implications for any projects that may have moved forward under current law (and did not come before the OPSB for certification). From prior testimony, it is my understanding that the largest wind turbine generator employer in Ohio (based in Findlay) will be affected by repealing these provisions.

It is worth noting that this law may be considered applicable to wind turbine generator projects serving a single retail or wholesale customer, as the word "customer" is not defined. For your information, I have attached (Attachment B) my recent letter to Chairman Wilson and Ranking Member Williams, ~~Senate Energy and Public Utilities Committee of this committee~~, responding to a question they raised regarding this subject.

#### Rate schedule for county fairs and agricultural societies

Under the law prior to HB 6, the PUCO approved EDU rate schedules applicable to some customers including county fair boards and agricultural societies. These rate schedules included a rate structure or design that created something like a take or pay obligation for customers. This rate design feature had a significant financial impact on customers that used most of their electricity in a relatively short period of time (one month, for example). As a result, their annual electric bills were affected significantly by this limited period of high use rather than the actual billing quantities in a particular month.

Current law requires the PUCO to address this billing impact of the previously approved rate design as it relates to county fairs and agricultural societies, and the PUCO has completed this work.



~~SB 346, HB 738 and HB 740~~ repeals the county fair and agricultural society rate design reform but ~~are is~~ silent on the implications for the replacement rate design that is now in place (perhaps with added significance as a result of the impact of COVID-19 on county fairs and agricultural societies). If the repeal of current law occurs and these customers are required to return to the otherwise applicable rate, it is reasonable to expect that the financial hardship these organizations attributed to the prior rate structure will return.

### Home energy assistance programs

Current law enables use of a higher percentage of federal Home Energy Assistance Program (HEAP) dollars for weatherization services provided within the scope of the federal program.

~~SB 346, HB 738 and 740~~ repeals this provision thereby reducing the opportunity to direct greater HEAP dollars towards weatherization.

### Property tax exemption for energy projects

As a result of changes made to the jurisdiction of the OPSB over wind turbine generator projects less than 20 MW, current law includes a complementary adjustment to the tax provisions contained in R.C. 5727.75.

As with the other changes applicable to wind turbine generator projects less than 20 MW, ~~SB 346, HB 738 and HB 740~~ returns R.C. 5727.75 to its prior version. ~~SB 346 Neither HB 738 nor HB 740 does not~~ address any implications of the repeal on the level of taxes that will be due or are levied but are not payable until after the repeal.

### Tangible personal property (TPP)

As a result of issues associated with the market value of Ohio's nuclear plants and their potential closure, the tax valuation of the plants was an evolving and potentially

contested issue. In light of the nuclear support opportunity in current law, current law also disallowed any future reduction in TPP valuation for tax purposes for a nuclear plant receiving support.

~~SB 346 HB 738 and HB 740~~ would repeal the tax valuation certainty provided by current law and restore the valuation uncertainty that existed previously.

## Section 2: Mandate Compliance Cost History 2014-2019

I have attached (Attachment C) a summary of the EE and PDR mandates compliance cost history for the period 2014 through 2019. During that period, the annual cost of compliance ranges from \$230,466,762 (2015) to \$301,491,496 (2019). This summary also includes the cost categories that are included for purposes of determining how much customers must pay for the mandated compliance. This summary shows that, for this period, customers were charged and paid more than \$1.6 billion because of the EE/PDR mandates. Of that total, \$408,712,280, more than 25%, was included to increase the profit or earnings of the EDUs in the name of “shared savings”. Shared savings is the label that has been attached to the incremental profit opportunity provided to EDUs largely as a result of the PUCO’s approval of requests from stakeholders supporting the mandates. Other than a brief mention of “shared savings” in the law governing EDUs’ electric security plans<sup>5</sup>, there is nothing in current or prior law that specifically allows this component to be included in or excluded from the costs passed on to customers for EE/PDR programs. This component was essentially created on the implementation side of the law.

Based on the data used to produce this cost summary, the per unit average cost of compliance ranges from a low of \$0.09 per kWh of compliance in 2016 to a high of \$0.17 per kWh of compliance in 2019. The average per kWh cost of compliance over the entire period is between \$0.15 and \$0.16 per kWh. As indicated earlier, the cost to

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<sup>5</sup> R.C. 4928.143(B)(2)(h).

customers of the nuclear credits would be \$0.009 per kWh, or nine tenths of one cent per kWh.

~~SB 346, HB 738 and HB 740~~ would restore the EE/PDR mandates as they existed in prior law meaning that the 1% of baseline compliance EE requirement in 2020 would double to 2% in 2021 and the rate of escalation in each year thereafter would stay at 2% to achieve cumulative compliance in excess of 22% by the end of 2027.

Returning to prior law and reinstating the escalation in the compliance percentage that occurs in 2021 will result in the cost of compliance and customer charges escalating significantly. To the extent the General Assembly reverts to prior law in this area, I recommend some consideration be given to eliminating the cost to customers created by “shared savings”, moderating the escalation in the compliance percentage and putting a maximum charge limit in place so customers know their tab for mandate compliance cost will not exceed a specified dollar amount in any month. Other stakeholders have, from time to time, made recommendations to remove the compliance process from the control of EDUs and they may bring these recommendations (and likely many others) to your attention as part of this process.

As LSC explained [to the House Select Committee](#), attempts to quantify any customer benefits arising from the mandates involve a lot of assumptions, as is the case with the operation of any avoided-cost model. I am well aware of efforts to portray these EE programs as having been determined to cost effective, but I am also aware of the perils associated with substantiating these claims.

Before discussing the efforts to portray these EE programs as being cost effective, I think it may be helpful to put these claims in their logical context. To the extent that these programs are cost effective, it is reasonable to expect that customers will act on energy efficiency opportunities irrespective of the mandates. The [cost effectiveness](#) claims also imply that energy efficiency programs can stand on their own in the market without the extra cost burdens and “red tape” associated with the government and other

systems that have been created to comply with the mandates. Also, utility sponsored energy efficiency programs exist now without being compelled by the force of mandates and it is reasonable to expect that voluntary programs will be available in the future even if the mandates terminate at the end of this year.

There is no statutory requirement that the compliance programs be cost effective; there is language in the PUCO rules that has been cited as supporting this requirement. Here is the text of the PUCO rule:

Each electric utility shall demonstrate that its program portfolio plan is cost-effective on a portfolio basis, based on the total resource cost test. In general, each program proposed within a program portfolio plan must also be cost-effective, although each measure within a program need not be cost-effective. However, an electric utility may include a program within its program portfolio plan that is not cost-effective pursuant to the total resource cost test when that program provides substantial non-energy benefits or the electric utility can demonstrate that an alternative cost test is more appropriate.<sup>6</sup>

The language in the rule makes it clear that each EE program does not have to be cost effective. Cost effectiveness is to be measured based on the entire package of programs. Thus, customer dollars are not focused just on cost effective programs.

The rule calls for use of the “total resource cost” test to measure cost effectiveness. This test measures cost effectiveness in the aggregate from the perspective of an EDU’s entire service territory.

There are other cost effectiveness tests that could also be used to measure costs depending on a desired outcome. For example, there is the “ratepayer impact test” that measures cost effectiveness from the point of view of utility customers and considers the impact on customers not participating in the compliance programs. The benefits of these compliance programs are typically enjoyed by a relatively small percentage of

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<sup>6</sup> Ohio Adm. Code 4901:1-39-04(B)

customers while all customers pick up the tab. And since electricity is inherently in interstate commerce and any demand impacts of retail EE programs affect, absent congestion, prices in the entire PJM footprint, any wholesale market price benefits of these programs paid for by Ohio customers are enjoyed by customers in and outside Ohio that do not pay for these programs.

There is the “utility cost test” which measures cost effectiveness from the perspective of the sponsoring utility.

There is the “participant test” that measures cost effectiveness to customers participating in the compliance programs.

I could go on.

Thus, there are a variety of cost effectiveness tests and the cost effectiveness numerical score may swing significantly depending on which test you select. And I have not even begun to explore with you the implications of the mismatch between modeled and actual results that occurs because of the mismatch between the values assigned to model input variables (such as the price of natural gas or others reflecting economic conditions) and actual input values during the period modeled.

The total resource cost test results also ~~ignore omit inclusion of~~ all of the costs mandated compliance imposes on customers such as “shared savings” (about 25% of the total) and the out of pocket costs incurred by customers that participate in the programs.

The PUCO’s human and other resource intensive EE processes involve a five-year review of the energy savings claimed by EDUs (PUCO Case No. 19-020-EL-UNC). As part of this process, a third-party independent auditor was selected to review the compliance programs for program years 2014 – 2018. An audit report was filed and the PUCO requested and received comments on the audit report. As a result, the Office of

Consumers' Counsel (OCC) filed comments on July 1, 2020 raising material questions about the scope and quality of the audit report. The Commission takes the issues raised by OCC seriously and it needs to address next procedural steps and, eventually, resolve the issues. Until we conclude this work, I caution against making conclusions based on the information EDUs have submitted to the PUCO. And even if OCC's claims turn out to be without merit—and I am not suggesting they will—the above-described vagaries that enter the picture when avoided-cost and cost-effectiveness models are in play will remain.

As a concession to my geekiness, I will quibble a bit with ~~the relevance of~~ LSC's cautioned reference in the House Select Committee to economic theory and ~~the use of theoretical intuition about~~ the potential of energy efficiency to shift the demand curve to the left, thereby reducing wholesale energy prices. To appreciate the limits of this theory you need to spend a good deal of time in the trenches where the sausage of wholesale market design is made, remade and then remade again (I don't recommend it).

For example, in determining how much supply it needs for both planning (long-term) and operational (real-time) reliability purposes, PJM attempts to recognize the effect of energy efficiency in its specification of demand. If PJM is a perfect predictor (and nobody is), there should be little or no impact on wholesale prices. The theory has already been considered in specifying the demand curve that drives wholesale prices.

The PJM market design allows energy efficiency to qualify as a "capacity resource" (like an electricity generator). Capacity resources submit offer prices to PJM, to be selected through a competitive bidding process, for receipt of capacity payments. When energy efficiency is transformed into a capacity resource, PJM "adds back" the demand reduction impact of energy efficiency to the demand of the customer providing the energy efficiency capacity resource (avoids, theoretically, double dipping by an energy efficiency resource; alternatively you cannot be a supply side resource and also use energy efficiency to reduce demand).

Turning to the cost of the “renewable”<sup>7</sup> portfolio mandate, the annual cost of compliance during the period 2014 through 2019 ranges from \$72,665,749 (2014) to \$40,648,394 (2017) with a total cost of \$320,718,264 for this period and an annual average cost of \$53,453,044. These cost amounts are shown on Attachment D to my prepared statement. This mandate applies to both EDUs and CRES providers. During the period 2014 through 2019, the EDUs’ cost of purchasing renewable attributes to comply with the portfolio mandate ranges from \$0.018 to \$0.050 per kWh and the CRES providers’ estimated<sup>8</sup> cost ranges between \$0.006 and \$0.015 per kWh.

The EE and renewable mandate compliance costs paid by customers for the period 2014 through 2019 total \$1,947,872,480.

### Section 3: Renewable and Other Generation Development Activity in Ohio

As current law was being debated, some stakeholders claimed its enactment would squash interest in renewable generation project development in Ohio. We now have some actual experience and I offer some information below on what is now occurring under current law.

I have attached to my testimony (Attachment E) a map showing the utility scale (50 MW or above) solar generating projects that: 1) have been approved; 2) have been approved and are under construction; and, 3) are currently pending before the OPSB.

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<sup>7</sup> As in other states, Ohio law defines the word “renewable”. R.C. 4928.01(A)(37)(a). As defined, it includes solar, solar thermal, wind energy, hydroelectric, geothermal, fuel derived from solid waste, biomass, energy produced by specified cogeneration technology, biologically derived methane, heat captured from other specified types of energy, energy derived from non-treated by-products of the pulping or wood manufacturing process, fuel cells used to generate electricity, methane gas emitted from abandoned coal mines, a storage facility that will promote better utilization of renewable energy or a distributed generation system used by a customer to generate electricity from any renewable energy.

<sup>8</sup> Unlike EDUs that report compliance renewable mandate compliance cost as part of the rider-based cost collection process, CRES providers do not report their cost of compliance to the PUCO. A proxy cost estimate was used by the PUCO to calculate the annual cost of compliance for CRES providers.

Additionally, from the pre-filing discussions that occur between the OPSB staff, ably lead by Executive Director Theresa White, we know there are a lot more of these projects on their way to the OPSB. As these additional projects make application to the OPSB, this map will be updated.

Based on information reported for the region, Ohio is either ranked as number 1 or number 2 in PJM for having the most solar projects including those involving the use of battery storage (hybrid solar).<sup>9</sup>

And this renewable buildout is occurring in Ohio at a time when there is already a significant amount of underutilized generating capacity (capital assets) in the PJM footprint. And, there is much more generating capacity taxiing to the runway even though there is little or no growth in demand. Under Ohio law, electricity generation is a competitive service and generation facilities secure market share and compensation from the market.

I have also attached (Attachments F and G) similar maps for wind turbine generator projects 5 MW and above and natural gas fired generation projects 50 MW or greater.

These maps are available with additional detail at the OPSB website and, again, they are updated periodically to reflect more current information.

## Conclusion

Through my prepared statement and attachments, I've attempted to shed some light on conditions as they exist under current law and provide additional context that may be useful as you consider the legislation before you.

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<sup>9</sup> <https://insidelines.pjm.com/new-subcommittee-focuses-on-hybrid-resource-needs/>



I hope the information in my prepared statement is useful and I will do what I can to respond to your questions recognizing that I will not be able to discuss pending cases.

ATTACHMENT A – September 10, 2021 LSC (Mr. Clark) Presentation to  
[the House](#) Select Committee

(Insert pdf)

ATTACHMENT B – Response Letter to Senators Wilson and Williams

(Insert pdf)

ATTACHMENT C – Cost of EE Mandate Compliance 2014-2019

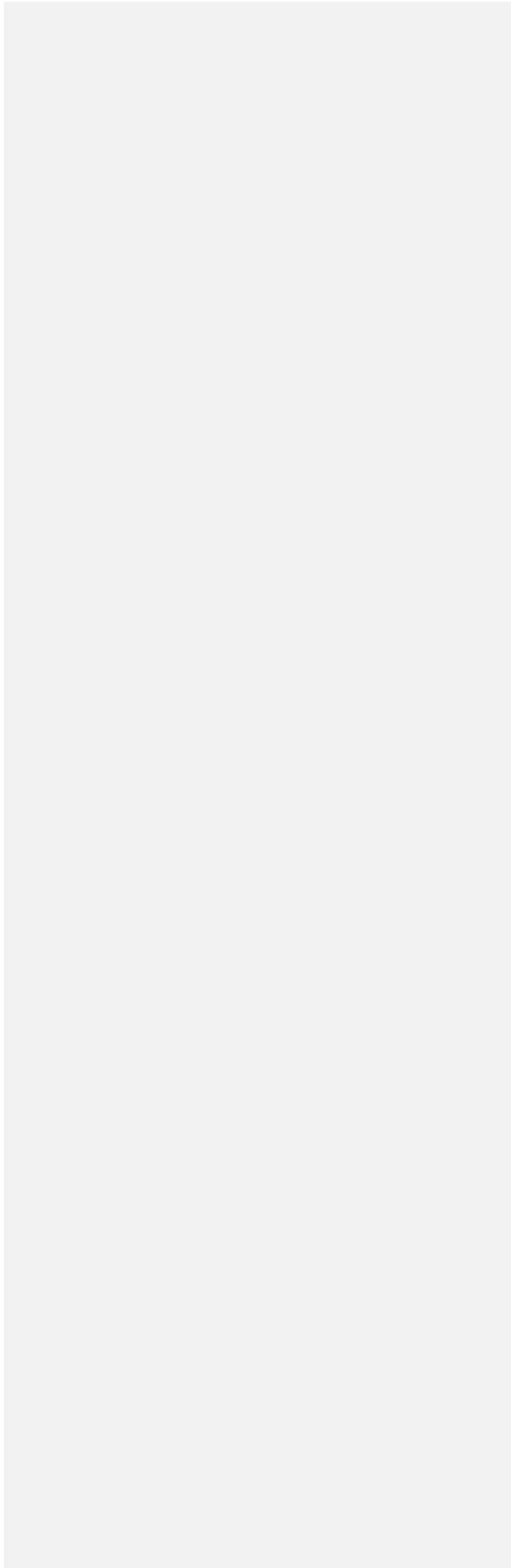
(Insert pdf)

ATTACHMENT D – Cost of Renewable Mandate Compliance 2014-2019

(Insert pdf)

ATTACHMENT E – Power Siting Solar Case Status  
(insert pdf)

ATTACHMENT F – Power Siting Wind Case Status  
(Insert pdf)



ATTACHMENT G – Power Siting Gas Generation and CHP Case Status  
(Insert pdf)