



THE OHIO STATE UNIVERSITY
JOHN GLENN COLLEGE OF PUBLIC AFFAIRS
OHIO MANUFACTURING INSTITUTE

**Ohio House Bill 6 is a Threat to Ohio's Economic Development:
The expected cost difference in electricity consumed in Ohio with and
without the bailout is \$675 million a year**

June 25, 2019

Edward W. [Ned] Hill, Ph.D.
Professor of Economic Development, John Glenn College of Public Affairs & City and
Regional Planning
Faculty member, Ohio Manufacturing Institute
The Ohio State University

*The findings, conclusions, and recommendations expressed in this testimony are mine
alone and do not represent the views of The Ohio State University, the John Glenn
College of Public Affairs, or the Ohio Manufacturing Institute*

House Bill 6 is a Threat to Ohio's Economic Development: The expected cost difference in electricity consumed in Ohio with and without the bailout is \$675 million a year

Abstract

Amended Substitute House Bill 6 removes the current \$4.39 average monthly surcharge that residential customers currently pay to support energy efficiency (EE) programs. The claim that residential customers will save money under H.B. 6 is limited to the \$3.39 per month difference between the current \$4.39 EE surcharge and the new \$1.00 per month nuclear power plant bail out, termed "Clean Air Credits." The \$40.68 annual "savings" do not reflect the real cost that power users will see in their electric bills.

The total cost of electricity will increase due to (1) increases in the purchase price of generated power, (2) expected increases in capacity charges from PJM Interconnection that will be directly tied to the bailout of FirstEnergy's two nuclear plants, (3) the Bailout of AEP's ownership interest in the Ohio Valley Electric Company (OVEC), and (4) allowing power from five utility-scale solar power plants and the two nuclear plants to be purchased by the Investor Owned Utilities (IOU) for their standard service offerings (SSOs) with 3-year above-market rate Power Purchase Agreements (PPAs). The profit margins on the PPAs to the utilities that will be based on cost-plus pricing. Competition for electric power was introduced in Ohio based on the economically sound of consumer choice; H.B. 6 replaces consumer choice with utility choice.

Electricity bills will increase due to:

1. Bailout payments:

- "Clean Air" credits total \$1.1 billion and are subsidies that will flow to nuclear and utility-scale solar power plants. In most years this rider will cost Ohio's electricity users nearly \$200 million.
- Allowing AEP to sell power from the OVEC power plants in Ohio and Indiana in the wholesale generating market and be compensated for any losses from those sales through a rider paid for by its customers. There is no cost estimate associated with this part of the bailout. A direct question should be put to EP before a vote is taken

2. Increased capacity charges: Increased capacity charges: PJM Interconnection will not allow Ohio's subsidized power from competing for and receiving payments from the capacity auctions that it runs. This will be done to preserve competition and investment in the capacity market. RunnerStone, an independent energy consultant, has estimated this lost revenue at \$80 million a year for the nuclear plants alone. The Ohio Manufacturers Association did a separate calculation and arrived at \$82 million a year. This revenue is an important revenue stream for the nuclear plants. These establishes are close enough to outline the size of the ballpark number for the lost capacity income.

If the Clean Air credits are enacted they would more than make up for the lost payments. However, FirstEnergy testified to Federal Energy Regulatory Commission (FERC) that it will petition for payments for lost capacity revenue in addition to the Clean Air Credits. FirstEnergy informed FERC that it expects the state of Ohio to provide the compensation. If the capacity revenue is \$200 a MWh a day the total request will be \$157 million per year. The state and the PUCO will have to wrestle with how to spread the capacity charge penalties across utility users. If the increased capacity charges are assigned to FE's customers, then businesses in one of the slowest growing regions of the state will be further disadvantaged by a large increase in these capacity charges. If they are spread across all electricity users in the state to lower the impact in FE's territories those who do not use the power will be strong-armed into paying for it.

- 3. Increased electricity generating charges:** H.B. 6 defines the nuclear power plants and five utility-scale solar facilities as "clean air resources." The bill then mandates that the IOUs purchase power from these plants with negotiated 3-year power purchase agreements (PPAs). The cost of the PPAs will be passed on to the utility's customers with a rate of return that is approved by the PUCO. The combination of clean air credits and the cost of the non-bypassable PPAs will create higher than market priced power. We know this will occur because the clean air credits are designed to keep the most expensive power in the market. If the first layer of electricity in the power pool is the costliest, then the average price of the entire bundle will cost more than if the highest priced power is excluded from the power bundle. The conclusion is straightforward arithmetic.

The second reason why power will become more expensive than it would be in the absence of this legislation is that it deters entry by producers with potentially lower production costs.

Third, H.B. 6 prevents the removal of politically-favored high-cost power producers. An increase in the overall cost of power in Ohio is the intended outcome of House Bill 6. *Keeping the most expensive electricity in the consumption bundle and keeping cheaper power out of the bundle is not accidental drafting; it is intentional.*

- 4. Cost Shifting Through "Reasonable Arrangements:"** Ohio will see an increase in special-interest petitions by sophisticated and politically connected businesses for "reasonable arrangements" that are targeted toward trade-impacted industries. Electricity rates will decline to some negotiated level for these politically connected or recruited businesses through an economic development and retention process run by the PUCO. Negotiated rates are treated confidential business secrets and the negotiated savings will be passed on as costs for other commercial and residential customers to pay through non-bypassable riders. The cost savings experienced by the connected few businesses that receive these arrangements are shifted to unknowing electricity users. This is picking winners and losers behind closed doors.
- 5. Discourage investment** in disruptive power generation that is not controlled by the IOUs and regulated by the PUCO. House Bill 6 will discourage investment in efficient natural gas-fired combined cycle power plants. House Bill 6 helps to ensure that Ohio's abundant sources of natural gas will be drilled, put into pipes, shipped out-of-

state, and the value that could be added in Ohio will take place elsewhere—along with the associated work. That prospect is an economic development nightmare and a loss of employment opportunities in Ohio’s shale country.

6. **IOU income enhancement through the “decoupling mechanism”**: Amended Substitute House Bill 6 locks-in the income IOUs received in 2018 for providing energy efficiency programs, while discontinuing the programs. New non-bypassable riders will replace money that came from the discontinued EE rider (that is the \$4.39 average monthly payment that H.B. 6 discontinues). Bizarrely, the IOUs will receive income from discontinued programs while not incurring the costs associated with service delivery. Being ordered by the Legislature to not provide services while receiving the money that was once earned from providing those services from a *de facto* tax is a lobbyist’s dream come true. This new rider will last until the IOU has a new rate case hearing before the PUCO. They will take place years after H.B. 6’s charges end in 2023. Commercial customers that opted out of the EE programs that H.B. 6 discontinues will now be forced to make the payments they previously avoided because of the scope and power of the mandated rider.

PJM’s analysis of the impacts of H.B. 6 indicates that keeping the energy from the two nuclear plants in the market through subsidy, coupled with half of the expected power from gas-fired power plants not entering the power pool will cost Ohio’s consumers \$16 million a year in added power generation costs. Add to this number \$198 million a year in subsidy payments and \$157 million a year in capacity market charges that will be added by PJM Interconnection in response to this bailout results in \$1.4 billion in added costs in the four years from 2020 to 2023, or \$356 million a year.

PJM’s modeling indicates that if the nuclear plants close and all of the expected gas-fired power plants come online Ohio’s consumers will benefit from \$1.3 billion in power generation savings by 2023. The *opportunity cost*, which is the difference between these two scenarios, \$1.3 billion in savings versus \$1.4 billion in added costs, is \$2.7 billion or \$675 million a year.

**House Bill 6 is a Threat to Ohio's Economic Development:
The expected cost difference in electricity consumed in Ohio with and without the
bailout is \$675 million a year**

Chairman Wilson, Vice Chair McColley, Ranking Member Williams, and members of the Senate Energy and Public Utilities Committee, my name is Edward Hill, better known as Ned Hill, and I am Professor of Economic Development at The Ohio State University's John Glenn College of Public Affairs and a member of OSU's Ohio Manufacturing Institute. Today's testimony is mine alone and does not represent the views of The Ohio State University, the John Glenn College of Public Affairs, or the Ohio Manufacturing Institute. I appreciate the opportunity to submit written opponent testimony on Amended Substitute House Bill 6 before the Ohio Senate's Energy and Public Utilities Committee. I am out of state and cannot testify in person. I am available to meet with the committee, or its members, upon my return to Columbus in mid-August.

I am an economist and have worked on economic development policies in general, and on issues that affect Ohio's manufacturing sector in particular, for nearly thirty-four years. I am interested in the performance electricity markets in Ohio and have testified on this industry before the Public Utilities Commission of Ohio (PUCO) and the Ohio Legislature. I have also participated in research relating to the development of Ohio's natural gas resources and the operations of the electricity market in Ohio since 2011.

I was neither commissioned nor paid to prepare this testimony, as was the case of my previous testimony before the Legislature and the Public Utilities Commission of Ohio on issues related to electricity regulation.

The attempts of Ohio's Investor Owned Utilities (IOUs) over the past five years to:

- Bailout failing power plants,
- Re-monopolize the electric generation industry through a mix of regulation and legislation,
- Re-balkanize and degrade an efficient and reliable regional generation market managed by PJM Interconnection,
- Mandate above market rate payments for electricity through anti-competitive purchase price agreements (PPAs), and

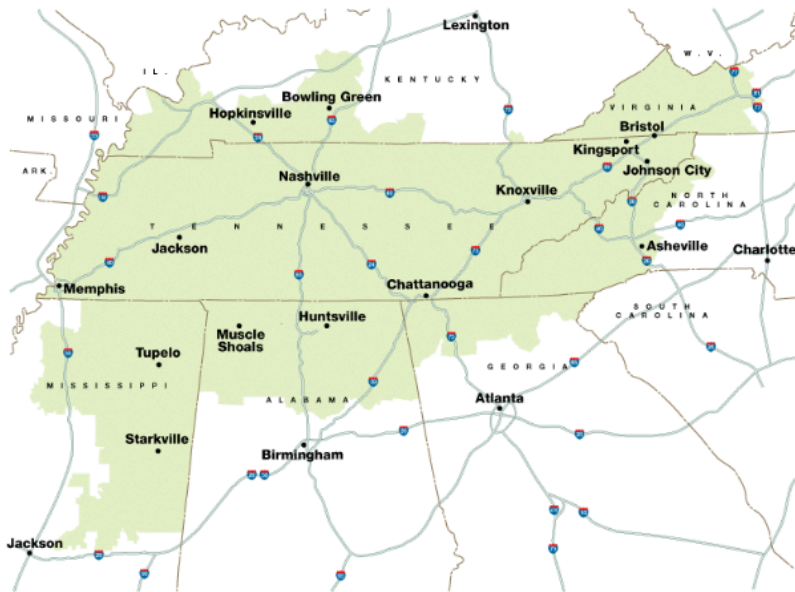
- Implement non-bypassable riders that are not connected with the generation, transmission or distribution of electricity service delivery

are detrimental to the state’s economic development.

The preservation of competitive electricity generation markets is essential for Ohio’s economic development. Re-monopolizing Ohio’s power generation markets, propping up a failed investor-owned utilities (IOUs), shielding IOUs from the financial consequences of not divesting their generating facilities after they were urged by the Legislature to do so and were paid by their customers to do so and, and attempting to pre-monopolizing renewable sources of generation will only hurt electricity users and the state’s economy.

It is inescapable to conclude that Ohio House Bill 6 in both its original and amended forms is an attempt to raise electricity rates in the state of Ohio. And, as we wrestle over potential rate increases, our competitors in the 7-state region served by the Tennessee Valley Authority to our south is taking action to lower their electricity rates.¹

The accompanying map is of TVA’s 7-state service region. TVA serves southern



Kentucky and a connecting piece of southwestern Virginia; most of Tennessee, as well as those living in adjoining western North Carolina; sophisticated manufacturing employers in northern Mississippi benefit from TVA's rates, as do those in northern Alabama's Muscle Shoals

and Huntsville regions. Chattanooga and Atlanta’s northern suburbs are also customers

¹ Gardner, Timothy, “U.S.-owned utility to close two coal plants, in blow to Trump,” *Reuters*, February 14, 2019, and James Brugger, “TVA Votes to Close 2 Coal Plants, Despite Political Pressure from Trump and Kentucky GOP,” *Inside Climate News*, February 14, 2019.

of TVA. In other words, a good portion of Ohio's day-to-day economic competition purchases power from TVA.

Comparing Ohio's economic development activity to TVA's in the southeast underlines what is at risk in H.B.6's embrace of crony capitalism and higher electricity bills.² TVA's targeted industries (listed in italics) include:

- *Aerospace and Defense* (JobsOhio targets Aerospace and Aviation and the Dayton region leads on defense): More than 2,400 aerospace and defense firms are located in the TVA region. These include system integrators who are customers of Ohio-based businesses: Boeing, Airbus, Raytheon, Lockheed Martin, BAE Systems, Embraer, and Bell Helicopter.
- *Automotive* (another JobsOhio target): TVA asserts that its service area is the second-largest automobile manufacturing region in the country trailing Michigan with approximately 90,000 automotive industry jobs. The TVA service area is the location of GM, Nissan, Toyota, and Volkswagen assembly plants; while BMW (South Carolina), Honda (Alabama), Hino (West Virginia), Hyundai (Alabama), Kia (Georgia), and Mercedes (Alabama) are in bordering locations that share a well-developed just-in-time supply chain. TVA also states that motor vehicle parts suppliers are an important target of its attraction activities. Ohio auto parts and assembly plants fight factories in the southeast every day for work that is allocated based on financial spreadsheets dominated by production cost consideration. Some of these plants are part of the same company as the Ohio facility, others are owned by competitor companies.
- *Advanced Manufacturing and Industrial Products* (JobsOhio targets the advanced manufacturing and chemicals industries). Advanced manufacturing is a sector that is especially sensitive to the cost of electricity and of natural gas. TVA notes facilities owned by Siemens, Lifetime, Alcoa, 3M, GKN, Electrolux, BASF, Wacker, Carpenter Technologies and LG Appliances. The TVA region competes with Ohio for investments and operations in composites, chemicals, electronics, plastics, additives, and metals manufacturing and processing. H.B. 6 only makes the competition harder and erodes the advantages given to the state from our deposits of wet-gas, which is the building block material for composites and plastics. H.B. 6 disadvantages Appalachian Ohio and provides advantage to Appalachian TVA.
- *Data Centers*: While JobsOhio does not list data centers as a specific target it, and Central Ohio, have been very active in recruiting them. Northeast Ohio is showing enthusiasm about blockchain programming and code generation. Both activities are intensive users of electricity. I suspect that part of every one of Ohio's data center projects has a PUCO-approved "reasonable arrangement" that caps their electricity costs. I know that several have included exemptions from riders that other businesses pay. These regulatory approved avoided costs

² <https://www.tva.gov/Economic-Development/Attract>

are then shifted onto the rest of the rate base (a term to describe what is known in other industries as customers). Contrast this with TVA, which encourages data centers to “take maximum advantage of the area’s major strengths: competitive electric power rates, excellent reliability and capacity, dual-feed capability and business-friendly climate.” Ohio sells the ability to cap electric rates and pass the avoid costs on to others.

Ohio is heading in the wrong direction by allowing in-state corporate redistributive politics increase electricity rates and pick winners and losers while a major competitor region is busy cutting electricity and not subsidizing legacy generating capacity.

The six-years of attempted bailouts, PPAs, and riders all came after transition, or stranded asset, payments were made to the state’s IOUs over the past decade and a half. The stranded assets payments were intended to be used by the IOUs to mark down stranded assets, separate their generating subsidiaries from their overall transmission and distribution businesses and adjust to competition in the electricity market. With the exception of Duke Energy meaningful separation did not occur.

Ohio's Consumer Counsel estimates that Ohio's IOUs have collected more than \$14 billion in stranded asset payments and non-bypassable riders since 2000. Amended Substitute House Bill 6 will add another \$1 billion in mandatory charges from 2020 through 2026, most going to the owners of FE’s two nuclear power plants. H.B. 6 also continues an existing subsidy that offsets AEP’s losses from its failed investment in the Ohio Valley Electric Company (OVEC) that was due to expire in 2022. The bill allows the subsidy to continue through 2030 and sets the stage for subsidies beyond that date.

H.B. 6 triggers other sources of higher electricity costs for Ohio’s consumers by:

- (1) preserving utility earnings from energy efficiency programs that will be phased out,
- (2) increasing capacity charges from PJM Interconnection that Ohioans will have to pay,
- (3) forcing the most expensive sources of Ohio-generated power into the pool of electricity—rationing out lower cost sources of electricity, and
- (4) triggering cost-shifting from politically connected and sophisticated businesses that can seek “reasonable arrangements” to lower their power bills and shift them off to non-connected power customers.

Amended Substitute House Bill 6 is a Corporate Bailout

The bulk of House Bill 6 constitutes the third attempt by FirstEnergy (FE) to bail out its uncompetitive nuclear power plants, with similar levels of non-bypassable charges demanded in each effort. In my assessment, these non-bypassable charges are *de facto* taxes because the power of the state is used to extract payments from electricity users. Additionally, AEP is seeking its piece of corporate welfare to continue the bailout of its failed ownership of the Ohio Valley Electric Corporation (OVEC). The Legislature is being asked to tax electricity users to compensate FE and AEP for bad business decisions and inappropriate uses of stranded asset payments.

It is essential to keep in mind the core public policy goals of competitive wholesale energy markets. They are to provide reliable power at the lowest cost to consumers. As former Federal Energy Regulatory Commissioner Tony Clark wrote in a July 2017 white paper: “For many, a ‘freer market’ was never the end goal. The market was a tool. Affordable power was the goal but many state public policy makers no longer see that as the only goal ... (Electricity generating markets) were never designed for job creation, tax preservation, politically popular generation, or anything other than reliable, affordable electricity.”³ Former PUCO Chair, and current Executive Director for Strategic Policy and External Affairs for PJM Interconnection, Asim Z. Haque, in testimony before this committee defined PJM’s mission as: “keep[ing] the lights on at lowest reasonable cost to the consumer.”⁴

H.B. 6 supports inefficient power producers who will drive up the cost of electricity consumption in Ohio. This prediction is undeniable because it is the purpose of H.B. 6.

³ Clark, Tony. *Regulation and Markets: Ideas for Solving the Identity Crisis*. Wilkinson, Baker, Knauer. July 2017. <https://www.wbklaw.com>

⁴ Haque, Asim Z. *Statement of Asim Z. Haque, on Behalf of PJM Interconnection before the Ohio Senate’s Energy and Public Utilities Committee.* June 5, 2019. <https://www.pjm.com/-/media/library/reports-notice/special-reports/2019/20190605-statement-of-asim-z-haque-to-the-ohio-senate-energy-and-public-utilities-committee>

Competitive Power Generation Markets are Working for Ohioans

The electricity generation and capacity markets are working in Ohio and benefit consumers and employers. There is no economic rationale for introducing subsidies into the electricity generating markets; they amount to nothing more than corporate welfare.

There is a straight forward four-part test that determines if the electricity markets are working for consumers and industry:

First: *Are electricity generating prices lower than they would have been without competitive electricity markets?* In 2016 a research team that I was a part of estimated that nearly \$3 billion a year in savings resulted from the entrance of new competitors.⁵ PJM Interconnection's Asim Haque testified that "Ohioans, over the past five years, have seen more than \$2 billion dollars in savings through our [PJM's] core functions."⁶

Second: *Is investment in new generating capacity taking place in PJM Interconnection's region and is investment taking place in Ohio?* The answer to this question is also, yes. Approximately \$11 billion in new power plant investments in Ohio are operating, approved for operation, or in the approval process. The combined generating capacity is 11.1 MW.⁷ Testimony given in the House hearing indicates that the ground is beginning to shift. Some investors in approved projects that have not yet broken ground are heading for the sidelines.⁸ Additionally, when Duke Energy sold off its generating fleet Vistra Energy invested in them and is now a major power generator

⁵ Thomas, Andrew, et al. *Electricity Customer Choice in Ohio: How competition has outperformed traditional monopoly regulation*. Northeast Ohio Public Energy Council, November 2016.

⁶ Haque, *op. cit.*, p. 1.

⁷ Ohio Independent Power Producers, *Testimony before the Ohio House Energy and Natural Resource Committee, Subcommittee on Energy Generation*, March 19, 2018. Haque, *op. cit.* pages 2 and 11. Asim Haque, *Attachment to Testimony of Asim Z. Haque: Ohio Senate Energy and Public Utilities Committee*, June 5, 2019, page 12. www.ohiosenate.gov/committees/energy-and-public-utilities/document-archive. *PJM Interconnection Response to the Pennsylvania Public Utility Commission & Ohio Consumers' Counsel Requests to Analyze Certain Impacts of Nuclear Power Plant Retirement*, June 5, 2019. <https://www.pjm.com/-/media/library/reports-notice/special-reports/20190605-pjm-response-to-ppuc-ohio-consumers-requests-to-analyze-certain-impacts-of-nuclear-power-plant-retirements>.

⁸ See the testimony of Mayor Arno Hill of Lordstown Ohio at <https://ohiochannel.org/video/ohio-house-energy-and-natural-resources-subcommittee-on-energy-generation-4-24-2019-part-2> and Oregon Ohio's City Manager Michael J. Beasley at <https://ohiochannel.org/video/ohio-house-energy-and-natural-resources-subcommittee-on-energy-generation-4-24-2019-part-3>. Also see PJM Interconnection Response *ibid*.

in Ohio.⁹ Lighthouse Generation invested \$21.7 billion to acquire three power plants in Ohio (Gavin coal-fired power station and two natural gas-fired plants) and one in Indiana that were owned by AEP. And NRG purchased and then invested in turning around generating operations purchased from FirstEnergy.

Third: *Have uncompetitive generating plants closed? Yes.* Between 2010 and 2022, 48 coal-fired power boilers located at 16 separate power stations are, or will be, retired. These plants have the ability to generate 14MW of electricity.¹⁰ If H.B. 6 is passed some plants slated for closure may stay open and OVEC will have a long - subsidy-supported life—at least until 2030 and most likely until 2040.

Fourth: *Has the reliability of the electric grid improved with the onset of competition?* The answer to this question is also positive. The power reserve standard for summertime peak usage under the state-regulated regime was between 12 to 16 percent. From 2008 to 2010, before competition in purchasing electricity was fully effective in Ohio, the reserve margin for PJM Interconnection was between 16.6 percent and 18.0 percent. PJM's reserve margin for 2019 is 27.5 percent, and they estimate that reserves will peak in 2021 at 28 percent. The reserves will decline a bit, yet still stay ten percentage points above the old regulatory rule-of-thumb, a still-robust 26 percent in 2023.¹¹

Reliability has increased with the invention of regional transmission networks and competitive capacity markets that combine power generation capacity over a 13-state region. When weather events shift power demand, or outages dislocate power supplies, reserve power is dispatch throughout PJM Interconnection's grid. Reliability is now more robust than when electricity generation capacity was balkanized under state-regulation

⁹ Vistra Energy, Written Testimony before the Senate Energy and Public Utilities Committee, June 18, 2019.

¹⁰ I collected the data from: *Impact of Coal Plant Retirements on the U.S. Power Markets: PJM Interconnect Case Study*, Appendix A, Energy Ventures Analysis, July 2018; Seth Feaster, Record Drop in U.S. Coal-Fired Capacity Likely in 2018. *IEEFA* October 2018. http://ieefa.org/wp-content/uploads/2018/10/Record-Drop-in-U.S.-Coal-Fired-Capacity-in-2018_October2018.pdf; List of Power Stations in Ohio, *Wikipedia*; Individual pages maintained by Sourcewatch, example: https://www.sourcewatch.org/index.php/Eastlake_Power_Plant

¹¹ PJM Interconnect, Reserve Margin Graph, 2019. <https://www.pjm.com/~media/planning/res-adeq/20190409-forecasted-reserve-margin-graph.ashx> Also see, Haque, Addendum to Testimony, *op. cit.*, page 7: the “committed reserve margin” for PJM Interconnection was 22.4% in 2019-2020, and in 2021-2022 it will be 21.5%.

of the market for electricity. A large regionally interconnected transmission grid is electricity's version of the Law of Large Numbers in statistics.

Some in the legislature listen to lobbyists for the IOUs who claim that energy insecurity is increasing in the state because of the number of shuttered coal-fired power plants and the prospect of the two northern Ohio nuclear generating plants closing. The talking points of industry lobbyists do not include openings of natural-gas plants, which are not owned by their employers and clients, and they do not talk about the improvements in efficiency that have taken place in power stations that the IOU's have sold. Statements circulate that Ohioans are at the mercy of an uncaring and incompetent PJM Interconnection. All of this is self-serving foolishness.

Ohio's is both a major producer and consumer of electricity. Our state is a significant location of both power plant openings and closings that come with shifts in the relative price of fuel, changes in power-producing technologies, and as business management decisions affect the credit ratings and balance sheets of the owners of those facilities. The amount of electricity imported into Ohio is a direct function of the cost of electricity that is generated in-state compared to the cost of "imported" power and the investment climate for new generating capacity in Ohio compared to other states. As former PUCO Chair Asim Haque testified: "importing power is not due to Ohio's inability to meet demand from its locally owned generating units; instead, it means that lower cost generation from outside Ohio was able to serve Ohio's customers."¹² Ohio should dominate the market for new electricity generating capacity thanks to the dry gas reserves in our eastern counties. H.B. 6 will turn advantage into disadvantage.

Data from the Energy Information Agency show that from 1986 through 2017 Ohio has been a net importer of electric power in every year but 2006. PJM Interconnection has data on 2018 showing that Ohio imported 23.8% of its power in that year. Power imports increased in volume beginning in 2009 when Ohio's power markets embarked on competition, with the flow increasing in 2015 as competition finally included the entire state. These two jumps in imports demonstrate that competitive

¹² Haque, *op. cit.*, page 8.

power markets were working; and they were followed by investments in new generating capacity—another sign of markets working properly. Since 2015 imports have been between 27,000 and 32,000 Megawatt hours.

Imports of electricity can decrease in the future if the state remains a desirable location for natural gas power plants. The test of successful generating markets is reflected in two portions of the four-part test discussed earlier—lower prices coupled with increased reliability. The competitive position of the state as a place to make power generating investments is documented by the third part of that same test—investment in new power plants. The competitiveness of existing plants is documented with the fourth part of the test, the closure of uncompetitive plants.

Electrons do not come in state colors, and the location of a power plant on one side of the Ohio River or the other makes no difference to the grid and to customers. Electrons generated in Ohio, Pennsylvania, West Virginia, Kentucky, or Indiana all work the same way. Apparently to Ohio's IOUs unsubsidized "foreign" electrons are harmful to Ohio while bailed out "foreign" electrons are beneficial. Such is the logic used when balance sheets are negatively impacted.

Non-bypassable Riders Reduces Consumer Benefits

Savings from competitive generation markets have been clawed back to major extent through the expansion of non-bypassable riders by the PUCO. The most troublesome are the riders that are associated with charges for above-market energy generation, compensation for bad business decisions and losses, or designed to enhance the credit standing of an IOU. An example is the Distribution Modernization Rider (DMR) that allowed FE to collect \$168 million a year from 2017 to 2019. The legislature allowed the company to petition the PUCO to renew the DMR for another two years. These funds were fungible; they did not have to be spent on their named use. The corporation appeared to be able to use the funds as it wishes—including making good on losses from generating subsidiaries.¹³ The Ohio Supreme Court struck down this rider in a slip

¹³ Kowalski, Kathiann M. *FirstEnergy won't say what it's done with Ohio grid modernization money*. Midwest Energy News. <https://energynews.us/2018/07/30/midwest/firstenergy-wont-say-what-its-done-with-ohio-grid-modernization-money/>

opinion released June 19, 2019.¹⁴ Unfortunately, FirstEnergy gets to keep the ill-gotten gains from the DMR that it collected thanks to previous Ohio Supreme Court decisions. The ruling may affect a PUCO-approved “credit enhancement” rider for Dayton Power & Light.

Competitive electric generation markets were in effect in most of Ohio in 2016. At that time non-bypassable riders constituted 14 percent of total electricity spending; electricity generation costs were 48 percent of the aggregate bill. In 2018 generation costs are 41 percent of aggregate payments, and non-bypassable riders were 21 percent. There was a 7 percent swap between the two cost categories. The growth in non-bypassable riders is now both an economic development and a regulatory problem.

Regulatory Capture Has Taken Place

Has regulatory capture occurred over the past five years? It has. Non-bypassable costs in the transmission and distribution portions of the business have grown faster among the IOUs that own generating capacity than for the single utility that does not. We all can observe the results of a natural experiment that occurred when Duke Energy shed its electricity generation capacity while AEP and FirstEnergy did not. We found out how IOUs with a fleet of generating plants behaves in the PUCO and Legislature compared to one that sold off its generating fleet.¹⁵ The one without generating capacity has fewer and less costly non-bypassable riders in its ESP.

Despite the assertions of paid media that the version of House Bill 6 you are considering will save power users money, the bill will drive the total cost of electricity higher. The most convincing piece of evidence is the amount of money spent, or invested, on the bill in terms of lobbying and campaign expenses. No company invests in paid media and political contributions looking for a decrease in revenues. FirstEnergy, its leadership, and the hedge funds that invested \$2.5 billion in FirstEnergy (Elliott

¹⁴ Trevas, Dan. “First Energy Electric Grid Modernization Charge Improperly Imposed,” *Court News Ohio*, June 19, 2019. The slip opinion is: In re Application of Ohio Edison Co., Slip Opinion No. 2019-Ohio-2401.

¹⁵ Thomas, *et al.*, *op. cit.*

Management, Bluescape, Singapore sovereign fund, and Zimmer Partners) have engaged in aggressive political marketing on House Bill 6 and expect a positive return on their political investments. *Dayton Daily News* reporter Laura Bischoff documents \$2.4 million in advertising paid for by the dark money lobbying group Generation Now in story published on May 17—before the heavy advertising blitz began.¹⁶ Additional money poured into the campaign fund of the current House Speaker and the bankruptcy filings of FirstEnergy Solutions document an extensive and expensive lobbying operation¹⁷

In the next section I walk through the ways the H.B. 6 bailout will increase the bill that Ohioans and their employers will have to pay.

H.B. 6 and the False Claims of Savings

H.B. 6 creates the Ohio Clean Air Program, which is not about clean air, it is a bailout of FE's loss-making nuclear facilities, and it extends of a bailout of AEP's investment in two coal-fired power plants owned by the Ohio Valley Electric Company. A non-bypassable rider, or mandatory assessment on each electricity account in the state of Ohio, funds the program. While H.B. 6 and its supportive advertising mentions customers, the bill refers to accounts. And each account is associated with an electric meter. Companies can have multiple meters in one facility and separate meters in each of their facilities. Additionally, the bill does not mention how very large users with master meters will be billed to support the Clean Air Program.

The rider affects the bills generated by every account or electric meter in the state:

- Residential accounts or electric meters will be billed \$6 a year in 2020 and \$12 a year from 2021 through 2026;

¹⁶ Bischoff, Laura A. "Battle over energy bill includes \$2.4M in ads to sway public," *Dayton Daily News*, May 17, 2019.

¹⁷ Tobias, Andrew J. "FirstEnergy and its allies, seeking nuclear plant bailout, have spent millions on influence campaign," *Cleveland Plain Dealer*, April 17, 2019. <https://www.cleveland.com/open/2019/04/firstenergy-and-its-allies-seeking-nuclear-plant-bailout-have-spent-millions-on-influence-campaign.html>

- Commercial accounts that use less than 45,000 megawatt hours (MWh) of electricity will pay \$10 per meter per month in 2020 and \$15 per meter per month (\$180 per year) from 2021 to 2026;
- Industrial accounts (meters) that use less than 45,000 MWh will be charged \$250 monthly or \$3,000 per year from 2020 to 2026; and
- Large commercial or industrial accounts (meters) that register more than 45,000 MWh can expect an assessment of \$2,500 per month or \$30,000 per year.

Amended Substitute House Bill 6 removes the current \$4.39 average monthly surcharge that residential customers currently pay to support energy efficiency (EE) programs. The claim that residential customers will save money under H.B. 6 is limited to the \$3.39 per month difference between the current \$4.39 EE surcharge and the new \$1.00 per month nuclear power plant bail out, termed “Clean Air Credits.” The \$40.68 annual “savings” do not reflect the real cost increases that power users will see in their electric bills.

The total cost of electricity will increase due to (1) increases in the purchase price of generated power, (2) expected increases in capacity charges from PJM Interconnection that will be directly tied to the bailout of FirstEnergy’s two nuclear plants, (3) the Bailout of AEP’s ownership interest in the Ohio Valley Electric Company (OVEC), and (4) allowing power from five utility-scale solar power plants and the two nuclear plants to be purchased by the Investor Owned Utilities (IOU) for their standard service offerings (SSOs) with 3-year above-market rate Power Purchase Agreements (PPAs). The profit margins on the PPAs to the utilities that will be based on cost-plus pricing. Competition for electric power was introduced in Ohio based on the economically sound of consumer choice. H.B. 6 replaces consumer choice with utility choice.

Electricity bills will increase due to:

1. *Bailout payments:*

- “Clean Air” credits total \$1.1 billion. The payments will flow to nuclear and utility-scale solar power plants. In most years this rider will cost Ohio’s electricity users nearly \$200 million.
 - Allowing AEP to sell power from the OVEC power plants in Ohio and Indiana in the wholesale generating market and be compensated for any losses from those sales through a rider paid for by its customers. There is no cost estimate associated with this part of the bailout. A direct question should be put to EP before a vote is taken
2. *Increased capacity charges:* PJM Interconnection will not allow Ohio’s subsidized power from competing for and receiving payments from the capacity auctions that it runs. This will be done to preserve competition and investment in the capacity market. RunnerStone, an independent energy consultant, has estimated this lost revenue at \$80 million a year for the nuclear plants alone.¹⁸ The Ohio Manufacturers Association did a separate calculation and arrived at \$82 million a year. This revenue is an important revenue stream for the nuclear plants. These establishes are close enough to outline the size of the ballpark number for the lost capacity income.
- If the Clean Air credits are enacted they would more than make up for the lost payments. However, FirstEnergy testified to Federal Energy Regulatory Commission (FERC) that it will petition for payments for lost capacity revenue in addition to the Clean Air Credits.¹⁹ FirrstEnergy informed FERC that it expects the state of Ohio to provide the compensation. If the capacity revenue is \$200 a MWh a day the total request will be \$157 million per year.
3. PJM Interconnection will assess a penalty on the subsidized power, called a capacity charge, generated by the nuclear plants and utility-scale solar facilities

¹⁸ Nader, Jordan and John Seryak, *FirstEnergy Solutions Corp. Recommended Changes to Wholesale Electricity Markets to Address Power Plant Subsidies*, Ohio Manufacturers Association, May 16, 2019 and Ohio Manufacturers Association, *An Analysis of Ohio Nuclear Plant Profitability Under House Bill 6*, June 2019. <https://ohiomfg.informz.net/ohiomfg/data/images/MEMO%20-%20HB%206%20-%20Nuclear%20Plants%20Excess%20Revenue%20-%206.18.19.pdf>

¹⁹ Ohio Manufacturers Association, *An Analysis of Ohio Nuclear Plant Profitability Under House Bill 6*, *ibid*, p. 5.

in Ohio to preserve competition and investment in its capacity market. RunnerStone, an independent energy consultant, has estimated this cost at \$80 million a year for the nuclear plants alone.²⁰

The state and the PUCO will have to wrestle with how to spread the capacity charge penalties across utility users. If the increased capacity charges are assigned to FE's customers, then businesses in one of the slowest growing regions of the state will be further disadvantaged by a large increase in these capacity charges. If they are spread across all electricity users in the state to lower the impact in FE's territories those who do not use the power will be strong-armed into paying for it.

3. *Increased electricity generating charges:* H.B. 6 defines the nuclear power plants and five utility-scale solar facilities as "clean air resources." The bill then allows that the IOUs purchase power from these plants with negotiated 3-year power purchase agreements (PPAs).²¹ The cost of the PPAs will be passed on to the utility's customers with a rate of return that is approved by the PUCO. The combination of clean air credits and the cost of the non-bypassable PPAs will create higher than market priced power. We know this will occur because the clean air credits are designed to keep the most expensive power in the market. If the first layer of electricity in the power pool is the costliest, then the average price of the entire bundle will cost more than if the highest priced power is excluded from the power bundle. The conclusion is straightforward arithmetic.

The second reason why power will become more expensive than it would be in the absence of this legislation is that it deters entry by producers with potentially lower production costs.

²⁰ Nader, Jordan and John Seryak, *FirstEnergy Solutions Corp. Recommended Changes to Wholesale Electricity Markets to Address Power Plant Subsidies*, Ohio Manufacturers Association, May 16, 2019 and Ohio Manufacturers Association, *An Analysis of Ohio Nuclear Plant Profitability Under House Bill 6*, June 2019. <https://ohiomfg.informz.net/ohiomfg/data/images/MEMO%20-%20HB%206%20-%20Nuclear%20Plants%20Excess%20Revenue%20-%206.18.19.pdf>

²¹ Ohio Manufacturers Association, *An Analysis of Ohio Nuclear Plant Profitability Under House Bill 6*, June 2019.

Third, H.B. 6 prevents the removal of politically-favored high-cost power producers. An increase in the overall cost of power in Ohio is the intended outcome of House Bill 6. *Keeping the most expensive electricity in the consumption bundle and keeping cheaper power out of the bundle is not accidental drafting; it is intentional.*

4. *Cost Shifting Through “Reasonable Arrangements:”* Ohio will see an increase in special-interest petitions by sophisticated and politically connected businesses for “reasonable arrangements” that are targeted toward trade-impacted industries. Electricity rates will decline to some negotiated level for these politically connected or recruited businesses through an economic development and retention process run by the PUCO. Negotiated rates are treated confidential business secrets and the negotiated savings will be passed on as costs for other commercial and residential customers to pay through non-bypassable riders. The cost savings experienced by the connected few businesses that receive these arrangements are shifted to unknowing electricity users. This is picking winners and losers behind closed doors.
5. *Discourage investment* in disruptive power generation that is not controlled by the IOUs and regulated by the PUCO. House Bill 6 will discourage investment in efficient natural gas-fired combined cycle power plants. House Bill 6 helps to ensure that Ohio’s abundant sources of natural gas will be drilled, put into pipes, shipped out-of-state, and the value that could be added in Ohio will take place elsewhere—along with the associated work. That prospect is an economic development nightmare and a loss of employment opportunities in Ohio’s shale country.
6. *IOU income enhancement through the “decoupling mechanism:”* Amended Substitute House Bill 6 locks-in the income IOUs received in 2018 for providing energy efficiency programs, while discontinuing the programs. New non-bypassable riders will replace money that came from the discontinued EE rider (that is the \$4.39 average monthly payment that H.B. 6 discontinues). Bizarrely, the IOUs will receive income from discontinued programs while not incurring the costs associated with service delivery. Being ordered by the Legislature to

not provide services while receiving the money that was once earned from providing those services from a *de facto* tax is a lobbyist's dream come true. This new rider will last until the IOU has a new rate case hearing before the PUCO. They will take place years after H.B. 6's charges end in 2023. Commercial customers that opted out of the EE programs that H.B. 6 discontinues will now be forced to make the payments they previously avoided because of the scope and power of the mandated rider.

PJM's analysis of the impacts of H.B. 6 indicates that keeping the energy from the two nuclear plants in the market through subsidy, coupled with half of the expected power from gas-fired power plants not entering the power pool will cost Ohio's consumers \$16 million a year in added power generation costs. Add to this number \$198 million a year in subsidy payments and \$157 million a year in capacity market charges that will be added by PJM Interconnection in response to this bailout results in \$1.4 billion in added costs in the four years from 2020 to 2023, or \$356 million a year.

PJM's modeling indicates that if the nuclear plants close and all of the expected gas-fired power plants come online Ohio's consumers will benefit from \$1.3 billion in power generation savings by 2023. The opportunity cost, which is the difference between these two scenarios, \$1.3 billion in savings versus \$1.4 billion in added costs, is \$2.7 billion or \$675 million a year.

Core Problems with Amended Substitute House Bill 6

The problems in House Bill 6 are so fundamental and numerous that I do not see how the bill can be fixed or how an altered bill can be useful economic development policy. The reason is that the assumptions made in this bill about how markets work are nonsense.

House Bill 6 is reacting to the competitive failure of nuclear power as a near term political issue. And, if the problem were merely political, a deal could be cut. Unfortunately, the challenge presented by the two upside-down nuclear power plants in Ohio is fundamentally an economic problem.

There is a solution to the competitive problems of FE's two nuclear plants and that is to allow the bankruptcy process to work and ensure that whatever entity that purchases the plants out of bankruptcy has no connection to FE. In other words, do what FE did not do when Ohio embarked on establishing competitive electricity generating markets. PJM Interconnection's Independent Monitor stated that the plants are losing \$98 million a year. The modeling commission by Paul M. Sotkiewicz by the American Petroleum Institute indicates that much of the drag on the financial performance of nuclear plants is debt.²² If the debt load was either eliminated or greatly reduced through the bankruptcy process the plants could be profitable. Bankruptcy provides the only chance to establish the real market value of the plants.

The members of the legislature should understand that markets will beat politics over time because investment moves to avoid higher prices and seek higher returns. And what the drafters of House Bill 6 get wrong is their understanding of how competitive markets work. Investment in new sources of power generation by private sources of capital will not take place when the state government denies investors opportunities to compete against existing firms. House Bill 6 is lemon socialism and crony capitalism.

Ohio House Bill 6 is truly bad legislation and a very expensive bailout.

²² Sotkiewicz, Paul M. *The Market and Financial Position of Nuclear Resources in Ohio*. E-cubed Policy Associates, May 28, 2019 for the API (American Petroleum Institute) Ohio.