10:00 a.m. (EST)
1-866-362-9768
940-609-8246#

OMA Energy Committee Agenda
February 9, 2017

Welcome and Introductions	Brad Belden, Belden Brick, Chair
State Public Policy Report • State Government Overview • Reregulation / Restructuring	Ryan Augsburger, OMA Staff
Customer-Sited Resources Report • Energy efficiency program updates • Energy efficiency peer network activity	John Seryak, PE, RunnerStone, LLC
Counsel's Report • Utility Subsidy Cases (Formerly PPAs) • PUCO Case Highlights	Kim Bojko, Carpenter Lipps & Leland
Presentations	
11:00 *Parley* with PJM	Kerry Stroup, PJM Interconnection
11:15 Sidebar with the Senator	Senator Bill Beagle (R, Tipp City) Chair, Senate Public Utilities Committee
11:30 Electric Generation: competition = good; re-monopolization = bad	Edward "Ned" Hill, Ohio State Univ. Andrew Thomas, Cleveland State Univ.
Electricity Market Trends	Susanne Buckley, Scioto Energy
Natural Gas Market Trends	Richard Ricks, NiSource, Columbia Gas of Ohio
Lunch	

2017 Energy Committee Calendar
Meetings will begin at 10:00am

Thursday, February 9, 2017
Thursday, May 18, 2017
Wednesday, August 23, 2017
Thursday, November 16, 2017

Meeting sponsored by:

Constellation. An Exelon Company

NEXUS GAS TRANSMISSION

To: OMA Energy Committee
From: Ryan Augsburger
Re: Energy Public Policy Report
Date: February 9, 2017

Overview
Another chapter of state government began in early January with the opening of the 132nd General Assembly. Just days before, Governor Kasich vetoed House Bill 554 that modified energy standards. The veto angered legislative leaders. The new session is likely to see significant energy policy debates.

Also since our prior meeting, the PUCO has been considering a DP&L bailout request. The utility request is largely based on the $1 billion bailout awarded to FirstEnergy in October.

Meanwhile utility companies are lobbying for reregulation of power generation in Ohio, a reversal from Ohio's deregulation law.

PUCO Gives FirstEnergy Subsidy / Sets Precedent
The PUCO awarded FirstEnergy a $1B plus subsidy to prop up the company and its affiliate. Far be it from the $9B sought most recently by the Akron-based utility. Appeals will follow, but the PUCO effectively brought closure to the lengthy ESP application which initially included the power purchase agreement (PPA) that was later blocked by the FERC after the PUCO approved the PPA application last March.

The OMA Energy Group (OMAEG) opposed the proposal in every chapter and will continue to seek reversal in appeal. Dayton Power & Light has made a very similar filing now pending at the PUCO. The initial utility request was for over $1 billion, but in recent weeks that subsidy figure now looks topped at $625 million. See additional resource materials to learn more and take action.

Reregulation
AEP and FirstEnergy are calling for legislative *reregulation*. Details of a restructuring proposal are not yet clear but legislative leaders have signaled that they are willing to consider the matter. Significant conversations are ongoing with state leaders.

AEP and FirstEnergy CEOs have asked policymakers to commit to law changes by spring 2017. Meanwhile, AEP sold their most valuable fleet of generation to Blackstone. AEP's regulated distribution utility business reported higher profit on its Ohio regulated distribution activities than anywhere else.

FirstEnergy, long a champion of competition has publicly switched positions and is now calling for reregulation. Like AEP, it is meeting with legislators.

In 1999, with the passage of Senate Bill 3, Ohio began a transition to deregulated generation. That transition which has taken over decade, has delivered customer choice, cost-savings and innovation. One of the main tenets of deregulation was forcing then-integrated utility companies to sell or spin-off their generation. "Stranded costs" and other above-market surcharge constructs enabled the utilities to have their generation paid for by Ohioans for a second time. If

approved in some form, the subsidy cases would have represented yet another above-market payment to utilities by customers who realize no benefit.

The OMA has been a proponent of markets, supporting the original deregulation legislation and opposing utility profit subsidy schemes that distort the market and result in new above-market charges on manufacturers.

Several noteworthy studies have demonstrated how the market delivers lower prices, choice and innovation without compromising reliability.

***Financial Integrity* Bailouts**
In Spring of 2016, we reported on favorable Supreme Court decisions that protect customers from inappropriate utility overcharges. The Court decision pertained to both AEP and DP&L but also established precedent. Dayton Power & Light has developed a legislative proposal to reverse Supreme Court decision that fairly protects customers from transition charges. The legislative proposal would authorize PUCO to impose riders on customers' electric bills to fund a utility bailout any time a utility claims their "financial integrity" is threatened. No further visible activity.

PUCO Appointment
Governor Kasich appointed veteran energy attorney Howard Petricoff to the vacancy on the PUCO created by the departure of Commissioner Andre Porter. Senate President Keith Faber has questioned the qualifications of the Governor's appointee and has hinted the Senate may refuse confirmation, a step required of gubernatorial appointments. The OMA has expressed support for Commissioner Petricoff. It's the worst kept secret around capitol square that utilities don't like the pick because of his past work in support of competitive energy suppliers. Facing non-confirmation threats in December, Commissioner Petricoff resigned his seat. In January, Governor Kasich appointed Petricoff to a top staff job at the PUCO that does not require Senate confirmation.

Petricoff's departure as a commissioner leaves a vacancy on the PUCO. Commissioner Slaby has also tendered resignation. The Governor is considering appointments for both seats.

Clean Power Plan / Federal Greenhouse Gas Regulations / 111(d)
Litigation over the regulations continues. While there was much speculation about the CPP's ability to survive legal scrutiny, the survival is now in question following the election of President Trump. If / when federal carbon emissions regulation goes online, states will likely need to develop state implementation plans.

Natural Gas Infrastructure
The OMA continues to express industry support for the Rover Pipeline and Nexus Pipeline. Billions of dollars of pipeline investment are underway by several different developers. The Rover Pipeline secured FERC approval late last week. Natural gas production continues to grow in the Buckeye state even with depressed pricing. In fact, Ohio natural gas prices are among the lowest around the globe today.

Energy Efficiency Legislation
Legislation was enacted in 2014 to revise Ohio's energy standards which required utilities to deliver a certain amount of efficiency from customers and to procure a certain amount of renewable generation. The issue has been reported and discussed at OMA meetings for over three years.

SB 310 froze the alternative energy standards for two years and created a legislative study committee to assess the impacts of the standards. A report was issued in September 2015 recommending an indefinite freeze. Governor Kasich subsequently commented that indefinite freeze was unacceptable, and that he did not favor the existing standards either. The Governor acted on his threat vetoing House Bill 554 in December. See attached technical analysis on HB 554. Legislative leaders are intent on passage of the measure again very soon.

Energy

Ohioans Prefer Energy Choice

February 6, 2017

A recent poll of Ohioans found support for the benefits of a deregulated energy marketplace. The Fallon Research firm was engaged by the Alliance for Energy Choice to measure Ohioans' attitudes and opinions about energy policies.

- 91.5% oppose changing Ohio law to allow utilities, like AEP and First Energy, to charge customers for the cost to build their new plants.
- 78.7% oppose a change in law that would eliminate the ability to shop for the best price for electric and natural gas service from a variety of providers and require customers to take services only from their local utility.
- 62% disagree that utility customers should pay the additional cost to support uneconomical power plants because it may preserve jobs in certain communities.
- 55.5% agree that Ohio should increase electric market competition, even if it means the elimination of the government-mandated electric utility monopoly that has existed for decades.

Here are all the results. *2/6/2017*

Petricoff Back at PUCO

February 3, 2017

Just a month after stepping down as a member of the Public Utilities Commission of Ohio (PUCO) amid pressure from Senate Republicans, M. Howard Petricoff has been hired in a top staff job at the PUCO.

As chief analyst of the PUCO, Petricoff will be in a key position to help the state agency balance the needs of customers with those of regulated public utilities in accordance with Ohio law.

Congratulations to Mr. Petricoff! *2/2/2017*

Electric Re-Regulation or Surgical Strike?

February 2, 2017

During a recent investor call, AEP CEO Nicholas Akins commented about what a utility-driven re-regulation legislative proposal might look like saying, "There are already drafts of legislation circulating."

According to reporter John Funk of the Cleveland Plain Dealer who summarized the AEP call, Akins said: "The companies have been looking for a way to escape the perils of market prices that come with deregulation or at the very least craft 'surgical' amendments to state laws that since 2000 have been gradually moving the industry into market-based pricing."

Funk noted that AEP wants to build wind and solar farms and maybe new gas plants, and that FirstEnergy is interested in finding a way to subsidize its two nuclear power plants.

The OMA opposes customer paid subsidies to utilities for non-economic activity and has been fighting utilities' proposals at the PUCO through its OMA Energy Group. Markets, not regulators, deliver better service, price and innovation.

Join a discussion about re-regulation legislation potential at the February 9 meeting of the OMA Energy Committee. Register here. *2/2/2017*

Markets v Command-and-Control Regulation

January 27, 2017

Are markets reducing the cost of electricity generation relative to command-and-control regulated dispatch? This study from the University of Chicago answers this question.

The study finds that markets reduce the cost of generating electricity by about $3 billion per year through increased efficiencies and coordination both within and across areas.

By using the lowest-cost plants 10% more often, markets reduce the costs from using uneconomical units by 20% per year. Additionally, the cost reductions from trading electricity across regions increases by 20% per year.

The report concludes: "As policymakers are faced with the question of whether the de-regulation of electricity markets should be expanded or scaled back, these findings suggest the benefits realized by more efficient allocation of output though market-based dispatch have far outweighed any imperfections in the market system." *1/26/2017*

PUCO Nominating Council Sends Names to Governor

January 27, 2017

The Public Utilities Commission of Ohio (PUCO) Nominating Council this week submitted the names of five finalists to be considered by Gov. John Kasich to fill two commissioner positions.

The Nominating Council recommended the following individuals to fill the unexpired term ending April 10, 2020: Daniel Conway, Lawrence Friedeman, J. Edward Hess and Raymond Lawton.

The Nominating Council also recommended Gregory Williams be included for consideration for the five-year term commencing on April 11, 2017 and end April 10, 2022, along with the remaining three individuals from above not selected by the governor.

The PUCO Nominating Council is a 12-member panel charged with screening candidates for the position of commissioner. *1/26/2017*

24 Apply to PUCO

January 20, 2017

Twenty four applicants for two open seats on the Public Utilities Commission of Ohio (PUCO) were submitted by the deadline earlier this month. The open seats are the result of the pending expiration of Commissioner Lynn Slaby's term, which ends in April, and the resignation of Howard Petricoff, who chose to withdraw his nomination rather than risk his appointment being denied by the Senate.

Applicants include 10 Democrats, 10 Republicans and four independents

The PUCO's 12-member nominating council will compile a short list of top candidates for interviews to take place next week. Finalists will then be forwarded to the governor who will make the appointments within 30 days of receiving the names.

State law prohibits any more than three members of the PUCO to be affiliated with either major party, but that's a nonfactor given the committee's current makeup; Gov. Kasich will be able to make appointments from applicants of any political affiliation. *1/19/2017*

State Offers Low-Interest Loans for Energy Efficiency Projects

January 13, 2017

Ohio's Energy Loan Fund is now accepting applications for low-interest financing to install efficiency measures that reduce energy by at least 15%. Technical assistance is available to help eligible applicants identify energy efficiency improvements in their facilities and to facilitate the required energy audit.

Loan amounts vary depending on the project and can be from $250,000 up to $2 million.

To apply, organizations must first register and submit a letter of intent. Qualified applicants who submit a letter of intent will receive written instructions from Ohio Development Services Agency about how to access the online loan application.

Program guidelines and the application process can be found here. Questions about the program can be emailed here. *1/11/2017*

A Second PUCO Seat Opens

January 13, 2017

Commissioner Lynn Slaby of Public Utilities Commission of Ohio has announced that he will not seek reappointment from Governor Kasich when his term expires this spring. Now, two of the five seats that need to be filled by the governor.

Late last year, Commissioner Howard Petricoff resigned when there were indications that the Senate might not confirm his appointment to the powerful agency. His appointment was opposed by some public utilities. *1/12/2017*

Governor Vetoes Energy Standards Bill

January 6, 2017

Just days before the conclusion of the 131st General Assembly, Governor John Kasich vetoed House Bill 554, a bill that would have made the implementation of the state's energy standards optional for electric utilities, for two years.

Kasich had warned legislative leaders repeatedly that he would not accept legislation that weakens the standards or extends the already frozen phase-in schedule of renewable energy standards and energy

efficiency standards. Read the governor's reasons for vetoing the bill.

After the veto, the General Assembly adjourned sine die, lacking the votes for an override. *1/5/2017*

Efficiency Project Rebate Money for OMA Members in AEP Ohio Territory

January 6, 2017

OMA's energy partner, Go Sustainable Energy, recently secured $250,000 in rebates on behalf of Ohio manufacturers in AEP Ohio's Bid4Efficiency auction.

AEP Ohio holds the annual auction to create incentives for customer energy efficiency projects. Rebates awarded by the program are eligible to exceed AEP's $25,000 rebate cap; projects will be compensated at $0.043/kWh saved.

If your company is in AEP territory and you are completing or planning an efficiency project in 2017, please contact John Seryak to learn more. Funding will be available to OMA members on a first-come, first-served basis. *1/5/2017*

Energy Standards Bill Could be Costly

December 16, 2016

In its lame duck session, the General Assembly passed and sent to the governor HB 554, a bill that makes the implementation of the state's energy standards optional for electric utilities, for two years.

The bill, which was purported to be needed to save electricity customers money, will likely do the reverse. It does this because of provisions that allow electric utilities to collect profit (and thus cost to customers) in new ways. These profits could be significant, and with little customer benefit.

Fortunately, the bill provides the option for most businesses to opt-out of the program and its cost, but not until January 1, 2019.

Governor Kasich is reported to be considering a veto of the measure.

Read more in this technical analysis. *12/15/2016*

PUCO Nominating Council Seeks Applicants for Commissioner Positions

December 16, 2016

The Public Utilities Commission of Ohio (PUCO) Nominating Council is seeking applications for the position of commissioner of the PUCO to fill two vacancies. The first is for an unexpired term commencing upon appointment by the governor and ending on April 10, 2020, and the second for a five-year term that begins on April 11, 2017. Applications must be delivered to the Nominating Council no later than 5 p.m. EST on Jan. 12, 2017.

The PUCO Nominating Council is a broad-based 12-member panel that screens candidates for the position of PUCO commissioner. The PUCO is comprised of five commissioners appointed to rotating, five-year terms by the governor. The commissioners are responsible for regulating Ohio's investor-owned public utilities.

Read more here. *12/13/2016*

PUCO Chief of Staff Stepping Down

December 16, 2016

The PUCO chief of staff, Jason Rafeld, announced his resignation this week, effective the end of the year. His successor has not yet been announced.

The OMA has worked with Jason during his service at the PUCO, the Ohio Department of Education, and the Bureau of Workers' Compensation.

Best wishes on your next endeavor,
Jason. *12/15/2016*

The Fight for Your $15 Billion

December 9, 2016

The stage is set for battles at the Ohio Statehouse to roll back electricity deregulation. In one corner are two major Ohio utilities and in the other corner are the consumers and independent power plant producers. In an environment of historically low energy prices and generation technology advancements, the traditional utility generators simply cannot compete. So rather than trying to compete they would like their good old fashioned monopoly back. But what would such a move mean to consumers of energy in Ohio?

In the first known study of its kind, Cleveland State University in partnership with The Ohio State University attempted to quantify the impact electric deregulation has had on Ohio consumers. The 60-plus page study concludes that over the course of the past five years, electric deregulation has saved Ohio

consumers $15 billion and is expected to continue at this same pace for the next five years.

Read more here.

Every month OMA's Energy Guide writes a good blog about energy management and procurement. Go to My OMA to subscribe. *12/8/2016*

Energy Standards Legislation Acted On

December 9, 2016

House Bill 554 (Amstutz-R-Wooster) was revised late last week to weaken both Ohio's efficiency and renewable energy standards and expand customers' ability to opt-out from efficiency-related riders.

One amendment afforded utilities the ability to earn even more profit for lower performance in their energy efficiency programs. The OMA asked legislators to remove that provision.

Other amendments may be added to the bill before the final vote, which was expected late yesterday.

There is speculation (at time of this publication) that Governor Kasich could veto the entire bill. *12/8/2016*

OMA-Supported PUCO Commissioner Steps Down

December 9, 2016

PUCO commissioner Howard Petricoff announced last week that he would step down from his position after a Senate panel recommended the rejection of Gov. John Kasich's appointee.

Here is Mr. Petricoff's public comment and reaction by PUCO Chairman, Asim Haque.

The OMA had supported Petricoff's appointment to the position. We're disappointed in this development. *12/7/2016*

Northeast Ohio Electricity Consumers: Opt Out of NOPEC Aggregation by Dec. 12 to Retain Shopping Rights

December 9, 2016

The Northeast Ohio Public Energy Council (NOPEC) helps Northeast Ohio consumers save on electricity costs by selecting aggregation programs for them.

However, manufacturers may be able to negotiate better electricity prices and terms by shopping. If you are currently shopping or plan to shop your generation, you should opt-out of NOPEC aggregation to ensure your right to shop to any generation provider of your choice.

Opt out of the NOPEC aggregation by returning the NOPEC opt-out card received via mail or by calling NOPEC customer care at 855-667-3201. Also, consider adding your company to the PUCO 'do not aggregate' list. NOPEC must receive your opt-out by December 12.

OMA Energy Guide, an OMA member service, makes it easy to get expert energy management advice and energy quotes for your facility. Energy Guide services cost nothing for OMA members. Call (614) 888-8805 ext. 105 or email. *2/7/2016*

Action Alert: DP&L Files Proposal for $1B from Customers over Seven Years

December 2, 2016

Dayton Power & Light (DP&L) has filed a proposal with the Public Utilities Commission of Ohio (PUCO) that, if approved, will allow it to impose more above-market charges on customers in its service area. The estimated cost of the rider is more than $1 billion over seven years. The rider will not be by-passable by shopping to another generation supplier.

Estimate your company's potential cost here.

In 1999, Ohio moved to allow customers to shop for electricity generation in order to establish the benefits of competition. Since that time, through various riders approved by the PUCO, DP&L customers have already paid $1.8 billion in above-market charges.

The DP&L proposal will be litigated at the PUCO beginning this month. The OMA Energy Group is actively opposing the measure. OMA Energy Group member Tom Lause, VP & Treasurer, Cooper Tire & Rubber Co., filed this testimony in the case.

The stakes are high. The PUCO recently approved a $1 billion subsidy for FirstEnergy that will cost its customers $204 million annually for, likely, five years.

Here is a sample letter (in Word) for communicating with your elected officials. OMA encourages you to communicate with Governor Kasich and your state senator and representative. *11/29/2016*

House Advances Energy Standards Legislation

December 2, 2016

With just a few days remaining of the 131st General Assembly, majority Republicans are rushing legislation to prevent the state's energy standards from fully going back into effect in January.

The Senate heard hours of mostly opponent testimony this week on SB 320. In the House, after numerous witnesses, mostly opponents, offered testimony, a new substitute version of the bill was accepted. The new sub-bill contains several changes that can be viewed in this comparison document. A few amendments were also included before the committee voted the bill. The full House is expected to vote the bill on Tuesday.

Even though the governor has threated to veto a bill that weakens the energy standards or extend the freeze, the bill sponsor and Speaker Pro-Tem Ron Amstutz was quoted by Hannah News as saying, "I think that conversation is still going on, but I could say that the dynamics are leaning toward the House bill's being the vehicle … I think it's extremely close to the governor's position — much closer than earlier versions." *12/1/2016*

Governor's PUCO Appointment in Jeopardy

December 2, 2016

Earlier this year Governor John Kasich appointed veteran energy attorney M. Howard Petricoff to a vacancy on the Public Utilities Commission of Ohio (PUCO). These appointments are subject to Senate confirmation. This week, members of the Senate Public Utilities Committee voted along party lines to withhold support for the confirmation of Commissioner Petricoff. If the full Senate votes to withhold support for Mr. Petricoff's appointment in the remaining days of session, then the commissioner would be unable to continue to serve.

The Senate Committee chair, Bill Seitz (R-Cincinnati), said the vote against Petricoff wasn't about his qualifications or character, but because of his past involvement in energy lobbying. The OMA supported Mr. Petricoff's appointment. It's the worst-kept secret around the Statehouse that utility lobbyists don't favor Commissioner Petricoff. *12/1/2016*

Job Killing $29.4 Billion Subsidy?

November 18, 2016

Ohio utility proposals to "re-regulate" would cost Ohio electricity consumers $29.4 billion, the OMA Energy Committee was told this week.

Bill Siderewicz, President of Clean Energy Future, a developer of natural gas generation facilities, spoke with the committee about the costs of subsidizing Ohio utilities versus relying on the existing energy markets. He said utility proposals would cost consumers $14.4 billion in subsidization of older coal units, and $15 billion for "mandatory construction of new gas-fired plants by inefficient utilities."

He noted that low cost, abundant local natural gas has been the "spark plug" for the development of new independent power producer power generation in Ohio. He counts 12 natural gas generation projects under development in the state with a whopping 10,836 MW of capacity.

He said that the Utica shale formation is currently sized at 3,192 trillion cubic feet. "If every Ohio based mega watt of generation ran on Utica gas, we have a 2,660 year fuel supply," according to Siderewicz. *11/17/2016*

MEMORANDUM

Date: December 16, 2016

To: The Ohio Manufacturers' Association

From: John Seryak, PE (Go Sustainable Energy)

RE: House Bill 554 Analysis

The Ohio General Assembly recently passed Substitute House Bill 554 (HB 554). The bill makes multiple changes to the energy efficiency and renewable energy standards in Ohio, including:

- Reworked rules on utility profit – Utilities could collect shareholder profit on banked energy savings from previous years. This would specifically run-afoul of agreements at the PUCO that explicitly limited share-holder profit.
- Liberalized eligibility for energy efficiency – Several provisions have the potential to significantly water-down the energy-efficiency standards, creating loopholes for gaming of the system, or in a worst-case scenario rendering, the standards meaningless.
- Revised benchmarks – HB 554 effectively makes the next two years of compliance an option for utilities. It also reduces the cumulative amount of energy efficiency. This could have the effect of lowering efficiency gains in the state during the next two years.
- Expanded Opt-Out – The streamlined opt-out is expanded to all mercantile customers, from just large users. The original large user opt-out has yet to take effect in conjunction with functional utility efficiency programs, and thus the effects on manufacturers and system costs aren't well known.

Following is an analysis of provisions of the bill, highlighting the provisions of interest to manufacturers.

1. Reworked Rules on Utility Profit[1]

   A key, if understated, provision of HB 554 allows for electric distribution utilities (EDUs) to collect shareholder profit in any year in which the EDU meets or exceeds the cumulative benchmark requirement for energy-efficiency savings. While seemingly innocuous, this provision could create financial costs to manufacturers and other customers. The mechanism for awarding shareholder profit on

Reworked Utility Profit

- *Same as allowing profit on banked energy savings*
- *Undermines agreements that limited profit to protect customers*
- *Utilities collectively earn ~$50 million+ /year*

[1] Sub. H. B. No. 554, Sec. 4928.6621 (B)

efficiency programs is not part of current law – instead it was created by negotiated agreement between the EDUs, customers, PUCO staff, and other intervening groups through PUCO cases. Typically, these mechanisms contained provisions that allow, but limit, utility shareholder profit to certain amounts in order to protect customers. The PUCO has approved such agreements as part of larger packages. The EDUs have been knowledgeable parties in these cases, and had agreed to abide by the terms. The provision in HB 554 essentially uses the law to undermine the limits on shareholder profits that had previously been agreed to.

Due to the freeze on efficiency requirements from SB 310, nearly all the EDUs are well ahead of their cumulative efficiency benchmarks. Utility compliance with the cumulative efficiency benchmarks should, frankly, not be a concern for many years. The EDUs combined collect ~$50 million /year in shareholder incentives prior to taxes being paid. If each EDU uses the compliance cushion from the SB 310 freeze over the next four years, that could amount to a maximum of ~$250 million in shareholder incentives that wouldn't have been otherwise agreed to by parties at the PUCO. It should be noted that some EDUs will immediately take advantage of this provision, while others are performing well enough that it may not have a near-term impact for them.

Liberalized Energy Efficiency Eligibility

- *Counts old upgrades to competitive power plants*
- *Would allow any change in business energy use to be rationalized as energy efficiency*
- *Creates benefits to the natural gas system paid for by electricity customers*
- *Best case scenario: Liberalized counting creates loopholes that knowledgeable parties game at the expense of other customers*
- *Worst case scenario: Liberalized counting renders the efficiency programs valueless, while retaining costs to customers*

2. Liberalized Eligibility for Energy Efficiency Projects[2]

HB 554 expands what is eligible as an energy-efficiency project. In total, these provisions could be extremely damaging to the integrity of the energy efficiency programs. At a minimum they could create a gaming with the efficiency programs, where some companies take advantage of lucrative, loose energy-efficiency requirements at the expense of other customers. The energy-efficiency eligibility expansions include:

- Upgrades to power plants since 2006 – HB 554 allows heat rate and other energy efficiency or intensity improvements from electric generating units to qualify as energy-efficiency for the standards, but only if proposed by the EDU and only if the power plant was owned or previously owned by an

[2] Sub. H. B. No. 554, Sec. 4928.66(A)(2)(d)(i)(V) and Sec. 4928.662(G) through (K)

Ohio EDU. This would have the effect of displacing new customer-based energy efficiency with power plant upgrades made as long as 10 years ago. The provision does not disallow commitment payments to the generators, lost revenue collection by the EDU, or profit collection on the efficiency gain - the three types of cost recovery typical for energy efficiency programs. In other words, this provision dilutes customer efficiency gains while leaving the door open to subsidies for deregulated power plants.

- Any energy intensity improvement – HB 554 allows reductions in energy intensity of any type for any facility to count as energy efficiency. Legitimate reductions in production-normalized energy intensity from manufacturers should be counted as energy-efficiency in Ohio, and, in some cases already are. Some of the greatest gains in energy efficiency a manufacturer can make come from productivity gains, reduction in downtime, and reduction in lost product, etc. However, this HB 554 provision is so overly broad it captures practically any change in electricity use as "efficiency." For example, consider a business that increases output (production, sales, etc.) – the energy use of that facility would increase, but the energy use per unit output would decrease. HB 554 could allow this business to claim efficiency rebates for its economic expansion. Now, consider if that same business later sees a reduction in output, with a corresponding reduction in energy use. That business would now have a reduction in energy use per unit square-foot of the facility – and could also claim an efficiency rebate! The same business could claim efficiency rebates when its business output increases, and when it decreases, all having nothing to do with the actual efficiency of their equipment or building. This provision, in addition to significantly watering down the efficiency programs, could create the ability to game the programs, benefitting some businesses at the cost of others, all the while being very difficult to regulate to protect customers.
- Gas savings – HB 554 allows the conversion of natural gas savings to electricity savings using a Btu to kWh conversion. There are two distinct issues with this. First, it quite clearly creates a cost to the electric ratepayers while benefits accrue to the gas system, which is just poor precedent. Second, if a fuel conversion were for some reason needed and placed into law, the correct conversion metric would be the heat rate of the grid, not a straight Btu to kWh conversion. In other words, this provision is technically incorrect in addition to being a poor precedent.

3. Standards Benchmarks[3]

   There are two main changes to the renewable and energy efficiency benchmarks. First, there is no compliance penalty for 2017 and 2018 for either the renewable or energy efficiency benchmarks, making both essentially voluntary.

[3] Sub. H. B. No. 554, Sec. 4928.64(C) and (D), Sec. 4928.66(A)(1)(a), and Sec. 4928.66(A)(1)(c)

It should be noted that the behavior of the EDUs in response to law changes on efficiency is markedly different. In response to SB 310, two EDUs offered relatively cost-effective and customer-oriented efficiency programs, while two others have either cut or reduced offerings, or used the law changes in their financial favor.

Thus, the two year pause on energy-efficiency requirements could again be complicated, with each EDU acting differently. In some cases, EDUs are likely to offer a reduced amount of energy-efficiency in the coming two years. In other cases, the lack of a requirement is essentially used as leverage at the PUCO, which typically translates to larger utility shareholder profit. In yet other cases, an EDU may carry on as it has.

Standards Benchmark Changes

- *Compliance optional for 2017 and 2018*
- *Cumulative energy-efficiency reduced from 22% to 17%*
- *Energy-efficiency benchmarks retain a 1% to 2% jump in later years*
- *Cumulative renewable energy remains the same*

Finally, the cumulative reduction of the energy-efficiency standards from 22% to 17% is of note. The dynamic of the annual benchmarks creating a 1% per year statutory floor, and shareholder incentives creating a ceiling of greater than 1%, has worked reasonably effectively. Thus, considering the annual benchmarks as a floor that will likely be exceeded – and thus the cumulative efficiency requirement will likely also be exceeded - the remaining concern is that in the final years of the requirements there is still a step-jump from 1% to 2% savings requirement. While there is evidence that EDUs can achieve 2% savings per year, the evidence that they can do so at the same unit cost is mixed. Thus, a ramp up to achieve the cumulative 17% would be a considerably better approach for manufacturers, as it would allow a slow, steady increase to a more moderate annual requirement.

4. Expanded Opt-Out[4]

HB 554 expands the streamlined opt-out from efficiency programs to all mercantile customers. Current law allows for two mechanisms for customers to exempt themselves from paying into the energy-efficiency programs. First, there has always existed a mercantile self-direct mechanism. The mercantile self-direct mechanism allows a customer to either forgo paying into the efficiency programs if they have completed efficiency projects on their own, or, it lets a customer take a cash payment for efficiency projects completed but not yet submitted to the EDUs. Hundreds of businesses have used the mercantile self-direct program, and the majority has taken the cash payments instead of exempting themselves from payment. Second, a streamlined large-user opt-out was created by SB 310. The opt-out allows very large electricity users on transmission or sub-transmission service to forego

[4] Sub. H. B. No. 554, Sec. 4928.6610(A)(1)

paying into the efficiency programs with no efficiency savings requirement, but the customer is then not allowed to participate in the programs. HB 554 would expand the streamlined opt-out to all mercantile customers. Mercantile customers comprise a much larger group of businesses, including any business that uses 700,000 kWh/year or more, or any business with multiple accounts. This could include perhaps a small office building of 70,000 square feet or larger.

Of interest to manufacturers is an option that provides flexibility to perform on their own, yet maintains the increased adoption of energy efficiency at customer plants, and thus maintains the universal cost-saving benefits to the system as well as direct cost savings.

Smaller customers do benefit from the economies of scale that the EDU efficiency programs create. It is not clear that an expanded opt-out would sustain the signal to the efficiency marketplace to make available the product and services to smaller customers at today's levels. All that said, it is clear that eligible businesses will value the opt-out, in the event the efficiency standards are made too costly or ineffective. The expanded opt-out takes effect January 1st, 2019.

Expanded Opt-Out

- *Large user opt-out takes effect for the first time in conjunction with utility programs Jan. 1, 2017*
- *Expands opt-out to all mercantile customers in Jan. 1, 2019*
- *Mercantile self-direct still available to all mercantile users*
- *Differences: Mercantile self-direct requires proof that efficiency projects were completed, also allows customers to still participate in programs*

STATE OF OHIO

Executive Department

OFFICE OF THE GOVERNOR

Columbus

VETO MESSAGE

STATEMENT OF THE REASONS FOR THE VETO OF SUBSTITUTE HOUSE BILL 554

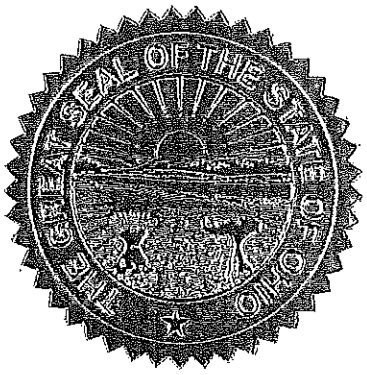
December 22, 2016

Pursuant to Article II, Section 16, of the Ohio Constitution, which states that the Governor may disapprove of any bill, I hereby disapprove of Substitute House Bill Number 554 (Sub. HB 554) and set forth the following reasons for so doing.

Over the past six years, Ohio has enjoyed the most improved business climate in the nation. Job creators have attributed their reasons for expanding, growing and creating jobs in Ohio to, among other things, our state's stable fiscal health, jobs-friendly tax climate and sound regulatory policies — as well as our state's wide range of energy generation options. Sub. HB 554 risks undermining this progress by taking away some of those energy generation options, particularly the very options most prized by the companies poised to create many jobs in Ohio in the coming years, such as high technology firms. The bill would also deal a setback to efforts that are succeeding in helping businesses and homeowners reduce their energy costs through increased efficiency. In fact, according to the Midwest Energy Efficiency Alliance, an organization to which many of our electric utilities belong, energy efficiency investments made between 2009-2012 alone have yielded $1.03 billion in savings to date and will result in $4.15 billion in lifetime savings thanks to the state's existing energy efficiency standards. Furthermore, Sub. HB 554 sidelines some energy options at a time when Ohio can already meet many renewable energy generation standards in current law.

The Administration stands ready to work with the General Assembly to advance strategies for helping ensure competitive energy costs. Ohio workers cannot afford to take a step backward from the economic gains that we have made in recent years, however, and arbitrarily limiting Ohio's energy generation options amounts to self-inflicted damage to both our state's near- and long-term economic competitiveness. Therefore, this veto is in the public interest.

For these reasons, I am vetoing Substitute House Bill 554.



IN WITNESS WHEREOF, I have hereunto subscribed my name and caused the Great Seal of the State of Ohio to be affixed at Columbus this 22nd day of December Two Thousand Sixteen.

John R. Kasich, Governor

This will acknowledge the receipt of a copy of this veto message of Substitute House Bill 554 that was disapproved by Governor John R. Kasich on December 22, 2016.

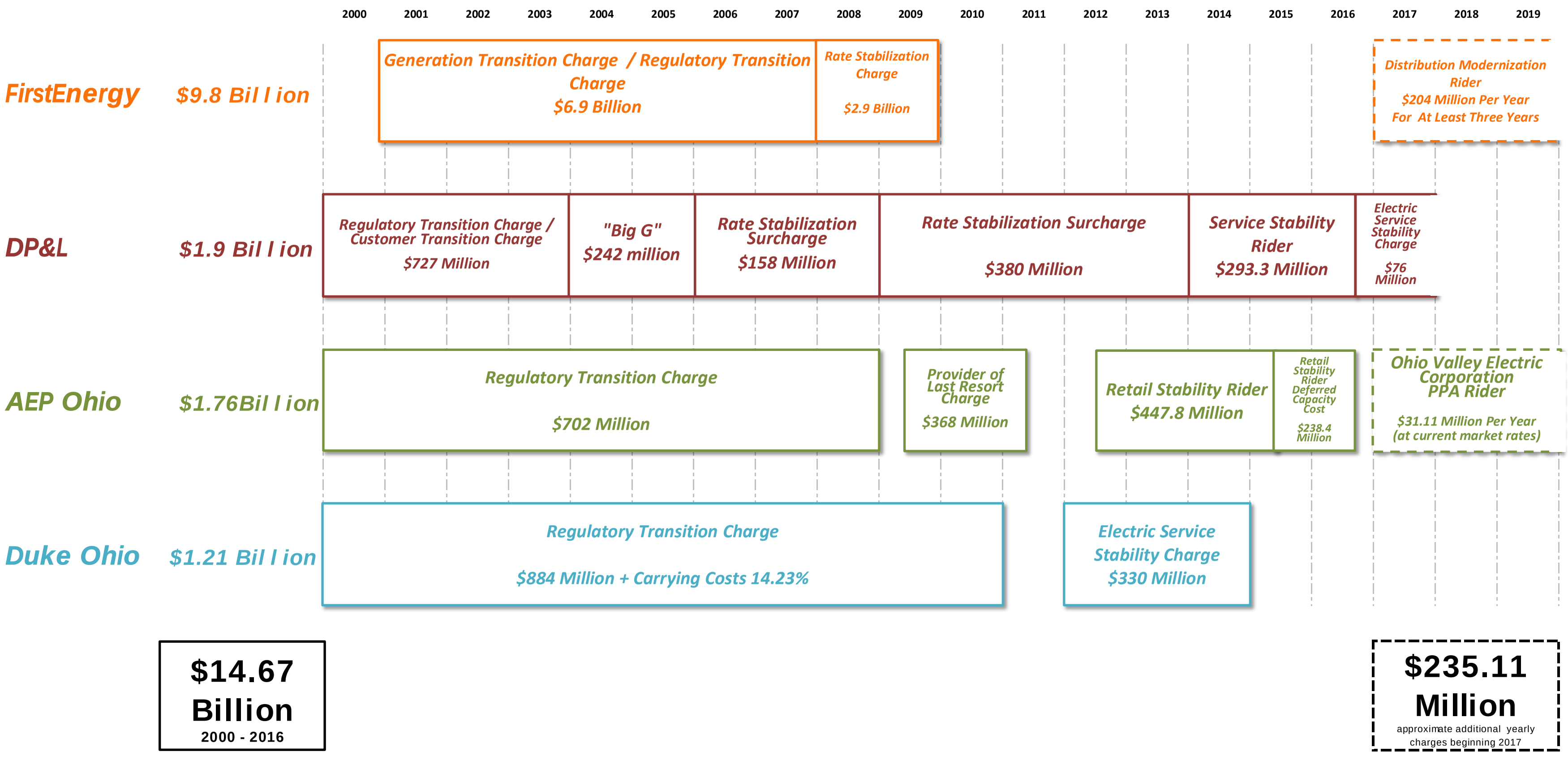
Clerk

Name and Title of Officer

12/27/16 2:28 p.m.

Date and Time of Receipt

SUBSIDY SCORECARD - ELECTRIC UTILITY CHARGES TO OHIOANS



$14.67 Billion
2000 - 2016

$235.11 Million
approximate additional yearly charges beginning 2017

Gas industry, manufacturers push back on efforts to re-regulate Ohio electricity markets

Written By Kathiann M. Kowalski
February 2, 2017

Ohio electric customers could lose billions in savings each year if the state's electric generation market moved back to monopoly power, researchers and others stressed earlier this week at a conference in Columbus.

"Going forward, there's about $3 billion in savings that will be realized in Ohio each and every year" if customer choice continues, said Ned Hill, a professor of economic policy atOhio State. The January 31 program was presented by Vorys Advisors and the law firm of Vorys, Sater, Seymour and Pease.

The question is especially timely because FirstEnergy and American Electric Power announced last year that they want to move back to full or partial regulation for their businesses. As Ohio's new legislative session begins, the two companies have already begun work on proposals to accomplish that goal.

"The larger discussion related to the potential restructuring or partial restructuring of the industry" is indeed part of the legislature's energy agenda for this year, confirmed Ohio Senate President Larry Obhof (R-Medina) in his opening remarks at the conference.

Support for competition instead of monopoly power was echoed by competing electricity suppliers, the natural gas industry and manufacturers who also spoke at the event, along with Ohio Consumers' Counsel Bruce Weston.

"Generation shouldn't be a monopoly," Weston said, adding that "competition can produce lower prices for Ohioans in need."

Counting up savings

The $3 billion per year figure cited by Hill comes from a report that he and other researchers prepared for the Northeast Ohio Public Energy Council (NOPEC).

The report compared data on utilities' standard service offers with average contract prices paid by shopping customers for the period from 2009 onward. That's when competitors began moving into the state and significant shares of customer shopping began, noted Andrew Thomas of Cleveland State University, who also worked on the November 2016 report.

The difference between the two values reflects savings realized by so-called shopping customers, and the researchers forecast that those savings will be about $645 million per year through 2020. Shopping customers now make up between 70 and 80 percent of the customer base, depending on the rate class they fall into, according to the study.

Another $2.3 billion in annual savings come from the use of competitive auctions to buy electric generation in the PJM market, according to the report. That requirement benefits both shopping and non-shopping customers, said Susanne Buckley of Scioto Energy, which provided data for the research.

The analysis also looks at non-bypassable charges, which are charges that all customers must pay, regardless of whom they choose for an electricity supplier.

Those non-bypassable charges "tend to bias the data" if one looks only at the total amount due on electricity bills, said Thomas.

That's because as prices for the electricity portion of the bill have come down, there have been notable increases in some utilities' non-bypassable charges, Thomas explained. If those increases offset a significant amount of customer savings, someone looking only at the bottom line of a bill might not realize it is lower than what the bill might otherwise have been.

Tracking reasons for all the increases was beyond the scope of the report, Thomas said. However, the report noted, at the time that AEP shifted certain transmission charges from PJM into the non-bypassable charge section of the bill, the utility's charge was nearly twice what had been paid before the shift.

AEP may have used a different formula to calculate the charge than PJM did, the report suggested.

It's also possible that another charge may have been added to that part of customers' bills at about the same time.

Utility arguments for re-regulation are similar to those advanced in recent "bailout" cases, in which AEP and FirstEnergy sought subsidies for non-competitive generation plants.

'A pivotal time'

A competitive electricity market with a range of generation options is an important selling point for attracting businesses to the state, noted Dana Saucier of JobsOhio. In addition to discussing natural gas generation, Saucier cited Amazon Web Services' interest in having wind energy for its data centers.

Competitive electricity suppliers have also made large investments in the state, noted other speakers.

"This [is] a pivotal time in the markets when we are working to advance competition, both at the retail and wholesale level," said Kathleen Barron of Constellation, which is part of Exelon Corporation's businesses.

Ohio is Constellation's largest commercial and industrial market and one of the company's top four residential markets. "We plan to stick around and invest in Ohio as long as the policy environment supports that," Barron said.

Competition promotes innovation and lower costs, stressed Deborah Merril of Just Energy, a retail-only energy provider. “Everything we are about today, tomorrow and in the future is about driving value for customers and innovation in products,” she said.

In contrast, a utility with a guaranteed market for its electricity generation “transfers all its risk to the rate base,” said Trey Griggs of Calpine Corp. In his view, that transfer decreases incentives for efficiency and innovation.

“How come we don’t see any of the utilities…competing and doing the same things we do?” challenged Bill Siderewicz of Clean Energy Future, which is developing two new natural gas-fired power plants in Ohio. As he sees it, the utilities know the cost of competing in the system but can’t make it work.

“Well, if you can’t compete, what do you do next? Change the rules,” said Siderewicz. “That’s where we are today.”

“The economics are simple,” said Ryan Augsburger of the Ohio Manufacturing Association. “It’s harder for old coal plants to compete against today’s technology.”

“This is not a reliability problem,” contrary to arguments that utilities have voiced before, Augsburger added, noting that a move away from competition “would be unfair to those companies that are risking their investments” by building and offering more competitive generation.

Nor can utilities claim they have been unfairly disadvantaged when they have already collected billions of dollars in above-market charges, Weston said. Those charges come to about $14.57 billion since 1999, data from his office show.

If anything, Ohio should move away from allowing multiple riders for non-bypassable charges, Weston suggested. “Our riders are sort of equivalent to allowing utilities to cherry-pick their rate increases,” he said.

In any case, he and others would urge lawmakers to resist utility attempts to move back to guaranteed profits and away from competition in the electricity generation market.

“The question really is why should customers be required to foot the bill if a utility’s financial integrity is not where that company’s leaders want it to be?” Augsburger said.

“You cannot fight the math on this,” said Hill.

Filed Under:

- News
- Ohio
- utilities

Cleveland Plain Dealer

Ohio electric deregulation on the chopping block?

FirstEnergy may ask Ohio lawmakers to create new regulations awarding "zero emission credits," or ZERCs, to its nuclear power plants, Davis-Besse east of Toledo and Perry east of Cleveland, in recognition that they do not contribute to air pollution. The ZERCs would increase customer bills. Details have not been divulged. FirstEnergy and Columbus-based American Electric Power want to become regulated utilities again, by either selling off their power plants, which are not regulated, or changing Ohio law. *(Plain Dealer file)*

By John Funk, The Plain Dealer
Follow on Twitter
on January 28, 2017 at 8:00 AM, updated January 29, 2017 at 9:35 AM

CLEVELAND -- The big power plants that FirstEnergy and Columbus-based American Electric Power have operated for decades just cannot make electricity as cheaply -- or as profitably -- as the new gas turbines, and at times, wind farms.

The companies have been looking for a way to escape the perils of market prices that come with deregulation or at the very least craft "surgical" amendments to state laws that since 2000 have been gradually moving the industry into market-based pricing.

In other words, they want to "re-structure" the state's utility laws. And you can bet that their opponents -- independent power producers which own coal plants or are building gas turbine plants -- along with consumer groups are gearing up for a fight.

This past week Nicholas Akins, CEO of AEP, gave a glimpse of what the utilities have been talking about privately and efforts to resolve their differences before they formally involve lawmakers.

"We've got to make sure that an industry restructuring package is transparent enough and people will understand it well enough to accommodate some of these varied interests," he told financial analysts during the company's public teleconference discussing 2016 sales and profits.

"There are already drafts of legislation that are circulating around and we just need to make sure all the parties are comfortable with that,"he added in response to further questioning. "It is a work in progress, with the new legislature as well here in Ohio."

There are already drafts of legislation circulating. We just need to make sure all the parties are comfortable."

AEP, which is doing well financially, wants to build wind and solar farms, and maybe new gas plants, he told them. And FirstEnergy is interested in finding a way to subsidize its nuclear power plants Davis-Besse and Perry.

"If there is support [for] ZECs for nuclear (zero emission credits for nuclear plants), I am supportive of that being in legislation," he said, as long as AEP customers don't have to pay for them.

Lawmakers in New York and Illinois have approved ZECs but the concept has already been challenged in federal court as anti-competitive.

Todd Schneider, spokesman for FirstEnergy, said the company has been in discussions with AEP, but characterized the talks as preliminary and insisted that no legislation has been drafted. He said the company is looking at ZECs. And he added that the company is not interested in building new power plants.

"We are in the beginning stages of pursuing energy legislation that supports economic growth, environmental progress, electricity price stability and 24/7 reliability by giving state lawmakers greater control and flexibility to manage their energy supply needs through preservation of in-state nuclear plants,"

Schneider further explained in an email.
When pressed by analysts about whether the two companies are in agreement, Akins said, "I'd say generally we recognize we need to be arm in arm, but there are still outstanding issues that we need to resolve.

"But I really believe that the participants are motivated to move this process forward because they understand the importance of the restructuring effort here in Ohio.

"So I'd say the parties are motivated, but still there are issues that we have to resolve specifically related to if it's a surgical legislation.
He said House and Senate leadership are being kept informed.

Spokesmen for both chambers made it clear that legislation has not been drawn up.

"The Speaker is willing to have a conversation with the industry and the caucus to gain a better understanding and perspective of the issue," said Brad Miller, press secretary, for Speaker Clifford Rosenberger. "There has been no legislation introduced at this point in time, however, so further decisions and debate will wait until a proposal is brought forward."

John Fortney, press secretary for the Ohio Senate Majority Caucus, characterized the situation as preliminary. "We have not determined a particular policy direction or outcome at this point, but we are committed to a robust dialogue on the issue," he said in an email.

Whether called a bailout, a subsidy or re-structuring, the efforts to save the old power plants or make them more profitable is nothing new.

FirstEnergy and AEP have tried for two years to find a way for state regulators to subsidize the old power plants, subsidies that customers would have to finance in the form of higher monthly bills.

But federal authorities nixed the Public Utilities Commission of Ohio's efforts to help the utilities as anti-competitive. AEP dropped the idea. FirstEnergy looked for a way around the federal objections.

But the PUCO, dealing with an avalanche of protest from other power suppliers, consumer groups and environmentalists, backed away from fully funding what FirstEnergy said it needed to keep its plants operating.

Competitors called the subsidies a "bailout" and are still appealing the PUCO ruling.
FirstEnergy made it clear last November that it wants to become a regulated company once again and would either sell or close its power plants unless it could convince state lawmakers to return to regulation and (higher) regulated rates.

Both companies are selling some of their old plants.

FirstEnergy last week announced it would sell three older gas-fired plants in Pennsylvania and its share of a pumped hydro-power plant in Virginia. There is effort in Pennsylvania to re-regulate, restructure, or modify competitive markets.

AEP has closed a deal to sell its largest coal-fired power plant in Ohio and three gas-fired plants to private investors. The company is looking to sell or close other Ohio-based plants, which it owns jointly with independent power companies.

Is It Time to Deregulate All Electric Utilities?

About two decades ago, the electric industry started getting a makeover. A number of states launched initiatives to break apart monopoly utilities and allow retail companies to sell electricity to consumers.

Today, in more than a dozen states and the District of Columbia, retail customers can shop around for the best deals on electricity, sometimes in the same way they shop around for a cellphone provider.

The question is, has the experiment with choice paid off, and is it time for the rest of the country to embrace open, competitive retail electricity markets?

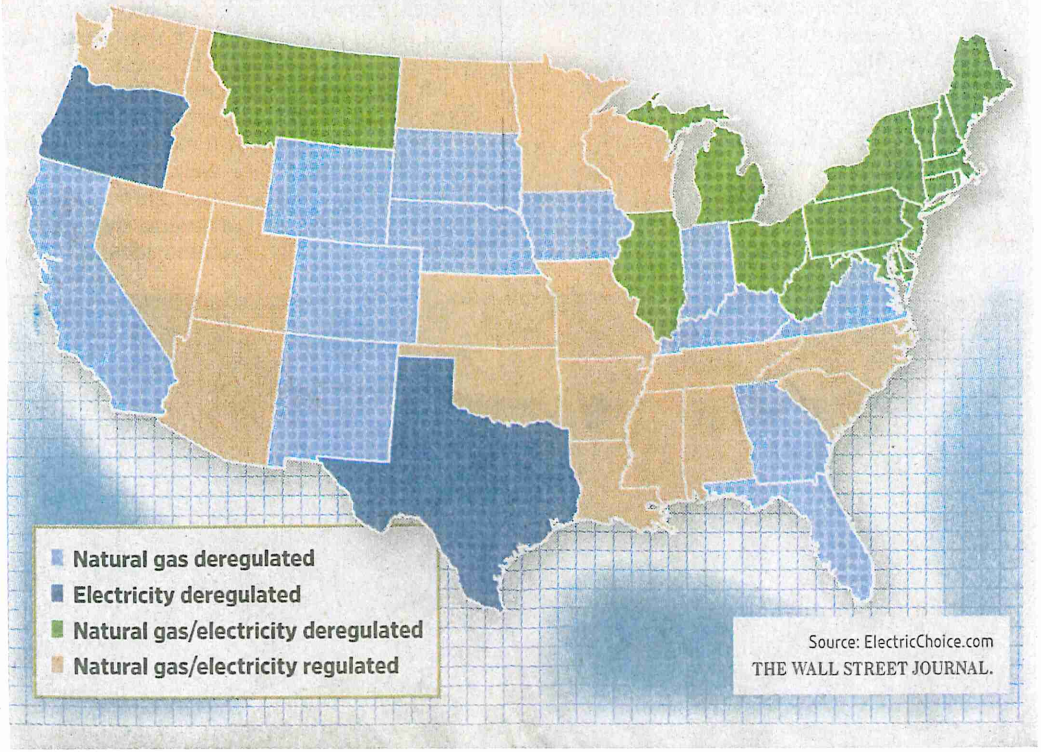
Voters in Nevada apparently think so. Last week, they overwhelmingly approved a ballot measure that aims to end the monopoly of the state's largest utility and allow customers to choose their provider.

Supporters of deregulation say that monopoly utilities have little incentive to innovate or operate efficiently, and that it will take market forces to create a cheaper, cleaner, more reliable electricity system.

Opponents say choice hasn't exactly delivered on its promise of lower prices. In fact, its legacy so far is one of price run-ups and instability, they say.

Around the Country

A status report on the states and deregulation of electricity and natural-gas markets



YES

It Is the Best Way to Lower Costs and Increase Innovation

BY ANDREW N. KLEIT

TODAY'S MODERN society requires a reliable electricity system. Anyone who has lived through a major blackout, such as occurred in the Northeast in 2003, knows that when the lights go out, life shuts down.

Users of electricity also want power to be affordable, of course, and at the same time, policy makers increasingly are demanding that more of the nation's energy come from renewable sources such as wind and solar.

Meeting these competing challenges won't be easy. Creating a cleaner, more reliable and less expensive electricity grid is going to require new ideas and a great amount of technological development to lower costs. Unfortunately, these are things that run counter to the incentives of regulated utilities.

Innovation incentives

In a regulated system, government agencies make basic production and grid-access decisions, and set electricity rates in a way that guarantees utilities a certain rate of return on capital investments and other approved costs. Because utilities' profits are a function of how much they spend, there is little incentive to cut costs and increase efficiency.

The other option is to rely as much as possible on market forces. While no one has figured out how to completely deregulate the electricity market, "restructuring" clears the way for competition in certain segments, such as generation, that aren't natural monopolies.

In restructured markets, investment decisions are made by entrepreneurs and engineers instead of government lawyers, and companies spend money only if they believe there is a market for the products they are building. Innovation happens more quickly because it doesn't have to run through the gantlet of regulatory review.

The push to create a cleaner portfolio of generation resources is just one challenge that calls out for the further use of market forces.

Electricity for the most part can't be stored, meaning supply must nearly match demand at all times or the grid could come under stress and crash. The problem with renewable power such as wind and solar is that it operates when nature allows, not when grid demand calls for it.

This is already causing problems in California, which has invested heavily in solar energy. The supply of solar power declines rapidly in the late afternoon—right when people are coming home from school and work. The result is tremendous stress on the electricity grid, as a large amount of electricity capacity must be "ramped up" at significant cost to supply power to the system in a short period.

Please see DEREGULATE YES page R4

Deregulate Yes

Continued from page R3

To address this, California—which has a competitive wholesale electricity market—is joining forces with utilities and grid operators in neighboring states in an "energy imbalance market" that allows for transfers of power among participants. A free flow of electrons across the West will allow grid operators to balance supply and demand at a lower cost, and allow California to permit increased penetration of renewable energy sources without building unneeded capacity paid for by consumers. (The market already has saved California ratepayers more than $100 million since late 2014, according to the California electricity-grid-market monitor.)

As technology advances in other areas, power markets will have to adapt further. For example, many are looking forward to an era of electric vehicles, but their widespread use could put more strain on the grid, threatening its reliability. One solution is "time of day" pricing that incentivizes drivers to charge up at night, when power usage and wholesale prices generally are lower. An innovation like that isn't likely to happen quickly—or at all—in a system where regulators set pricing rules.

Of course, many supply-and-demand challenges could be solved if the cost of storing electricity was brought down to economical levels, allowing it to be implemented in the grid. But again, that is going to require a great amount of technological development to lower costs, along with market rules that allow competitive firms to connect storage facilities to the grid. These are investments that regulated monopolists have little incentive to make.

Imperfect system

Restructuring hasn't lived up to all of its promises. Business customers in restructured states appear to have benefited more than residential customers in terms of lower power prices, perhaps because they have more incentive to shop around.

But in terms of keeping the cost of energy production down, restructuring has worked. Most important, no restructured state is repeating the mistake of spending billions of dollars on nuclear power, which low-cost natural gas has made a money loser.

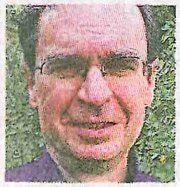
New technologies, innovation, green power and competitive markets all go together. To create a cleaner, more reliable and less expensive electricity grid, it is time to escape the dictates of government officials and free up competitive forces.

Dr. Kleit is a professor of energy and environmental economics at Pennsylvania State University. Email him at reports@wsj.com.

NO

The Evidence So Far Shows Little Benefit To Customers

BY KENNETH ROSE



IT WAS SUPPOSED to be easy. Surely competition would be better for electricity markets than old-fashioned regulation—the same form of regulation utilities had been subject to for almost 100 years.

Well, as it turns out, introducing competition for electricity supply is much more complicated than many policy makers had anticipated. As a result, the effort to restructure the complex and essential business of electric utilities hasn't delivered the expected benefits.

In the mid-1990s, after industries such as airlines were successfully opened to competition, it seemed like it was time for the musty old electric-utility business to get a makeover. By the end of the 1990s, about half of the states either had already passed legislation to open their utilities to competition or were seriously thinking about it—until something went seriously wrong. Beginning in 2000 and continuing into 2001, the restructured power market in California came apart at the seams. An electricity-supply shortage led to blackouts, soaring prices for consumers and the collapse or near-collapse of major investor-owned utilities. States that hadn't yet passed or implemented electric-competition laws stopped in their tracks; others repealed their laws or restricted competition in some way.

When the dust settled, 13 states and the District of Columbia decided to forge ahead with full retail deregulation, allowing all retail customers to choose their suppliers and pay market-based electricity rates. (A few states adopted a hybrid approach, in some cases offering choice only to certain customers.)

So has the promise of lower prices materialized?

Failure to deliver

Turns out, it's hard to see any clear benefit. Comparing the weighted average price for residential customers in the 14 jurisdictions with full retail competition to the 30 states that stayed regulated from 2002 through 2015 shows that rate increases for residential customers were about the same. Prices went up 50% in states that proceeded with choice and 52% in states that stayed regulated, according to Energy Information Administration data.

Larger customers seem to have fared better over the same period; commercial customers in regulated states saw a 50% price increase compared with 27% for choice states. Industrial customers in regulated states saw a 53% increase compared with a 30% increase in choice states. However, time frame matters. From 2002 to 2008, commercial and industrial customers in choice states saw rate increases of 43% and 60%, respectively, due mostly to

Please see DEREGULATE NO page R4

Deregulate No

Continued from page R3

trends in the price of natural gas, while customers in regulated states saw increases that were 9 and 19 percentage points below that.

Why didn't things work out as hoped? Many factors have played a role over the past 20 years, but a big factor is something policy makers have no control over—industry structure. That is a function of the generation and distribution technologies, and affects nearly every aspect the business. For starters, electricity markets still need considerable economies of scale to operate efficiently, and restructuring hasn't provided sufficient benefits to overcome the loss of efficiency that occurs when monopoly utilities are dismantled.

The right balance

Traditional utility regulation is far from perfect, but the version of "deregulation" we have come up with today is inferior in many respects and isn't going to magically lead to cheaper, cleaner, more reliable electricity.

What deregulation has delivered so far is retail and wholesale price volatility, which has created considerable tumult for both buyers and sellers of power. When customers have complained (understandably) about price spikes, regulators and legislators have responded with price controls. When prices subsequently dropped, power sellers cried foul and in some cases received subsidies. Such concessions prevent the market from functioning well and have created a version of "deregulation" that doesn't work for anyone.

I would argue that the decision we face between market forces and regulation is on a spectrum; it doesn't have to be an either/or choice, as many believe. The best approach, the one that fits the industry's structure most closely and will provide the incentives needed to take the electricity system into the future, is likely to combine elements of both.

But we can't forget that regulation has kept our electricity system stable for more than 100 years, through recessions and world wars, and forced the industry to reduce pollution from power plants significantly since the 1970s. Simply hoping that competition will lead us to a clean-energy utopia is unwise and likely to end in disappointment.

Retail markets were given a chance, and it didn't work out—no shame in that. But it is time to learn from our mistakes and find a balance between regulation and markets that is a better fit for this business.

Dr. Rose is an independent consultant and a senior fellow in economics at the Institute of Public Utilities at Michigan State University. Email him at reports@wsj.com.

Personal View: Allowing electricity markets to drive production reduces emissions, costs

December 04, 2016 Updated

Energy and Resources
By CHRIS ZEIGLER

After a contentious, polarizing election season, it may seem as though Americans don't agree on much of anything. But, as political analysts continue to sort through the exit polls, some noteworthy areas of agreement emerge that could form the basis for consensus-based policy progress.

One of those issues is energy. A nationwide, election night poll of actual voters found that 80% of Americans support increased development of U.S. oil and natural gas resources, including 71% of Democrats, 94% of Republicans and 76% of independents.

Further, overwhelming majorities recognize that increased production can help achieve important priorities like job creation (86%) and lower energy costs (82%). Seventy-seven percent support natural gas' role in reducing greenhouse gas emissions.

Policymakers should take note of the connection between oil and natural gas production, economic benefits and emissions reductions. As Ohio lawmakers and the governor consider restructuring the state's renewable and energy efficiency portfolio mandates, it's important to recognize that clean, affordable and reliable natural gas produced right here in Ohio will significantly reduce power generation emissions at a lower cost than mandates.

The American Petroleum Institute's latest research shows that by the year 2030, CO2 emissions will be 30% lower than in 2005 if market forces are allowed to determine our generation portfolio. That's because natural gas-fired power plants produce less than half as much CO2 as coal plants. As older coal plants retire and new natural gas plants come online, emissions will automatically decrease, without costly mandates.

Thanks to our nation's great abundance of natural gas, gas-fired power plants are also the most cost-effective way to reduce CO2 emissions. Gas-fired plants are cheaper to build and maintain than wind, solar and nuclear generation.

Independent sources agree that natural gas prices will remain low and stable for many years. Natural gas prices are currently about $3 per MMBtu and are forecast to remain near or below $5 per MMBtu through the year 2040.

We have enough reliable, low-cost natural gas to meet demand for generations to come. As a result of continual improvements in drilling technology, the amount of recoverable natural gas reserves grows each year.

Technological improvements such as horizontal drilling are also allowing the industry to produce more natural gas with fewer rigs, reducing environmental impact. In 2015, on average, the industry operated just 200 rigs nationwide to produce nearly 75 billion cubic feet (Bcf) per day. That's a great improvement when compared with 2010, when over 900 rigs produced 58 Bcf per day.

We are already seeing the environmental benefits of natural gas-fired power plants. Earlier this year, natural gas surpassed coal in becoming the nation's leading power generation fuel source. In Ohio alone, over 6,000 megawatts of new, clean-burning natural gas-fired power plants are in various stages of development. That's enough electricity to power 6 million homes, with reduced emissions and lower costs for consumers.

Natural gas-fired power generation also makes renewable generation more practical to operate. When the wind isn't blowing or the sun isn't shining, natural gas plants are uniquely capable of rapid starts and ramping up to respond promptly to unplanned outages and changing power demands during the day. Natural gas power plants help fill in the gaps during nonproducing periods of renewable generation, ensuring consumers have reliable electricity around the clock.

For those customers who still prefer to maximize renewable energy sources, our state already has optional green energy pricing programs in which they can participate through their electric supplier. Green pricing programs in Ohio offer customers the opportunity to support alternative energy sources by paying a premium in addition to their regular utility bill, a market-based approach to supporting renewable energy without burdening all customers with the additional cost of mandates.

Utilizing more natural gas will also help create jobs and grow our economy. Ohio is fortunate to have enormous natural gas shale deposits. As more natural gas is used to produce electricity, demand for the resource will increase, providing a sustainable boost to Ohio's economy.

The simplest, most cost-effective way for Ohio leaders to reduce air emissions is to allow energy markets to work. Mandating renewables and energy efficiency may result in higher costs to reach emissions goals than if markets are allowed to drive power generation. As the benefits of new gas-fired generation take effect, CO2 emissions will automatically decline, giving us cleaner air at the lowest possible cost.

Chris Zeigler is executive director of American Petroleum Institute - Ohio.

OHIO STATEWIDE SURVEY
1/24/17 – 1/28/2017
N=801, +/- 3.46%
General Election Voters
(percentages may not add up to 100% due to rounding)

FALLON RESEARCH & COMMUNICATIONS, INC.

www.FallonResearch.com

Generally speaking, would you say that Ohio is going in the right direction or has it gotten off onto the wrong track?

53.9% Right direction
23.2 Wrong track
6.8 Mixed/both (volunteered)
16.1 Unsure/no answer

Currently, private energy development companies pay for many of the power plants under construction in Ohio without any financial obligation from you. As an alternative, would you support or oppose changing Ohio law to allow utilities, like AEP and First Energy, to charge you for the cost to build their new plants, even though the power might not even be used in Ohio?

4% Support
91.5 Oppose
4.5 Unsure/no answer

Many fuel sources can be used to produce electricity, including coal, natural gas, nuclear, water, wind and solar sources, and all have different benefits and costs. Would you support or oppose a state program where the subsidies you pay for only go to one type of fuel source, instead of all of them?

29.8% Support
59.7 Oppose
10.5 Unsure/no answer

Ohio law currently allows you to shop for the best price for electric and natural gas service from a variety of providers. Multiple studies have found that this has saved Ohioans billions of dollars over the last decade. Would you support or oppose a change in law that would eliminate the ability to choose and require customers to take services only from their local utility?

16.5% Support
78.7 Oppose
4.8 Unsure/no answer

Do you agree or disagree that Ohio should increase electric market competition, even if it means the elimination of the government-mandated electric utility monopoly that has existed for decades? Interviewer follow-up, if agree or disagree: Would you say that you strongly agree/disagree or just somewhat agree/disagree?

55.5% TOTAL AGREE
24.9 Strongly agree
30.6 Somewhat agree

29.6% TOTAL DISAGREE
18.9 Somewhat disagree
10.7 Strongly disagree

14.9% Unsure/no answer

Do you agree or disagree that utility customers should pay the additional cost to support uneconomical power plants because it may preserve jobs in certain communities? Interviewer follow-up, if agree or disagree: Would you say that you strongly agree/disagree or just somewhat agree/disagree?

29% TOTAL AGREE
8.2 Strongly agree
20.8 Somewhat agree

62% TOTAL DISAGREE
28.4 Somewhat disagree
33.6 Strongly disagree

9% Unsure/no answer

Finally, I have a few short questions for statistical purposes...

I would like to read you a list of age groups. Please stop me when I get to the one you are in.

13.7% 18 to 29
21.8 30 to 44
27.5 45 to 59
35.8 60 and older
1.1 Unsure/no answer

Which of the following do you consider to be your main race? Is it…

77.6% White

13.6 African-American
1.7 Hispanic/Latino
.9 Asian/Indian…or…
2.3 Something else
.6 Mixed race (volunteered)
3.3 Unsure/no answer

Gender:

48% Male
52 Female

The Ohio Manufacturers' Association

Approximate Estimated Costs to Manufacturers for FirstEnergy's Distribution Modernization Rider

Manufacturer Size	Consumption (kWh/year)	FirstEnergy		
		Annual Cost Estimate*	Total for 5-year DMR*	Total for 5-year DMR w/o tax gross up
Small (~$100k/yr in electricity costs)	1,000,000	$3,747	$18,735	$12,178
Medium (~$600k/yr in electricity costs)	7,500,000	$28,102	$140,510	$91,332
Large (~$6 million/yr in electricity costs)	100,000,000	$374,694	$1,873,468	$1,217,754
Extra large	1,000,000,000	$3,746,936	$18,734,681	$12,177,543
Territory total		**~$203 Million**	**~$1.019 Billion**	**~$662.5 Million**

*Assumes 35% Corporate Tax Gross Up
Distribution Modernization Rider approved by PUCO in October 2016

FirstEnergy has Already Collected Billions of Dollars in Above-Market Charges

Through its various rate cases approved by the Public Utilities Commission of Ohio (PUCO), FirstEnergy has collected more than $9 billion in above-market charges from its customers from 2001 through 2010.

Time Period	PUCO-Approved Above-Market Charges	Amount
2001-2010	Generation Transition Charge/Regulatory Transition Charge	$6.9 Billion
2008-2009	Rate Stabilization Charge	$2.9 Billion
2008-2009	Regulatory Transition Charge	Not quantified
2001-2010	**TOTAL**	**~$9.8 Billion**
2017-2022	**Distribution Modernization Rider**	**~$662.5 Million**

Source: Office of Ohio's Consumers' Counsel

33 N. High Street, 6th Floor, Columbus, OH 43215-3005 • (800) 662-4463 • www.ohiomfg.com • oma@ohiomfg.com

Approximate Estimated Costs to Manufacturers for DP&L's Proposed Debt-Relief Settlement

Manufacturer Size	Consumption (kWh/year)	Estimated Annual DMR/DIR-B Cost ($)	Estimated 5-year DMR/DIR-B Cost ($)
Small (Secondary Service)	1,000,000	$8,265	$41,327
Medium (Secondary Service)	7,500,000	$59,598	$297,988
Large (Primary Service)	100,000,000	$375,144	$1,875,718
Extra large	1,000,000,000	$3,749,744	$18,748,719

Dayton Power & Light (DP&L) has requested that its Distribution Modernization Rider (DMR) and Distribution Investment Rider (DIR-B) provide $125 million per year for five years.

Dayton Power & Light has Already Collected Billions of Dollars in Above-Market Charges

Through its various rate cases approved by the Public Utilities Commission of Ohio (PUCO), DP&L has collected $1.8 billion in above-market charges from its customers from 2000 through 2016.

Time Period	PUCO-Approved Above-Market Charges	Amount
2000-2003	Regulatory Transition Charge/Customer Transition Charge	$727 Million
2004-2005	"Big G"	$242 Million
2006-2008	Rate Stabilization Surcharge	$158 Million
2009-2013	Rate Stabilization Surcharge	$380 Million
2014-2016	Service Stability Rider	$293.3 Million
2000-2016	**TOTAL**	**$1.8 Billion**
2017-2022	**Proposed Debt-Relief Settlement**	**~$625 Million**

Source: Office of Ohio's Consumers' Counsel

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COMPANY LETTERHEAD

DATE

Public Utilities Commission of Ohio
ATTN: IAD
180 E. Broad Street
Columbus, Ohio 43215-3793

RE: Opposition Comment to DP&L ESP Case 16-0395-EL-SSO, et. al re: Credit Support Rider

Dear PUCO:

I am writing on behalf of YOUR COMPANY NAME to request that you reject the settlement proposal by the Dayton Power and Light Company (DP&L) that would impose on our company new above-market costs.

INSERT PARAGRAPH ABOUT YOUR COMPANY

Should the PUCO approve the settlement, DP&L will be able to collect costs (via non-bypassable credit support riders (or DMR and DIR-B)) from all of its customers to subsidize its finances, making customers the financial guarantors of its parent, DPL Inc., which is an AES company, both publicly traded companies. The subsidy effectively insures utility companies from business risk with customer dollars.

COMPANY NAME is directly impacted by this proposal. Our facility(ies) in the DP&L territory consume(s) approximately XXX kWh/year. We estimate the additional costs of these new riders to be more than $XXX dollars during the proposed five year term of the new riders.

If approved, the new riders will add costs to Ohio consumers and negatively impact innovation, growth and jobs and subsidize poor management decisions of the utility company.

As a manufacturer we must ensure that our Ohio operations remain competitive. Please protect the competitiveness of Ohio's economy and protect all consumers in DP&L's territory from this unwarranted rate hike, which is tantamount to a "give-away."

Sincerely,

NAME
TITLE

cc: Governor John Kasich (contact information)
State Senator(look up here)
State Representative (look up here)
Local Chamber of Commerce Executive

FOR IMMEDIATE RELEASE CONTACT: info@expandpipelineinfrastructure.com
2/3/2017

FERC Issues Certificate for Rover Pipeline

Last night, the Federal Energy Regulatory Commission (FERC) issued a certificate of public convenience and necessity for the Rover Pipeline Project. The Coalition for the Expansion of Pipeline Infrastructure (CEPI) applauds FERC for releasing the certificate after two years of thorough review.

"We're ready to get to work," said Geno Alessandrini, business manager of the Michigan Laborers' District Council. "A lot of the work for construction will go to our members, who are highly skilled and uphold the highest safety standards on our worksites. We're excited to get to work on the Rover Pipeline, and get the job done right."

Member organizations of CEPI are ready and willing to help build the Rover Pipeline safely and efficiently, with minimal impacts to properties along the project's route. The trade organizations represented by the Coalition are among the most qualified, highly skilled professionals in their respective vocations – these hardworking men and women know how to get the job done right. And the Rover Pipeline will provide as many as 10,000 construction workers with shovel-ready jobs.

"This development is great news," said Ryan Augsburger of The Ohio Manufacturers' Association. "Construction of the project will generate a windfall of demand for American-manufactured pipeline components. And once in operation, these same organizations will have reliable access to natural gas, affordably powering their operations. Manufacturing has long played a prominent role in Ohio's economy, and we are confident that the Rover Pipeline will provide opportunities for the industry's success well into the future."

Once in operation the Rover Pipeline will fill a longstanding need of natural gas producers in the Marcellus shale region. While production levels have steadily risen in recent years thanks to new extraction technologies, the ability to transport those resources to end markets has been sorely lacking. Now, with the Rover Pipeline clearing a major regulatory hurdle, natural gas producers in Ohio, Pennsylvania, and West Virginia are one step closer in their ability to meet demand for affordable, domestically-produced natural gas.

About CEPI: The Coalition for the Expansion of Pipeline Infrastructure (CEPI) is a partnership of entities from the agriculture, business, manufacturing, and labor sectors whose goal is to educate and advocate for expanding responsibly constructed, local-jobs creating pipeline infrastructure in Michigan, Ohio, and West Virginia. Together it represents more than 20,000 individuals, farmers, and businesses from across Ohio and Michigan. Members of the coalition include the Laborers District Council of Ohio, Land Improvement Contractors Association – Michigan, Michigan Chemistry Council, Michigan Forest Products Council, Michigan Infrastructure and Transportation Association, Michigan Laborers' District Council, Michigan Laborers-Employers Cooperation and Education Trust (LECET), Michigan Oil and Gas Association, Michigan State Grange, Ohio Association of Convenience Stores, Ohio Chamber of Commerce, Ohio Chemistry Technology Council, Ohio Council of Retail Merchants, Ohio Grocers Association, Ohio Hotel & Lodging Association, Ohio Manufacturers Association, Ohio Oil and Gas Association, Ohio State Grange, Operating Engineers Local 18, Pipeliners Local 798, United Association and the West Virginia Manufacturers Association.
Visit us online at http://www.expandpipelineinfrastructure.org.

Why CT Needs Expanded Gas Pipelines

Pipeline Foes
Hartford Courant

Protesters gather outside of the Connecticut Convention Center in Hartford on April 23, 2015, as five of six New England governors convened inside to discuss expanding natural gas pipelines into the region.

Protesters gather outside of the Connecticut Convention Center in Hartford on April 23, 2015, as five of six New England governors convened inside to discuss expanding natural gas pipelines into the region.

(Hartford Courant)

The Belden Brick Co., where I'm fortunate to be a fifth-generation employee, is the nation's largest family-owned brick company. In South Windsor, our Redland Brick KF plant has made the building blocks for homes, schools, churches, hospitals and more.

We hope to continue operating here for a long time. For a manufacturing company like ours, however, energy costs have an enormous influence on profitability. Every dollar we spend on unnecessarily high costs is one less dollar to give our employees or expand our facilities. Unfortunately, some policy-makers don't quite understand this.

Connecticut energy officials recently decided against bringing in more natural gas to help meet demand. This happened despite warnings that our region's pipeline system can't meet growing demand.

In fact, the grid manager, ISO New England, says that the region's power system is "in a precarious position during extended periods of cold" and will remain that way until "infrastructure is expanded to meet the demand" for natural gas.

New England paid about $7 billion more for electricity the past two winters than other regions with easier access to natural gas, such as the Midwest. In fact, five of the top nine states with the highest residential electricity prices are in New England.

Here, industrial rates are 56 percent higher than the national average. Energy analysts and utilities like ConEdison warn that local prices for natural gas could surge to the highest in the world this winter.

Consider what these costs mean for our plant in South Windsor. Natural gas is the fuel most commonly used for firing bricks.

Right now, the KF plant pays 70 percent more for natural gas than its counterparts in areas with more pipeline capacity, like Ohio. That figures balloons to two and a half times more when other expenses, including transportation costs and additional charges, are factored in — a steep price tag for a business still recovering from lower demand triggered by the last recession.

Even our natural gas bills during temporary shutdowns sting. The utility's monthly minimum charge for the facility, even during shutdowns, can be up to 1,200 percent higher that of its counterparts in other states.

Not only do we pay higher natural gas rates in Connecticut, but our electric rates are about 45 percent higher than the average rates we pay at facilities in Ohio, Virginia, Pennsylvania and Maryland. There are many nuances to the final electricity charge, but much of it can be attributed to the lack of needed energy and pipeline infrastructure.

It's time that New England get serious about adopting an energy policy that will keep manufacturing competitive and prices affordable.

Economic times are tough in Connecticut, which is why the state needs to figure out a way to grow the local economy, keep existing businesses healthy and attract new ones. To do that, it must embrace every opportunity to lower costs and improve national and global competitiveness — all of which require adding more clean natural gas and electricity to keep Connecticut working.

Nobody understands how important that is more than a brick manufacturer who relies on new projects as its core business.

Bradley H. Belden is vice president of administrative services at The Belden Brick Co., which runs the Redland Brick KF plant in South Windsor.

- 

  WRITE US: Share your thoughts with a letter to the editor

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INFORMATION IS POWER

CUSTOMER-SITED RESOURCES REPORT

ENERGY EFFICIENCY - DEMAND RESPONSE - CHP - RENEWABLE ENERGY - STORAGE

ENERGY COMMITTEE – FEBRUARY 2017

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- Power resources are moving behind the meter
- Customer-sited resources effect the price of electricity, can reduce costs for manufacturers, and may provide revenue. They are:

Energy Efficiency

Combined Heat & Power / Waste Energy Recovery

Demand Response

Distributed Renewables & Storage

CUSTOMER-SITED RESOURCES

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Energy Efficiency Peer Network

March 9th, 10 am – 2 pm

Solvay Chemicals
- 17404 State Route 7, Marietta, Ohio 45750

Combined Heat & Power
- 8 Megawatt natural gas
- Electric
- Steam
- DTE Energy owner/operator

Lunch hosted by Varo Engineering

Questions?
jseryak@gosustainableenergy.com
614-268-4263 x302

ENERGY EFFICIENCY

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AEP Ohio

- **$250,000 in incentives reserved for OMA members**
- For large projects:
  - Start with $25,000 (project limit w/o auction incentives)
  - Add $0.043 /kWh saved for additional savings
  - Contact OMA and get a larger rebate!

Ohio DSA

- **Energy analysis – 50% cost share up to $15,000**

Contact

jseryak@gosustainableenergy.com

Bid4efficiency

AEP OHIO

LIMITED DEALS

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	EE Programs	Audit Changes	CHP Incentives	Low-cost/ No-Cost	Incentive Cap & Auction
AEP	Yes	Maybe	Yes	Yes	Yes
DP&L	Yes		Yes	Yes	
Duke	Yes	Yes	Yes		
FirstEnergy	Yes	Yes	Yes		

- Energy efficiency programs "unfrozen"
- Audit/energy study changes
  - More flexible definition now includes system analysis, not just entire plant
  - Large plants may participate 2x over 3 years

UTILITY ENERGY EFFICIENCY PROGRAMS

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	EE Programs	Audit Changes	CHP Incentives	Low-cost/ No-Cost	Incentive Cap & Auction
AEP	Yes		Yes	Yes	Yes
DP&L	Yes		Yes	Yes	
Duke	Yes	Yes	Yes		
FirstEnergy	Yes	Yes	Yes		

- CHP incentives
  - Floor of 3.5 cents/kWh energy savings
  - Negotiable ceiling or 5 cent/kWh ceiling
  - Negotiable incentive payment period
  - Cost-sharing for investment grade studies
- Low-cost/no-cost
  - AEP Continuous Energy Improvement (CEI) program
    - Will have an Alumni Cohort
  - DP&L program available at request

UTILITY ENERGY EFFICIENCY PROGRAMS

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Other improvements

- Utilities not allowed to collect shareholder profit on solely customer-financed actions
  - Unfortunately, that was attempted and did require clarification from PUCO
  - Applies to so-called "customer action" programs
- Contained or limited "shared-savings" shareholder incentives
- Utilities agree to report efficiency capacity bid amounts and revenue in base-residual auction (BRA) and incremental auction (IA)
  - Utilities agree to bid in capacity into outlying auctions
  - Improved transparency
  - Improved price suppression in wholesale capacity auctions

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2017 Opt-Out

- Eligible – Sub-transmission, transmission, and tax self-assessing users
- Do not pay EE rider for 3 years
- No incentives for 3 years
- No efficiency investment required
- Decision lasts 3 years

Self-Direct

- Eligible - All manufacturers (> 700,000 kWh/yr)
- Rider exemption or cash rebate
- Can receive incentives later
- Must show efficiency investment

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Lean Energy Program

Plan – Act – Support – Recognize

1. Baseline, Benchmark with a Lean Energy Score, Set Goals

2. Create action items

3. Support with resources –
   - Ohio DSA energy audit cost-sharing – 50% up to $15,000
   - PJM capacity payments
   - DOE Better Plants program

4. Recognize – Document reduction in energy use, improvement in Lean Energy score

Contact John – JSERYAK@GOSUSTAINABLEENERGY.COM

CARPENTER LIPPS & LELAND LLP

ATTORNEYS AT LAW
280 PLAZA, SUITE 1300
280 NORTH HIGH STREET
COLUMBUS, OHIO 43215

MEMORANDUM

To: OMA Energy Committee
From: Kim Bojko, OMA Energy Counsel
Re: Energy Committee Report
Date: February 9, 2017

Active Administrative Actions in which OMAEG is Involved:

American Electric Power (AEP):

- **PPA Rider Expansion Case (Case Nos. 14-1693-EL-RDR, et al.)**
  - AEP, Staff, Sierra Club, Ohio Energy Group, Ohio Hospital Association, IGS and others filed a stipulation seeking PUCO approval to populate the purchase power agreement (PPA) Rider with the costs associated with certain plants owned by AEP Generation Resources as well as the costs of AEP's entitlement to the OVEC output. IEU-Ohio agreed to not oppose.
  - The stipulation contains several other provisions unrelated to the PPA Rider, including: extension of the ESP III plan; expansion of the IRP program; and a proposal to develop wind and solar facilities.
  - The PUCO modified and approved the stipulation.
  - On rehearing, AEP stated that in light of the FERC decision it was going to only pursue recovery of the OVEC PPA.
  - The PUCO issued an Order on November 3, 2016, authorizing AEP Ohio to recover from customers the net impacts of AEP Ohio's OVEC contractual entitlement through the PPA Rider.
  - Several Parties requested rehearing, which are still pending.
- **ESP III Case (Case Nos. 13-2385-EL-SSO, et al.)**
  - Order issued on February 25, 2015, wherein PUCO approved establishment of the PPA Rider, but AEP was not authorized to collect any PPA costs through the PPA Rider.
  - Entry on Rehearing subsequently issued – PUCO deferred ruling on applications for rehearing related to the PPA Rider.
  - Pursuant to the Stipulation in the PPA Rider case, AEP filed an application to extend the ESP through 2024, and included other provisions agreed to in the Stipulation,

such as BTCR opt-out program, IRP extension and modifications, the Competition Incentive Rider, DIR extension and modifications, and a Sub-Metering Rider.

- The PUCO issued an Order on November 3, 2016, affirming its decision in the February 25, 2015 Order not to approve AEP Ohio's recovery of costs under the PPA Rider, including OVEC costs (but authorized the recovery in the PPA case on the same day). The PUCO also increased the Distribution Investment Rider (DIR) caps by an additional $8.6M (in addition to the $37.8M increased in the prior order, which was an increase over the amounts in the original order). Total authorized is $589.6M from 2015 through May 2018.

Year	Cap Proposed by AEP	Cap/Recovery Granted by Commission (February 25, 2015 ESP 3 Order)	Cap/Recovery Granted by Commission (May 25, 2015 Second EOR)	Cap/Recovery Granted by Commission (November 3, 2016 Fourth EOR)
2015	$155 million	$124 million	$145 million	$145 million
2016	$191 million	$146.2 million	$165 million	$165 million
2017	$219 million	$170 million	$185 million	$190 million
2018 (Jan.- May)	$102 million	$103 million	$86 million	$89.6 million
Total	$667 million	$543.2 million	$581 million	$589.6 million

- OMAEG filed another application for rehearing, which is pending.

- **Application to Amend ESP III Case/New ESP (Case Nos. 16-1852-EL-SSO, et al.)**
  - On November 23, 2016, AEP filed its application to amend its ESP extending the term through May 2024 and to add several new riders and charges. AEP also requested an expedited procedural schedule.
  - A technical conference was held in December 2016.
  - The PUCO still has yet to approve a procedural schedule.

- **Global Settlement of Several Cases (Case Nos. 11-5906-EL-FAC, 14-1189-EL-RDR, 15-1022-EL-UNC, 11-4920-EL-RDR, et al.)**
  - On December 21, 2016, a Global Settlement was reached and filed with several parties, resolving several cases, including cases that were appealed to the Supreme Court of Ohio and remanded to the PUCO for reconsideration. OMAEG members and some other customers will see rate reductions as a result of the settlement.
  - Through OMAEG's participation in the cases and Settlement, OMAEG successfully negotiated one-time bill credits to offset the rate increases to those OMAEG members that would have been otherwise negatively affected. Other large customers will also see savings from the implementation of the Settlement due to negotiated rate design modifications. All customers will also see a rate reduction in the form of a credit for the significantly excessive earnings test (SEET) in 2014. The amount of the total SEET credit passed on to customers is $20M. Additionally, those customers in the Ohio Power rate zone will receive a $2/MWh reduction in their PIRR rate.

- Further, the parties negotiated early implementation of a limited Basic Transmission Cost Rider (BTCR) Pilot Program agreed to in AEP's purchase power agreement (PPA) rider case, and obtained an OMAEG participation level of 5 customer accounts for those members who may benefit from the program.
- A hearing was held on the Global Settlement on January 24, 2017 and was not opposed by any parties.
- The parties to the global settlement requested that the Commission adopt the settlement by February 28, 2017. If the Commission adopts the settlement by February 28, 2017, changes in rates may be reflected in customers' March 2017 bills.

- **EE/PDR Portfolio Plan (Case No. 16-574-EL-POR)**
  - On June 15, 2016 AEP filed its EE/PDR plan.
  - OMAEG and several other intervening parties reached a settlement to implement AEP's comprehensive EE/PDR portfolio, effective from 2017 through 2020. OMAEG obtained continued funding for EE programs in the amount of $100,000 per year, more favorable language, limitations on EE/PDR portfolio costs and shared savings that can be collected from customers, favorable combined heat and power (CHP) program incentives, and other consumer protections.
  - Hearing was held in December 2016 to adopt the stipulation without opposition.
  - On January 18, 2017, the PUCO approved AEP's EE/PDR Portfolio as modified by the settlement.

Duke Energy Ohio (Duke):

- **ESP Application (Case Nos. 14-841-EL-SSO, et al.)**
  - Order issued on April 2, 2015, wherein PUCO approved establishment of a PPA rider (Rider PSR), but Duke was not authorized to collect any PPA costs through Rider PSR.
  - Several parties, including OMA, filed applications for rehearing on May 4, 2015. The applications for rehearing are still pending.
- **2013/2014 EE/PDR Recovery (Case Nos. 14-457-EL-RDR and 15-534-EL-RDR)**
  - Duke and Staff filed a stipulation seeking to resolve the shared savings mechanisms relating to Duke's 2013 and 2014 programs.
  - OMA and others opposed the stipulation.
  - The PUCO issued a decision on October 26, 2016, approving the stipulation, which provides Duke $19.75 million in shared savings incentives.
  - Rehearing is pending.
- **Shared Savings Mechanism Extension Case (Case No. 14-1580-EL-RDR**)
  - Duke sought PUCO approval of its request to extend the use of its shared savings incentive mechanism in 2016.

- OMA and others opposed the proposal and filed reply briefs on September 8, 2016, and are awaiting a PUCO decision.

- **EE/PDR Portfolio Plan (Case No. 16-576-EL-POR)**
  - On June 15, 2016 Duke filed its EE/PDR plan.
  - OMA and several other intervening parties reached a settlement to implement Duke's comprehensive EE/PDR portfolio, effective from 2017 through 2019. OMAEG successfully negotiated a shared savings cap and tiered incentive levels. OMA also obtained language to prohibit Duke from collecting shared savings on banked savings, and to initiate a CHP program with positive incentives. OMA further obtained funding for EE programs in the amount of $50,000 per year.
  - Both PUCO Staff and the Office of the Ohio Consumers' Counsel (OCC) are challenging the plan proposing the adoption of a cost cap for program costs and additional limitations on shared savings incurred through FirstEnergy's energy efficiency portfolio plan. OMAEG does not oppose a cost cap or additional limitations on the amount of profit FE may earn.
  - Hearing is scheduled to commence on February 27, 2017.

FirstEnergy:

- **ESP IV Application (Case No. 14-1297-EL-SSO)**
  - FirstEnergy, Staff, Ohio Energy Group, OPAE, IGS, and others filed a stipulation seeking PUCO approval of FirstEnergy's ESP IV Application together with authority to establish and populate a PPA rider (Rider RRS) with the costs associated with certain plants owned by its affiliate, FirstEnergy Solutions.
  - The stipulation also contains provisions addressing: grid modernization; energy efficiency; and a plan to transition to decoupled rates.
  - The PUCO modified and approved the stipulation.
  - On rehearing, FirstEnergy stated that in light of the FERC decision it was not pursuing cost recovery of the affiliate PPA with FirstEnergy Solutions at this time. However, FirstEnergy is still seeking to recover costs through Rider RRS under a new proposal (a virtual PPA).
  - On rehearing, Staff proposed a new proposal to create a credit support rider to replace the virtual PPA to give FirstEnergy $393 million over three years ($131 million annually). Staff hopes that the credit support rider will jumpstart grid modernization, but there is no guarantee this will happen. FirstEnergy requested modifications to Staff's rehearing proposal, requesting $558 million annually for the eight years of the ESP plus an additional amount up to $568 million annually to account for maintaining its corporate headquarters and nexus of operations in Akron, Ohio—the total could be approximately $9 billion over the term of the ESP IV.
  - The PUCO issued a decision on October 12, 2016, adopting Staff's proposed Rider DMR. In adopting Rider DMR, the PUCO authorized FirstEnergy to collect from customers $132.5 million per year for three years (approximately $204 million per

year grossed up for taxes), with an option to extend the rider for an additional two years. The PUCO conditioned FirstEnergy's recovery of revenues under Rider DMR on three terms including: the retention of its headquarters in Akron, Ohio; prohibition of a change in control of FirstEnergy; and demonstration of sufficient progress in the implementation and deployment of grid modernization programs.

  - Rehearing is pending.

- **EE/PDR Plan (Case No. 16-743-EL-POR)**
  - On May 9, 2016, OMAEG filed a motion to intervene in the proceeding.
  - In December 2016, several parties reached a settlement with FirstEnergy in support of its revised EE/PDR plan. OMAEG agreed to not oppose the settlement in exchange for favorable language, limitations on shared savings that can be collected from customers, favorable CHP program incentives, and other consumer protections.
  - Both PUCO Staff and OCC are challenging the plans proposing the adoption of a cost cap for program costs and additional limitations on shared savings incurred through FirstEnergy's energy efficiency portfolio plan. OMAEG does not oppose a cost cap or additional limitations on the amount of profit FE may earn.
  - Hearings have been held on the settlement and briefing is underway.

Dayton Power & Light (DP&L):

- **Distribution Rate Increase (Case No. 15-1830-EL-AIR, et al.)**
  - The PUCO set June 1, 2015 to May 30, 2016 as the test period and September 30, 2015 as the date certain.
  - Discovery is ongoing and parties are awaiting the Staff report and case management schedule.
- **Electric Security Plan (Case No. 16-395-EL-SSO, et al.)**
  - DP&L filed an amended application on October 11, 2016, withdrawing its Reliable Electricity Rider (RER) request. Instead, it is now seeking a Distribution Modernization Rider (DMR) for a term of seven years to recover $145 million per year from customers.
  - DP&L and certain intervening parties filed a stipulation on January 30, 2017, which is opposed by numerous other intervening parties, including OMAEG.
  - DP&L filed testimony supporting the Stipulation on February 6, 2017. Discovery on the Stipulation is ongoing. Opposing testimony is due March 1, 2017.
  - The hearing is scheduled to begin on March 8, 2017.
- **EE/PDR Portfolio Plan (Case No. 16-649-EL-POR, et al.)**
  - On June 15, 2016, DP&L filed its EE/PDR plan to continue its current EE/PDR POR for another year.
  - OMAEG, Staff, and all other intervening parties, except OCC, reached a settlement to continue DP&L's EE/PDR portfolio for 2017. OMAEG obtained continued funding

for EE programs in the amount of $30,000, more favorable language, limitations on EE/PDR portfolio costs and shared savings that can be collected from customers, continuation of the CHP program and incentives, and other consumer protections. OCC is challenging the collection of lost distribution revenues.

- The hearing is scheduled for February 7, 2017.

Statewide:

- **Net Metering Rules (Case No. 12-2050-EL-ORD)**
  - OMAEG filed comments urging the PUCO to adopt rules that align the compensation schemes applicable to shopping and non-shopping customers.
  - Stakeholders await the PUCO's decision.
- **Submetering Investigation (Case No. 15-1594-AU-COI)**
  - The PUCO opened an investigation to determine whether the activities of submetering entities meet the definition of a public utility.
  - On December 7, 2016, the PUCO issued a decision to expand the application of the *Shroyer test*, used to determine if a landlord is operating as a public utility, to include condominium associations, submetering companies, and other similarly-situated entities. Additionally, the PUCO created new parameters for applying the test to determine whether those entities are acting as public utilities, and thus should be subject to regulation when they resell or redistribute utility service.
  - Concerned that this expansion may unlawfully classify entities that resell or redistribute electric, gas, and water utilities in commercial settings as public utilities, OMAEG joined other commercial groups to seek rehearing of the PUCO's Order that may affect commercial shared services arrangements.

Judicial Actions—Active Cases Presently on Appeal from the PUCO to the Supreme Court of Ohio

Duke Energy Ohio:

- **Increase to Natural Gas Distribution Rates, Case No. 2014-328 (Appeal of Case No. 12-1685-EL-AIR, et al.)**
  - OMA, OCC, Kroger, and Ohio Partners for Affordable Energy appealed a PUCO order to the Ohio Supreme Court that permitted recovery from ratepayers for environmental remediation costs associated with two former manufactured gas plant sites.
  - The matter has been set for oral argument before the Court on February 28, 2017.

Federal Actions

FERC:

- **MOPR Expansion (EL16-49)**
  - On March 21, 2016, Dynegy and others filed a complaint against PJM requesting that the Minimum Offer Price Rule be expanded to apply to existing resources.
  - The complaint aims to protect against AEP and FirstEnergy offering the subsidized affiliate generating units into the capacity market below costs, which will suppress capacity prices.
  - Dominion, American Municipal Power, and others filed a motion to dismiss on mootness grounds given the FERC's order rescinding the waiver on affiliate sales restrictions previously granted to AEP, FirstEnergy, and their unregulated generating affiliates.
  - The Independent Market Monitor claims that the issues are not moot given the Staff's proposal adopted in the FirstEnergy ESP IV case for a DMR, and the pending DP&L DMR proposal.
  - The Complaint is still pending.

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Summary of DP&L ESP III Settlement

and OMAEG's Position

Case Nos. 16-395-EL-SSO, et al.

Application

DP&L filed its ESP III Case on February 22, 2016 with a PPA proposal, but then after the FirstEnergy ruling, DP&L filed an amended application on October 11, 2016, in which it sought the creation of a distribution modernization rider (DMR) similar to the one that FirstEnergy received. DP&L's initial request was for a $145M/year DMR for 7 years, totaling approximately $1.015B.

Settlement

Under the Settlement that was filed on January 30, 2017, DP&L will receive from customers $125M/year for 5 years ($90M for a DMR rider and $35M for a Distribution Investment Rider (DIR-B) rider), totaling approximately $625M. While this is a slight improvement over the application, $625M to DP&L to reduce its debt and allegedly invest in its grid is **too large of a subsidy to bailout** DP&L's parent, DPL Inc, and the holding company, AES. Also:

1. it is not comparable to the level of DMR that FirstEnergy received;
2. it is contradictory to merger commitments that DP&L, DPL Inc., and AES previously made, which was to not pass on any costs of the purchase of DPL Inc. by AES to Ohio ratepayers; and
3. it is structured in a way that violates FirstEnergy precedent and Ohio law.

Why is the Settlement bad for manufacturers?

The Settlement as it is currently drafted is problematic for manufacturers for many reasons:

1. The distribution utility, DP&L, is financially healthy. The claimed debt problem is due to an acquisition premium of the purchase of DPL Inc. by AES and lies with DPL Inc., which DP&L, DPL Inc., and AES all agreed to not collect from customers in the merger proceeding.

2. The structure of DP&L's DMR is flawed as it is being used to pay down debt, which has nothing to do with distribution modernization as required by Ohio law and FirstEnergy precedent.

3. DP&L has been unlawfully collecting $73M as a stability charge after the Supreme Court of Ohio decision eliminated DP&L's stability rider (SRR) as unlawful. The RSC or similar financial integrity charges have been found to be unlawful in other cases by the Supreme Court.

4. The Settlement requires Signatory Parties and Non-opposing Signatory Parties to forgo challenging the unlawful collection of the $73M RSC with the Supreme Court and the pending FERC case, EC16-173-000.

5. DP&L's request will be a rate increase for all manufactures, especially given that DP&L is currently recovering $73M from customers unlawfully.

6. The bill impacts produced by the Company (which do not include all of the costs embedded in the Settlement) show an increase in rates for manufacturers, on average, for the secondary class in the magnitude of 5-20% (very small users may see a decrease). Primary service class and high voltage customers may see a decrease of 1-4.7% because of a rate design change (but others may see an increase depending on usage). Residential class shows 1-24% increase, with an average customer at a 2.5% increase. Any potential decreases will likely be diluted or eliminated with the additional costs that the Company has not accounted for in its bill impacts, and any increases will be exacerbated.

7. Under the settlement, DP&L will obtain $125M from customers for 2 riders (DMR & DIR-B) regardless of the level of tax. So if the federal government reduces the taxes from approximately 36%, DP&L will still collect the full $125M whereas FirstEnergy will lower the amount it collects from customers.

8. The level of the DMR far exceeds the level provided to FirstEnergy. DP&L is approximately less than a third of the size of FirstEnergy with a third of the sales. If you take the amount given to FirstEnergy ($131M plus the tax gross up or $204M), an equivalent amount for DP&L would be approximately $43M plus tax gross up or $55M (at the high end). FirstEnergy only received its DMR for 3 years with an option for a 2 year extension, while DP&L is guaranteed its DMR for 5 years. This is a concern as FirstEnergy will return to the PUCO for more ratepayer dollars if a smaller utility is given more.

9. The rate design for the DMR rate allocation is bad for manufacturers on secondary service (no demand component).

10. The Settlement creates several “blank checks” where DP&L can spend as much as it wants and obtain cost recovery from customers in whole or in part. For example,

    a. Possible costs associated with a Customer Group recommending smart grid and renewable infrastructure improvements –see discussion below.

    b. Non-commodity billing—implementation costs associated with system changes to allow DP&L to bill for supplier non-commodity services on a bill-ready basis.

    c. Supplier consolidated billing—implementation costs associated with system changes to allow supplier consolidated billing.

    For b and c above, 50% of the undefined, unlimited costs for the programs will be collected from customers. The Company is allowed to collect up to $20M (minus any deferral balances specified below) for these costs through the Regulatory Compliance Rider. In addition, the Company can defer for later recovery from customers any additional amounts.

11. Because of the large debt associated with DPL Inc. related to the purchase of DPL Inc. by AES (debt which DP&L, DPL Inc., and AES all agreed not to collect from customers), there is no guarantee that DP&L/DPL Inc. will not be in the same position in 5 years.

12. A provision in the Settlement requires AES to forgo collection of tax-sharing payments during the term of the DMR/DIR-B; however, DPL Inc. will continue to accrue the tax sharing liabilities on its books; therefore, at the end of the DMR/DIR-B collections, a large payment will be owed to AES by DPL Inc. Thus, DPL Inc. will likely be in financial difficulties again at that time, claiming the need for another financial integrity charge from customers.

13. The Settlement creates many new riders, initially set at $0, but will then be populated and will pass on many costs to customers (Smart Grid, Distribution Investment Rider, Renewable Energy Rider, Storm Cost Recovery Rider, Uncollectible Rider).

14. The Settlement requires DP&L to pay monies to many signatory parties in the first year of the ESP from shareholder dollars at the same time that DP&L states it does not have enough money to meet its debt obligations, obtain proper credit ratings, and invest in the system. DP&L has agreed to pay through shareholder dollars approximately $1.37M in the first year and over $3M for years 2-5.

15. In years 2-5, the Settlement requires DP&L to pay monies to signatory parties for various items that will then be collected from other customers through the EE/PDR rider, regardless of whether the payments or associated activities are related to EE/PDR, the costs are deemed to meet the EE cost-effectiveness test, and the costs are under the Staff’s cost-cap or EE budget for an undefined, unapproved POR. The amount requested to be passed through the EE/PDR rider is

approximately $2M. The preapproval for EE costs without the benefit of a POR case is problematic. Additionally, passing costs through the EE/PDR rider that are not related to EE unnecessarily inflates and skews the EE/PDR rider and costs of energy efficiency.

16. There are many additional provisions to the City of Dayton, such as upgrades to the airport up to $50,000 and removal of certain charges, where cost recovery is not specified or the amount that may be recovered from customers is undefined.

17. There are ED Rider/Credits under which DP&L will provide economic development credits to Honda and OHA paid for by all customers through the EDR.

18. Under the Reconciliation Rider, it is unclear as to whether DP&L is double recovering costs associated with the OVEC generating units as they have collected and deferred past costs related to OVEC costs (Staff does not support collection of $24M). Signatory parties are prohibited from contesting the recovery of the past OVEC deferrals.

19. There is allegedly a side deal with Sierra Club that requires the closure of 2 plants (regardless of whether they are profitable in the market) instead of the sale of those plants with proceeds passed onto customers. It is unclear whether the costs of closure will be passed onto customers.

20. DP&L appears to be "double dipping" by earning a return on any DIR-B investments paid for with customer dollars. DP&L is also requesting to recover items in its DIR that the PUCO has previously deemed to be inappropriate.

21. The Settlement will add .0033 per kWh to all SSO bills to collect the costs DP&L incurs to provide default service customers. If a manufacturer is not shopping, it will incur this energy charge that could be very costly.

22. AES has made commitments through the Settlement that will likely not be enforceable because AES is not a signatory party.

23. Although unclear, the Settlement appears to allow DP&L and its affiliates to procure or construct 300 MW of renewable (solar and wind) and request that the costs be passed onto customers. Also, it allows DP&L to implement a PPA for each renewable project and request that the costs be passed onto customers. It is not clear if construction costs and/or operational costs of the generating facilities are passed onto customers or just the purchase of capacity, energy, ancillaries, and renewable energy credits. Further, the Settlement has a requirement that the projects be built by 2022, but subject to regulatory approval. DP&L's affiliates may own up to 50%, but it is unclear if the affiliates' costs will also be passed onto customers.

24. Through the Regulatory Compliance Rider, DP&L is allowed to collect up to $20M for 5 separate deferral balances PLUS costs associated with implementing the non-commodity billing and supplier consolidated billing provisions in the Settlement.

Why did OMAEG not settle?

The price to pay to bailout AES for a bad purchase is too high. Manufacturers believe that DP&L, DPL Inc., and AES should honor their merger commitments in prior settlements and not pass through costs associated with the merger. After removing the current unlawful RSC charge ($73M), manufacturers also believe that customers' rates should decrease. Additionally, there is no guarantee that DPL Inc. will be in a better debt position at the end of the 5-year collection of the $625M from customers.

Additionally, the level of DMR/DIR-B revenue provided to DP&L under the Settlement exceeds the level granted by the PUCO to FirstEnergy. As mentioned above, there are concerns that FirstEnergy and others will come back to the PUCO for more money because of the disparity. There are also many problematic provisions in the as-filed version of the Settlement that will increase costs to customers as delineated above. Moreover, Staff is opposed to the Settlement. Thus, if the PUCO agrees with Staff (and others) on several of the issues listed above, the costs passed on to customers will be reduced. No customer groups, except OHA, are Signatory Parties.

For all of the above reasons, we believe that the Settlement has very little chance of survival in its current form. If the PUCO rejects the Settlement or modifies it significantly, and the Company withdrawals its ESP (which it will do because it believes its fall back is current rates, which includes the $73M), the Settlement will be withdrawn and the Signatory and Non-Opposing Parties to the Stipulation would not receive any of the benefits embedded in the Settlement. Without those benefits, there is no advantage to signing onto the Settlement and forgoing our litigation rights on all of these other issues that could cost customers millions of dollars, including the lawfulness of the current RSC charge of $73M.

Who is on and Who is off the Settlement?

Other than DP&L and DPL Inc. (importantly, not AES), the parties who have signed as Signatory Parties and Non-opposing Signatory Parties are listed below. Parties who Oppose the Settlement are also listed below.

Signatory Parties	Non-opposing Signatory Parties	Parties Opposed
City of Dayton	Honda	PUCO Staff
IGS (supplier)	OEC (enviro)	OMAEG
RESA (suppliers)		OEG (industrials)
Edgemont (low-income)		IEU (commercials)
PWC (low-income coalition)		Kroger Co.
OHA (hospitals)		Wal-Mart
MAREC (renewable group)		OCC (residentials)
		OPAE (low-income)
		Calpine (supplier)
		PJM Market Monitor
		PJM
		Unions
		ELPC (enviro)
		EDF (enviro)
		Adams County
		Monroe Twp,
		Sprigg Twp.
		Manchester Schools
		Adams County Schools

Parties that have not stated a position include: EnerNOC (demand response company), Energy Professionals (brokers), Dynegy, PJM Power Providers Group (generators), and Duke Energy Ohio.

Sierra Club has stated that it is likely to sign as it is executing a side deal with DP&L to close 2 coal plants by 2018, but they have not yet signed.

THE OHIO STATE UNIVERSITY

John Glenn College of Public Affairs
Ohio Manufacturing Institute

February 7, 2017

To: The Ohio Manufacturers Association Energy Committee
From: Ned Hill
SUBJECT: Three ways to know that competitive electric markets are working

Clarity comes from simplicity
Obfuscation is derived from intentional complexity

The only real way to determine if a market is competitive and well-functioning is to examine outcomes over time. There are three measures of a market that is successfully transitioning from being anti-competitive to being competitive:

- Prices fall for consumers.
- New firms enter the market to take advantage of business opportunities and existing firms exit the market or restructure to become profitable.
- Supplies become predictable and dependable as the transition to a competitive market nears completion.

Measuring the performance of the electric generation market in Ohio against these three measures leads to the inescapable conclusion that competitive electric generation has worked well:

- Prices paid by electricity users are $3 billion a year lower than they would have been if the market remained monopolized by the investor owned utilities [IOU].
- The reliability of the electric generation system has improved since the monopoly power of the IOUs was disrupted. The PJM region now has a generation reserve margin that hovers near 20 percent.
- Investment in electric generation capacity is taking place in Ohio, taking advantage of new generating technologies and bountiful amounts of natural gas coupled with low prices. At the same time, inefficient coal-fired power plants are either closing or being sold to more efficient operators.

There are some challenges about the state of the transition:

- Savings gained in the electric generation market are being partially offset by increased distribution charges imposed by the PUCO that consumers cannot avoid.
- At least two of the state's IOUs have not used transition and other above-market mandated payments to write down the value of their generating assets and have extremely large debts associated with financial investments that have not worked out. These debts impede their ability to borrow, increase operating costs when compared to new entrants in the generation market, and provide incentives to re-monopolize the generation markets to preserve stockholder value.

Electricity Customer Choice in Ohio
How Competition Has Outperformed Traditional Monopoly Regulation

Revised February 7, 2017

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Four-part test on deregulating the electric generation market

- ❑ Are consumers saving money?
- ❑ Is system reliability improving?
- ❑ Are new entrants investing money in generating plant and equipment?
- ❑ Are uncompetitive power plants leaving the market?

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Analyzing the Effects of Competition on Electricity Pricing

- **Prior Studies**
  - Compete Study, 2015
  - Other Studies
- **Limitations**
  - "All-in" EIA prices are confounded by rising distribution and transportation costs.
  - EIA prices do not measure savings due to shopping.
- **Strategies for this Study**
  - Assess savings compared to the SSO due to Mercantile shopping.
  - Identify trends for SSOs in Ohio
  - Identify trends for headroom in Ohio.

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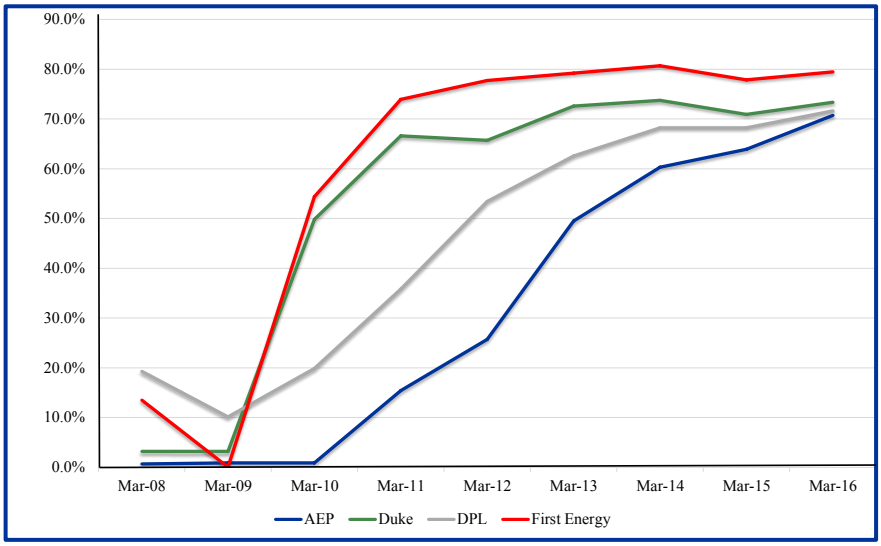
Portion of Ohio Energy Sold to Shoppers

2008 to 2016



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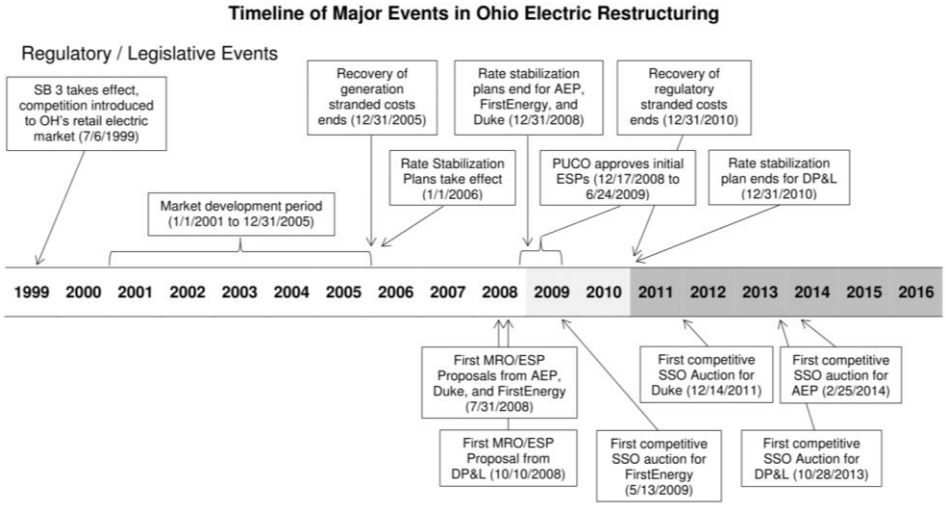
Study Time Period 2011-2015



Source: Noah Dormady, Ohio State University

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Easy Questions Requiring Complicated Analysis

- What would they have paid?
  - Tariff modeling for Secondary and Primary Rate Classes all IOU's since 2011
- What did they pay?
  - Contract rate compilation for thousands of customers over time
- How much volume are "they" state-wide?
  - Extract "mercantile" MWhs out of PUCO shopping data

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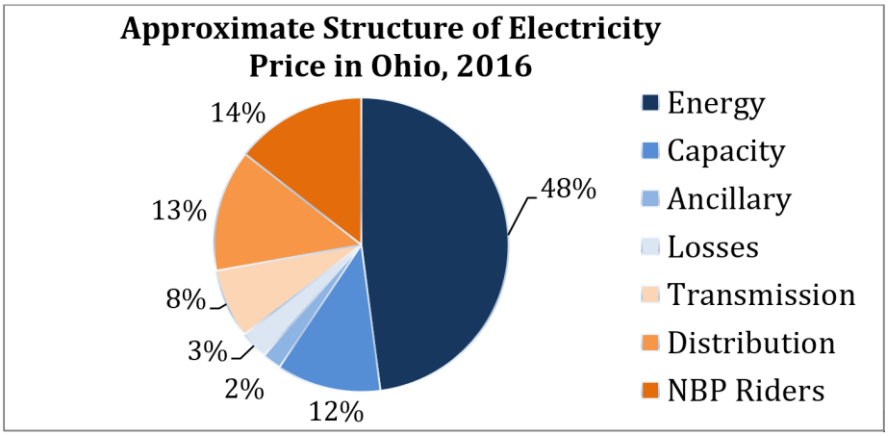
Mercantile Shopping Customers



Assumes: 47% load factor for Secondary, 67% load factor for Primary

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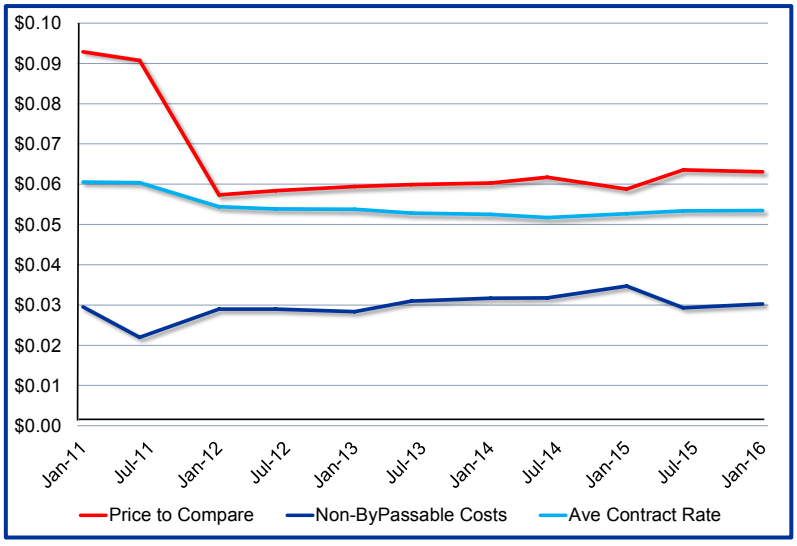
Duke Energy Commercial Mercantile



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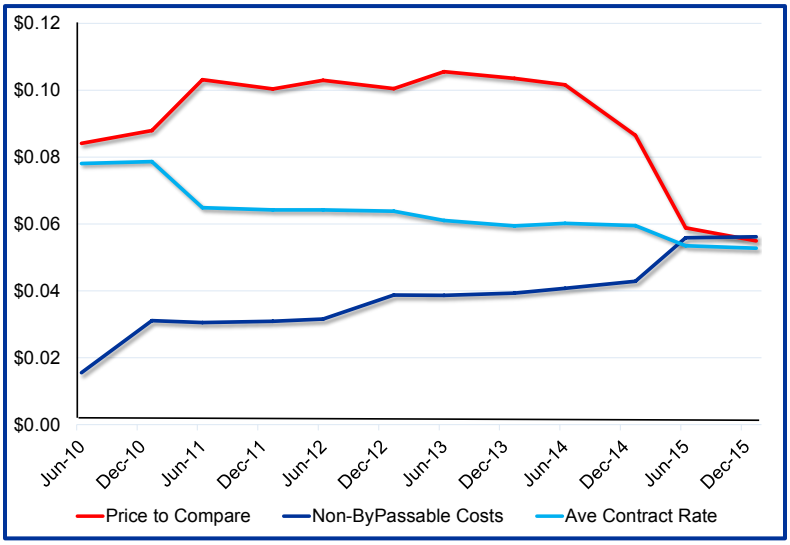
AEP Ohio Commercial Mercantile



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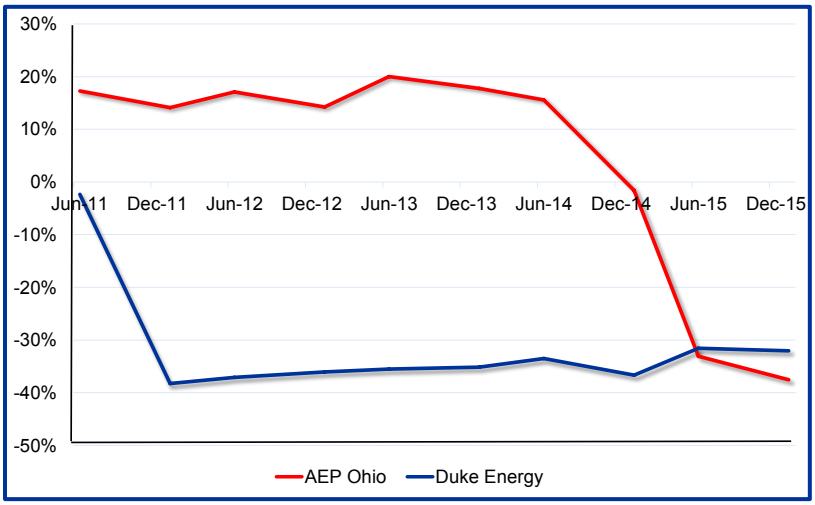
Change in Price to Compare ("Deregulated") for Commercial Customers Since Jan 2011



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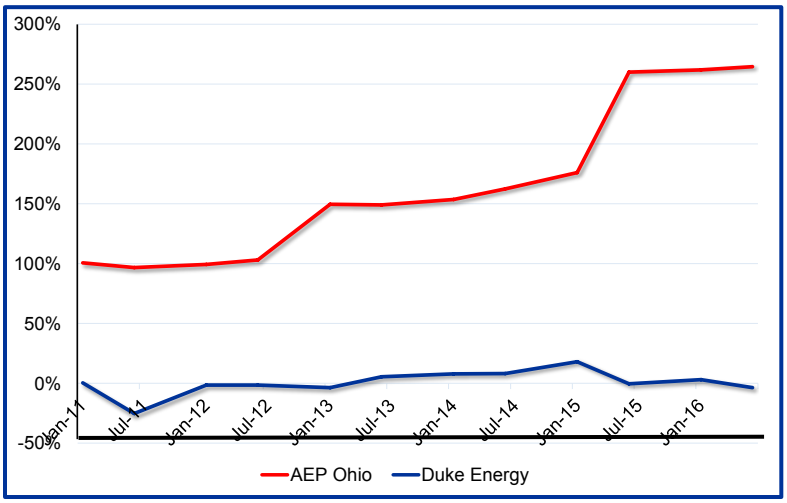
Change in Non-Passable ("Regulated") Costs Since June 2010



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Average Avoided Costs within Investor Owned Utility [IOU] Regions Secondary Mercantile Market

	2011	2012	2013	2014	2015	2016
AEP[79]	20%	24%	29%	30%	18%	4%
Duke	34%	7%	14%	17%	13%	13%
DPL	19%	15%	16%	20%	19%	7%
FirstEnergy[80]	16%	15%	13%	24%	21%	7%
Average	22%	15%	18%	23%	18%	8%

- Through June of 2016.
- Average of GS2 Secondary and GS3 Primary for both Columbus Southern Power and Ohio Power.
- Includes secondary rate classes for Ohio Edison, Toledo Edison and Cleveland Electric Illuminating Company.

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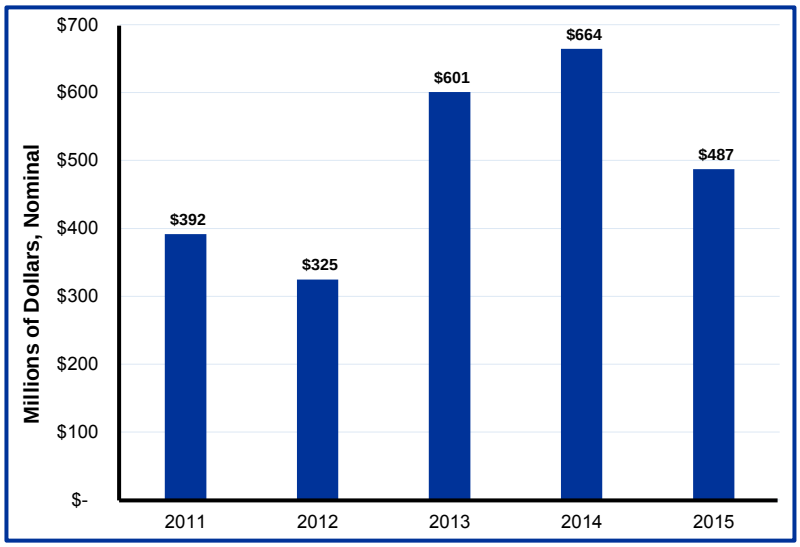
Total Savings Due To Shopping in Mercantile Markets: 2011-2015



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Total Shopping Savings from Mercantile and Non-Mercantile Markets

2011-2015 (millions of dollars)

Year	Mercantile	Non-Mercantile	Total
2011	$391.60	$105.1	$496.70
2012	$324.69	$118.6	$443.29
2013	$600.81	$143.3	$744.11
2014	$664.21	$160.0	$824.21
2015	$487.19	$157.8	$645.19
Five Year Total	**$2,468.50**	**$684.80**	**$3,153.30**

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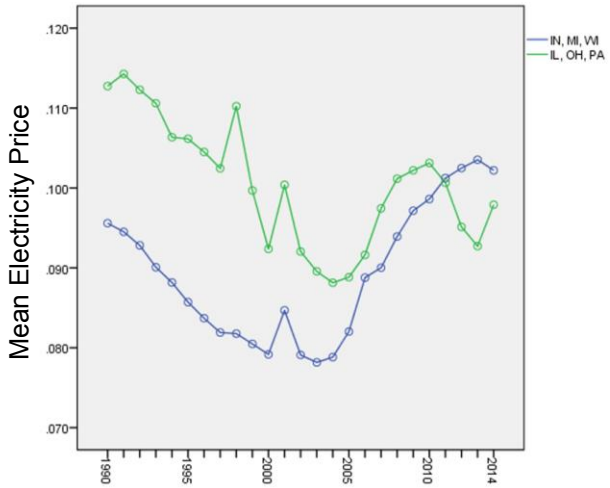
Changes in Electricity Prices

Means of the Combined Residential, Commercial and Industrial Sectors for Regulated and Deregulated Midwestern States: 1990 to 2015



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Savings from Deregulated SSO in Ohio, Not Including Shopping, at $.0176 per kWh

2011-2015 (millions of dollars)

Year	Savings
2011	$2,395
2012	$2,366
2013	$2,342
2014	$2,380
2015	$2,339
Five Year Total	**$11,822**

Note: $0,176 per kWh makes for a 10 to 15% difference on the all-in SSO price of retail electricity

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Total Savings Due to Deregulation in Ohio

2011-2015 (millions of dollars)

Year	Shopping	SSO	Total
2011	$496.70	$2,395.00	$2,891.70
2012	$443.29	$2,366.00	$2,809.29
2013	$744.11	$2,342.00	$3,086.11
2014	$824.21	$2,380.00	$3,204.21
2015	$645.19	$2,339.00	$2,984.19
Five Year Total	**$3,153.30**	**$11,822.00**	**$14,975.30**

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Total Projected Savings Due to Deregulation in Ohio, Including Shopping

2016-2020 (millions of dollars)

Year	Shopping Savings	SSO Auction Savings	Total Savings
2016	$645	$2,333	$2,844
2017	$645	$2,338	$2,829
2018	$645	$2,343	$2,833
2019	$645	$2,349	$2,839
2020	$645	$2,354	$2,844
Total	**$3,225**	**$11,717**	**$14,942**

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Advantages from Deregulated Generation

- **Lower SSO prices**
  - Inures to all EDU consumers – not just shoppers.
  - Competitive auction prices compared to cost-plus-profit accounting
- **Targeted Headroom**
  - Retail providers will target markets with the most headroom
- **Market and Technology Innovation**
  - **Load Management**
    - PLC management
    - Block and index pricing
  - **Reduced Consumption**
    - Energy Efficiency Measures
    - Demand Response Programs
    - *Correlation between electricity consumption and GDP growth has weakened substantially*

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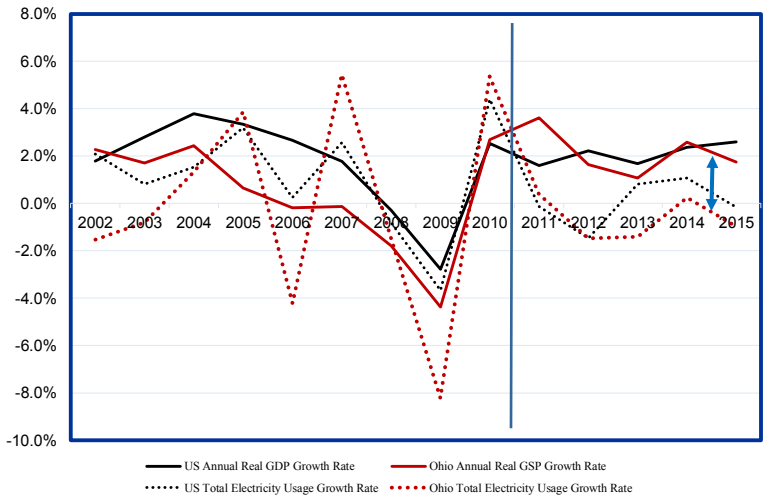
The Correlation between GDP Growth and Electricity Usage has Weakened

Correlations

Growth in US GDP and Electricity Usage
2002-2015: 0.68
2010-2015: 0.31

Growth in Ohio GSP and Electricity Usage
2002-2015: 0.31
2010-2015: 0.52



Note: A vertical line has been drawn at 2011 to indicate the start of an effective competitive electric generating market

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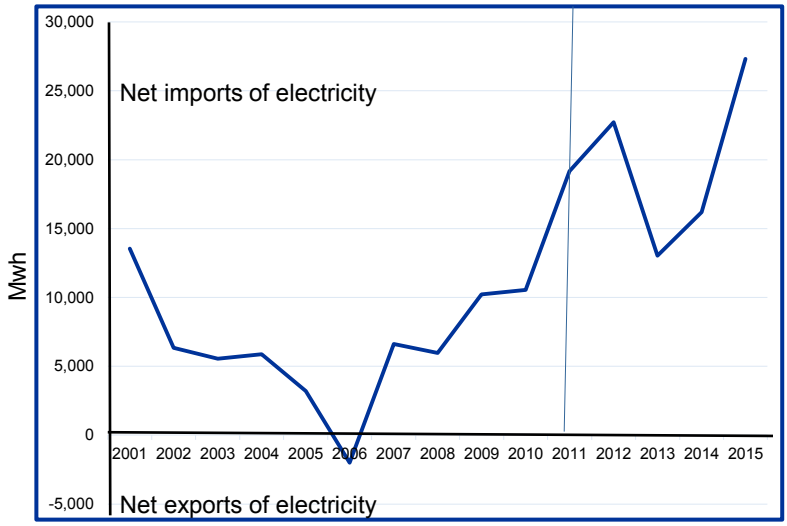
Ohio's Imports of Electricity

Thousands of Megawatt Hours per Year



Note: A vertical line has been drawn at 2011 to indicate the start of an effective competitive electric generating market . Source: Ohio, Generation from Net Generation for All Sectors, Annual; Consumption from Retail Sales of Electricity Annual, EIA, Download January 29, 2017

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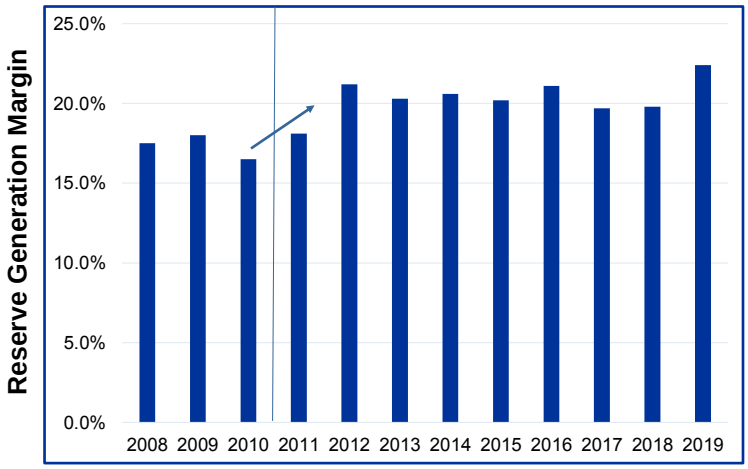
Competitive Electricity Generating Market improved system reliability

PJM Reserve Electricity Generation Margin
Auction Years 2008-2009 to 2019-2020



Note: A vertical line has been drawn at 2011 to indicate the start of an effective competitive electric generating market. Source: http://www.pjm.com/markets-and-operations/rpm.aspx

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11 Natural Gas Power Plants with 11,200 Megawatt [MW]W Under Construction, Approved, or Announced and Preparing to File

COLUMBUS BUSINESS FIRST

	Location City & County	Project Name	Status	Megawatts	Owner	Investment Amour $million	Announced Construction Star Date
1	Cadiz, Harrison	Harrison Power Project	No Filing	1,000	Emberlear Corp		End 2018
2	Carrollton, Carroll	Carroll County Energy Generation Facility	Construction	742	Advanced Power Services	900	
3	Lordstown, Trumbull	Lordstown 1	Construction	940	Clean Energy Future	850	
4	Lordstown, Trumbull	Lordstown 2	Pre-application	940	Clean Energy Future	850	Md 2020
5	Middletown, Butler	Middeltown Energy Center	Construction	513	NTE Energy	600	
6	Oregon, Lucas	Oregon Clean Energy Center 1	Construciton	960	Oregon Clean Energy	860	
7	Oregon, Lucas	Oregon Clean Energy Center 2	Pre-application	960	Oregon Clean Energy	860	
8	Pickaway	Pickaway Energy Center	No Filing	1,000	NTE Energy	1,100	2017 or 2018
9	Valley Township, Guernsey	Guernsey Power Station	Pre-application	1,650	Apex Power	1,100	Early 2018
10	Wilkesville, Vinton	Rolling Hills Generating Station	Approval process	1,414	Eastern Energy LLC	700	2018
11	Yellow Creek, Columbiana	South Field Electric Generation Facility	Approved	1,100	South Field Energy	1,100	No announced date
	Total	11 plants		11,219		8,920	

Source: Tom Knox, January 9, 2017, "Here are the 10 natural gas plants in development in Ohio." Columbus Business First
Brad Belden, "Why is all of this relevant?" Voyrs Energy Summit, February 5, 2017

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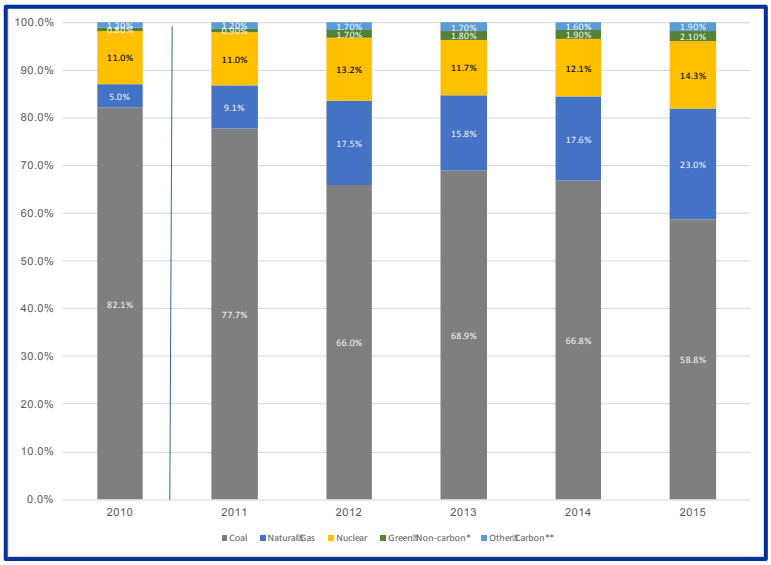
Fuel Mix is Changing

Coal: 82% in 2010; 59% in 2015
Natural Gas: 5% in 2010; 23% in 2015



* Green non-carbon: Wind, Hydro, Biomass, Utility Solar; ** Other Carbon: Coke, Other Gases, Petroleum
Source: Ohio, Net Generation for all Sectors, Annual, Energy Information Agency, Download, January 29, 2017

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Four-part test on deregulating the electric generation market

- ☑ Are consumers saving money?
  - **$2.8 Billion per year going forward**
  - **$15 Billion from 2011 to 2015**
- ☑ Is system reliability improving?
  - **Electricity Generating Margin hovers around 20%**
- ☑ Are new entrants investing money in generating plant and equipment?
  - **11 new generating plants**
  - **$8.9 Billion invested**
  - **$11.2 MW of new power**
- ☑ Are uncompetitive power plants leaving the market?
  - **56 coal fired boilers closed with 10,000 MW of capacity**

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Thank You

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http://engagedscholarship.csuohio.edu/urban_facpub/1416

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RESEARCH SUMMARY

Imperfect Markets Versus Imperfect Regulation in U.S. Electricity Generation

by Steve Cicala

KEY TAKEAWAYS

1. With two-thirds of the electricity produced in the United States currently sold via wholesale markets, policymakers are confronted with an important question: Are markets reducing the cost of electricity generation relative to command-and-control regulated dispatch? This research uses a natural experiment to answer this question.
2. The author constructs a virtually complete hourly characterization of U.S. electric grid supply and demand from 1999 to 2012 to infer gains from trade across power regions and the savings from using the lowest-cost power plants at any moment of time. The author then compares the data in wholesale electricity market versus regulated command-and-control areas before and after the market was introduced.
3. The study finds that markets reduce the cost of generating electricity by about $3 billion per year through increased efficiencies and coordination both within and across areas.
4. By using the lowest-cost plants 10 percent more often, markets reduce the costs from using uneconomical units by 20 percent per year. Additionally, the cost reductions from trading electricity across regions increases by 20 percent per year.
5. The greatest gains occur in temperate months when this increased efficiency and coordination can best be utilized.
6. As policymakers are faced with the question of whether the de-regulation of electricity markets should be expanded or scaled-back, these findings suggest the benefits realized by more efficient allocation of output though market-based dispatch have far outweighed any imperfections in the market system.

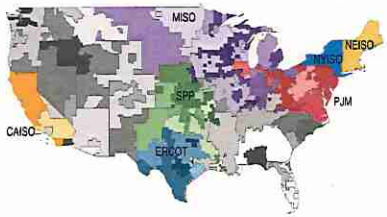
> "Some policymakers are right now deciding whether their state should join a market system, while others are deciding whether they should return to the regulated approach," says Cicala. "While these markets are certainly vulnerable to market power, this study shows that previously unmeasured cost reductions far outweigh those losses."
>
> **STEVE CICALA**
> **ASSISTANT PROFESSOR, HARRIS SCHOOL OF PUBLIC POLICY**

Introduction

Local monopolies—a mix of investor-owned utilities, government agencies (municipal, state, and federal), and non-profit cooperatives—were historically the principal architects of the U.S. electricity grid. These organizations were vertically integrated, so they owned the power plants, the transmission system, and the delivery network within their respective, exclusively-operated territories, and interconnections between them existed largely to maintain reliability. This began to change with the passage of the Energy Policy Act of 1992, which was codified by the Federal Energy Regulatory Commission (FERC) in 1996. The Act required the separation of transmission system owners and power marketers, allowing independent power generators access to the wires and allowing greater potential for wholesale electricity markets to form.

A new decentralized market approach soon did form, where multiple companies came together and bid in auctions that would determine who would operate their power plants to meet electricity demand on any given day. Only those who bid below the price needed to meet projected demand were called on to operate. Such power markets formed first in Pennsylvania, New Jersey and Maryland (the PJM system), and separately in California. Others formed in a piecemeal fashion as the Federal government encouraged market adoption. Today, more than 60 percent of U.S. electricity generation is determined by market-driven auctions.

Figure 1 · U.S Electricity Markets



There are seven regional electricity markets in the United States. Gray areas represent regions not currently operating within a market system.

Source: Cicala (2017)

Research Design

Do power markets lower the cost of generating electricity? Research to date on production decisions has focused on the exercise of market power. That is, at times of high energy demand, companies may take economical plants offline—guaranteeing that expensive plants operate, which drives up the price of electricity. This suggests markets are an inefficient approach to electricity generation.

This study goes beyond studying market power to determine if markets—despite such imperfections—still lower the cost of generating electricity in comparison to command-and-control regulations. The author constructs a virtually complete hourly characterization of supply and demand of the U.S. electrical grid from 1999 to 2012. The 14 years of data includes production costs and operations of virtually every generating unit in the country, and the demand for every one of the power control areas for every hour of the day for every day of the year. This data is then used to study two aspects of cost: so-called "out of merit" costs and trade.

The merit order is a ranking of available power supply by cost. Typically, electricity system operators are assumed to meet incremental demand according to the merit order—that is, each incremental unit of demand is met by the lowest-cost available capacity. At times, however, the system operates out of merit order, bringing more expensive units online first. This could occur when plants must occasionally go off-line for maintenance, or are forced to shut down unannounced, causing more expensive units to fill the gap; and when transmission constraints make it infeasible for the least-cost units to meet local demand. The additional cost of output from these units relative to dispatching the lowest-cost units is what is called the out-of-merit cost. The author measures out-of-merit costs by isolating instances in the data set when more economical generators—determined by heat rate, cost of fuel, and emissions fees—were not used.

The trade of electricity is also an aspect of cost. When importing electricity from another area, one could save having to fire up a more expensive unit. When exporting, one could gain any additional revenue beyond that required to generate the power. To measure these transactions, the author infers that if an area were paying more (or less) than their marginal cost of generating, they would reduce (increase) their imports until these costs were in balance. Similarly, an exporting area must at least be covering its production costs—and if they are more than doing so, they would increase their exports until the analogous balance were reached.

Using 14 years of historical data, the author compares out-of-merit and trade effects in market dispatch areas to areas still using the command-and-control approach. The author also compares the cost changes in the market dispatch areas both before and after the switch to the market occurred.

However, because of the changing cost of fuel, using historical values alone to estimate what the counterfactual outcome would have been if not for the markets is riddled with flaws. For example, when fuel prices are high, the value of substituting a higher cost generation unit with a lower cost generation unit is a lot greater than when prices are low.

To account for the impact of the price of fuel, the author uses a machine learning algorithm to estimate system operators' rules for deciding which power plants to run at any moment in time. Having estimated that rule, the author predicts what system operators would have done if they had continued to follow the

rules they used in the past. This allows a comparison of the predicted pattern of production to the observed production in order to say what the outcome would have been if they had continued operating as they had in the past.

Findings

1. Markets reduce the cost of generating electricity by about $3 billion per year. Previous studies have found that market imperfections—such as market power—cause markets to increase the cost of generating electricity. This study found that, despite their imperfections, markets better allocate output to lower-cost units. The use of lower-cost units saves about $3 billion a year in generating electricity.

2. Markets reduce the cost due to using more expensive units by nearly 20 percent per year. Power plant generators operating within markets are more likely to ensure their power plants are available to run when it is most economical for them to run. This means the lowest-cost plants are used 10 percent more often in market regions—reducing out of merit costs by nearly 20 percent.

3. The volume of electricity traded across areas increases by 10 percent, yielding a 20 percent increase in the gains associated with coordinating operations across areas. Generators operating within markets are able to better identify low-cost generators across areas and better coordinate the dispatch of power, increasing trade by 10 percent. The savings from this additional electricity trading increases by as much as 20 percent a year.

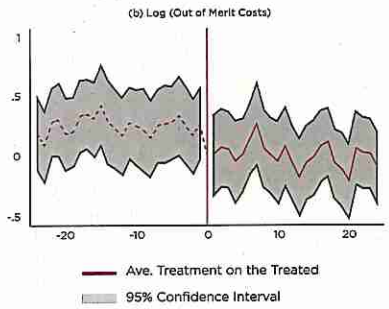
4. Markets save the most in temperate months because they offer improved efficiency and coordination. During the temperate months in spring and fall, when demand is lower because there is less need for electricity to heat or cool buildings, large generating plants are typically shut down for maintenance. In market areas, plant generators reduce the time they are shut down for maintenance and better coordinate their shut-down schedules with other generators across areas.

Policy Implications

Two-thirds of the country now uses markets to determine electricity production. But some states (i.e. Ohio) are deciding whether they should return to the command-and-control regulated approach. Other states are deciding whether they should join the market system (i.e. Washington and Oregon may join the California market). Neither system is perfect, with clear regulatory shortcomings and market failures. However, as states evaluate which approach to use, this study provides some of the first evidence that the benefits of joining a market far outweigh the costs.

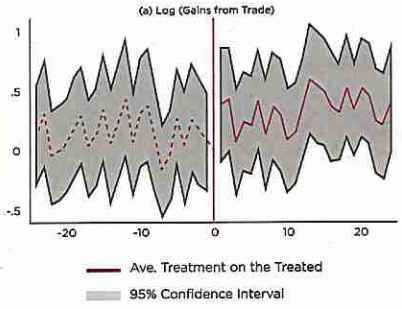
Further, the study makes important observations about the broader value of a market approach—whether it be in the energy sector or beyond. Markets remain more efficient and effective than command-and-control regulations.

Figure 2 · The Decline in "Out of Merit" Costs After Market Introduction



The market system was introduced at time zero on the horizontal axis. Left of zero represents the 10 and 20 months before the market started. Right of zero represents the 10 and 20 months after the market started. "Out of merit" costs declined after the market system was introduced.

The Gains from Trade After Market Introduction



The market was introduced at time zero on the horizontal axis. Left of zero represents the 10 and 20 months before the market started. Right of zero represents the 10 and 20 months after the market started. Gains from trade increased after the market started.

The Energy Policy Institute at the University of Chicago (EPIC) is confronting the global energy challenge by working to ensure that energy markets provide access to reliable, affordable energy, while limiting environmental and social damages. We do this using a unique interdisciplinary approach that translates robust, data-driven research into real-world impacts through strategic outreach and training for the next generation of global energy leaders.

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Energy Market Update

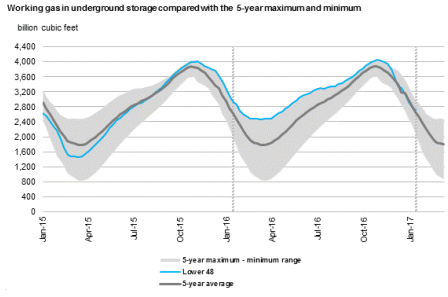
February 2017

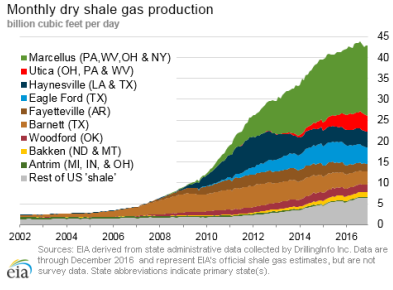
scioto energy

PEAK PERFORMANCE

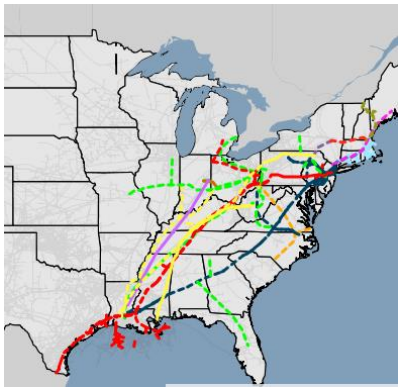
Electric Market Update
February 2017

Storage and Production



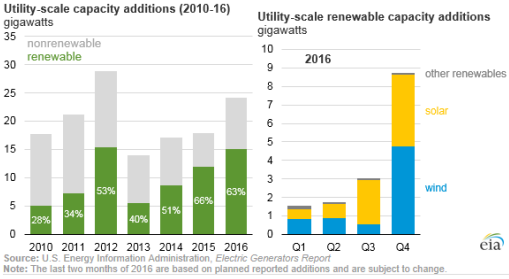


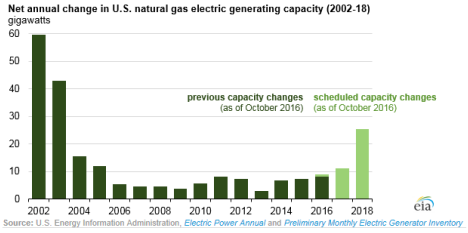
Key Milestones Reached on Pipeline Projects

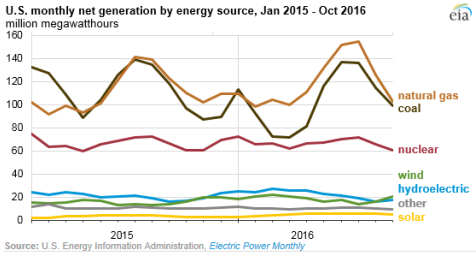


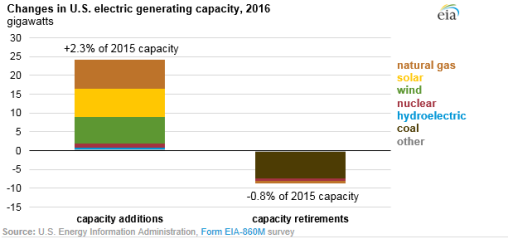
Name	Bcf/d	Online Date
Nexus	1.5	Q4 2017
Rover	3.25	Q3 2017
REX- Zone 3	2.6	Q4 2016
Atlantic Coast	1.5	Q3 2018
Atlantic Sunrise	1.7	A1 2019
Total	**10.55**	

Electric Market Update
February 2017



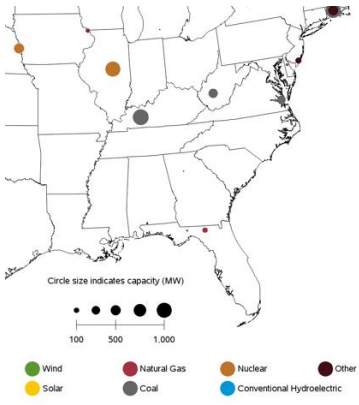




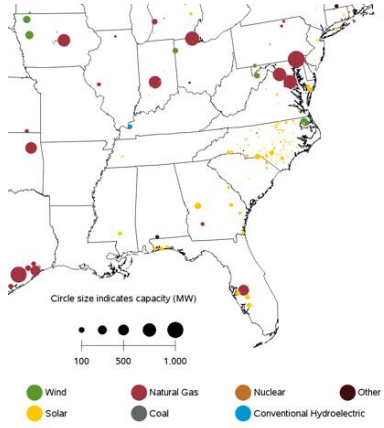


Electric Market Update
February 2017

Power Plant Retirements Oct 16 – Sept 17



New Plants Oct 16 – Sept 17



The Future of Nuclear

Several nuclear power plants have closed in recent years, or are scheduled to close due to low power prices. Some operators are seeking new state subsidies to remain open.

	Name	Owner	Status	Capacity in megawatts
1	Diablo Canyon	PG&E	Closing 2025	2,160
2	San Onofre	Edison International	Closed 2013	2,150
3	Fort Calhoun	Omaha Public Power District	Closed October 2016	476
4	Quad Cities	Exelon	Saved*	1,819
5	Clinton	Exelon	Saved*	1,065
6	Palisades	Entergy	Closing 2018	811
7	Kewaunee	Dominion Resources	Closed 2013	556
8	R E Ginna	Exelon	Saved**	582
9	Nine Mile Point	Exelon	Saved**	1,907
	James A Fitzpatrick	Entergy‡	Saved**	838
10	Vermont Yankee	Entergy	Closed 2014	604
11	Pilgrim	Entergy	Closing 2019	688
12	Indian Point	Entergy	Closing 2021	2,069
13	Oyster Creek	Exelon	Closing 2018	625
14	Crystal River	Duke Energy	Closed 2009	860

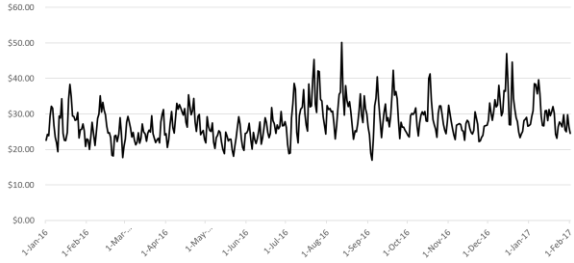
*In deal with Illinois legislature **In deal with New York regulators
‡Exelon has a deal to purchase from Entergy, pending approval from Nuclear Regulatory Commission.
Note: Nine Mile Point and James A Fitzpatrick are located adjacent to each other
Sources: Energy Information Administration, Staff reports

THE WALL STREET JOURNAL.

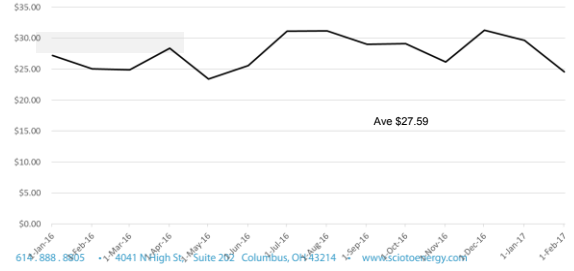
Nuclear closing due to safety or need for extensive repairs. Low power costs can not support many plants to continue.

Electric Market Update
February 2017

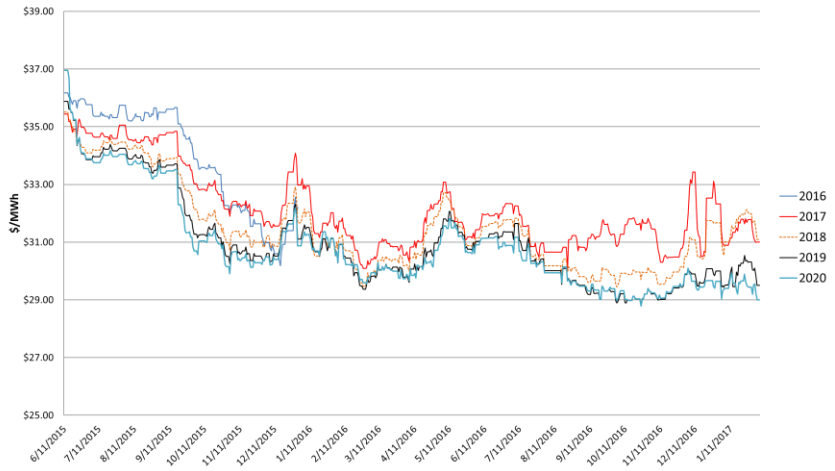
AEP Zone – Day Ahead Daily Average



AEP Zone - Day Ahead Monthly Average

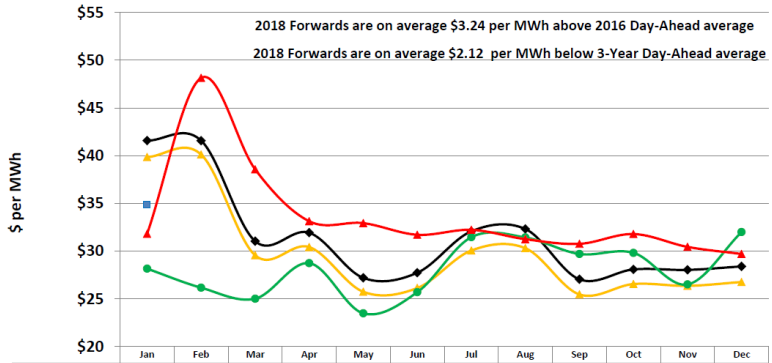


AD Hub ATC Wholesale Prices



Electric Market Update
February 2017

Historical Day-Ahead vs Forward Prices
PJM AEP



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2018 FWD	$41.57	$41.57	$31.03	$31.92	$27.19	$27.72	$32.07	$32.31	$27.03	$28.07	$28.03	$28.39
2019 FWD	$39.85	$40.11	$29.55	$30.42	$25.73	$26.12	$30.06	$30.29	$25.45	$26.54	$26.35	$26.75
2017 DA Average	$34.84											
2016 DA Avg	$28.15	$26.15	$25.01	$28.73	$23.47	$25.69	$31.45	$31.42	$29.69	$29.81	$26.50	$31.99
3 YR AVG	$31.80	$48.15	$38.56	$33.12	$32.93	$31.71	$32.22	$31.24	$30.76	$31.78	$30.44	$29.69

Energy Guide

5 Game Changing Ohio Energy Projects

February 2, 2017

Over the past five years, the Ohio energy environment has been flipped on its head. We have the luxury of some of the lowest energy prices in the world and investors are taking notice. According to JobsOhio, more than $30 billion in NEW investment has come to our state from the energy sector. Here are the top energy projects under development that are changing the game and impacting your bottom line.

1. Amazon Wind Farms

Amazon has built three massive data centers and two huge distribution centers near Columbus and will use their own wind farms to supply the power. In keeping to its corporate pledge of generating enough renewable energy for all its cloud data centers, it has embarked on two Ohio wind farm projects . Working with developers, Amazon will be building a 189 MW wind farm in Hardin County and a 100 MW farm in Paulding County. These projects will offset traditional generation on the grid and will bring tax dollars to the respective counties.

YOUR BOTTOM LINE IMPACT: The variable cost of wind generation is very low and will displace higher cost traditional generation. However, overall impact should be neutral as the quantity of the MW's produced by these farms may not be enough to move the needle down.

2. Eleven New Gas Plants

There are 11 new natural gas power plants in the planning or construction phase in Ohio. All are being developed by independent power producers (not the incumbent investor-owned utilities) and will be producing enough energy for 9.2 million homes at an investment of over $9.5 billion. These plants will be using the most efficient generation technology available making electricity at nearly half the costs of current legacy coal plants. The financial success of these plants solely resides with the investors of the facilities and not the ratepayers as historically experienced in the utility monopolies.

YOUR BOTTOM LINE IMPACT: Short term bullish to natural gas prices as they create significant new demand but heavily bearish to long term power prices as they will be displacing higher cost, less efficient plants.

3. Rover and Nexus Pipelines

It is well known that eastern Ohio has been floating in an abundance of natural gas produced by horizontal drilling in the Utica shale formation. The existing pipeline infrastructure has not been sufficient to move the gas out to higher priced markets. This has resulted in extremely low prices for the area causing producers to slow down drilling. The Rover and Nexus pipelines are expected to take 4.8 BCF/d of gas in Southeastern Ohio to the Midwest markets near Chicago and Michigan. Rover is expected to be operational second quarter of this year at a price tag of $4.3 billion while Nexus is expected to be completed the last quarter of this year and cost $2 billion.

YOUR BOTTOM LINE IMPACT: Short term bullish to natural gas pricing as the glut of gas leaves to find higher prices. These higher prices will likely bring on more incentive for producers to increase drilling which should dampen any long term bullish impacts.

4. Gathering and Processing

In order to make natural gas a product that we can use in our homes and businesses it must first be gathered and processed. Six mid-stream gathering and processing facilities have recently been built to handle shale production in our region with the largest processing up to 5.3 BCF/d. This infrastructure is a critical part of the delivery system to get the gas to market.

YOUR BOTTOM LINE IMPACT: Similar to new pipelines, the new gathering and processing facilities should be short term bullish to natural gas pricing. However, these higher prices will likely bring on more incentive for producers to increase drilling which should dampen any long term bullish impacts.

5. PTT Global Ethane Cracker

The $5.7 billion PTT Global ethane cracker proposed for Belmont County would take the ethane pulled from the Utica and Marcellus shale formations and process it into ethylene, a highly sought feedstock for the plastics, textiles and pharmaceutical industries. If the project moves forward it is expected to take three and a half years to complete and would employ highly skilled workers such as chemical engineers and chemists. PTT has been investing in front-end engineering design work with a final investment decision to be made in March of this year.

YOUR *BOTTOM LINE IMPACT: Cracking ethane to produce the higher priced ethylene should encourage more drilling in the shale regions bringing long term lower prices.*

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Energy Guide

The Fight for Your $15 Billion

December 7, 2016

The stage is set for battles at the Ohio Statehouse to roll back electricity deregulation. In one corner are two major Ohio utilities and in the other corner are the consumers and independent power plant producers. In an environment of historically low energy prices and generation technology advancements the traditional utility generators simply cannot compete. So rather than trying to compete they would like their good old fashioned monopoly back. Who can blame them? But what would such a move mean to consumers of energy in Ohio?

In the first known study of its kind, Cleveland State University in partnership with The Ohio State University attempted to quantify the impact electric deregulation has had on Ohio consumers. This would seem like an easy task but trying to isolate all the variables to derive quantifiable conclusions is complicated. The 60-plus page study concludes that over the course of the past five years, electric deregulation has saved Ohio consumers $15 billion and is expected to continue at this same pace for the next five years. The executive summary is available publically while the full study will be released next month.

Seventy eight percent of the $15 billion comes from a drop in utility generation default rates. This is the rate for generation service that consumers pay if they do not shop for competitive supply. Why the huge drop in default rates? Deregulation requires utilities to develop default rates based on the *wholesale electricity market* instead of their traditional costs of goods sold model. This transition to market rate setting occurred just as the shale natural gas boom drove market prices to historic lows. Utilities with high costs of goods sold due to aging power plants are feeling the pain as they cannot recover enough revenue from market driven rates to cover their costs. Re-regulation would conceivably move us back to the higher costs of goods sold rate-setting model in an effort to keep old generation technology financially viable.

The remaining $3 billion of savings attributed to deregulation comes from customers who found even lower prices by shopping away from the utility default rates to a competitive generation supplier. These competitive suppliers offered rates below the utility default rates. At this point, more than 70% of the electricity consumed in Ohio is supplied by competitive suppliers.

So if we have saved $15 billion why doesn't it feel like our overall electricity costs are going down? Unfortunately for most customers, the regulated utility charges have been going up at a fast clip. This includes distribution costs, transmission costs and dozens of other billed charges called riders. Consumers have no control over these regulated costs with the exception of simply using less electricity. These rising regulated costs are dampening the impact of the lower deregulated costs. **BOTTOM LINE: This is not an argument for re-regulation but the exact opposite. Those costs that are deregulated have been going down while those that are regulated have been going up.**

This comprehensive study supports the substantial consumer benefits of a deregulated Ohio electricity market. If the legislature turns back the clock to fully re-regulate the electricity market, consumers can without questions expect these declining generation costs to reverse course.

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Natural Gas Update
OMA Energy Committee

Richard Ricks
NiSource
February 9, 2017

Columbia Gas of Ohio
A NiSource Company

Agenda

- **Weather & Outlook**
- **Gas Storage & Pricing**
- **Gas Demand, Production & Rig Counts**
- **Recent Developments**

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Weather & Outlook

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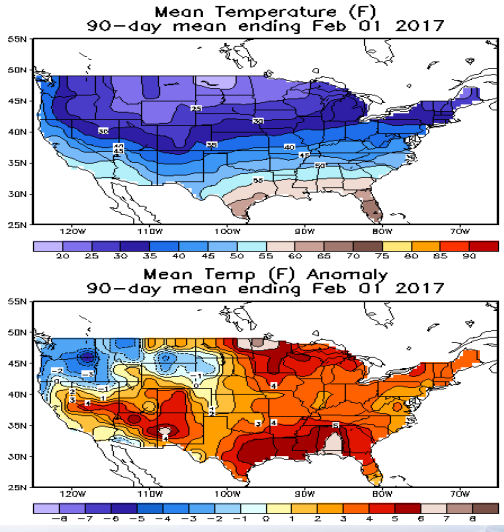
Last 3 Months – Warm through out the Country



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A NiSource Company

16/17 Ohio winter has been WARM so far

- October 2016 was 34% warmer than normal
- November 2016 was 18% warmer
- December 2016 was 2% colder
- January 2017 was 19% warmer

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5

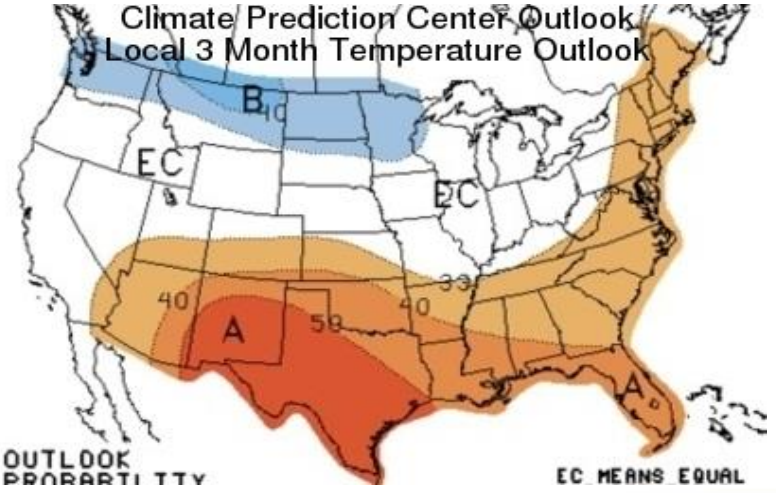
The Prognosticators Outlook

- Buckeye Chuck & Puxatony Phil saw their shadows
- 6 “more” weeks of cold weather

Columbia Gas of Ohio
A NiSource Company

6

Temperature Outlook – Feb, March, & April 17



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7

Storage & Gas Pricing

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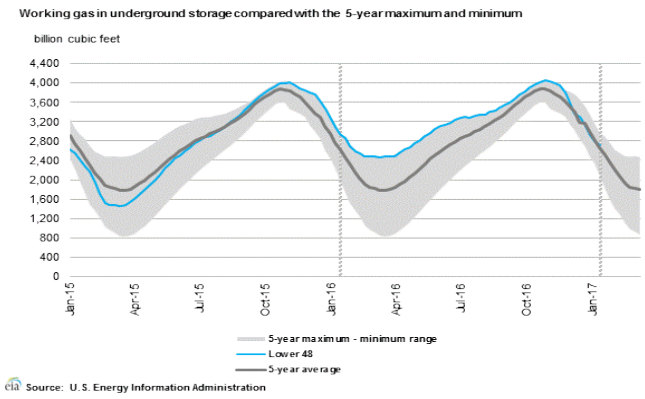
Storage – About at the "5 Yr Average" Position

Working gas in storage was 2,711 BCF as of Friday, January 27, 2017, according to EIA estimates. This represents a net decrease of 87 BCF from the previous week. Stocks were 266 BCF less than last year at this time and 59 BCF above the five-year average of 2,652 BCF. At 2,711 BCF, total working gas is within the five-year historical range.



Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2011 through 2015. The dashed vertical lines indicate current and year-ago weekly periods.

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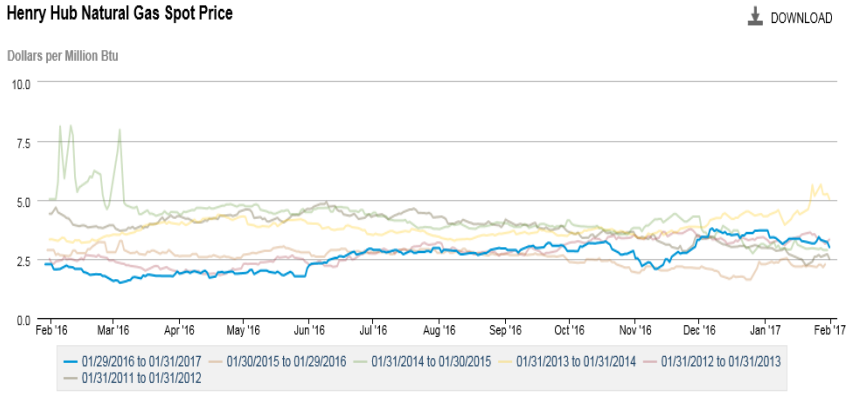
NYMEX Prompt Month Settlement – 5 Years



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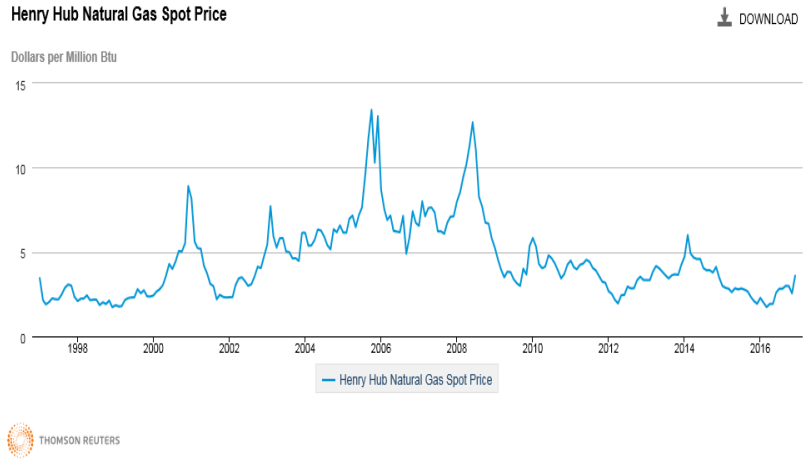
NYMEX Prompt Month Settlement History



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NYMEX Term Pricing – February 6, 2016

TERM	PRICE 11-11-16	PRICE 2-3-17
3 month	$2.72	$3.11 (+$0.39)
6 month	$2.80	$3.18 (+$0.38)
12 month	$2.86	$3.28 (+$0.42)
18 month	$2.91	$3.18 (+$0.27)

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Select Hub Pricing – Higher
February 6, 2016

HUB LOCATION	11-11-16	2-6-17	
Henry Hub	$2.07	$3.00	(+$0.93)
TCO Pool	$1.92	$2.85	(+$0.93)
Houston Ship Channel	$2.06	$2.92	(+$0.86)
Dominion South Point	$1.73	$2.69	(+$0.96)
TETCO M-3	$1.89	$2.86	(+$0.97)
TGP Zone 4	$1.70	$2.54	(+$0.84)

Dominion, TCO, TETCO, & TGP pricing is Marcellus Area

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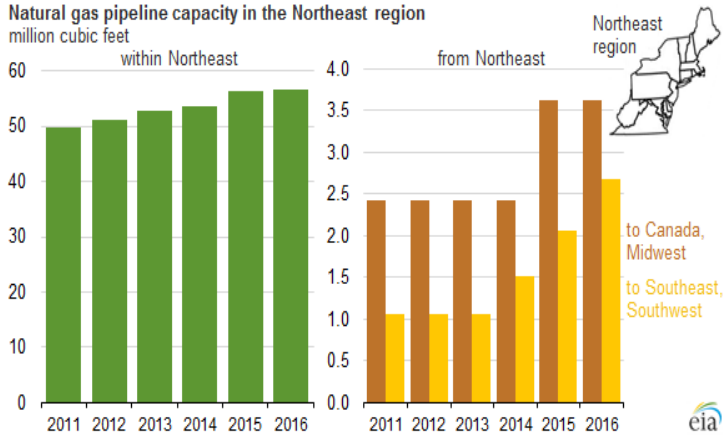
NYMEX Futures Settlement



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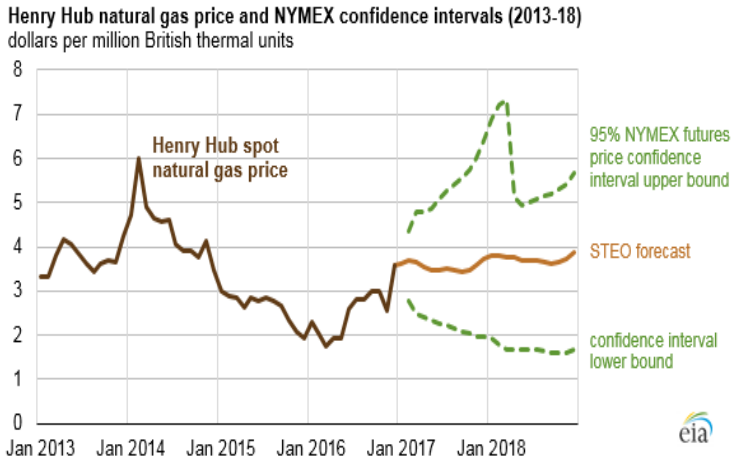
EIA Short Term Pricing Range Outlook



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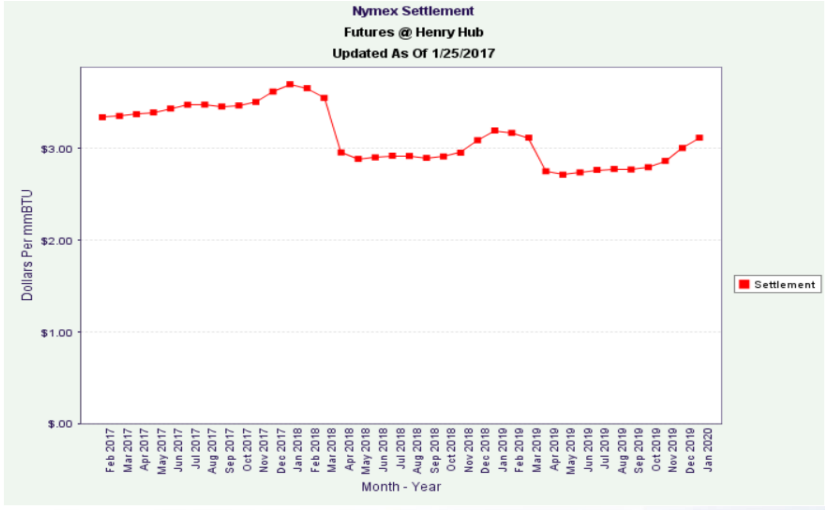
NYMEX Futures Settlement



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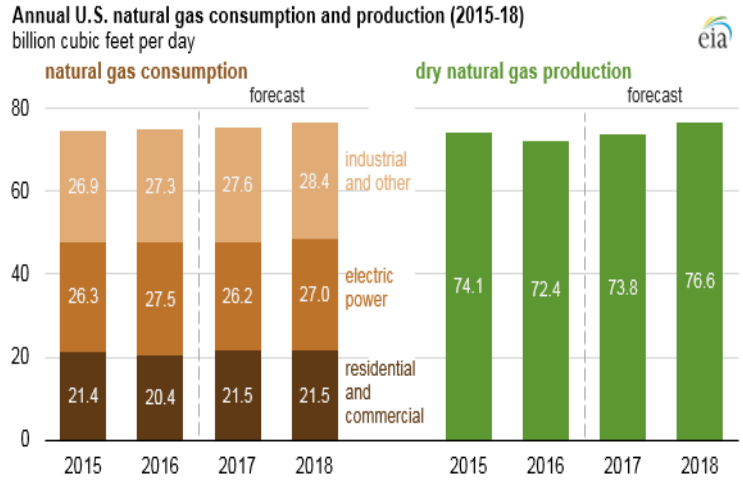
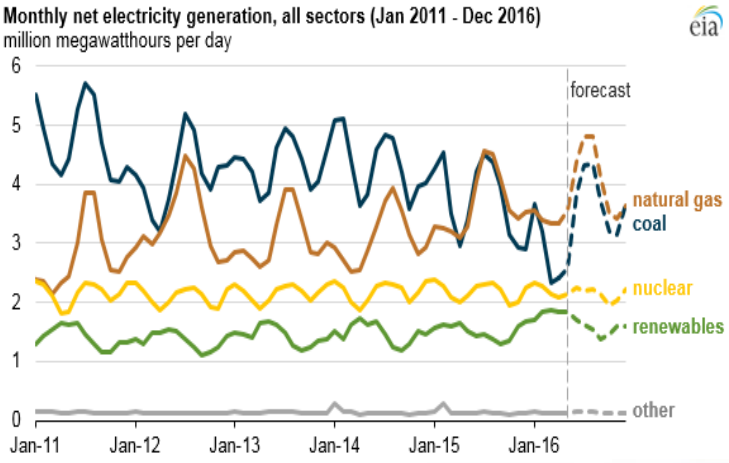
Demand, Production & Rig Count

Gas Consumption and Production Outlook



Gas Fired Power Generation Continues To Out Pace Coal



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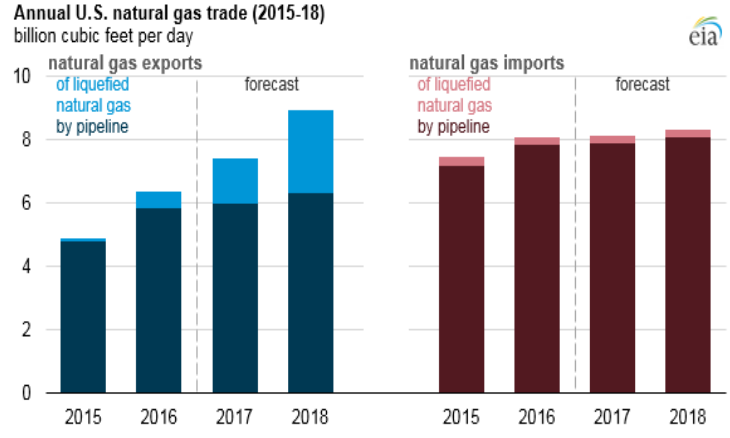
Sabine Pass (& Cover Point in 17) LNG grows; Imports Steady; USA Net Exporter beginning in 2018



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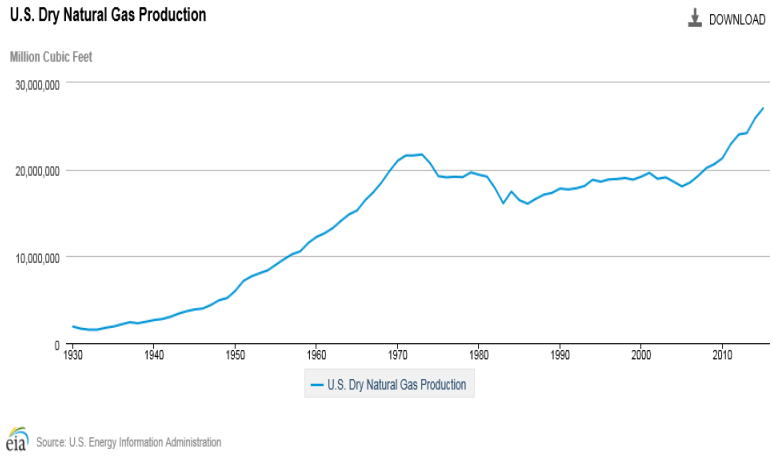
Domestic Production Continues to Increase



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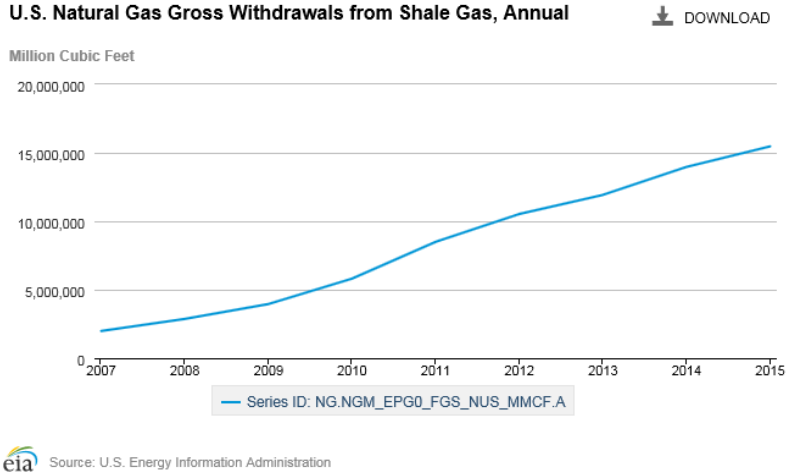
The Increase is Practically All Shale Gas



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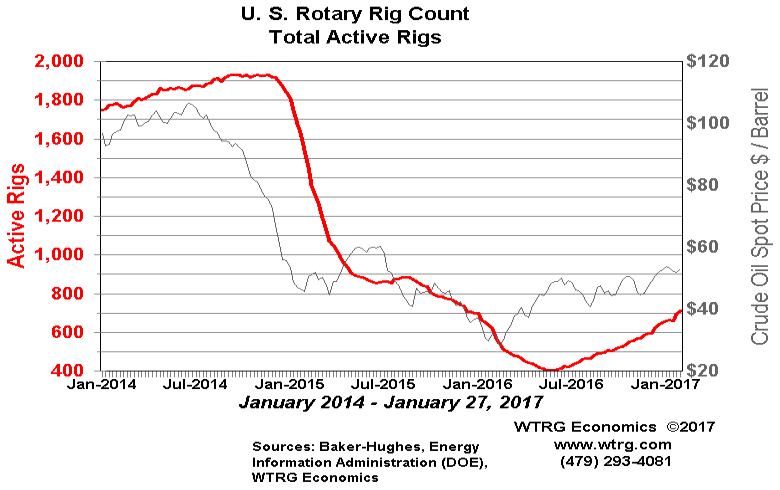
Recent Rig Count & Oil Price



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2015 & 2016 World Wide Rig Count

BAKER HUGHES INCORPORATED

WORLDWIDE RIG COUNT

2016	Latin America	Europe	Africa	Middle East	Asia Pacific	Total Intl.	Canada	U.S.	Total World
Jan	243	108	94	407	193	1045	192	654	1891
Feb	237	107	88	404	182	1018	211	532	1761
Mar	218	96	91	397	183	985	88	478	1551
Apr	203	90	90	384	179	946	41	437	1424
May	188	95	91	391	190	955	42	408	1405
Jun	178	91	87	389	182	927	63	417	1407
Jul	186	94	82	390	186	938	94	449	1481
Aug	187	96	81	379	194	937	129	481	1547
Sep	189	92	77	386	190	934	141	509	1584
Oct	183	87	77	391	182	920	156	544	1620
Nov	181	97	79	380	188	925	173	580	1678
Dec	184	99	78	376	192	929	209	634	1772
Avg.	198	96	85	390	187	955	128	510	1593

2015	Latin America	Europe	Africa	Middle East	Asia Pacific	Total Intl.	Canada	U.S.	Total World
Jan	351	128	132	415	232	1258	368	1683	3309
Feb	355	133	132	415	240	1275	363	1348	2986
Mar	351	135	125	407	233	1251	196	1110	2557
Apr	325	119	120	410	228	1202	90	976	2268
May	327	116	100	398	217	1158	80	889	2127
Jun	314	113	103	401	215	1146	129	861	2136
Jul	313	108	94	391	212	1118	183	866	2167
Aug	319	109	96	393	220	1137	206	883	2226
Sep	321	109	96	396	218	1140	183	848	2171
Oct	294	108	93	403	213	1111	184	791	2086
Nov	284	108	90	419	208	1109	178	760	2047
Dec	270	114	91	422	198	1095	160	714	1969
Avg.	319	117	106	406	220	1167	193	977	2337

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Shale Play Rig Counts Increasing Slightly

Baker Hughes Drilling Rig Count in U.S. Unconventional Production Basins for the Week Ended 1/20/2017

Basin/Formation	1/20/17	1/13/17	% Change Last Week	1/22/16	% Change Last Year
Ardmore Woodford	1	1	0%	3	-67%
Arkoma Woodford	4	4	0%	7	-43%
Barnett	2	2	0%	4	-50%
Cana Woodford	46	37	24%	39	18%
SCOOP	*13*	*11*	*18%*	*12*	*8%*
STACK	*32*	*26*	*23%*	*27*	*19%*
Other Cana Woodford	*1*	*0*	*N/A*	*0*	*N/A*
DJ-Niobrara	23	23	0%	19	21%
Eagle Ford	49	47	4%	64	-23%
Fayetteville	1	1	0%	0	N/A
Granite Wash	9	9	0%	14	-36%
Haynesville	29	28	4%	18	61%
Marcellus	40	39	3%	35	14%
Mississippian	2	2	0%	10	-80%
Permian	281	268	5%	199	41%
*Delaware Basin**	*132*	*129*	*2%*	*95*	*39%*
*Midland Basin**	*143*	*134*	*7%*	*100*	*43%*
Other Permian	*6*	*5*	*20%*	*4*	*50%*
Utica	23	20	15%	14	64%
Williston	35	32	9%	45	-22%
TOTAL	**546**	**513**	**6%**	**471**	**16%**

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Recent Developments

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Gas & Oil Infrastructure Project Updates

- **Trump support of Keystone XL Pipeline (Oil Pipeline, TransCanada: Alberta to Nebraska)**
- **Trump support of Dakota Access Pipeline (Oil Pipeline, ETP: Bakken shale to Illinois)**
- **FERC Commissioners lack of quorum (Bay resigned: only 2 now: need 3 & supposed to be 5)**
- **Last Minute: Rover, Atlantic Sunrise, & Northern Access Gas Pipelines receive FERC Certificate; Nexus and Leach Express unknown at print time**

Thank You